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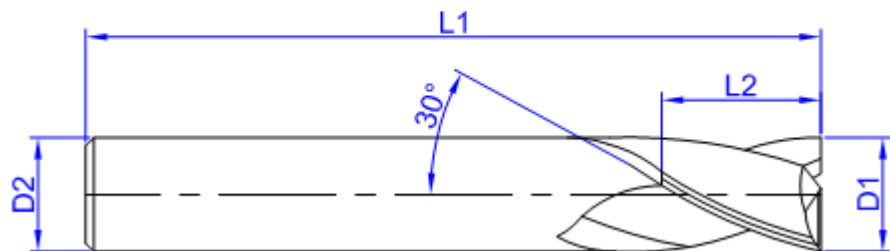
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Fresa de Topo Reto 2 Cortes Curta

Corte a Direita - Hélice a Direita
Metal Duro

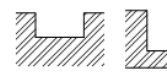
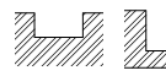


Referência

4010

4016

Tipo do Furo

Especificações
do ProdutoSem
CoberturaCom
Cobertura

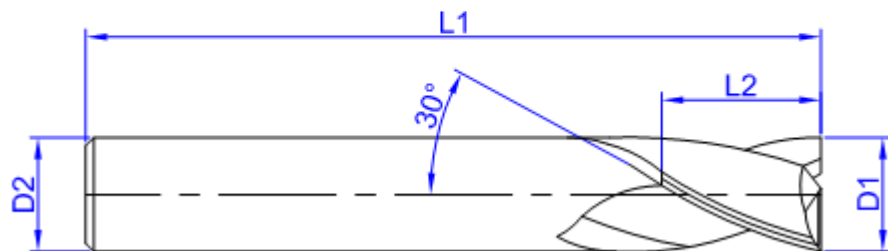
Dimensões

Dimensões					Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes		
0,5	3,0	38,0	4,0	2	40100050	40160050
0,8	3,0	38,0	4,0	2	40100080	40160080
1,0	3,0	38,0	4,0	2	40100100	40160100
1,5	3,0	38,0	4,0	2	40100150	40160150
2,0	3,0	38,0	4,0	2	40100200	40160200
2,5	3,0	38,0	5,0	2	40100250	40160250
3,0	3,0	38,0	6,0	2	40100300	40160300
3,5	3,5	45,0	8,0	2	40100350	40160350
4,0	4,0	45,0	8,0	2	40100400	40160400
4,5	4,5	45,0	8,0	2	40100450	40160450
5,0	5,0	50,0	10,0	2	40100500	40160500
5,5	5,5	50,0	10,0	2	40100550	40160550
6,0	6,0	50,0	12,0	2	40100600	40160600
6,5	6,5	50,0	12,0	2	40100650	40160650
7,0	7,0	52,0	14,0	2	40100700	40160700
7,5	7,5	52,0	14,0	2	40100750	40160750
8,0	8,0	52,0	14,0	2	40100800	40160800
8,5	8,5	52,0	14,0	2	40100850	40160850
9,0	9,0	52,0	14,0	2	40100900	40160900
9,5	9,5	52,0	14,0	2	40100950	40160950
10,0	10,0	60,0	16,0	2	40101000	40161000
10,5	10,5	60,0	16,0	2	40101050	40161050
11,0	11,0	65,0	20,0	2	40101100	40161100
11,5	11,5	65,0	20,0	2	40101150	40161150
12,0	12,0	65,0	20,0	2	40101200	40161200
12,5	12,5	65,0	20,0	2	40101250	40161250
13,0	13,0	75,0	25,0	2	40101300	40161300



Fresa de Topo Reto 2 Cortes Curta

Corte a Direita - Hélice a Direita
Metal Duro

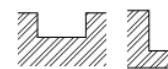
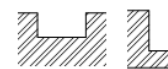


Referência

4010

4016

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

Dimensões

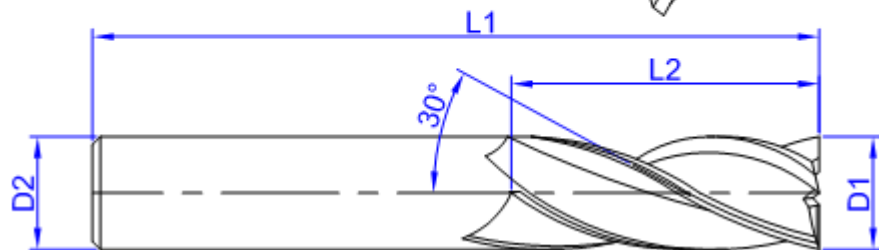
Dimensões					Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes		
13,5	13,5	75,0	25,0	2	40101350	40161350
14,0	14,0	75,0	25,0	2	40101400	40161400
14,5	14,5	75,0	25,0	2	40101450	40161450
15,0	15,0	75,0	25,0	2	40101500	40161500
15,5	15,5	75,0	25,0	2	40101550	40161550
16,0	16,0	75,0	25,0	2	40101600	40161600
16,5	16,5	75,0	25,0	2	40101650	40161650
17,0	17,0	82,0	30,0	2	40101700	40161700
17,5	17,5	82,0	30,0	2	40101750	40161750
18,0	18,0	82,0	30,0	2	40101800	40161800
18,5	18,5	82,0	30,0	2	40101850	40161850
19,0	19,0	82,0	30,0	2	40101900	40161900
19,5	19,5	82,0	30,0	2	40101950	40161950
20,0	20,0	92,0	30,0	2	40102000	40162000
20,5	20,5	92,0	30,0	2	40102050	40162050
21,0	21,0	92,0	30,0	2	40102100	40162100
21,5	21,5	92,0	30,0	2	40102150	40162150
22,0	22,0	92,0	30,0	2	40102200	40162200
22,5	22,5	92,0	30,0	2	40102250	40162250
23,0	23,0	92,0	30,0	2	40102300	40162300
23,5	23,5	92,0	30,0	2	40102350	40162350
24,0	24,0	92,0	30,0	2	40102400	40162400
24,5	24,5	92,0	30,0	2	40102450	40162450
25,0	25,0	92,0	30,0	2	40102500	40162500

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa de Topo Reto 3 Cortes Curta

Corte a Direita - Hélice a Direita
Metal Duro

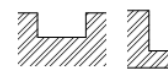
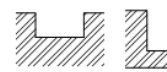


Referência

4110

4116

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

Dimensões

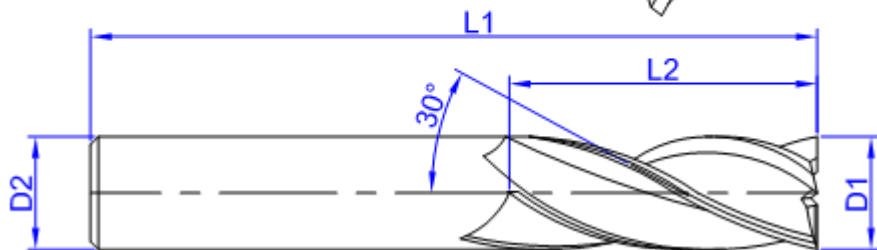
Código

D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes	Código	
0,5	3,0	38,0	4,0	3	41100050	41160050
0,8	3,0	38,0	4,0	3	41100080	41160080
1,0	3,0	38,0	4,0	3	41100100	41160100
1,5	3,0	38,0	4,0	3	41100150	41160150
2,0	3,0	38,0	4,0	3	41100200	41160200
2,5	3,0	38,0	5,0	3	41100250	41160250
3,0	3,0	38,0	6,0	3	41100300	41160300
3,5	3,5	45,0	8,0	3	41100350	41160350
4,0	4,0	45,0	8,0	3	41100400	41160400
4,5	4,5	45,0	8,0	3	41100450	41160450
5,0	5,0	50,0	10,0	3	41100500	41160500
5,5	5,5	50,0	10,0	3	41100550	41160550
6,0	6,0	50,0	12,0	3	41100600	41160600
6,5	6,5	50,0	12,0	3	41100650	41160650
7,0	7,0	52,0	14,0	3	41100700	41160700
7,5	7,5	52,0	14,0	3	41100750	41160750
8,0	8,0	52,0	14,0	3	41100800	41160800
8,5	8,5	52,0	14,0	3	41100850	41160850
9,0	9,0	52,0	14,0	3	41100900	41160900
9,5	9,5	52,0	14,0	3	41100950	41160950
10,0	10,0	60,0	16,0	3	41101000	41161000
10,5	10,5	60,0	16,0	3	41101050	41161050
11,0	11,0	65,0	20,0	3	41101100	41161100
11,5	11,5	65,0	20,0	3	41101150	41161150
12,0	12,0	65,0	20,0	3	41101200	41161200
12,5	12,5	65,0	20,0	3	41101250	41161250
13,0	13,0	75,0	25,0	3	41101300	41161300



Fresa de Topo Reto 3 Cortes Curta

Corte a Direita - Hélice a Direita
Metal Duro

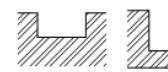
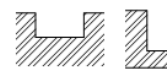


Referência

4110

4116

Tipo do Furo

Especificações
do ProdutoSem
CoberturaCom
Cobertura

Dimensões

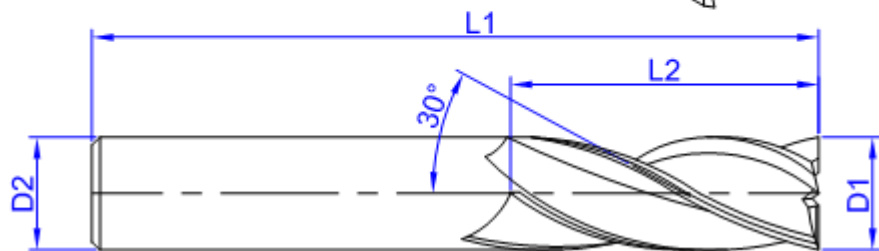
Dimensões					Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes		
13,5	13,5	75,0	25,0	3	41101350	41161350
14,0	14,0	75,0	25,0	3	41101400	41161400
14,5	14,5	75,0	25,0	3	41101450	41161450
15,0	15,0	75,0	25,0	3	41101500	41161500
15,5	15,5	75,0	25,0	3	41101550	41161550
16,0	16,0	75,0	25,0	3	41101600	41161600
16,5	16,5	75,0	25,0	3	41101650	41161650
17,0	17,0	82,0	30,0	3	41101700	41161700
17,5	17,5	82,0	30,0	3	41101750	41161750
18,0	18,0	82,0	30,0	3	41101800	41161800
18,5	18,5	82,0	30,0	3	41101850	41161850
19,0	19,0	82,0	30,0	3	41101900	41161900
19,5	19,5	82,0	30,0	3	41101950	41161950
20,0	20,0	92,0	30,0	3	41102000	41162000
20,5	20,5	92,0	30,0	3	41102050	41162050
21,0	21,0	92,0	30,0	3	41102100	41162100
21,5	21,5	92,0	30,0	3	41102150	41162150
22,0	22,0	92,0	30,0	3	41102200	41162200
22,5	22,5	92,0	30,0	3	41102250	41162250
23,0	23,0	92,0	30,0	3	41102300	41162300
23,5	23,5	92,0	30,0	3	41102350	41162350
24,0	24,0	92,0	30,0	3	41102400	41162400
24,5	24,5	92,0	30,0	3	41102450	41162450
25,0	25,0	92,0	30,0	3	41102500	41162500

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa de Topo Reto 4 Cortes Curta

Corte a Direita - Hélice a Direita
Metal Duro

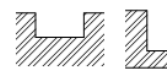
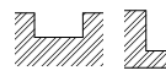


Referência

4210

4216

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

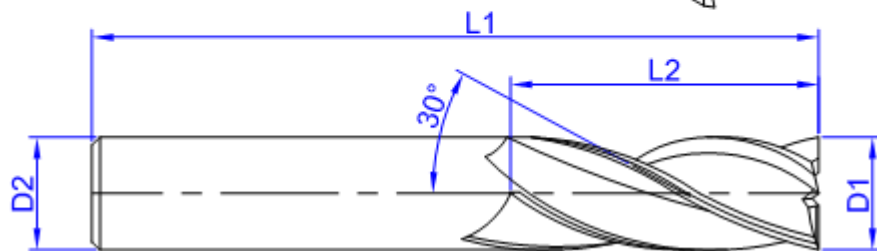
Dimensões

Dimensões					Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes		
0,5	3,0	38,0	4,0	4	42100050	42160050
0,8	3,0	38,0	4,0	4	42100080	42160080
1,0	3,0	38,0	4,0	4	42100100	42160100
1,5	3,0	38,0	4,0	4	42100150	42160150
2,0	3,0	38,0	4,0	4	42100200	42160200
2,5	3,0	38,0	5,0	4	42100250	42160250
3,0	3,0	38,0	6,0	4	42100300	42160300
3,5	3,5	45,0	8,0	4	42100350	42160350
4,0	4,0	45,0	8,0	4	42100400	42160400
4,5	4,5	45,0	8,0	4	42100450	42160450
5,0	5,0	50,0	10,0	4	42100500	42160500
5,5	5,5	50,0	10,0	4	42100550	42160550
6,0	6,0	50,0	12,0	4	42100600	42160600
6,5	6,5	50,0	12,0	4	42100650	42160650
7,0	7,0	52,0	14,0	4	42100700	42160700
7,5	7,5	52,0	14,0	4	42100750	42160750
8,0	8,0	52,0	14,0	4	42100800	42160800
8,5	8,5	52,0	14,0	4	42100850	42160850
9,0	9,0	52,0	14,0	4	42100900	42160900
9,5	9,5	52,0	14,0	4	42100950	42160950
10,0	10,0	60,0	16,0	4	42101000	42161000
10,5	10,5	60,0	16,0	4	42101050	42161050
11,0	11,0	65,0	20,0	4	42101100	42161100
11,5	11,5	65,0	20,0	4	42101150	42161150
12,0	12,0	65,0	20,0	4	42101200	42161200
12,5	12,5	65,0	20,0	4	42101250	42161250
13,0	13,0	75,0	25,0	4	42101300	42161300



Fresa de Topo Reto 4 Cortes Curta

Corte a Direita - Hélice a Direita
Metal Duro

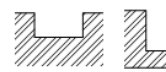
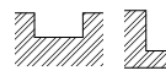


Referência

4210

4216

Tipo do Furo

Especificações
do ProdutoSem
CoberturaCom
Cobertura

Dimensões

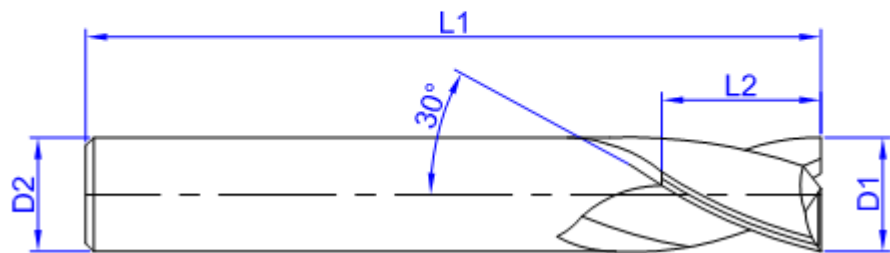
Dimensões					Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes		
13,5	13,5	75,0	25,0	4	42101350	42161350
14,0	14,0	75,0	25,0	4	42101400	42161400
14,5	14,5	75,0	25,0	4	42101450	42161450
15,0	15,0	75,0	25,0	4	42101500	42161500
15,5	15,5	75,0	25,0	4	42101550	42161550
16,0	16,0	75,0	25,0	4	42101600	42161600
16,5	16,5	75,0	25,0	4	42101650	42161650
17,0	17,0	82,0	30,0	4	42101700	42161700
17,5	17,5	82,0	30,0	4	42101750	42161750
18,0	18,0	82,0	30,0	4	42101800	42161800
18,5	18,5	82,0	30,0	4	42101850	42161850
19,0	19,0	82,0	30,0	4	42101900	42161900
19,5	19,5	82,0	30,0	4	42101950	42161950
20,0	20,0	92,0	30,0	4	42102000	42162000
20,5	20,5	92,0	30,0	4	42102050	42162050
21,0	21,0	92,0	30,0	4	42102100	42162100
21,5	21,5	92,0	30,0	4	42102150	42162150
22,0	22,0	92,0	30,0	4	42102200	42162200
22,5	22,5	92,0	30,0	4	42102250	42162250
23,0	23,0	92,0	30,0	4	42102300	42162300
23,5	23,5	92,0	30,0	4	42102350	42162350
24,0	24,0	92,0	30,0	4	42102400	42162400
24,5	24,5	92,0	30,0	4	42102450	42162450
25,0	25,0	92,0	30,0	4	42102500	42162500

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa de Topo Reto 2 Cortes Longa

Corte a Direita - Hélice a Direita
Metal Duro

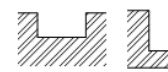
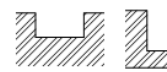


Referência

4020

4026

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

Dimensões

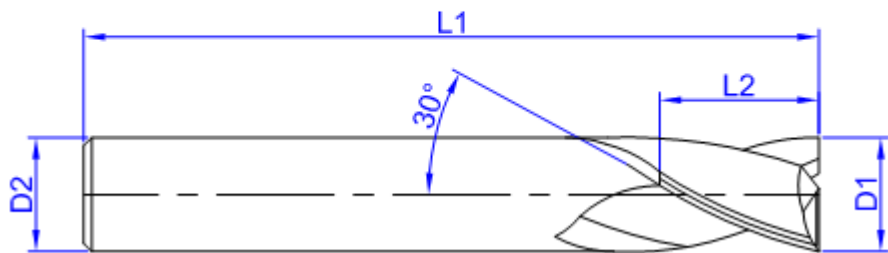
Código

D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes	Código	
0,5	3,0	40,0	8,0	2	40200050	40260050
0,8	3,0	40,0	8,0	2	40200080	40260080
1,0	3,0	40,0	8,0	2	40200100	40260100
1,5	3,0	40,0	8,0	2	40200150	40260150
2,0	3,0	40,0	8,0	2	40200200	40260200
2,5	3,0	40,0	10,0	2	40200250	40260250
3,0	3,0	40,0	12,0	2	40200300	40260300
3,5	3,5	40,0	12,0	2	40200350	40260350
4,0	4,0	50,0	14,0	2	40200400	40260400
4,5	4,5	50,0	14,0	2	40200450	40260450
5,0	5,0	50,0	16,0	2	40200500	40260500
5,5	5,5	50,0	16,0	2	40200550	40260550
6,0	6,0	50,0	16,0	2	40200600	40260600
6,5	6,5	50,0	16,0	2	40200650	40260650
7,0	7,0	60,0	20,0	2	40200700	40260700
7,5	7,5	60,0	20,0	2	40200750	40260750
8,0	8,0	60,0	20,0	2	40200800	40260800
8,5	8,5	60,0	20,0	2	40200850	40260850
9,0	9,0	65,0	20,0	2	40200900	40260900
9,5	9,5	65,0	20,0	2	40200950	40260950
10,0	10,0	75,0	20,0	2	40201000	40261000
10,5	10,5	75,0	20,0	2	40201050	40261050
11,0	11,0	75,0	20,0	2	40201100	40261100
11,5	11,5	75,0	20,0	2	40201150	40261150
12,0	12,0	80,0	25,0	2	40201200	40261200
12,5	12,5	80,0	25,0	2	40201250	40261250
13,0	13,0	80,0	25,0	2	40201300	40261300



Fresa de Topo Reto 2 Cortes Longa

Corte a Direita - Hélice a Direita
Metal Duro

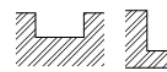
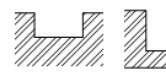


Referência

4020

4026

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

Dimensões

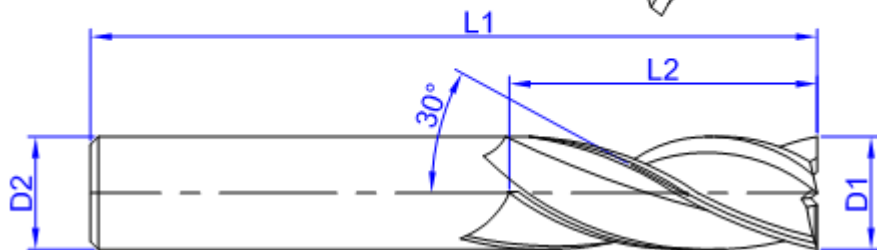
Dimensões					Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes		
13,5	13,5	80,0	25,0	2	40201350	40261350
14,0	14,0	80,0	25,0	2	40201400	40261400
14,5	14,5	80,0	25,0	2	40201450	40261450
15,0	15,0	80,0	30,0	2	40201500	40261500
15,5	15,5	80,0	30,0	2	40201550	40261550
16,0	16,0	100,0	30,0	2	40201600	40261600
16,5	16,5	100,0	30,0	2	40201650	40261650
17,0	17,0	100,0	30,0	2	40201700	40261700
17,5	17,5	100,0	30,0	2	40201750	40261750
18,0	18,0	100,0	30,0	2	40201800	40261800
18,5	18,5	100,0	30,0	2	40201850	40261850
19,0	19,0	100,0	30,0	2	40201900	40261900
19,5	19,5	100,0	30,0	2	40201950	40261950
20,0	20,0	100,0	30,0	2	40202000	40262000
20,5	20,5	100,0	30,0	2	40202050	40262050
21,0	21,0	100,0	40,0	2	40202100	40262100
21,5	21,5	100,0	40,0	2	40202150	40262150
22,0	22,0	100,0	40,0	2	40202200	40262200
22,5	22,5	100,0	40,0	2	40202250	40262250
23,0	23,0	100,0	40,0	2	40202300	40262300
23,5	23,5	100,0	40,0	2	40202350	40262350
24,0	24,0	100,0	40,0	2	40202400	40262400
24,5	24,5	100,0	40,0	2	40202450	40262450
25,0	25,0	100,0	40,0	2	40202500	40262500

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa de Topo Reto 3 Cortes Longa

Corte a Direita - Hélice a Direita
Metal Duro

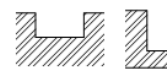


Referência

4120

4126

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

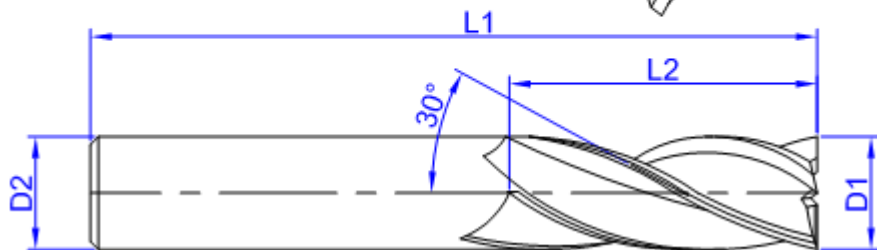
Dimensões

Dimensões					Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes		
0,5	3,0	40,0	8,0	3	41200050	41260050
0,8	3,0	40,0	8,0	3	41200080	41260080
1,0	3,0	40,0	8,0	3	41200100	41260100
1,5	3,0	40,0	8,0	3	41200150	41260150
2,0	3,0	40,0	8,0	3	41200200	41260200
2,5	3,0	40,0	10,0	3	41200250	41260250
3,0	3,0	40,0	12,0	3	41200300	41260300
3,5	3,5	40,0	12,0	3	41200350	41260350
4,0	4,0	50,0	14,0	3	41200400	41260400
4,5	4,5	50,0	14,0	3	41200450	41260450
5,0	5,0	50,0	16,0	3	41200500	41260500
5,5	5,5	50,0	16,0	3	41200550	41260550
6,0	6,0	50,0	16,0	3	41200600	41260600
6,5	6,5	50,0	16,0	3	41200650	41260650
7,0	7,0	60,0	20,0	3	41200700	41260700
7,5	7,5	60,0	20,0	3	41200750	41260750
8,0	8,0	60,0	20,0	3	41200800	41260800
8,5	8,5	60,0	20,0	3	41200850	41260850
9,0	9,0	65,0	20,0	3	41200900	41260900
9,5	9,5	65,0	20,0	3	41200950	41260950
10,0	10,0	75,0	20,0	3	41201000	41261000
10,5	10,5	75,0	20,0	3	41201050	41261050
11,0	11,0	75,0	20,0	3	41201100	41261100
11,5	11,5	75,0	20,0	3	41201150	41261150
12,0	12,0	80,0	25,0	3	41201200	41261200
12,5	12,5	80,0	25,0	3	41201250	41261250
13,0	13,0	80,0	25,0	3	41201300	41261300



Fresa de Topo Reto 3 Cortes Longa

Corte a Direita - Hélice a Direita
Metal Duro

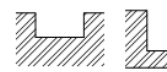
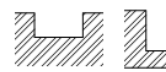


Referência

4120

4126

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

Dimensões

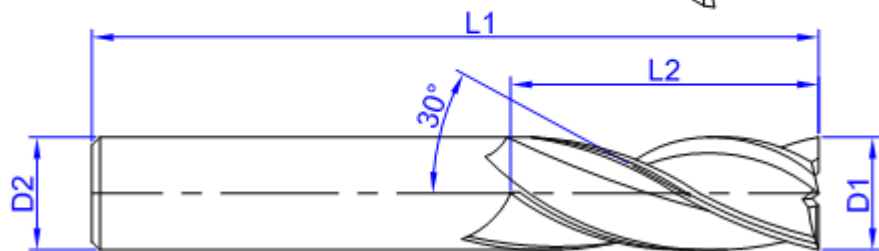
Dimensões					Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes		
13,5	13,5	80,0	25,0	3	41201350	41261350
14,0	14,0	80,0	25,0	3	41201400	41261400
14,5	14,5	80,0	25,0	3	41201450	41261450
15,0	15,0	80,0	30,0	3	41201500	41261500
15,5	15,5	80,0	30,0	3	41201550	41261550
16,0	16,0	100,0	30,0	3	41201600	41261600
16,5	16,5	100,0	30,0	3	41201650	41261650
17,0	17,0	100,0	30,0	3	41201700	41261700
17,5	17,5	100,0	30,0	3	41201750	41261750
18,0	18,0	100,0	30,0	3	41201800	41261800
18,5	18,5	100,0	30,0	3	41201850	41261850
19,0	19,0	100,0	30,0	3	41201900	41261900
19,5	19,5	100,0	30,0	3	41201950	41261950
20,0	20,0	100,0	30,0	3	41202000	41262000
20,5	20,5	100,0	30,0	3	41202050	41262050
21,0	21,0	100,0	40,0	3	41202100	41262100
21,5	21,5	100,0	40,0	3	41202150	41262150
22,0	22,0	100,0	40,0	3	41202200	41262200
22,5	22,5	100,0	40,0	3	41202250	41262250
23,0	23,0	100,0	40,0	3	41202300	41262300
23,5	23,5	100,0	40,0	3	41202350	41262350
24,0	24,0	100,0	40,0	3	41202400	41262400
24,5	24,5	100,0	40,0	3	41202450	41262450
25,0	25,0	100,0	40,0	3	41202500	41262500

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa de Topo Reto 4 Cortes Longa

Corte a Direita - Hélice a Direita
Metal Duro

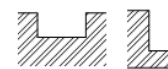
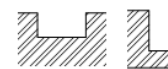


Referência

4220

4226

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

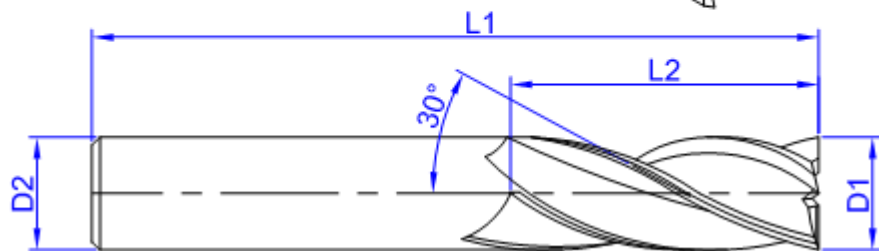
Dimensões

Dimensões					Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes		
0,5	3,0	40,0	8,0	4	42200050	42260050
0,8	3,0	40,0	8,0	4	42200080	42260080
1,0	3,0	40,0	8,0	4	42200100	42260100
1,5	3,0	40,0	8,0	4	42200150	42260150
2,0	3,0	40,0	8,0	4	42200200	42260200
2,5	3,0	40,0	10,0	4	42200250	42260250
3,0	3,0	40,0	12,0	4	42200300	42260300
3,5	3,5	40,0	12,0	4	42200350	42260350
4,0	4,0	50,0	14,0	4	42200400	42260400
4,5	4,5	50,0	14,0	4	42200450	42260450
5,0	5,0	50,0	16,0	4	42200500	42260500
5,5	5,5	50,0	16,0	4	42200550	42260550
6,0	6,0	50,0	16,0	4	42200600	42260600
6,5	6,5	50,0	16,0	4	42200650	42260650
7,0	7,0	60,0	20,0	4	42200700	42260700
7,5	7,5	60,0	20,0	4	42200750	42260750
8,0	8,0	60,0	20,0	4	42200800	42260800
8,5	8,5	60,0	20,0	4	42200850	42260850
9,0	9,0	65,0	20,0	4	42200900	42260900
9,5	9,5	65,0	20,0	4	42200950	42260950
10,0	10,0	75,0	20,0	4	42201000	42261000
10,5	10,5	75,0	20,0	4	42201050	42261050
11,0	11,0	75,0	20,0	4	42201100	42261100
11,5	11,5	75,0	20,0	4	42201150	42261150
12,0	12,0	80,0	25,0	4	42201200	42261200
12,5	12,5	80,0	25,0	4	42201250	42261250
13,0	13,0	80,0	25,0	4	42201300	42261300



Fresa de Topo Reto 4 Cortes Longa

Corte a Direita - Hélice a Direita
Metal Duro

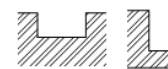
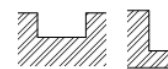


Referência

4220

4226

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

Dimensões

Código

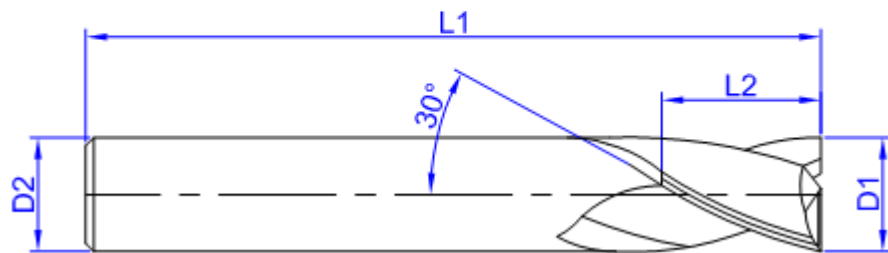
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes	Código	
13,5	13,5	80,0	25,0	4	42201350	42261350
14,0	14,0	80,0	25,0	4	42201400	42261400
14,5	14,5	80,0	25,0	4	42201450	42261450
15,0	15,0	80,0	30,0	4	42201500	42261500
15,5	15,5	80,0	30,0	4	42201550	42261550
16,0	16,0	100,0	30,0	4	42201600	42261600
16,5	16,5	100,0	30,0	4	42201650	42261650
17,0	17,0	100,0	30,0	4	42201700	42261700
17,5	17,5	100,0	30,0	4	42201750	42261750
18,0	18,0	100,0	30,0	4	42201800	42261800
18,5	18,5	100,0	30,0	4	42201850	42261850
19,0	19,0	100,0	30,0	4	42201900	42261900
19,5	19,5	100,0	30,0	4	42201950	42261950
20,0	20,0	100,0	30,0	4	42202000	42262000
20,5	20,5	100,0	30,0	4	42202050	42262050
21,0	21,0	100,0	40,0	4	42202100	42262100
21,5	21,5	100,0	40,0	4	42202150	42262150
22,0	22,0	100,0	40,0	4	42202200	42262200
22,5	22,5	100,0	40,0	4	42202250	42262250
23,0	23,0	100,0	40,0	4	42202300	42262300
23,5	23,5	100,0	40,0	4	42202350	42262350
24,0	24,0	100,0	40,0	4	42202400	42262400
24,5	24,5	100,0	40,0	4	42202450	42262450
25,0	25,0	100,0	40,0	4	42202500	42262500

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa de Topo Reto 2 Cortes Extra-Longa

Corte a Direita - Hélice a Direita
Metal Duro

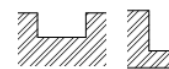
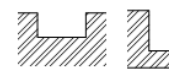


Referência

4030

4036

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

Dimensões

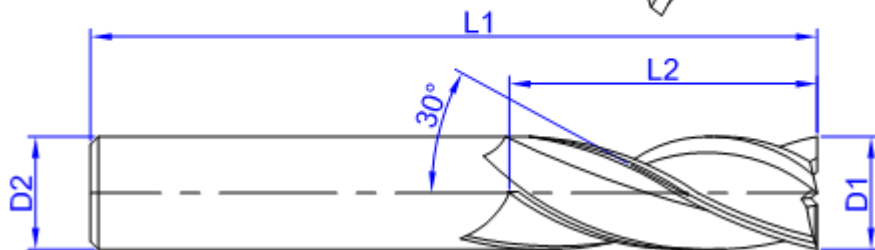
Dimensões					Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes		
3,0	3,0	75,0	12,0	2	40300300	40360300
4,0	4,0	75,0	14,0	2	40300400	40360400
5,0	5,0	75,0	20,0	2	40300500	40360500
6,0	6,0	75,0	20,0	2	40300600	40360600
7,0	7,0	75,0	25,0	2	40300700	40360700
8,0	8,0	75,0	25,0	2	40300800	40360800
9,0	9,0	100,0	40,0	2	40300900	40360900
10,0	10,0	100,0	40,0	2	40301000	40361000
11,0	11,0	150,0	50,0	2	40301100	40361100
12,0	12,0	150,0	50,0	2	40301200	40361200
13,0	13,0	150,0	50,0	2	40301300	40361300
14,0	14,0	150,0	50,0	2	40301400	40361400
15,0	15,0	150,0	50,0	2	40301500	40361500
16,0	16,0	150,0	50,0	2	40301600	40361600
17,0	17,0	150,0	50,0	2	40301700	40361700
18,0	18,0	150,0	50,0	2	40301800	40361800
19,0	19,0	150,0	50,0	2	40301900	40361900
20,0	20,0	150,0	60,0	2	40302000	40362000
21,0	21,0	150,0	60,0	2	40302100	40362100
22,0	22,0	150,0	60,0	2	40302200	40362200
23,0	23,0	150,0	60,0	2	40302300	40362300
24,0	24,0	150,0	60,0	2	40302400	40362400
25,0	25,0	150,0	60,0	2	40302500	40362500

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa de Topo Reto 3 Cortes Extra-Longa

Corte a Direita - Hélice a Direita
Metal Duro

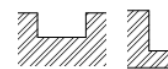
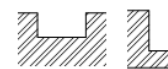


Referência

4130

4136

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

Dimensões

Código

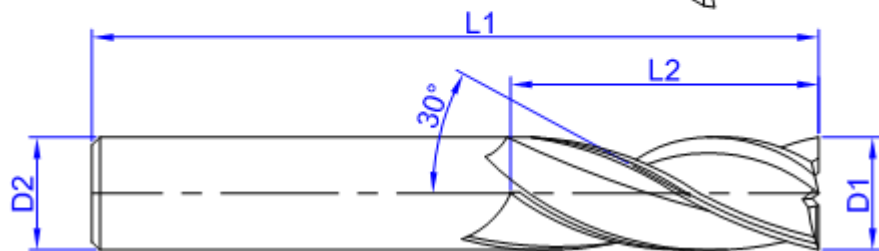
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes	Código	
3,0	3,0	75,0	12,0	3	41300300	41360300
4,0	4,0	75,0	14,0	3	41300400	41360400
5,0	5,0	75,0	20,0	3	41300500	41360500
6,0	6,0	75,0	20,0	3	41300600	41360600
7,0	7,0	75,0	25,0	3	41300700	41360700
8,0	8,0	75,0	25,0	3	41300800	41360800
9,0	9,0	100,0	40,0	3	41300900	41360900
10,0	10,0	100,0	40,0	3	41301000	41361000
11,0	11,0	150,0	50,0	3	41301100	41361100
12,0	12,0	150,0	50,0	3	41301200	41361200
13,0	13,0	150,0	50,0	3	41301300	41361300
14,0	14,0	150,0	50,0	3	41301400	41361400
15,0	15,0	150,0	50,0	3	41301500	41361500
16,0	16,0	150,0	50,0	3	41301600	41361600
17,0	17,0	150,0	50,0	3	41301700	41361700
18,0	18,0	150,0	50,0	3	41301800	41361800
19,0	19,0	150,0	50,0	3	41301900	41361900
20,0	20,0	150,0	60,0	3	41302000	41362000
21,0	21,0	150,0	60,0	3	41302100	41362100
22,0	22,0	150,0	60,0	3	41302200	41362200
23,0	23,0	150,0	60,0	3	41302300	41362300
24,0	24,0	150,0	60,0	3	41302400	41362400
25,0	25,0	150,0	60,0	3	41302500	41362500

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa de Topo Reto 4 Cortes Extra-Longa

Corte a Direita - Hélice a Direita
Metal Duro

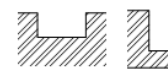
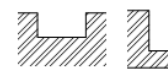


Referência

4230

4236

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

Dimensões

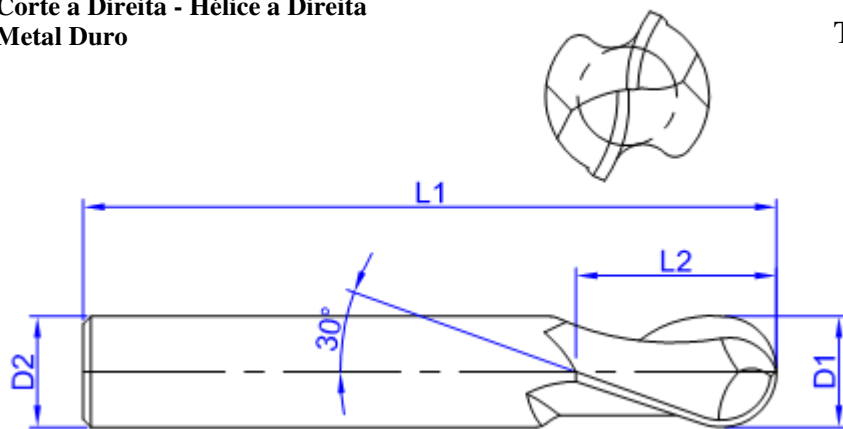
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes	Código	
3,0	3,0	75,0	12,0	4	42300300	42360300
4,0	4,0	75,0	14,0	4	42300400	42360400
5,0	5,0	75,0	20,0	4	42300500	42360500
6,0	6,0	75,0	20,0	4	42300600	42360600
7,0	7,0	75,0	25,0	4	42300700	42360700
8,0	8,0	75,0	25,0	4	42300800	42360800
9,0	9,0	100,0	40,0	4	42300900	42360900
10,0	10,0	100,0	40,0	4	42301000	42361000
11,0	11,0	150,0	50,0	4	42301100	42361100
12,0	12,0	150,0	50,0	4	42301200	42361200
13,0	13,0	150,0	50,0	4	42301300	42361300
14,0	14,0	150,0	50,0	4	42301400	42361400
15,0	15,0	150,0	50,0	4	42301500	42361500
16,0	16,0	150,0	50,0	4	42301600	42361600
17,0	17,0	150,0	50,0	4	42301700	42361700
18,0	18,0	150,0	50,0	4	42301800	42361800
19,0	19,0	150,0	50,0	4	42301900	42361900
20,0	20,0	150,0	60,0	4	42302000	42362000
21,0	21,0	150,0	60,0	4	42302100	42362100
22,0	22,0	150,0	60,0	4	42302200	42362200
23,0	23,0	150,0	60,0	4	42302300	42362300
24,0	24,0	150,0	60,0	4	42302400	42362400
25,0	25,0	150,0	60,0	4	42302500	42362500

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa de Topo Esférico 2 Cortes Curta

Corte a Direita - Hélice a Direita
Metal Duro

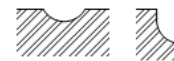
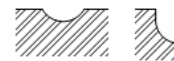


Referência

4310

4316

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

Dimensões

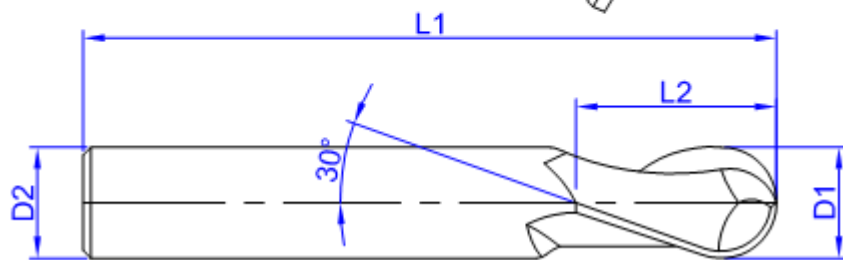
Código

D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes	Código	
0,5	3,0	38,0	4,0	2	43100050	43160050
0,8	3,0	38,0	4,0	2	43100080	43160080
1,0	3,0	38,0	4,0	2	43100100	43160100
1,5	3,0	38,0	4,0	2	43100150	43160150
2,0	3,0	38,0	4,0	2	43100200	43160200
2,5	3,0	38,0	5,0	2	43100250	43160250
3,0	3,0	38,0	6,0	2	43100300	43160300
3,5	3,5	45,0	8,0	2	43100350	43160350
4,0	4,0	45,0	8,0	2	43100400	43160400
4,5	4,5	45,0	8,0	2	43100450	43160450
5,0	5,0	50,0	10,0	2	43100500	43160500
5,5	5,5	50,0	10,0	2	43100550	43160550
6,0	6,0	50,0	12,0	2	43100600	43160600
6,5	6,5	50,0	12,0	2	43100650	43160650
7,0	7,0	52,0	14,0	2	43100700	43160700
7,5	7,5	52,0	14,0	2	43100750	43160750
8,0	8,0	52,0	14,0	2	43100800	43160800
8,5	8,5	52,0	14,0	2	43100850	43160850
9,0	9,0	52,0	14,0	2	43100900	43160900
9,5	9,5	52,0	14,0	2	43100950	43160950
10,0	10,0	60,0	16,0	2	43101000	43161000
10,5	10,5	60,0	16,0	2	43101050	43161050
11,0	11,0	65,0	20,0	2	43101100	43161100
11,5	11,5	65,0	20,0	2	43101150	43161150
12,0	12,0	65,0	20,0	2	43101200	43161200
12,5	12,5	65,0	20,0	2	43101250	43161250
13,0	13,0	75,0	25,0	2	43101300	43161300



Fresa de Topo Esférico 2 Cortes Curta

Corte a Direita - Hélice a Direita
Metal Duro

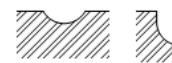
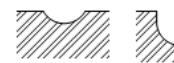


Referência

4310

4316

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

Dimensões

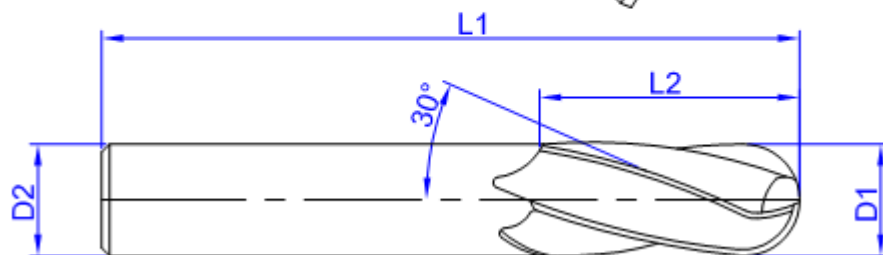
Dimensões					Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes		
13,5	13,5	75,0	25,0	2	43101350	43161350
14,0	14,0	75,0	25,0	2	43101400	43161400
14,5	14,5	75,0	25,0	2	43101450	43161450
15,0	15,0	75,0	25,0	2	43101500	43161500
15,5	15,5	75,0	25,0	2	43101550	43161550
16,0	16,0	75,0	25,0	2	43101600	43161600
16,5	16,5	75,0	25,0	2	43101650	43161650
17,0	17,0	82,0	30,0	2	43101700	43161700
17,5	17,5	82,0	30,0	2	43101750	43161750
18,0	18,0	82,0	30,0	2	43101800	43161800
18,5	18,5	82,0	30,0	2	43101850	43161850
19,0	19,0	82,0	30,0	2	43101900	43161900
19,5	19,5	82,0	30,0	2	43101950	43161950
20,0	20,0	92,0	30,0	2	43102000	43162000
20,5	20,5	92,0	30,0	2	43102050	43162050
21,0	21,0	92,0	30,0	2	43102100	43162100
21,5	21,5	92,0	30,0	2	43102150	43162150
22,0	22,0	92,0	30,0	2	43102200	43162200
22,5	22,5	92,0	30,0	2	43102250	43162250
23,0	23,0	92,0	30,0	2	43102300	43162300
23,5	23,5	92,0	30,0	2	43102350	43162350
24,0	24,0	92,0	30,0	2	43102400	43162400
24,5	24,5	92,0	30,0	2	43102450	43162450
25,0	25,0	92,0	30,0	2	43102500	43162500

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa de Topo Esférico 4 Cortes Curta

Corte a Direita - Hélice a Direita
Metal Duro

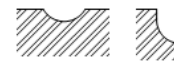
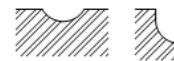


Referência

4410

4416

Tipo do Furo

Especificações
do ProdutoSem
CoberturaCom
Cobertura

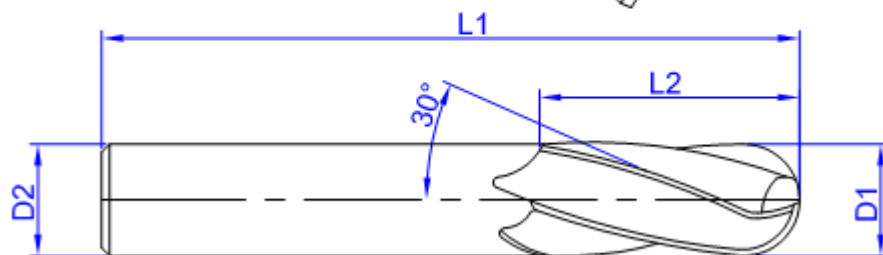
Dimensões

Dimensões					Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes		
0,5	3,0	38,0	4,0	4	44100050	44160050
0,8	3,0	38,0	4,0	4	44100080	44160080
1,0	3,0	38,0	4,0	4	44100100	44160100
1,5	3,0	38,0	4,0	4	44100150	44160150
2,0	3,0	38,0	4,0	4	44100200	44160200
2,5	3,0	38,0	5,0	4	44100250	44160250
3,0	3,0	38,0	6,0	4	44100300	44160300
3,5	3,5	45,0	8,0	4	44100350	44160350
4,0	4,0	45,0	8,0	4	44100400	44160400
4,5	4,5	45,0	8,0	4	44100450	44160450
5,0	5,0	50,0	10,0	4	44100500	44160500
5,5	5,5	50,0	10,0	4	44100550	44160550
6,0	6,0	50,0	12,0	4	44100600	44160600
6,5	6,5	50,0	12,0	4	44100650	44160650
7,0	7,0	52,0	14,0	4	44100700	44160700
7,5	7,5	52,0	14,0	4	44100750	44160750
8,0	8,0	52,0	14,0	4	44100800	44160800
8,5	8,5	52,0	14,0	4	44100850	44160850
9,0	9,0	52,0	14,0	4	44100900	44160900
9,5	9,5	52,0	14,0	4	44100950	44160950
10,0	10,0	60,0	16,0	4	44101000	44161000
10,5	10,5	60,0	16,0	4	44101050	44161050
11,0	11,0	65,0	20,0	4	44101100	44161100
11,5	11,5	65,0	20,0	4	44101150	44161150
12,0	12,0	65,0	20,0	4	44101200	44161200
12,5	12,5	65,0	20,0	4	44101250	44161250
13,0	13,0	75,0	25,0	4	44101300	44161300



Fresa de Topo Esférico 4 Cortes Curta

Corte a Direita - Hélice a Direita
Metal Duro

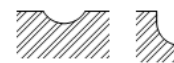
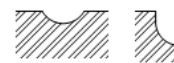


Referência

4410

4416

Tipo do Furo

Especificações
do ProdutoSem
CoberturaCom
Cobertura

Dimensões

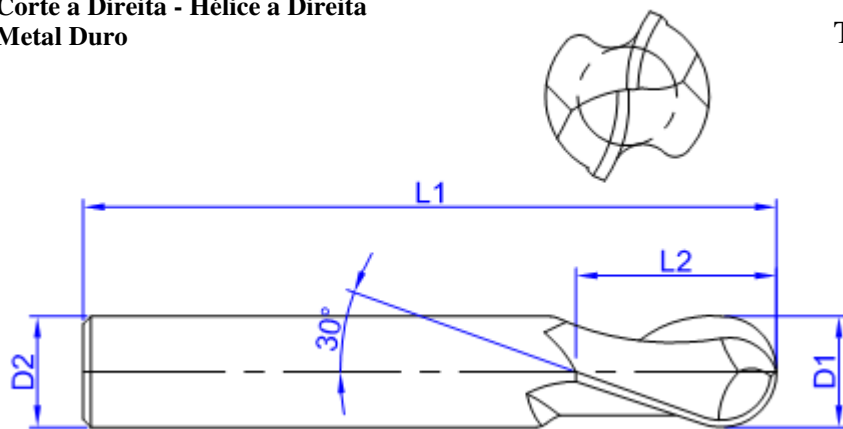
Dimensões					Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes		
13,5	13,5	75,0	25,0	4	44101350	44161350
14,0	14,0	75,0	25,0	4	44101400	44161400
14,5	14,5	75,0	25,0	4	44101450	44161450
15,0	15,0	75,0	25,0	4	44101500	44161500
15,5	15,5	75,0	25,0	4	44101550	44161550
16,0	16,0	75,0	25,0	4	44101600	44161600
16,5	16,5	75,0	25,0	4	44101650	44161650
17,0	17,0	82,0	30,0	4	44101700	44161700
17,5	17,5	82,0	30,0	4	44101750	44161750
18,0	18,0	82,0	30,0	4	44101800	44161800
18,5	18,5	82,0	30,0	4	44101850	44161850
19,0	19,0	82,0	30,0	4	44101900	44161900
19,5	19,5	82,0	30,0	4	44101950	44161950
20,0	20,0	92,0	30,0	4	44102000	44162000
20,5	20,5	92,0	30,0	4	44102050	44162050
21,0	21,0	92,0	30,0	4	44102100	44162100
21,5	21,5	92,0	30,0	4	44102150	44162150
22,0	22,0	92,0	30,0	4	44102200	44162200
22,5	22,5	92,0	30,0	4	44102250	44162250
23,0	23,0	92,0	30,0	4	44102300	44162300
23,5	23,5	92,0	30,0	4	44102350	44162350
24,0	24,0	92,0	30,0	4	44102400	44162400
24,5	24,5	92,0	30,0	4	44102450	44162450
25,0	25,0	92,0	30,0	4	44102500	44162500

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa de Topo Esférico 2 Cortes Longa

Corte a Direita - Hélice a Direita
Metal Duro

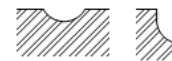
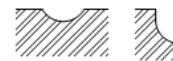


Referência

4320

4326

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

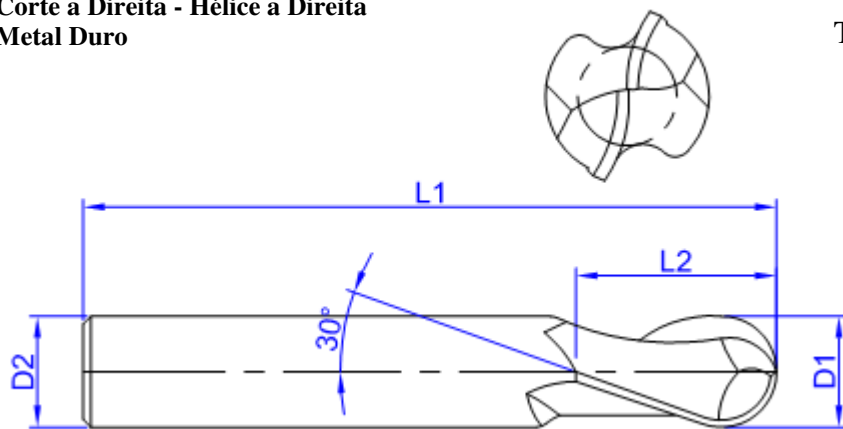
Dimensões

Dimensões					Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes		
0,5	3,0	40,0	8,0	2	43200050	43260050
0,8	3,0	40,0	8,0	2	43200080	43260080
1,0	3,0	40,0	8,0	2	43200100	43260100
1,5	3,0	40,0	8,0	2	43200150	43260150
2,0	3,0	40,0	8,0	2	43200200	43260200
2,5	3,0	40,0	10,0	2	43200250	43260250
3,0	3,0	40,0	12,0	2	43200300	43260300
3,5	3,5	40,0	12,0	2	43200350	43260350
4,0	4,0	50,0	14,0	2	43200400	43260400
4,5	4,5	50,0	14,0	2	43200450	43260450
5,0	5,0	50,0	16,0	2	43200500	43260500
5,5	5,5	50,0	16,0	2	43200550	43260550
6,0	6,0	60,0	20,0	2	43200600	43260600
6,5	6,5	60,0	20,0	2	43200650	43260650
7,0	7,0	60,0	20,0	2	43200700	43260700
7,5	7,5	60,0	20,0	2	43200750	43260750
8,0	8,0	60,0	20,0	2	43200800	43260800
8,5	8,5	60,0	20,0	2	43200850	43260850
9,0	9,0	65,0	20,0	2	43200900	43260900
9,5	9,5	65,0	20,0	2	43200950	43260950
10,0	10,0	75,0	20,0	2	43201000	43261000
10,5	10,5	75,0	20,0	2	43201050	43261050
11,0	11,0	75,0	20,0	2	43201100	43261100
11,5	11,5	75,0	20,0	2	43201150	43261150
12,0	12,0	80,0	25,0	2	43201200	43261200
12,5	12,5	80,0	25,0	2	43201250	43261250
13,0	13,0	80,0	25,0	2	43201300	43261300



Fresa de Topo Esférico 2 Cortes Longa

Corte a Direita - Hélice a Direita
Metal Duro

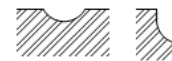
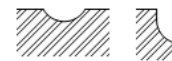


Referência

4310

4316

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

Dimensões

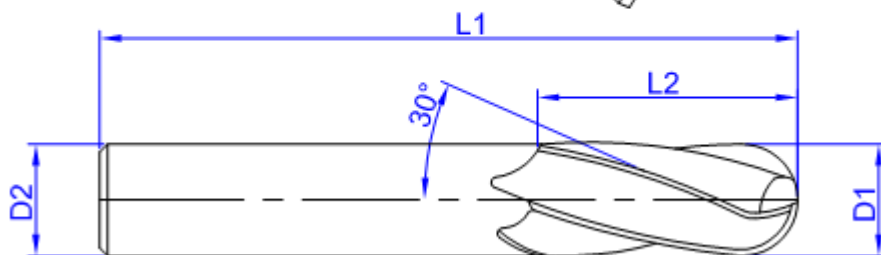
Dimensões					Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes		
13,5	13,5	80,0	25,0	2	43201350	43261350
14,0	14,0	80,0	25,0	2	43201400	43261400
14,5	14,5	80,0	25,0	2	43201450	43261450
15,0	15,0	80,0	30,0	2	43201500	43261500
15,5	15,5	80,0	30,0	2	43201550	43261550
16,0	16,0	100,0	30,0	2	43201600	43261600
16,5	16,5	100,0	30,0	2	43201650	43261650
17,0	17,0	100,0	30,0	2	43201700	43261700
17,5	17,5	100,0	30,0	2	43201750	43261750
18,0	18,0	100,0	30,0	2	43201800	43261800
18,5	18,5	100,0	30,0	2	43201850	43261850
19,0	19,0	100,0	30,0	2	43201900	43261900
19,5	19,5	100,0	30,0	2	43201950	43261950
20,0	20,0	100,0	30,0	2	43202000	43262000
20,5	20,5	100,0	40,0	2	43202050	43262050
21,0	21,0	100,0	40,0	2	43202100	43262100
21,5	21,5	100,0	40,0	2	43202150	43262150
22,0	22,0	100,0	40,0	2	43202200	43262200
22,5	22,5	100,0	40,0	2	43202250	43262250
23,0	23,0	100,0	40,0	2	43202300	43262300
23,5	23,5	100,0	40,0	2	43202350	43262350
24,0	24,0	100,0	40,0	2	43202400	43262400
24,5	24,5	100,0	40,0	2	43202450	43262450
25,0	25,0	100,0	40,0	2	43202500	43262500

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa de Topo Esférico 4 Cortes Longa

Corte a Direita - Hélice a Direita
Metal Duro

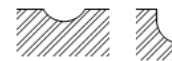
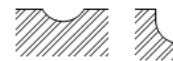


Referência

4420

4426

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

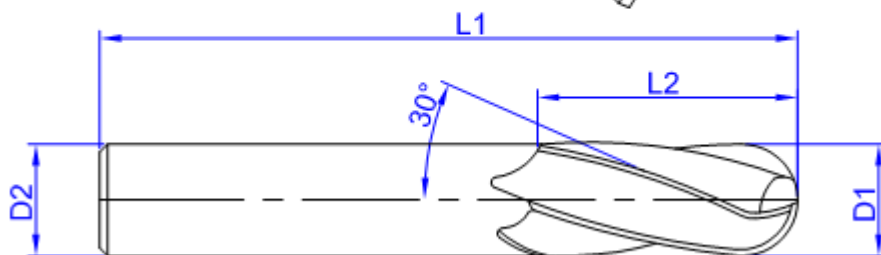
Dimensões

Dimensões					Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes		
0,5	3,0	40,0	8,0	4	44200050	44260050
0,8	3,0	40,0	8,0	4	44200080	44260080
1,0	3,0	40,0	8,0	4	44200100	44260100
1,5	3,0	40,0	8,0	4	44200150	44260150
2,0	3,0	40,0	8,0	4	44200200	44260200
2,5	3,0	40,0	10,0	4	44200250	44260250
3,0	3,0	40,0	12,0	4	44200300	44260300
3,5	3,5	40,0	12,0	4	44200350	44260350
4,0	4,0	50,0	14,0	4	44200400	44260400
4,5	4,5	50,0	14,0	4	44200450	44260450
5,0	5,0	50,0	16,0	4	44200500	44260500
5,5	5,5	50,0	20,0	4	44200550	44260550
6,0	6,0	60,0	20,0	4	44200600	44260600
6,5	6,5	60,0	20,0	4	44200650	44260650
7,0	7,0	60,0	20,0	4	44200700	44260700
7,5	7,5	60,0	20,0	4	44200750	44260750
8,0	8,0	60,0	20,0	4	44200800	44260800
8,5	8,5	60,0	20,0	4	44200850	44260850
9,0	9,0	65,0	20,0	4	44200900	44260900
9,5	9,5	65,0	20,0	4	44200950	44260950
10,0	10,0	75,0	20,0	4	44201000	44261000
10,5	10,5	75,0	20,0	4	44201050	44261050
11,0	11,0	75,0	20,0	4	44201100	44261100
11,5	11,5	75,0	20,0	4	44201150	44261150
12,0	12,0	80,0	25,0	4	44201200	44261200
12,5	12,5	80,0	25,0	4	44201250	44261250
13,0	13,0	80,0	25,0	4	44201300	44261300



Fresa de Topo Esférico 4 Cortes Longa

Corte a Direita - Hélice a Direita
Metal Duro

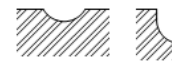
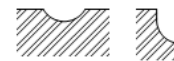


Referência

4420

4426

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

Dimensões

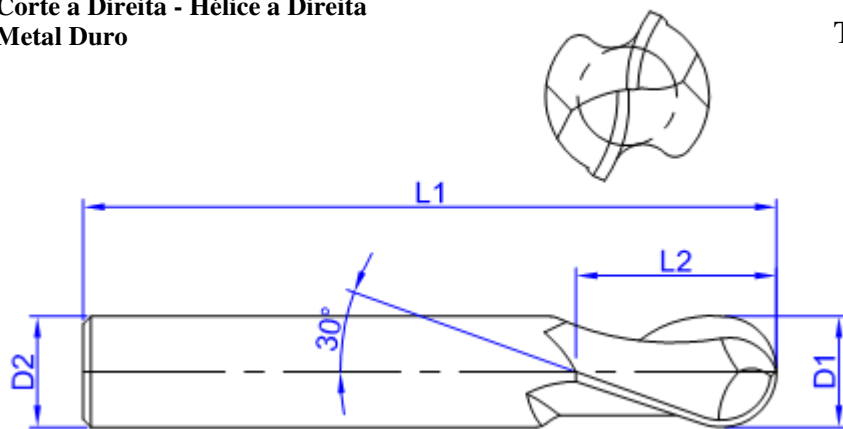
Dimensões					Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes		
13,5	13,5	80,0	25,0	4	44201350	44261350
14,0	14,0	80,0	25,0	4	44201400	44261400
14,5	14,5	80,0	25,0	4	44201450	44261450
15,0	15,0	80,0	30,0	4	44201500	44261500
15,5	15,5	80,0	30,0	4	44201550	44261550
16,0	16,0	100,0	30,0	4	44201600	44261600
16,5	16,5	100,0	30,0	4	44201650	44261650
17,0	17,0	100,0	30,0	4	44201700	44261700
17,5	17,5	100,0	30,0	4	44201750	44261750
18,0	18,0	100,0	30,0	4	44201800	44261800
18,5	18,5	100,0	30,0	4	44201850	44261850
19,0	19,0	100,0	30,0	4	44201900	44261900
19,5	19,5	100,0	30,0	4	44201950	44261950
20,0	20,0	100,0	30,0	4	44202000	44262000
20,5	20,5	100,0	40,0	4	44202050	44262050
21,0	21,0	100,0	40,0	4	44202100	44262100
21,5	21,5	100,0	40,0	4	44202150	44262150
22,0	22,0	100,0	40,0	4	44202200	44262200
22,5	22,5	100,0	40,0	4	44202250	44262250
23,0	23,0	100,0	40,0	4	44202300	44262300
23,5	23,5	100,0	40,0	4	44202350	44262350
24,0	24,0	100,0	40,0	4	44202400	44262400
24,5	24,5	100,0	40,0	4	44202450	44262450
25,0	25,0	100,0	40,0	4	44202500	44262500

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa de Topo esférico 2 Cortes Extra-Longa

Corte a Direita - Hélice a Direita
Metal Duro

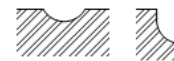
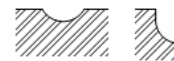


Referência

4330

4336

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

Dimensões

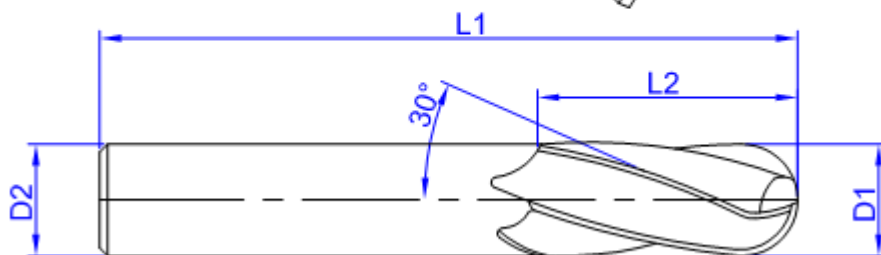
Dimensões					Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes		
3,0	3,0	75,0	12,0	2	43300300	43360300
4,0	4,0	75,0	14,0	2	43300400	43360400
5,0	5,0	75,0	20,0	2	43300500	43360500
6,0	6,0	75,0	20,0	2	43300600	43360600
7,0	7,0	75,0	25,0	2	43300700	43360700
8,0	8,0	75,0	25,0	2	43300800	43360800
9,0	9,0	100,0	40,0	2	43300900	43360900
10,0	10,0	100,0	40,0	2	43301000	43361000
11,0	11,0	150,0	50,0	2	43301100	43361100
12,0	12,0	150,0	50,0	2	43301200	43361200
13,0	13,0	150,0	50,0	2	43301300	43361300
14,0	14,0	150,0	50,0	2	43301400	43361400
15,0	15,0	150,0	50,0	2	43301500	43361500
16,0	16,0	150,0	50,0	2	43301600	43361600
17,0	17,0	150,0	50,0	2	43301700	43361700
18,0	18,0	150,0	50,0	2	43301800	43361800
19,0	19,0	150,0	50,0	2	43301900	43361900
20,0	20,0	150,0	60,0	2	43302000	43362000
21,0	21,0	150,0	60,0	2	43302100	43362100
22,0	22,0	150,0	60,0	2	43302200	43362200
23,0	23,0	150,0	60,0	2	43302300	43362300
24,0	24,0	150,0	60,0	2	43302400	43362400
25,0	25,0	150,0	60,0	2	43302500	43362500

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa de Topo esférico 4 Cortes Extra-Longa

Corte a Direita - Hélice a Direita
Metal Duro

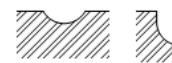
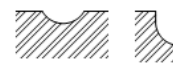


Referência

4430

4436

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

Dimensões

Dimensões					Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes		
3,0	3,0	75,0	12,0	4	44300300	44360300
4,0	4,0	75,0	14,0	4	44300400	44360400
5,0	5,0	75,0	20,0	4	44300500	44360500
6,0	6,0	75,0	20,0	4	44300600	44360600
7,0	7,0	75,0	25,0	4	44300700	44360700
8,0	8,0	75,0	25,0	4	44300800	44360800
9,0	9,0	100,0	40,0	4	44300900	44360900
10,0	10,0	100,0	40,0	4	44301000	44361000
11,0	11,0	150,0	50,0	4	44301100	44361100
12,0	12,0	150,0	50,0	4	44301200	44361200
13,0	13,0	150,0	50,0	4	44301300	44361300
14,0	14,0	150,0	50,0	4	44301400	44361400
15,0	15,0	150,0	50,0	4	44301500	44361500
16,0	16,0	150,0	50,0	4	44301600	44361600
17,0	17,0	150,0	50,0	4	44301700	44361700
18,0	18,0	150,0	50,0	4	44301800	44361800
19,0	19,0	150,0	50,0	4	44301900	44361900
20,0	20,0	150,0	60,0	4	44302000	44362000
21,0	21,0	150,0	60,0	4	44302100	44362100
22,0	22,0	150,0	60,0	4	44302200	44362200
23,0	23,0	150,0	60,0	4	44302300	44362300
24,0	24,0	150,0	60,0	4	44302400	44362400
25,0	25,0	150,0	60,0	4	44302500	44362500

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa de Topo Toroidal 2 Cortes Curta

Corte a Direita - Hélice a Direita
Metal Duro

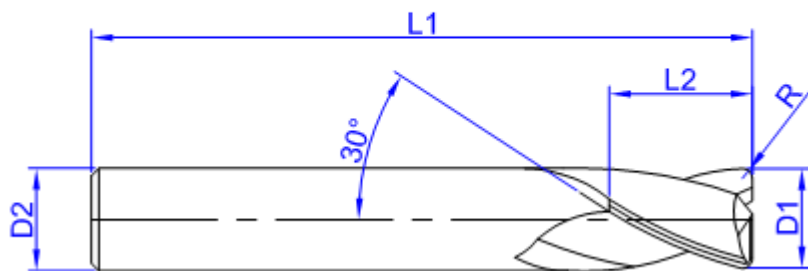
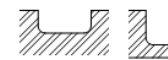
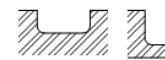


Referência

2010

2016

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

Dimensões

Código

D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes	R mm	Código	
3,0	3,0	38,0	6,0	2	0,3	20100303	20160303
					0,5	20100305	20160305
					1,0	20100306	20160306
4,0	4,0	45,0	8,0	2	0,3	20100403	20160403
					0,5	20100405	20160405
					1,0	20100406	20160406
5,0	5,0	50,0	10,0	2	0,3	20100503	20160503
					0,5	20100505	20160505
					1,0	20100506	20160506
6,0	6,0	50,0	12,0	2	0,3	20100603	20160603
					0,5	20100605	20160605
					1,0	20100606	20160606
8,0	8,0	52,0	14,0	2	0,3	20100803	20160803
					0,5	20100805	20160805
					1,0	20100806	20160806
					1,5	20100807	20160807
10,0	10,0	60,0	16,0	2	0,3	20101003	20161003
					0,5	20101005	20161005
					1,0	20101006	20161006
					1,5	20101007	20161007
					2,0	20101008	20161008
12,0	12,0	65,0	20,0	2	0,3	20101203	20161203
					0,5	20101205	20161205
					1,0	20101206	20161206
					1,5	20101207	20161207
					2,0	20101208	20161208



Fresa de Topo Toroidal 2 Cortes Curta

Corte a Direita - Hélice a Direita
Metal Duro

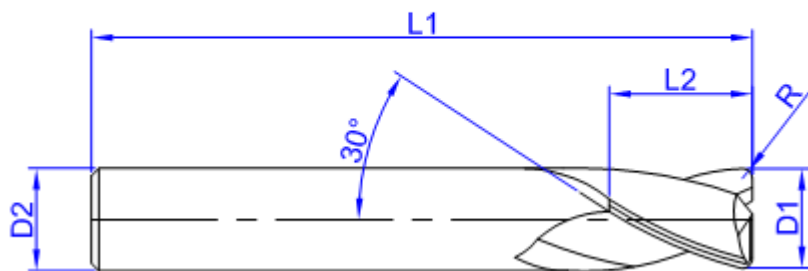
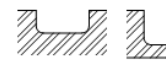
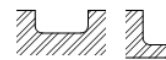


Referência

2010

2016

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

Dimensões

Código

D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes	R mm	Código	
14,0	14,0	75,0	25,0	2	0,3	20101403	20161403
					0,5	20101405	20161405
					1,0	20101406	20161406
					1,5	20101407	20161407
					2,0	20101408	20161408
16,0	16,0	75,0	25,0	2	0,3	20101603	20161603
					0,5	20101605	20161605
					1,0	20101606	20161606
					1,5	20101607	20161607
					2,0	20101608	20161608
18,0	18,0	92,0	30,0	2	0,3	20101803	20161803
					0,5	20101805	20161805
					1,0	20101806	20161806
					1,5	20101807	20161807
					2,0	20101808	20161808
20,0	20,0	92,0	30,0	2	0,3	20102003	20162003
					0,5	20102005	20162005
					1,0	20102006	20162006
					1,5	20102007	20162007
					2,0	20102008	20162008

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa de Topo Toroidal 3 Cortes Curta

Corte a Direita - Hélice a Direita
Metal Duro

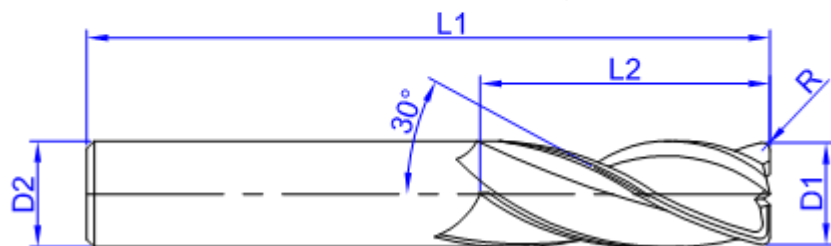
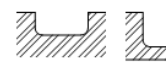


Referência

2110

2116

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

Dimensões

Código

D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes	R mm	Código	
3,0	3,0	38,0	6,0	3	0,3	21100303	21160303
					0,5	21100305	21160305
					1,0	21100306	21160306
4,0	4,0	45,0	8,0	3	0,3	21100403	21160403
					0,5	21100405	21160405
					1,0	21100406	21160406
5,0	5,0	50,0	10,0	3	0,3	21100503	21160503
					0,5	21100505	21160505
					1,0	21100506	21160506
6,0	6,0	50,0	12,0	3	0,3	21100603	21160603
					0,5	21100605	21160605
					1,0	21100606	21160606
8,0	8,0	52,0	14,0	3	0,3	21100803	21160803
					0,5	21100805	21160805
					1,0	21100806	21160806
					1,5	21100807	21160807
10,0	10,0	60,0	16,0	3	0,3	21101003	21161003
					0,5	21101005	21161005
					1,0	21101006	21161006
					1,5	21101007	21161007
					2,0	21101008	21161008
12,0	12,0	65,0	20,0	3	0,3	21101203	21161203
					0,5	21101205	21161205
					1,0	21101206	21161206
					1,5	21101207	21161207
					2,0	21101208	21161208



Fresa de Topo Toroidal 3 Cortes Curta

Corte a Direita - Hélice a Direita
Metal Duro

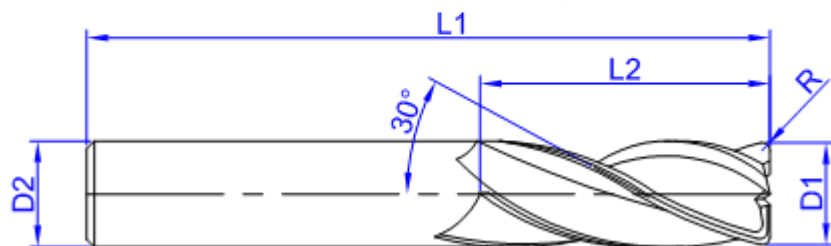
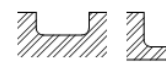
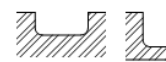


Referência

2110

2116

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

Dimensões

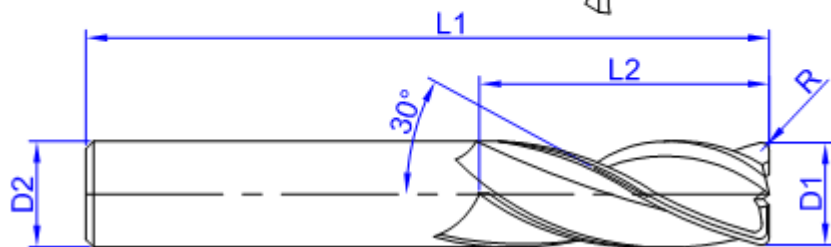
Dimensões						Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes	R mm		
14,0	14,0	75,0	25,0	3	0,3	21101403	21161403
					0,5	21101405	21161405
					1,0	21101406	21161406
					1,5	21101407	21161407
					2,0	21101408	21161408
16,0	16,0	75,0	25,0	3	0,3	21101603	21161603
					0,5	21101605	21161605
					1,0	21101606	21161606
					1,5	21101607	21161607
					2,0	21101608	21161608
18,0	18,0	92,0	30,0	3	0,3	21101803	21161803
					0,5	21101805	21161805
					1,0	21101806	21161806
					1,5	21101807	21161807
					2,0	21101808	21161808
20,0	20,0	92,0	30,0	3	0,3	21102003	21162003
					0,5	21102005	21162005
					1,0	21102006	21162006
					1,5	21102007	21162007
					2,0	21102008	21162008

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa de Topo Toroidal 4 Cortes Curta

Corte a Direita - Hélice a Direita
Metal Duro

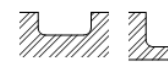
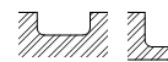


Referência

2210

2216

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

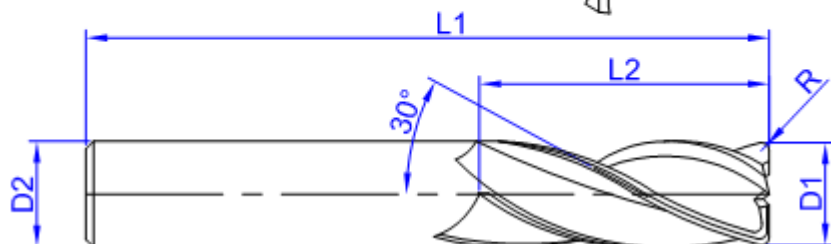
Dimensões

Dimensões						Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes	R mm		
3,0	3,0	38,0	6,0	4	0,3	22100303	22160303
					0,5	22100305	22160305
					1,0	22100306	22160306
4,0	4,0	45,0	8,0	4	0,3	22100403	22160403
					0,5	22100405	22160405
					1,0	22100406	22160406
5,0	5,0	50,0	10,0	4	0,3	22100503	22160503
					0,5	22100505	22160505
					1,0	22100506	22160506
6,0	6,0	50,0	12,0	4	0,3	22100603	22160603
					0,5	22100605	22160605
					1,0	22100606	22160606
8,0	8,0	52,0	14,0	4	0,3	22100803	22160803
					0,5	22100805	22160805
					1,0	22100806	22160806
					1,5	22100807	22160807
10,0	10,0	60,0	16,0	4	0,3	22101003	22161003
					0,5	22101005	22161005
					1,0	22101006	22161006
					1,5	22101007	22161007
					2,0	22101008	22161008
12,0	12,0	65,0	20,0	4	0,3	22101203	22161203
					0,5	22101205	22161205
					1,0	22101206	22161206
					1,5	22101207	22161207
					2,0	22101208	22161208



Fresa de Topo Toroidal 4 Cortes Curta

Corte a Direita - Hélice a Direita
Metal Duro

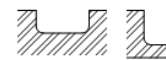
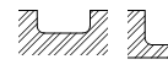


Referência

2210

2216

Tipo do Furo

Especificações
do ProdutoSem
CoberturaCom
Cobertura

Dimensões

Dimensões						Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes	R mm		
14,0	14,0	75,0	25,0	4	0,3	22101403	22161403
					0,5	22101405	22161405
					1,0	22101406	22161406
					1,5	22101407	22161407
					2,0	22101408	22161408
16,0	16,0	75,0	25,0	4	0,3	22101603	22161603
					0,5	22101605	22161605
					1,0	22101606	22161606
					1,5	22101607	22161607
					2,0	22101608	22161608
18,0	18,0	92,0	30,0	4	0,3	22101803	22161803
					0,5	22101805	22161805
					1,0	22101806	22161806
					1,5	22101807	22161807
					2,0	22101808	22161808
20,0	20,0	92,0	30,0	4	0,3	22102003	22162003
					0,5	22102005	22162005
					1,0	22102006	22162006
					1,5	22102007	22162007
					2,0	22102008	22162008

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa de Topo Toroidal 2 Cortes Longa

Corte a Direita - Hélice a Direita
Metal Duro

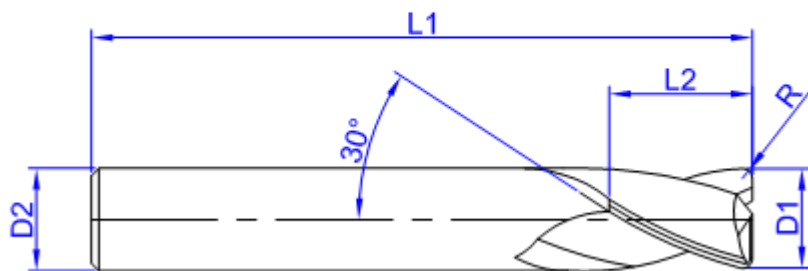
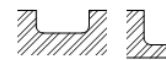
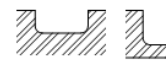


Referência

2020

2026

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

Dimensões

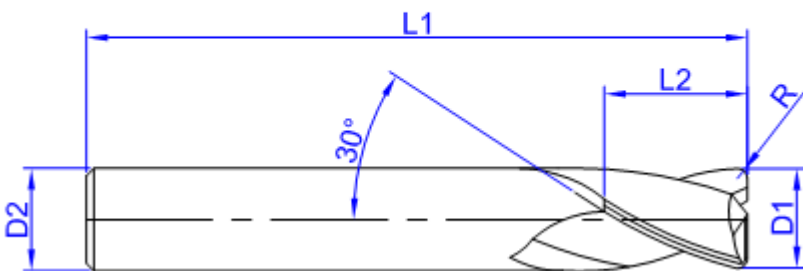
Código

D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes	R mm	Código	
3,0	3,0	40,0	12,0	2	0,3	20200303	20260303
					0,5	20200305	20260305
					1,0	20200306	20260306
4,0	4,0	50,0	14,0	2	0,3	20200403	20260403
					0,5	20200405	20260405
					1,0	20200406	20260406
5,0	5,0	50,0	16,0	2	0,3	20200503	20260503
					0,5	20200505	20260505
					1,0	20200506	20260506
6,0	6,0	60,0	20,0	2	0,3	20200603	20260603
					0,5	20200605	20260605
					1,0	20200606	20260606
8,0	8,0	60,0	20,0	2	0,3	20200803	20260803
					0,5	20200805	20260805
					1,0	20200806	20260806
					1,5	20200807	20260807
10,0	10,0	75,0	20,0	2	0,3	20201003	20261003
					0,5	20201005	20261005
					1,0	20201006	20261006
					1,5	20201007	20261007
					2,0	20201008	20261008
12,0	12,0	80,0	25,0	2	0,3	20201203	20261203
					0,5	20201205	20261205
					1,0	20201206	20261206
					1,5	20201207	20261207
					2,0	20201208	20261208



Fresa de Topo Toroidal 2 Cortes Longa

Corte a Direita - Hélice a Direita
Metal Duro

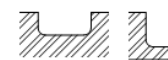
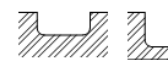


Referência

2020

2026

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

Dimensões

Dimensões						Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes	R mm		
14,0	14,0	80,0	25,0	2	0,3	20201403	20261403
					0,5	20201405	20261405
					1,0	20201406	20261406
					1,5	20201407	20261407
					2,0	20201408	20261408
16,0	16,0	100,0	30,0	2	0,3	20201603	20261603
					0,5	20201605	20261605
					1,0	20201606	20261606
					1,5	20201607	20261607
18,0	18,0	100,0	30,0	2	0,3	20201803	20261803
					0,5	20201805	20261805
					1,0	20201806	20261806
					1,5	20201807	20261807
20,0	20,0	100,0	30,0	2	0,3	20202003	20262003
					0,5	20202005	20262005
					1,0	20202006	20262006
					1,5	20202007	20262007
					2,0	20202008	20262008

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa de Topo Toroidal 3 Cortes Longa

Corte a Direita - Hélice a Direita
Metal Duro

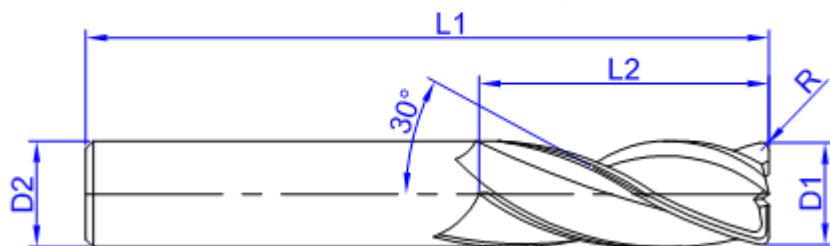
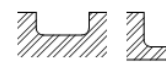
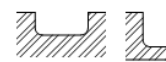


Referência

2120

2126

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

Dimensões

Dimensões						Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes	R mm		
3,0	3,0	40,0	12,0	3	0,3	21200303	21260303
					0,5	21200305	21260305
					1,0	21200306	21260306
4,0	4,0	50,0	14,0	3	0,3	21200403	21260403
					0,5	21200405	21260405
					1,0	21200406	21260406
5,0	5,0	50,0	16,0	3	0,3	21200503	21260503
					0,5	21200505	21260505
					1,0	21200506	21260506
6,0	6,0	60,0	20,0	3	0,3	21200603	21260603
					0,5	21200605	21260605
					1,0	21200606	21260606
8,0	8,0	60,0	20,0	3	0,3	21200803	21260803
					0,5	21200805	21260805
					1,0	21200806	21260806
					1,5	21200807	21260807
10,0	10,0	75,0	20,0	3	0,3	21201003	21261003
					0,5	21201005	21261005
					1,0	21201006	21261006
					1,5	21201007	21261007
					2,0	21201008	21261008
12,0	12,0	80,0	25,0	3	0,3	21201203	21261203
					0,5	21201205	21261205
					1,0	21201206	21261206
					1,5	21201207	21261207
					2,0	21201208	21261208



Fresa de Topo Toroidal 3 Cortes Longa

Corte a Direita - Hélice a Direita
Metal Duro

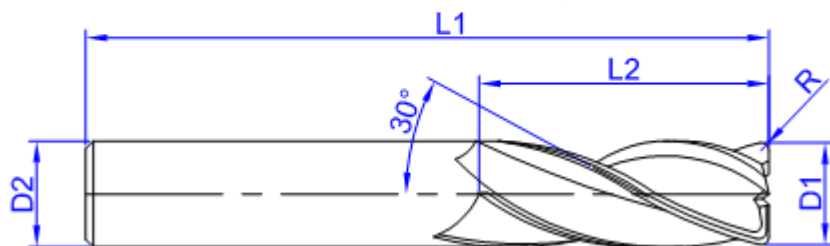
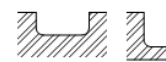
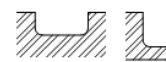


Referência

2120

2126

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

Dimensões

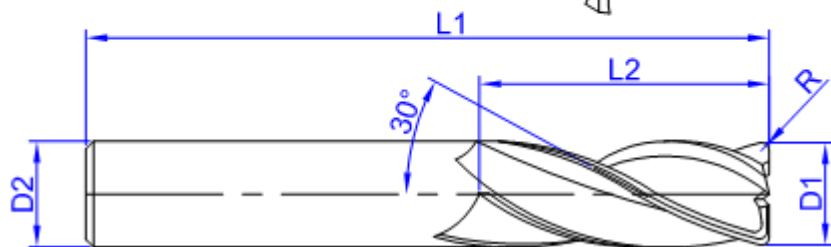
Dimensões						Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes	R mm		
14,0	14,0	80,0	25,0	3	0,3	21201403	21261403
					0,5	21201405	21261405
					1,0	21201406	21261406
					1,5	21201407	21261407
					2,0	21201408	21261408
16,0	16,0	100,0	30,0	3	0,3	21201603	21261603
					0,5	21201605	21261605
					1,0	21201606	21261606
					1,5	21201607	21261607
					2,0	21201608	21261608
18,0	18,0	100,0	30,0	3	0,3	21201803	21261803
					0,5	21201805	21261805
					1,0	21201806	21261806
					1,5	21201807	21261807
					2,0	21201808	21261808
20,0	20,0	100,0	30,0	3	0,3	21202003	21262003
					0,5	21202005	21262005
					1,0	21202006	21262006
					1,5	21202007	21262007
					2,0	21202008	21262008

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa de Topo Toroidal 4 Cortes Longa

Corte a Direita - Hélice a Direita
Metal Duro

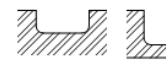
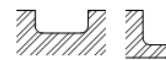


Referência

2220

2226

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

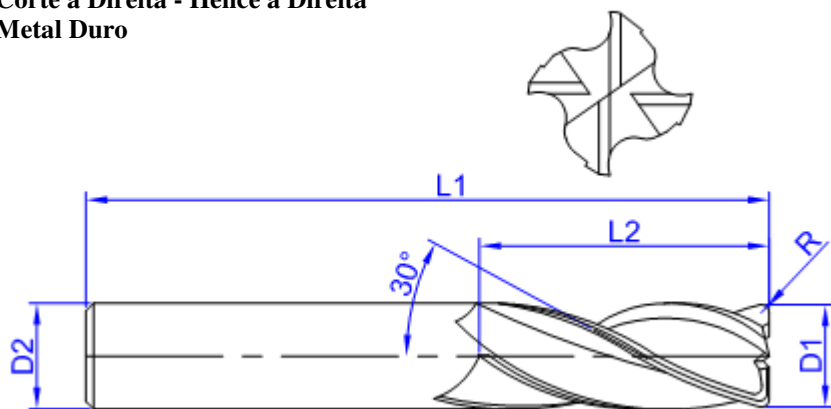
Dimensões

Dimensões						Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes	R mm		
3,0	3,0	40,0	12,0	4	0,3	22200303	22260303
					0,5	22200305	22260305
					1,0	22200306	22260306
4,0	4,0	50,0	14,0	4	0,3	22200403	22260403
					0,5	22200405	22260405
					1,0	22200406	22260406
5,0	5,0	50,0	16,0	4	0,3	22200503	22260503
					0,5	22200505	22260505
					1,0	22200506	22260506
6,0	6,0	60,0	20,0	4	0,3	22200603	22260603
					0,5	22200605	22260605
					1,0	22200606	22260606
8,0	8,0	60,0	20,0	4	0,3	22200803	22260803
					0,5	22200805	22260805
					1,0	22200806	22260806
					1,5	22200807	22260807
10,0	10,0	75,0	20,0	4	0,3	22201003	22261003
					0,5	22201005	22261005
					1,0	22201006	22261006
					1,5	22201007	22261007
					2,0	22201008	22261008
12,0	12,0	80,0	25,0	4	0,3	22201203	22261203
					0,5	22201205	22261205
					1,0	22201206	22261206
					1,5	22201207	22261207
					2,0	22201208	22261208



Fresa de Topo Toroidal 4 Cortes Longa

Corte a Direita - Hélice a Direita
Metal Duro

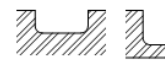
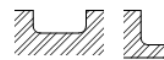


Referência

2220

2226

Tipo do Furo

Especificações
do ProdutoSem
CoberturaCom
Cobertura

Dimensões

Dimensões						Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes	R mm		
14,0	14,0	80,0	25,0	4	0,3	22201403	22261403
					0,5	22201405	22261405
					1,0	22201406	22261406
					1,5	22201407	22261407
					2,0	22201408	22261408
16,0	16,0	100,0	30,0	4	0,3	22201603	22261603
					0,5	22201605	22261605
					1,0	22201606	22261606
					1,5	22201607	22261607
					2,0	22201608	22261608
18,0	18,0	100,0	30,0	4	0,3	22201803	22261803
					0,5	22201805	22261805
					1,0	22201806	22261806
					1,5	22201807	22261807
					2,0	22201808	22261808
20,0	20,0	100,0	30,0	4	0,3	22202003	22262003
					0,5	22202005	22262005
					1,0	22202006	22262006
					1,5	22202007	22262007
					2,0	22202008	22262008

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa de Topo Toroidal 2 Cortes Extra-Longa

Corte a Direita - Hélice a Direita
Metal Duro

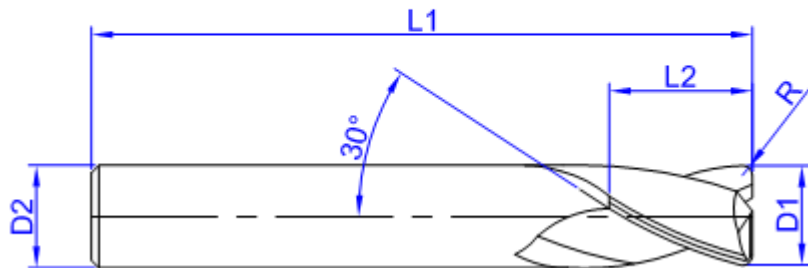
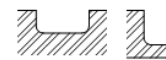
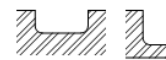


Referência

2030

2036

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

Dimensões

Código

D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes	R mm	Código	
3,0	3,0	75,0	12,0	2	0,3	20300303	20360303
					0,5	20300305	20360305
					1,0	20300306	20360306
4,0	4,0	75,0	14,0	2	0,3	20300403	20360403
					0,5	20300405	20360405
					1,0	20300406	20360406
5,0	5,0	75,0	20,0	2	0,3	20300503	20360503
					0,5	20300505	20360505
					1,0	20300506	20360506
6,0	6,0	75,0	20,0	2	0,3	20300603	20360603
					0,5	20300605	20360605
					1,0	20300606	20360606
8,0	8,0	75,0	25,0	2	0,3	20300803	20360803
					0,5	20300805	20360805
					1,0	20300806	20360806
					1,5	20300807	20360807
10,0	10,0	100,0	40,0	2	0,3	20301003	20361003
					0,5	20301005	20361005
					1,0	20301006	20361006
					1,5	20301007	20361007
					2,0	20301008	20361008
12,0	12,0	150,0	50,0	2	0,3	20301203	20361203
					0,5	20301205	20361205
					1,0	20301206	20361206
					1,5	20301207	20361207
					2,0	20301208	20361208



Fresa de Topo Toroidal 2 Cortes Extra-Longa

Corte a Direita - Hélice a Direita
Metal Duro

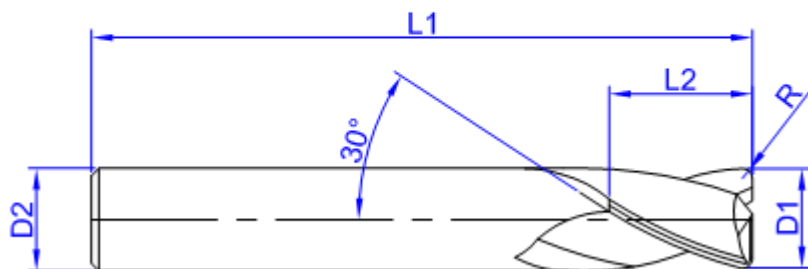
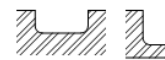
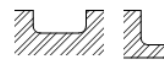


Referência

2030

2036

Tipo do Furo

Especificações
do ProdutoSem
CoberturaCom
Cobertura

Dimensões

Dimensões						Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes	R mm		
14,0	14,0	150,0	50,0	2	0,3	20301403	20361403
					0,5	20301405	20361405
					1,0	20301406	20361406
					1,5	20301407	20361407
					2,0	20301408	20361408
16,0	16,0	150,0	50,0	2	0,3	20301603	20361603
					0,5	20301605	20361605
					1,0	20301606	20361606
					1,5	20301607	20361607
					2,0	20301608	20361608
18,0	18,0	150,0	60,0	2	0,3	20301803	20361803
					0,5	20301805	20361805
					1,0	20301806	20361806
					1,5	20301807	20361807
					2,0	20301808	20361808
20,0	20,0	150,0	60,0	2	0,3	20302003	20362003
					0,5	20302005	20362005
					1,0	20302006	20362006
					1,5	20302007	20362007
					2,0	20302008	20362008

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa de Topo Toroidal 3 Cortes Extra-Longa

Corte a Direita - Hélice a Direita
Metal Duro

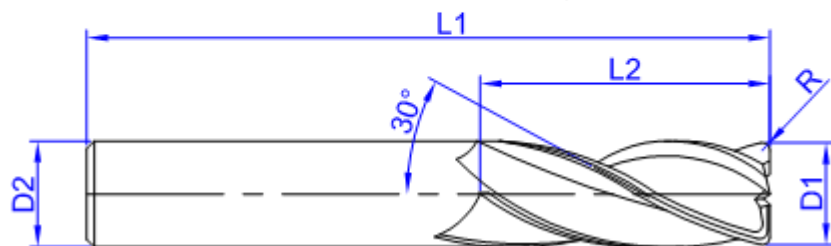
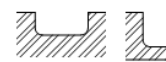


Referência

2130

2136

Tipo do Furo

Especificações
do ProdutoSem
CoberturaCom
Cobertura

Dimensões

Dimensões						Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes	R mm		
3,0	3,0	75,0	12,0	3	0,3	21300303	21360303
					0,5	21300305	21360305
					1,0	21300306	21360306
4,0	4,0	75,0	14,0	3	0,3	21300403	21360403
					0,5	21300405	21360405
					1,0	21300406	21360406
5,0	5,0	75,0	20,0	3	0,3	21300503	21360503
					0,5	21300505	21360505
					1,0	21300506	21360506
6,0	6,0	75,0	20,0	3	0,3	21300603	21360603
					0,5	21300605	21360605
					1,0	21300606	21360606
8,0	8,0	75,0	25,0	3	0,3	21300803	21360803
					0,5	21300805	21360805
					1,0	21300806	21360806
					1,5	21300807	21360807
10,0	10,0	100,0	40,0	3	0,3	21301003	21361003
					0,5	21301005	21361005
					1,0	21301006	21361006
					1,5	21301007	21361007
					2,0	21301008	21361008
12,0	12,0	150,0	50,0	3	0,3	21301203	21361203
					0,5	21301205	21361205
					1,0	21301206	21361206
					1,5	21301207	21361207
					2,0	21301208	21361208



Fresa de Topo Toroidal 3 Cortes Extra-Longa

Corte a Direita - Hélice a Direita
Metal Duro

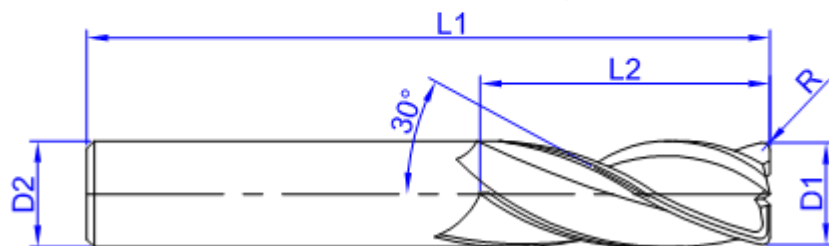
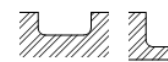


Referência

2130

2136

Tipo do Furo

Especificações
do ProdutoSem
CoberturaCom
Cobertura

Dimensões

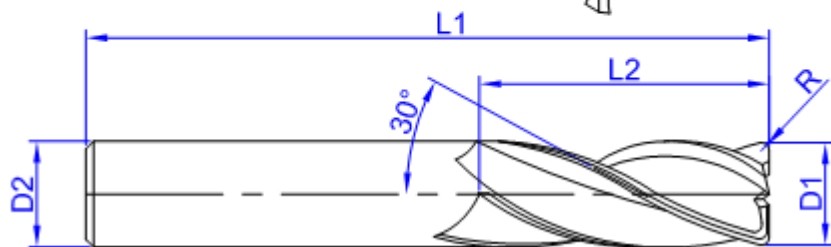
Dimensões						Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes	R mm		
14,0	14,0	150,0	50,0	3	0,3	21301403	21361403
					0,5	21301405	21361405
					1,0	21301406	21361406
					1,5	21301407	21361407
					2,0	21301408	21361408
16,0	16,0	150,0	50,0	3	0,3	21301603	21361603
					0,5	21301605	21361605
					1,0	21301606	21361606
					1,5	21301607	21361607
					2,0	21301608	21361608
18,0	18,0	150,0	60,0	3	0,3	21301803	21361803
					0,5	21301805	21361805
					1,0	21301806	21361806
					1,5	21301807	21361807
					2,0	21301808	21361808
20,0	20,0	150,0	60,0	3	0,3	21302003	21362003
					0,5	21302005	21362005
					1,0	21302006	21362006
					1,5	21302007	21362007
					2,0	21302008	21362008

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa de Topo Toroidal 4 Cortes Extra-Longa

Corte a Direita - Hélice a Direita
Metal Duro

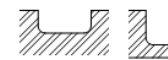
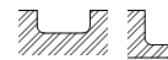


Referência

2230

2236

Tipo do Furo

Especificações
do ProdutoSem
CoberturaCom
Cobertura

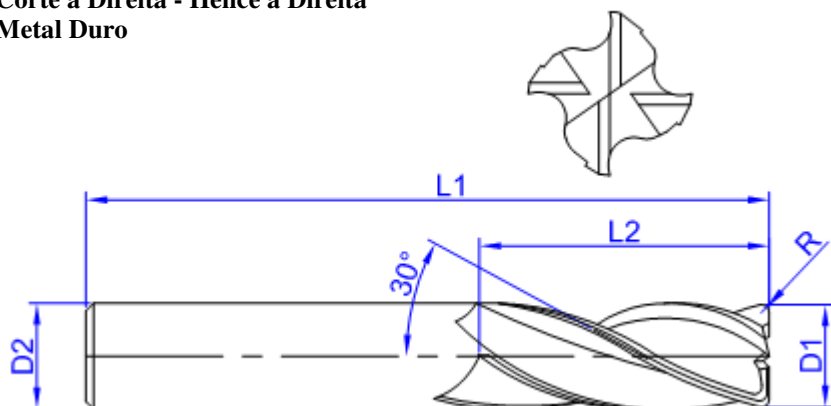
Dimensões

Dimensões						Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes	R mm		
3,0	3,0	75,0	12,0	4	0,3	22300303	22360303
					0,5	22300305	22360305
					1,0	22300306	22360306
4,0	4,0	75,0	14,0	4	0,3	22300403	22360403
					0,5	22300405	22360405
					1,0	22300406	22360406
5,0	5,0	75,0	20,0	4	0,3	22300503	22360503
					0,5	22300505	22360505
					1,0	22300506	22360506
6,0	6,0	75,0	20,0	4	0,3	22300603	22360603
					0,5	22300605	22360605
					1,0	22300606	22360606
8,0	8,0	75,0	25,0	4	0,3	22300803	22360803
					0,5	22300805	22360805
					1,0	22300806	22360806
					1,5	22300807	22360807
10,0	10,0	100,0	40,0	4	0,3	22301003	22361003
					0,5	22301005	22361005
					1,0	22301006	22361006
					1,5	22301007	22361007
					2,0	22301008	22361008
12,0	12,0	150,0	50,0	4	0,3	22301203	22361203
					0,5	22301205	22361205
					1,0	22301206	22361206
					1,5	22301207	22361207
					2,0	22301208	22361208



Fresa de Topo Toroidal 4 Cortes Extra-Longa

Corte a Direita - Hélice a Direita
Metal Duro

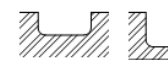
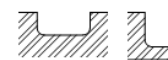


Referência

2230

2236

Tipo do Furo

Especificações
do ProdutoSem
CoberturaCom
Cobertura

Dimensões

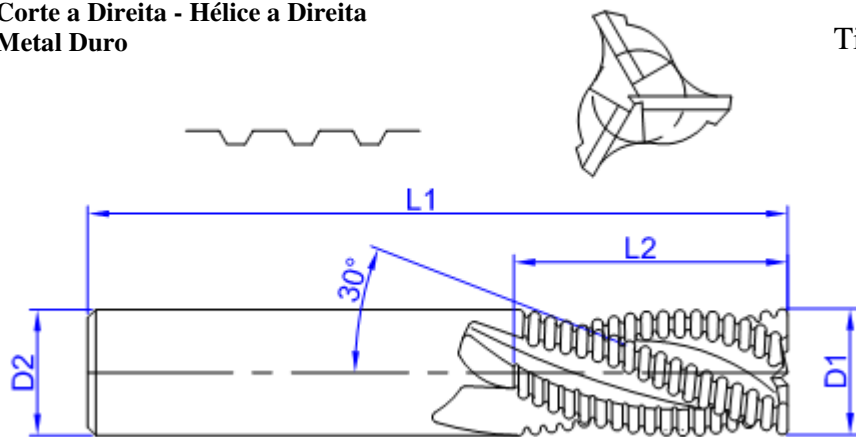
Dimensões						Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes	R mm		
14,0	14,0	150,0	50,0	4	0,3	22301403	22361403
					0,5	22301405	22361405
					1,0	22301406	22361406
					1,5	22301407	22361407
					2,0	22301408	22361408
16,0	16,0	150,0	50,0	4	0,3	22301603	22361603
					0,5	22301605	22361605
					1,0	22301606	22361606
					1,5	22301607	22361607
					2,0	22301608	22361608
18,0	18,0	150,0	60,0	4	0,3	22301803	22361803
					0,5	22301805	22361805
					1,0	22301806	22361806
					1,5	22301807	22361807
					2,0	22301808	22361808
20,0	20,0	150,0	60,0	4	0,3	22302003	22362003
					0,5	22302005	22362005
					1,0	22302006	22362006
					1,5	22302007	22362007
					2,0	22302008	22362008

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa de Desbaste 3 Cortes Curta

Corte a Direita - Hélice a Direita
Metal Duro

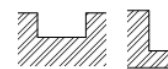
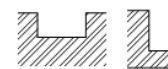


Referência

4510

4516

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

Dimensões

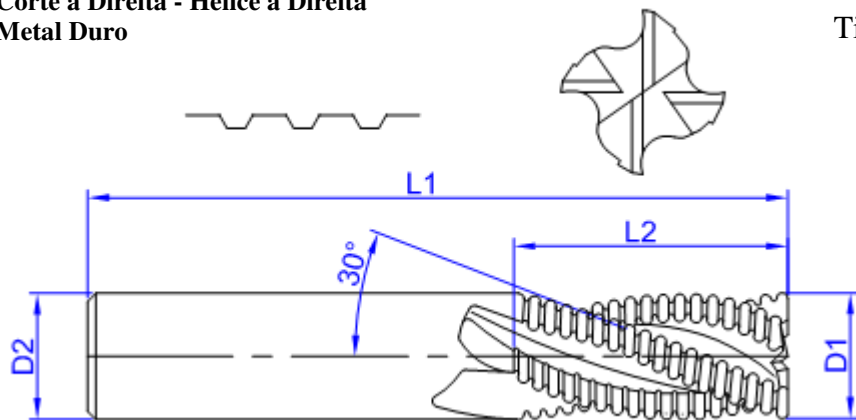
Dimensões					Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes		
6,0	6,0	50,0	12,0	3	45100600	45160600
7,0	7,0	50,0	12,0	3	45100700	45160700
8,0	8,0	52,0	14,0	3	45100800	45160800
9,0	9,0	52,0	14,0	3	45100900	45160900
10,0	10,0	60,0	16,0	3	45101000	45161000
11,0	11,0	60,0	16,0	3	45101100	45161100
12,0	12,0	65,0	20,0	3	45101200	45161200
13,0	13,0	65,0	20,0	3	45101300	45161300
14,0	14,0	75,0	25,0	3	45101400	45161400
15,0	15,0	75,0	25,0	3	45101500	45161500
16,0	16,0	75,0	25,0	3	45101600	45161600
17,0	17,0	75,0	25,0	3	45101700	45161700
18,0	18,0	82,0	30,0	3	45101800	45161800
19,0	19,0	82,0	30,0	3	45101900	45161900
20,0	20,0	92,0	30,0	3	45102000	45162000
21,0	21,0	92,0	30,0	3	45102100	45162100
22,0	22,0	92,0	30,0	3	45102200	45162200
23,0	23,0	92,0	30,0	3	45102300	45162300
24,0	24,0	92,0	30,0	3	45102400	45162400
25,0	25,0	92,0	30,0	3	45102500	45162500

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa de Desbaste 4 Cortes Curta

Corte a Direita - Hélice a Direita
Metal Duro

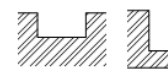
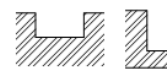


Referência

4610

4616

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

Dimensões

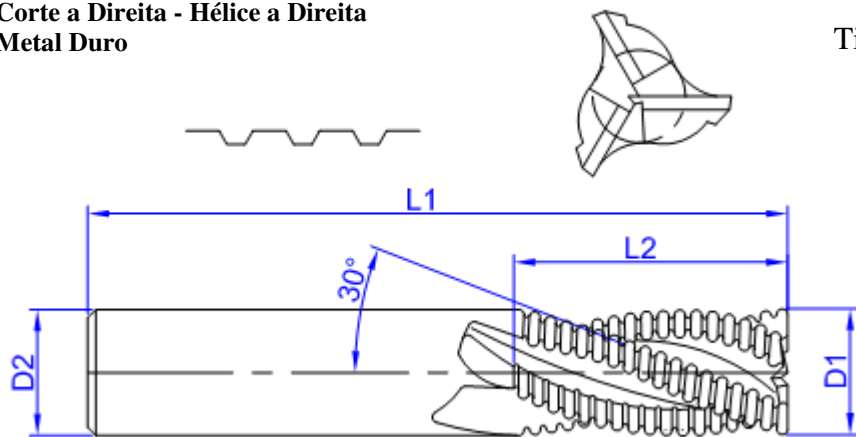
Dimensões					Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes		
6,0	6,0	50,0	12,0	4	46100600	46160600
7,0	7,0	50,0	12,0	4	46100700	46160700
8,0	8,0	52,0	14,0	4	46100800	46160800
9,0	9,0	52,0	14,0	4	46100900	46160900
10,0	10,0	60,0	16,0	4	46101000	46161000
11,0	11,0	60,0	16,0	4	46101100	46161100
12,0	12,0	65,0	20,0	4	46101200	46161200
13,0	13,0	65,0	20,0	4	46101300	46161300
14,0	14,0	75,0	25,0	4	46101400	46161400
15,0	15,0	75,0	25,0	4	46101500	46161500
16,0	16,0	75,0	25,0	4	46101600	46161600
17,0	17,0	75,0	25,0	4	46101700	46161700
18,0	18,0	82,0	30,0	4	46101800	46161800
19,0	19,0	82,0	30,0	4	46101900	46161900
20,0	20,0	92,0	30,0	4	46102000	46162000
21,0	21,0	92,0	30,0	4	46102100	46162100
22,0	22,0	92,0	30,0	4	46102200	46162200
23,0	23,0	92,0	30,0	4	46102300	46162300
24,0	24,0	92,0	30,0	4	46102400	46162400
25,0	25,0	92,0	30,0	4	46102500	46162500

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa de Desbaste 3 Cortes Longa

Corte a Direita - Hélice a Direita
Metal Duro

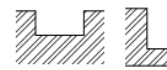
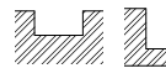


Referência

4520

4526

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

Dimensões

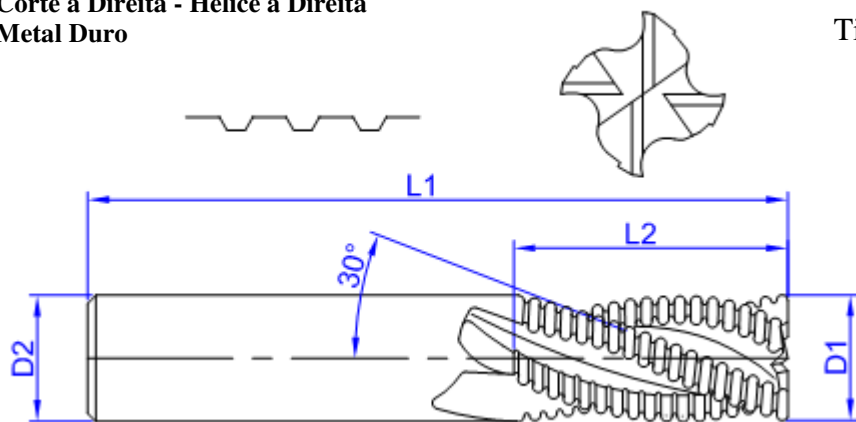
Dimensões					Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes		
6,0	6,0	60,0	20,0	3	45200600	45260600
7,0	7,0	60,0	20,0	3	45200700	45260700
8,0	8,0	60,0	28,0	3	45200800	45260800
9,0	9,0	60,0	20,0	3	45200900	45260900
10,0	10,0	75,0	20,0	3	45201000	45261000
11,0	11,0	75,0	20,0	3	45201100	45261100
12,0	12,0	80,0	25,0	3	45201200	45261200
13,0	13,0	80,0	25,0	3	45201300	45261300
14,0	14,0	80,0	25,0	3	45201400	45261400
15,0	15,0	80,0	25,0	3	45201500	45261500
16,0	16,0	100,0	30,0	3	45201600	45261600
17,0	17,0	100,0	30,0	3	45201700	45261700
18,0	18,0	100,0	30,0	3	45201800	45261800
19,0	19,0	100,0	30,0	3	45201900	45261900
20,0	20,0	100,0	30,0	3	45202000	45262000
21,0	21,0	100,0	30,0	3	45202100	45262100
22,0	22,0	100,0	40,0	3	45202200	45262200
23,0	23,0	100,0	40,0	3	45202300	45262300
24,0	24,0	100,0	40,0	3	45202400	45262400
25,0	25,0	100,0	40,0	3	45202500	45262500

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa de Desbaste 4 Cortes Longa

Corte a Direita - Hélice a Direita
Metal Duro

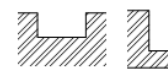
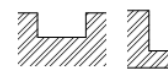


Referência

4620

4626

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

Dimensões

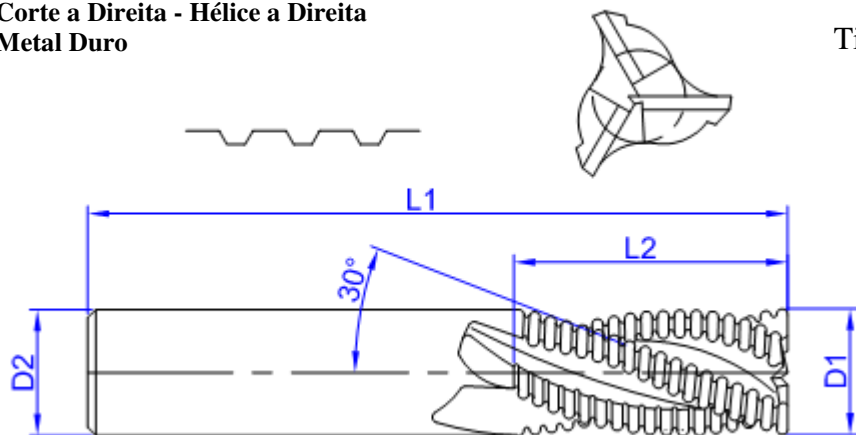
Dimensões					Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes		
6,0	6,0	60,0	20,0	4	46200600	46260600
7,0	7,0	60,0	20,0	4	46200700	46260700
8,0	8,0	60,0	20,0	4	46200800	46260800
9,0	9,0	60,0	20,0	4	46200900	46260900
10,0	10,0	75,0	20,0	4	46201000	46261000
11,0	11,0	75,0	20,0	4	46201100	46261100
12,0	12,0	80,0	25,0	4	46201200	46261200
13,0	13,0	80,0	25,0	4	46201300	46261300
14,0	14,0	80,0	25,0	4	46201400	46261400
15,0	15,0	80,0	25,0	4	46201500	46261500
16,0	16,0	100,0	30,0	4	46201600	46261600
17,0	17,0	100,0	30,0	4	46201700	46261700
18,0	18,0	100,0	30,0	4	46201800	46261800
19,0	19,0	100,0	30,0	4	46201900	46261900
20,0	20,0	100,0	30,0	4	46202000	46262000
21,0	21,0	100,0	30,0	4	46202100	46262100
22,0	22,0	100,0	40,0	4	46202200	46262200
23,0	23,0	100,0	40,0	4	46202300	46262300
24,0	24,0	100,0	40,0	4	46202400	46262400
25,0	25,0	100,0	40,0	4	46202500	46262500

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa de Desbaste 3 Cortes Extra-Longa

Corte a Direita - Hélice a Direita
Metal Duro

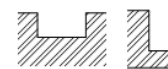
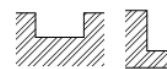


Referência

4530

4536

Tipo do Furo

Especificações
do ProdutoSem
CoberturaCom
Cobertura

Dimensões

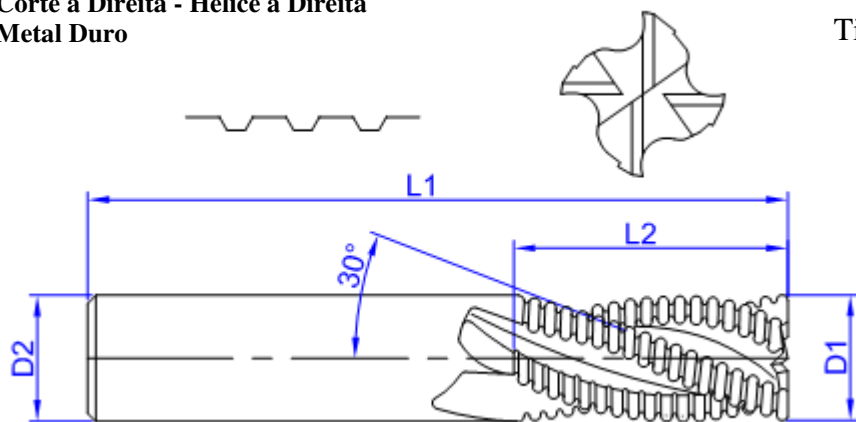
Dimensões					Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes		
6,0	6,0	75,0	20,0	3	45300600	45360600
7,0	7,0	75,0	20,0	3	45300700	45360700
8,0	8,0	75,0	25,0	3	45300800	45360800
9,0	9,0	75,0	25,0	3	45300900	45360900
10,0	10,0	100,0	40,0	3	45301000	45361000
11,0	11,0	100,0	40,0	3	45301100	45361100
12,0	12,0	150,0	50,0	3	45301200	45361200
13,0	13,0	150,0	50,0	3	45301300	45361300
14,0	14,0	150,0	50,0	3	45301400	45361400
15,0	15,0	150,0	50,0	3	45301500	45361500
16,0	16,0	150,0	50,0	3	45301600	45361600
17,0	17,0	150,0	50,0	3	45301700	45361700
18,0	18,0	150,0	50,0	3	45301800	45361800
19,0	19,0	150,0	50,0	3	45301900	45361900
20,0	20,0	150,0	60,0	3	45302000	45362000
21,0	21,0	150,0	60,0	3	45302100	45362100
22,0	22,0	150,0	60,0	3	45302200	45362200
23,0	23,0	150,0	60,0	3	45302300	45362300
24,0	24,0	150,0	60,0	3	45302400	45362400
25,0	25,0	150,0	60,0	3	45302500	45362500

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa de Desbaste 4 Cortes Extra-Longa

Corte a Direita - Hélice a Direita
Metal Duro

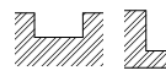


Referência

4630

4636

Tipo do Furo

Especificações
do ProdutoSem
CoberturaCom
Cobertura

Dimensões

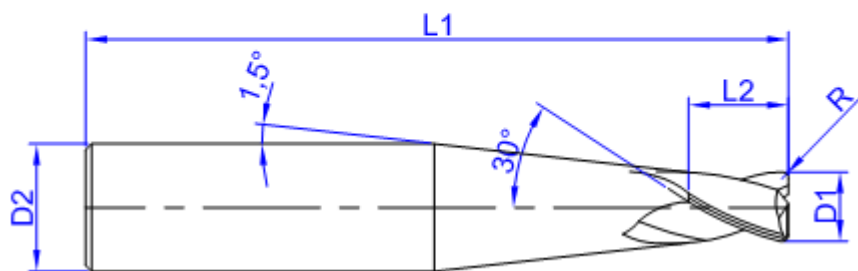
Dimensões					Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes		
6,0	6,0	75,0	20,0	4	46300600	46360600
7,0	7,0	75,0	20,0	4	46300700	46360700
8,0	8,0	75,0	25,0	4	46300800	46360800
9,0	9,0	75,0	25,0	4	46300900	46360900
10,0	10,0	100,0	40,0	4	46301000	46361000
11,0	11,0	100,0	40,0	4	46301100	46361100
12,0	12,0	150,0	50,0	4	46301200	46361200
13,0	13,0	150,0	50,0	4	46301300	46361300
14,0	14,0	150,0	50,0	4	46301400	46361400
15,0	15,0	150,0	50,0	4	46301500	46361500
16,0	16,0	150,0	50,0	4	46301600	46361600
17,0	17,0	150,0	50,0	4	46301700	46361700
18,0	18,0	150,0	50,0	4	46301800	46361800
19,0	19,0	150,0	50,0	4	46301900	46361900
20,0	20,0	150,0	60,0	4	46302000	46362000
21,0	21,0	150,0	60,0	4	46302100	46362100
22,0	22,0	150,0	60,0	4	46302200	46362200
23,0	23,0	150,0	60,0	4	46302300	46362300
24,0	24,0	150,0	60,0	4	46302400	46362400
25,0	25,0	150,0	60,0	4	46302500	46362500

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa Toroidal Linha Modelação 2 Cortes Longa - Cônica

Corte a Direita - Hélice a Direita
Metal Duro

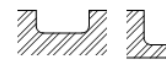
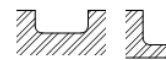


Referência

4810

4816

Tipo do Furo

Especificações
do ProdutoSem
CoberturaCom
Cobertura

Dimensões

D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes	R mm	Código	
4,0	6,0	100,0	10,0	2	0,5	48100405	48160405
					1,0	48100406	48160406
6,0	8,0	120,0	10,0	2	0,5	48100605	48160605
					1,0	48100606	48160606
					1,5	48100607	48160607
8,0	10,0	150,0	10,0	2	1,0	48100806	48160806
					1,5	48100807	48160807
					2,0	48100808	48160808
10,0	12,0	150,0	10,0	2	1,0	48101006	48161006
					1,5	48101007	48161007
					2,0	48101008	48161008
12,0	14,0	150,0	10,0	2	1,0	48101206	48161206
					1,5	48101207	48161207
					2,0	48101208	48161208
14,0	16,0	150,0	10,0	2	1,0	48101406	48161406
					1,5	48101407	48161407
					2,0	48101408	48161408

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa Toroidal Linha Modelação 3 Cortes Longa - Cônica

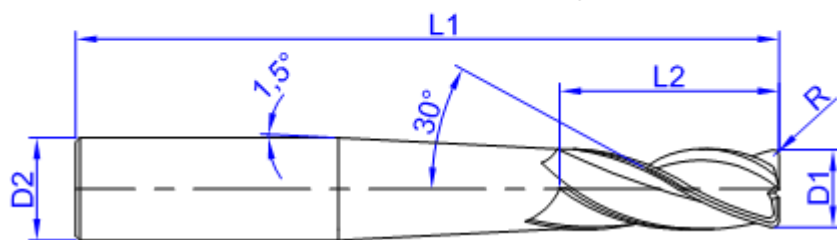
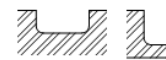
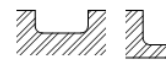
Corte a Direita - Hélice a Direita
Metal Duro

Referência

4910

4916

Tipo do Furo

Especificações
do ProdutoSem
CoberturaCom
Cobertura

Dimensões

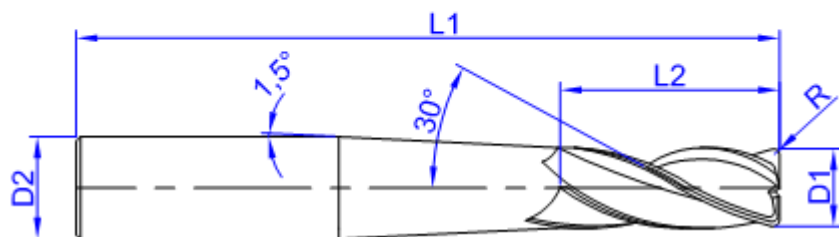
Dimensões						Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes	R mm		
4,0	6,0	100,0	10,0	3	0,5	49100405	49160405
					1,0	49100406	49160406
6,0	8,0	120,0	10,0	3	0,5	49100605	49160605
					1,0	49100606	49160606
					1,5	49100607	49160607
8,0	10,0	150,0	10,0	3	1,0	49100806	49160806
					1,5	49100807	49160807
					2,0	49100808	49160808
10,0	12,0	150,0	10,0	3	1,0	49101006	49161006
					1,5	49101007	49161007
					2,0	49101008	49161008
12,0	14,0	150,0	10,0	3	1,0	49101206	49161206
					1,5	49101207	49161207
					2,0	49101208	49161208
14,0	16,0	150,0	10,0	3	1,0	49101406	49161406
					1,5	49101407	49161407
					2,0	49101408	49161408

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa Toroidal Linha Modelação 4 Cortes Longa - Cônica

Corte a Direita - Hélice a Direita
Metal Duro

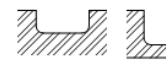
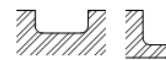


Referência

5010

5016

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

Dimensões

D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes	R mm	Código	
4,0	6,0	100,0	10,0	4	0,5	50100405	50160405
					1,0	50100406	50160406
6,0	8,0	120,0	10,0	4	0,5	50100605	50160605
					1,0	50100606	50160606
					1,5	50100607	50160607
8,0	10,0	150,0	10,0	4	1,0	50100806	50160806
					1,5	50100807	50160807
					2,0	50100808	50160808
10,0	12,0	150,0	10,0	4	1,0	50101006	50161006
					1,5	50101007	50161007
					2,0	50101008	50161008
12,0	14,0	150,0	10,0	4	1,0	50101206	50161206
					1,5	50101207	50161207
					2,0	50101208	50161208
14,0	16,0	150,0	10,0	4	1,0	50101406	50161406
					1,5	50101407	50161407
					2,0	50101408	50161408

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa Toroidal Linha Modelação 2 Cortes Super Longa - Cônica

Corte a Direita - Hélice a Direita
Metal Duro

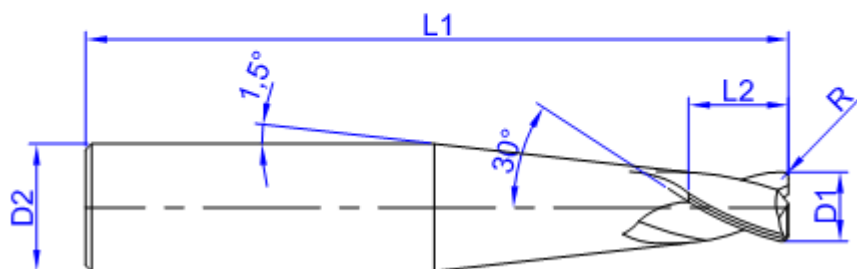
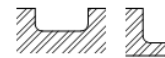


Referência

4810

4816

Tipo do Furo

Especificações
do ProdutoSem
CoberturaCom
Cobertura

Dimensões

Dimensões						Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes	R mm		
4,0	6,0	150,0	10,0	2	0,5	48100405 S	48160405 S
					1,0	48100406 S	48160406 S
6,0	8,0	150,0	10,0	2	0,5	48100605 S	48160605 S
					1,0	48100606 S	48160606 S
					1,5	48100607 S	48160607 S
8,0	10,0	200,0	10,0	2	1,0	48100806 S	48160806 S
					1,5	48100807 S	48160807 S
					2,0	48100808 S	48160808 S
10,0	12,0	200,0	10,0	2	1,0	48101006 S	48161006 S
					1,5	48101007 S	48161007 S
					2,0	48101008 S	48161008 S
12,0	14,0	200,0	10,0	2	1,0	48101206 S	48161206 S
					1,5	48101207 S	48161207 S
					2,0	48101208 S	48161208 S
14,0	16,0	200,0	10,0	2	1,0	48101406 S	48161406 S
					1,5	48101407 S	48161407 S
					2,0	48101408 S	48161408 S

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa Toroidal Linha Modelação 3 Cortes Super Longa - Cônica

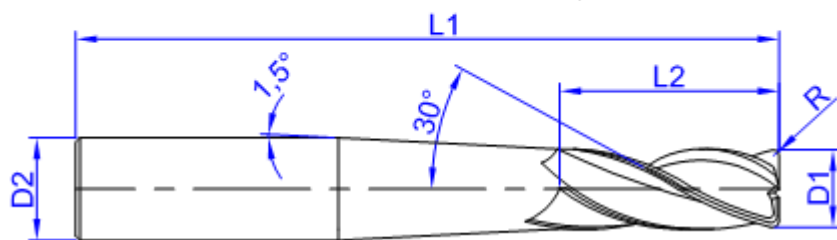
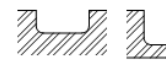
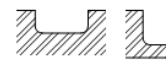
Corte a Direita - Hélice a Direita
Metal Duro

Referência

4910

4916

Tipo do Furo

Especificações
do ProdutoSem
CoberturaCom
Cobertura

Dimensões

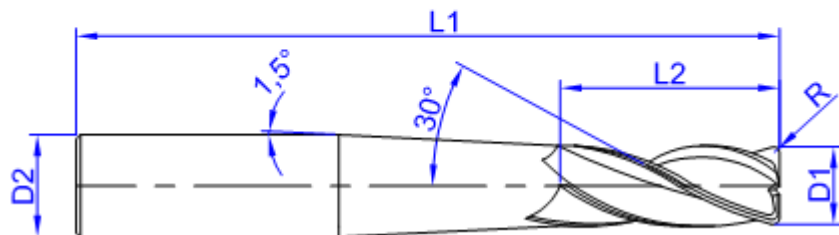
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes	R mm	Código	
4,0	6,0	150,0	10,0	3	0,5	49100405 S	49160405 S
					1,0	49100406 S	49160406 S
6,0	8,0	150,0	10,0	3	0,5	49100605 S	49160605 S
					1,0	49100606 S	49160606 S
					1,5	49100607 S	49160607 S
8,0	10,0	200,0	10,0	3	1,0	49100806 S	49160806 S
					1,5	49100807 S	49160807 S
					2,0	49100808 S	49160808 S
10,0	12,0	200,0	10,0	3	1,0	49101006 S	49161006 S
					1,5	49101007 S	49161007 S
					2,0	49101008 S	49161008 S
12,0	14,0	200,0	10,0	3	1,0	49101206 S	49161206 S
					1,5	49101207 S	49161207 S
					2,0	49101208 S	49161208 S
14,0	16,0	200,0	10,0	3	1,0	49101406 S	49161406 S
					1,5	49101407 S	49161407 S
					2,0	49101408 S	49161408 S

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa Toroidal Linha Modelação 4 Cortes Super Longa - Cônica

Corte a Direita - Hélice a Direita
Metal Duro

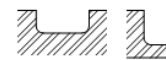
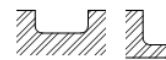


Referência

5020

5026

Tipo do Furo

Especificações
do ProdutoSem
CoberturaCom
Cobertura

Dimensões

Dimensões						Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes	R mm		
4,0	6,0	150,0	10,0	4	0,5	50100405 S	50160405 S
					1,0	50100406 S	50160406 S
6,0	8,0	150,0	10,0	4	0,5	50100605 S	50160605 S
					1,0	50100606 S	50160606 S
					1,5	50100607 S	50160607 S
8,0	10,0	200,0	10,0	4	1,0	50100806 S	50160806 S
					1,5	50100807 S	50160807 S
					2,0	50100808 S	50160808 S
10,0	12,0	200,0	10,0	4	1,0	50101006 S	50161006 S
					1,5	50101007 S	50161007 S
					2,0	50101008 S	50161008 S
12,0	14,0	200,0	10,0	4	1,0	50101206 S	50161206 S
					1,5	50101207 S	50161207 S
					2,0	50101208 S	50161208 S
14,0	16,0	200,0	10,0	4	1,0	50101406 S	50161406 S
					1,5	50101407 S	50161407 S
					2,0	50101408 S	50161408 S

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa Toroidal Linha Modelação 2 Cortes Longa - Paralela

Corte a Direita - Hélice a Direita
Metal Duro

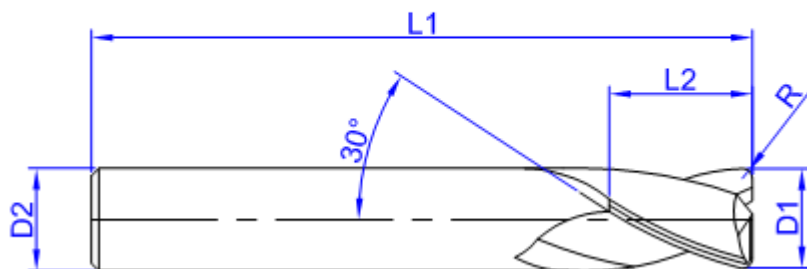
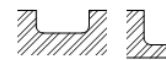
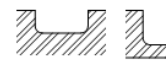


Referência

4820

4826

Tipo do Furo

Especificações
do ProdutoSem
CoberturaCom
Cobertura

Dimensões

Dimensões						Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes	R mm		
4,0	4,0	100,0	10,0	2	0,5	48200405	48260405
					1,0	48200406	48260406
6,0	6,0	120,0	10,0	2	0,5	48200605	48260605
					1,0	48200606	48260606
					1,5	48200607	48260607
8,0	8,0	150,0	10,0	2	1,0	48200806	48260806
					1,5	48200807	48260807
					2,0	48200808	48260808
10,0	10,0	150,0	10,0	2	1,0	48201006	48261006
					1,5	48201007	48261007
					2,0	48201008	48261008
12,0	12,0	150,0	10,0	2	1,0	48201206	48261206
					1,5	48201207	48261207
					2,0	48201208	48261208
14,0	14,0	150,0	10,0	2	1,0	48201406	48261406
					1,5	48201407	48261407
					2,0	48201408	48261408

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa Toroidal Linha Modelação 3 Cortes Longa - Paralela

Corte a Direita - Hélice a Direita
Metal Duro

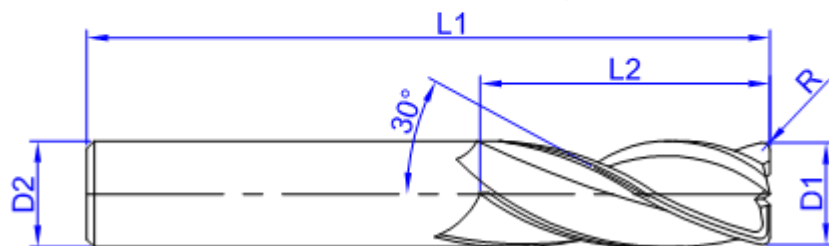
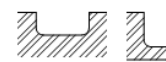
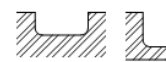


Referência

4920

4926

Tipo do Furo

Especificações
do ProdutoSem
CoberturaCom
Cobertura

Dimensões

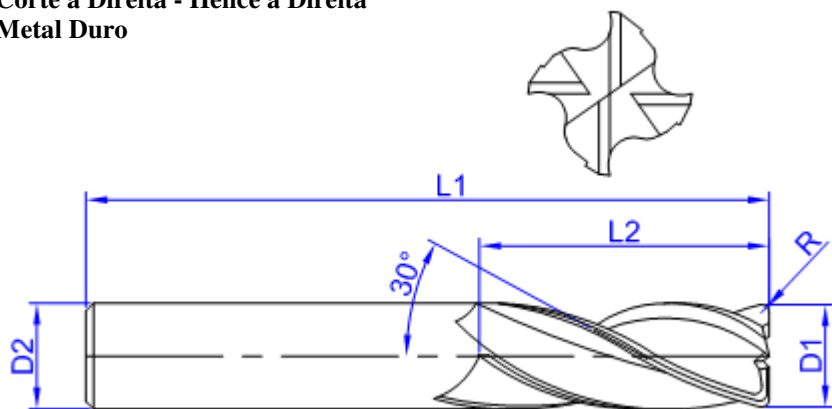
Dimensões						Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes	R mm		
4,0	4,0	100,0	10,0	3	0,5	49200405	49260405
					1,0	49200406	49260406
6,0	6,0	120,0	10,0	3	0,5	49200605	49260605
					1,0	49200606	49260606
					1,5	49200607	49260607
8,0	8,0	150,0	10,0	3	1,0	49200806	49260806
					1,5	49200807	49260807
					2,0	49200808	49260808
10,0	10,0	150,0	10,0	3	1,0	49201006	49261006
					1,5	49201007	49261007
					2,0	49201008	49261008
12,0	12,0	150,0	10,0	3	1,0	49201206	49261206
					1,5	49201207	49261207
					2,0	49201208	49261208
14,0	14,0	150,0	10,0	3	1,0	49201406	49261406
					1,5	49201407	49261407
					2,0	49201408	49261408

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa Toroidal Linha Modelação 4 Cortes Longa - Paralela

Corte a Direita - Hélice a Direita
Metal Duro

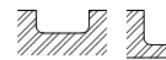
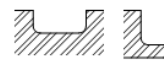


Referência

5020

5026

Tipo do Furo

Especificações
do ProdutoSem
CoberturaCom
Cobertura

Dimensões

D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes	R mm	Código	
4,0	4,0	100,0	10,0	4	0,5	50200405	50260405
					1,0	50200406	50260406
6,0	6,0	120,0	10,0	4	0,5	50200605	50260605
					1,0	50200606	50260606
					1,5	50200607	50260607
8,0	8,0	150,0	10,0	4	1,0	50200806	50260806
					1,5	50200807	50260807
					2,0	50200808	50260808
10,0	10,0	150,0	10,0	4	1,0	50201006	50261006
					1,5	50201007	50261007
					2,0	50201008	50261008
12,0	12,0	150,0	10,0	4	1,0	50201206	50261206
					1,5	50201207	50261207
					2,0	50201208	50261208
14,0	14,0	150,0	10,0	4	1,0	50201406	50261406
					1,5	50201407	50261407
					2,0	50201408	50261408

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa Toroidal Linha Modelação 2 Cortes Super Longa - Paralela

Corte a Direita - Hélice a Direita
Metal Duro

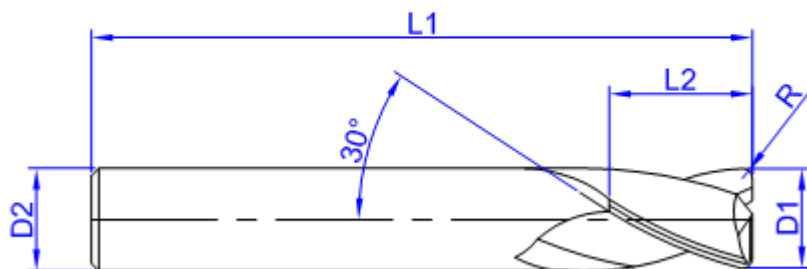
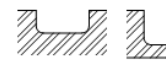
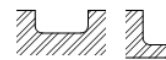


Referência

4820

4826

Tipo do Furo

Especificações
do ProdutoSem
CoberturaCom
Cobertura

Dimensões

Dimensões						Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes	R mm		
4,0	4,0	150,0	10,0	2	0,5	48200405 S	48260405 S
					1,0	48200406 S	48260406 S
6,0	6,0	150,0	10,0	2	0,5	48200605 S	48260605 S
					1,0	48200606 S	48260606 S
					1,5	48200607 S	48260607 S
8,0	8,0	200,0	10,0	2	1,0	48200806 S	48260806 S
					1,5	48200807 S	48260807 S
					2,0	48200808 S	48260808 S
10,0	10,0	200,0	10,0	2	1,0	48201006 S	48261006 S
					1,5	48201007 S	48261007 S
					2,0	48201008 S	48261008 S
12,0	12,0	200,0	10,0	2	1,0	48201206 S	48261206 S
					1,5	48201207 S	48261207 S
					2,0	48201208 S	48261208 S
14,0	14,0	200,0	10,0	2	1,0	48201406 S	48261406 S
					1,5	48201407 S	48261407 S
					2,0	48201408 S	48261408 S

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa Toroidal Linha Modelação 3 Cortes Super Longa - Paralela

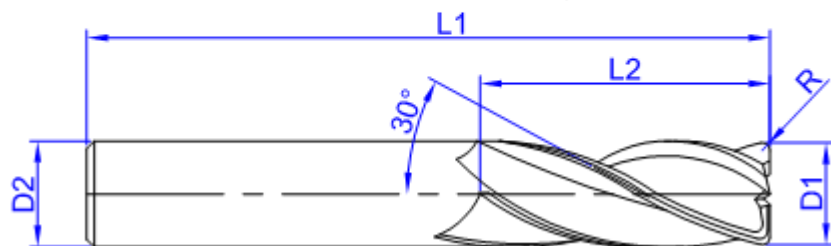
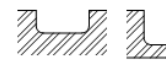
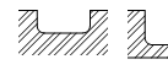
Corte a Direita - Hélice a Direita
Metal Duro

Referência

4920

4926

Tipo do Furo

Especificações
do ProdutoSem
CoberturaCom
Cobertura

Dimensões

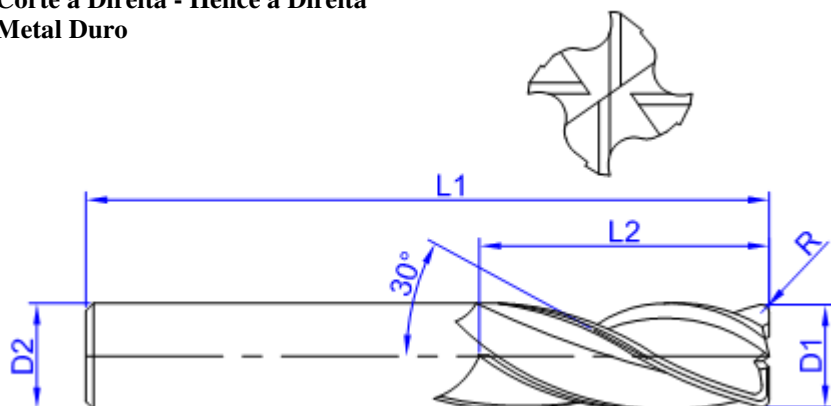
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes	R mm	Código	
4,0	4,0	150,0	10,0	3	0,5	49200405 S	49260405 S
					1,0	49200406 S	49260406 S
6,0	6,0	150,0	10,0	3	0,5	49200605 S	49260605 S
					1,0	49200606 S	49260606 S
					1,5	49200607 S	49260607 S
8,0	8,0	200,0	10,0	3	1,0	49200806 S	49260806 S
					1,5	49200807 S	49260807 S
					2,0	49200808 S	49260808 S
10,0	10,0	200,0	10,0	3	1,0	49201006 S	49261006 S
					1,5	49201007 S	49261007 S
					2,0	49201008 S	49261008 S
12,0	12,0	200,0	10,0	3	1,0	49201206 S	49261206 S
					1,5	49201207 S	49261207 S
					2,0	49201208 S	49261208 S
14,0	14,0	200,0	10,0	3	1,0	49201406 S	49261406 S
					1,5	49201407 S	49261407 S
					2,0	49201408 S	49261408 S

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa Toroidal Linha Modelação 4 Cortes Super Longa - Paralela

Corte a Direita - Hélice a Direita
Metal Duro

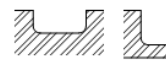


Referência

5020

5026

Tipo do Furo

Especificações
do ProdutoSem
CoberturaCom
Cobertura

Dimensões

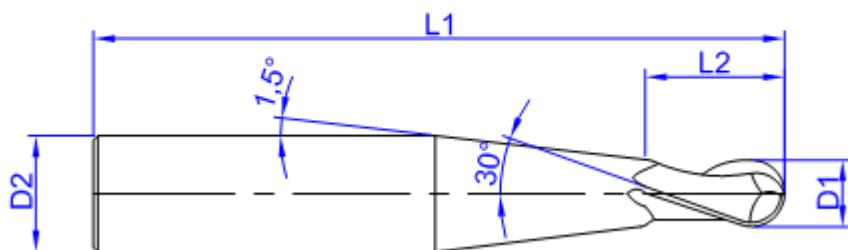
Dimensões						Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes	R mm		
4,0	4,0	150,0	10,0	4	0,5	50200405 S	50260405 S
					1,0	50200406 S	50260406 S
6,0	6,0	150,0	10,0	4	0,5	50200605 S	50260605 S
					1,0	50200606 S	50260606 S
					1,5	50200607 S	50260607 S
8,0	8,0	200,0	10,0	4	1,0	50200806 S	50260806 S
					1,5	50200807 S	50260807 S
					2,0	50200808 S	50260808 S
10,0	10,0	200,0	10,0	4	1,0	50201006 S	50261006 S
					1,5	50201007 S	50261007 S
					2,0	50201008 S	50261008 S
12,0	12,0	200,0	10,0	4	1,0	50201206 S	50261206 S
					1,5	50201207 S	50261207 S
					2,0	50201208 S	50261208 S
14,0	14,0	200,0	10,0	4	1,0	50201406 S	50261406 S
					1,5	50201407 S	50261407 S
					2,0	50201408 S	50261408 S

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa Esférica Linha Modelação 2 Cortes Longa - Cônica

Corte a Direita - Hélice a Direita
Metal Duro

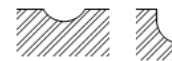
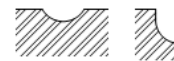


Referência

5110

5116

Tipo do Furo

Especificações
do ProdutoSem
CoberturaCom
Cobertura

Dimensões

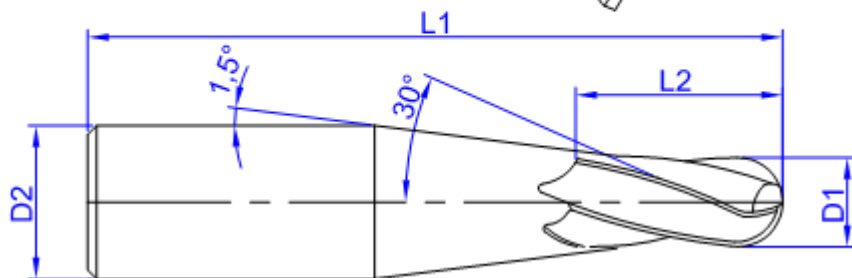
Dimensões					Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes		
4,0	6,0	100,0	10,0	2	51100400	51160400
6,0	8,0	120,0	10,0	2	51100600	51160600
8,0	10,0	150,0	10,0	2	51100800	51160800
10,0	12,0	150,0	10,0	2	51101000	51161000
12,0	14,0	150,0	10,0	2	51101200	51161200
14,0	16,0	150,0	10,0	2	51101400	51161400
16,0	18,0	150,0	10,0	2	51101600	51161600
18,0	20,0	150,0	10,0	2	51101800	51161800

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa Esférica Linha Modelação 4 Cortes Longa - Cônica

**Corte a Direita - Hélice a Direita
Metal Duro**

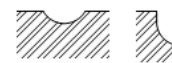
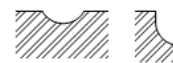


Referência

5210

5216

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

Dimensões

Código

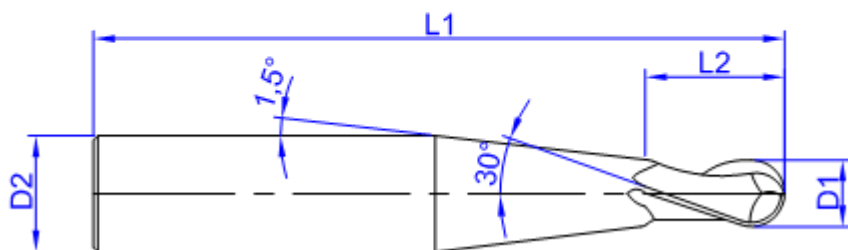
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes	Código	
4,0	6,0	100,0	10,0	4	52100400	52160400
6,0	8,0	120,0	10,0	4	52100600	52160600
8,0	10,0	150,0	10,0	4	52100800	52160800
10,0	12,0	150,0	10,0	4	52101000	52161000
12,0	14,0	150,0	10,0	4	52101200	52161200
14,0	16,0	150,0	10,0	4	52101400	52161400
16,0	18,0	150,0	10,0	4	52101600	52161600
18,0	20,0	150,0	10,0	4	52101800	52161800

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa Esférica Linha Modelação 2 Cortes Super Longa - Cônica

Corte a Direita - Hélice a Direita
Metal Duro

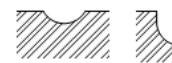
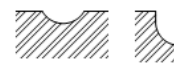


Referência

5110

5116

Tipo do Furo

Especificações
do ProdutoSem
CoberturaCom
Cobertura

Dimensões

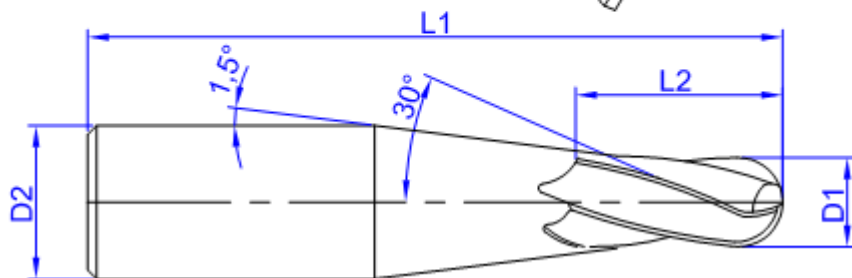
Dimensões					Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes		
4,0	6,0	150,0	10,0	2	51100400 S	51160400 S
6,0	8,0	150,0	10,0	2	51100600 S	51160600 S
8,0	10,0	200,0	10,0	2	51100800 S	51160800 S
10,0	12,0	200,0	10,0	2	51101000 S	51161000 S
12,0	14,0	200,0	10,0	2	51101200 S	51161200 S
14,0	16,0	200,0	10,0	2	51101400 S	51161400 S
16,0	18,0	200,0	10,0	2	51101600 S	51161600 S
18,0	20,0	200,0	10,0	2	51101800 S	51161800 S

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa Esférica Linha Modelação 4 Cortes Super Longa - Cônica

Corte a Direita - Hélice a Direita
Metal Duro

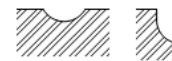
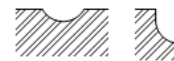


Referência

5210

5216

Tipo do Furo

Especificações
do ProdutoSem
CoberturaCom
Cobertura

Dimensões

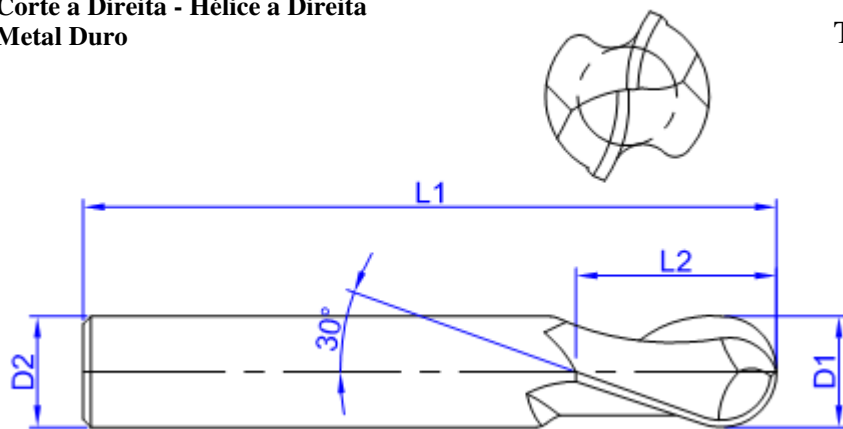
Dimensões					Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes		
4,0	6,0	150,0	10,0	4	52100400 S	52160400 S
6,0	8,0	150,0	10,0	4	52100600 S	52160600 S
8,0	10,0	200,0	10,0	4	52100800 S	52160800 S
10,0	12,0	200,0	10,0	4	52101000 S	52161000 S
12,0	14,0	200,0	10,0	4	52101200 S	52161200 S
14,0	16,0	200,0	10,0	4	52101400 S	52161400 S
16,0	18,0	200,0	10,0	4	52101600 S	52161600 S
18,0	20,0	200,0	10,0	4	52101800 S	52161800 S

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa Esférica Linha Modelação 2 Cortes Longa - Paralela

**Corte a Direita - Hélice a Direita
Metal Duro**

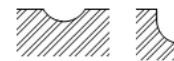
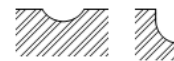


Referência

5120

5126

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

Dimensões

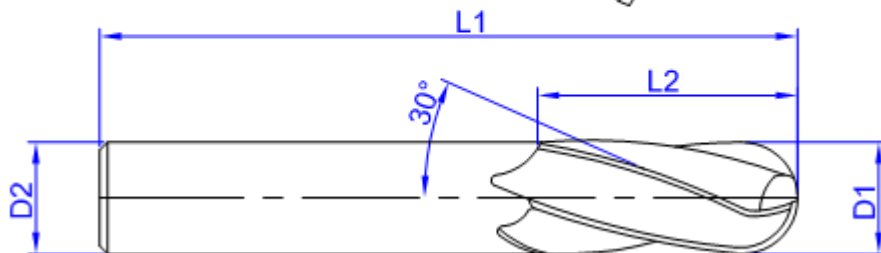
Dimensões					Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes		
4,0	4,0	100,0	10,0	2	51200400	51260400
6,0	6,0	120,0	10,0	2	51200600	51260600
8,0	8,0	150,0	10,0	2	51200800	51260800
10,0	10,0	150,0	10,0	2	51201000	51261000
12,0	12,0	150,0	10,0	2	51201200	51261200
14,0	14,0	150,0	10,0	2	51201400	51261400
16,0	16,0	150,0	10,0	2	51201600	51261600
18,0	18,0	150,0	10,0	2	51201800	51261800

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa Esférica Linha Modelação 4 Cortes Longa - Paralela

**Corte a Direita - Hélice a Direita
Metal Duro**

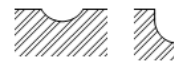
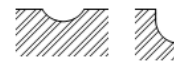


Referência

5220

5226

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

Dimensões

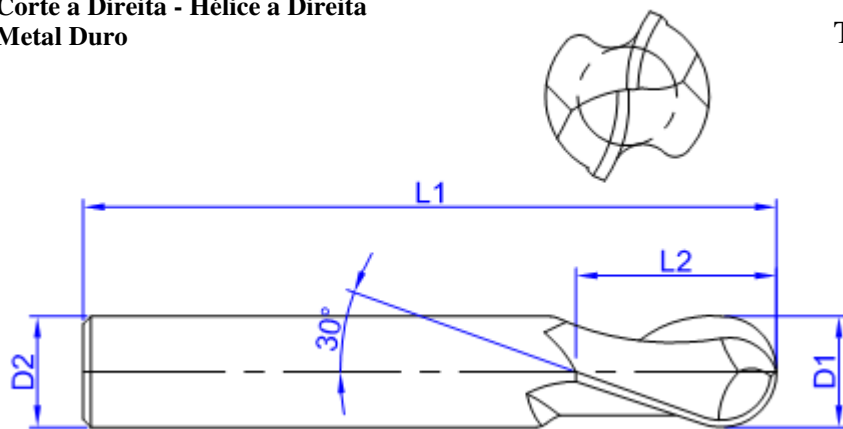
Dimensões					Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes		
4,0	4,0	100,0	10,0	4	52200400	52260400
6,0	6,0	120,0	10,0	4	52200600	52260600
8,0	8,0	150,0	10,0	4	52200800	52260800
10,0	10,0	150,0	10,0	4	52201000	52261000
12,0	12,0	150,0	10,0	4	52201200	52261200
14,0	14,0	150,0	10,0	4	52201400	52261400
16,0	16,0	150,0	10,0	4	52201600	52261600
18,0	18,0	150,0	10,0	4	52201800	52261800

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa Esférica Linha Modelação 2 Cortes Super Longa - Paralela

**Corte a Direita - Hélice a Direita
Metal Duro**

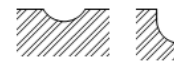
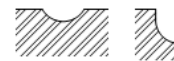


Referência

5120

5126

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

Dimensões

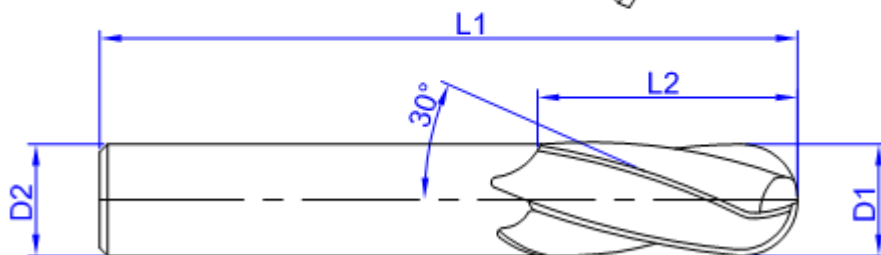
Dimensões					Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes		
4,0	4,0	150,0	10,0	2	51200400 S	51260400 S
6,0	6,0	150,0	10,0	2	51200600 S	51260600 S
8,0	8,0	200,0	10,0	2	51200800 S	51260800 S
10,0	10,0	200,0	10,0	2	51201000 S	51261000 S
12,0	12,0	200,0	10,0	2	51201200 S	51261200 S
14,0	14,0	200,0	10,0	2	51201400 S	51261400 S
16,0	16,0	200,0	10,0	2	51201600 S	51261600 S
18,0	18,0	200,0	10,0	2	51201800 S	51261800 S

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Fresa Esférica Linha Modelação 4 Cortes Super Longa - Paralela

**Corte a Direita - Hélice a Direita
Metal Duro**

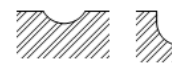
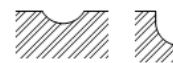


Referência

5220

5226

Tipo do Furo



Especificações do Produto

Sem Cobertura

Com Cobertura

Dimensões

Dimensões					Código	
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes		
4,0	4,0	150,0	10,0	4	52200400 S	52260400 S
6,0	6,0	150,0	10,0	4	52200600 S	52260600 S
8,0	8,0	200,0	10,0	4	52200800 S	52260800 S
10,0	10,0	200,0	10,0	4	52201000 S	52261000 S
12,0	12,0	200,0	10,0	4	52201200 S	52261200 S
14,0	14,0	200,0	10,0	4	52201400 S	52261400 S
16,0	16,0	200,0	10,0	4	52201600 S	52261600 S
18,0	18,0	200,0	10,0	4	52201800 S	52261800 S

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Tabela de Velocidade de Corte e Avanço de Fresas

VELOCIDADE PARA DESBASTE																					
Materiais	Dureza	Velocidade de Corte (m/min)								Velocidade de Avanço (mm/rot)											
		Sem Cobertura		TIN		FUTURA		X-TREME		2	3	4	6	8	10	12	14	16	18	20	25
										3	4	6	8	10	12	14	16	18	20	25	
Aços Baixo Carbono	150~225 HB	48	64	64	96	96	160	112	200	0,004	0,014	0,025	0,041	0,060	0,075	0,094	0,104	0,119	0,125	0,150	0,175
Aços Médio Carbono	250~350 HB	32	56	48	80	80	120	80	160	0,004	0,014	0,025	0,039	0,054	0,069	0,081	0,094	1,125	0,119	0,125	0,150
Aços de Alto Carbono	30~50 HRC	24	48	40	56	48	80	64	120	0,004	0,014	0,025	0,039	0,054	0,069	0,081	0,094	1,125	0,119	0,125	0,060
Aço Temperado	50~60 HRC	16	40	32	48	32	64	48	96	0,003	0,010	0,015	0,020	0,025	0,030	0,035	0,040	0,050	0,050	0,058	0,065
Aço Inoxidável	225~250 HB	24	48	40	56	48	64	64	120	0,004	0,014	0,025	0,041	0,060	0,075	0,094	0,385	0,119	0,125	0,150	0,175
Aço Inoxidável	250~300 HB	24	40	32	48	64	80	64	120	0,004	0,014	0,025	0,041	0,060	0,075	0,094	0,385	0,119	0,125	0,150	0,175
Ferro Fundido Maleável	110~130 HB	32	64	48	96	96	144	120	200	0,004	0,019	0,031	0,050	0,066	0,081	0,100	0,113	0,125	0,138	0,163	0,188
Ferro Fundido Cinzento	180~240 HB	32	56	48	80	96	112	112	160	0,004	0,019	0,031	0,050	0,066	0,081	0,100	0,113	0,125	0,138	0,163	0,188
Ferro Fundido Nodular	240~260 HB	24	48	32	64	64	96	80	120	0,004	0,019	0,031	0,050	0,066	0,081	0,100	0,113	0,125	0,138	0,163	0,188
Liga de Alumínio	80~100 HB	48	96	80	240	160	480	160	640	0,006	0,024	0,039	0,050	0,069	0,081	0,100	0,113	0,123	0,138	0,163	0,188
Liga de Cobre	80~100 HB	32	48	40	64	64	96	80	144	0,063	0,016	0,025	0,045	0,065	0,083	0,100	0,113	0,125	0,138	0,150	0,175
Liga de Latão	100~110 HB	48	80	64	112	112	168	144	240	0,006	0,024	0,039	0,050	0,069	0,081	0,100	0,113	0,123	0,138	0,163	0,188
Liga de Bronze	100~110 HB	32	48	40	64	64	80	72	120	0,006	0,016	0,025	0,045	0,065	0,083	0,100	0,113	0,125	0,014	0,150	0,175
Titânio e liga de Titânio		12	16	16	24	24	40	32	64	0,004	0,013	0,019	0,031	0,044	0,056	0,068	0,073	0,081	0,090	0,103	0,116



Tabela de Velocidade de Corte e Avanço de Fresas

VELOCIDADE PARA ACABAMENTO																					
Materiais	Dureza	Velocidade de Corte (m/min)								Velocidade de Avanço (mm/rot)											
		Sem Cobertura		TIN		FUTURA		X-TREME		2	3	4	6	8	10	12	14	16	18	20	25
										3	4	6	8	10	12	14	16	18	20	25	
Aços Baixo Carbono	150~225 HB	60	80	80	120	120	200	140	250	0,003	0,011	0,020	0,033	0,048	0,060	0,075	0,083	0,095	0,100	0,120	0,140
Aços Médio Carbono	250~350 HB	40	70	60	100	100	150	100	200	0,003	0,011	0,020	0,031	0,043	0,055	0,065	0,075	0,900	0,095	0,100	0,120
Aços de Alto Carbono	30~50 HRC	30	60	50	70	60	100	80	150	0,003	0,011	0,020	0,031	0,043	0,055	0,065	0,075	0,900	0,095	0,100	0,048
Aço Temperado	50~60 HRC	20	50	40	60	40	80	60	120	0,002	0,008	0,012	0,016	0,020	0,024	0,028	0,032	0,040	0,040	0,046 5	0,052
Aço Inoxidável	225~250 HB	30	60	50	70	60	80	80	150	0,003	0,011	0,020	0,033	0,048	0,060	0,075	0,308	0,095	0,100	0,120	0,140
Aço Inoxidável	250~300 HB	30	50	40	60	80	100	80	150	0,003	0,011	0,020	0,033	0,048	0,060	0,075	0,308	0,095	0,100	0,120	0,140
Ferro Fundido Maleável	110~130 HB	40	80	60	120	120	180	150	250	0,003	0,015	0,025	0,040	0,053	0,065	0,080	0,090	0,100	0,110	0,130	0,150
Ferro Fundido Cinzento	180~240 HB	40	70	60	100	120	140	140	200	0,003	0,015	0,025	0,040	0,053	0,065	0,080	0,090	0,100	0,110	0,130	0,150
Ferro Fundido Nodular	240~260 HB	30	60	40	80	80	120	100	150	0,003	0,015	0,025	0,040	0,053	0,065	0,080	0,090	0,100	0,110	0,130	0,150
Liga de Alumínio	80~100 HB	60	120	100	300	200	600	200	800	0,005	0,019	0,031	0,040	0,055	0,065	0,080	0,090	0,098	0,110	0,130	0,150
Liga de Cobre	80~100 HB	40	60	50	80	40	120	100	180	0,005	0,013	0,020	0,036	0,052	0,066	0,080	0,090	0,100	0,110	0,120	0,140
Liga de Latão	100~110 HB	60	100	80	140	140	210	180	300	0,005	0,019	0,031	0,040	0,055	0,065	0,080	0,090	0,098	0,110	0,130	0,150
Liga de Bronze	100~110 HB	40	60	50	80	80	100	90	150	0,005	0,013	0,020	0,036	0,052	0,066	0,080	0,090	0,100	0,011	0,120	0,140
Titânio e liga de Titânio		15	20	20	30	30	50	40	80	0,003	0,010	0,015	0,025	0,035	0,045	0,053	0,058	0,065	0,072	0,082	0,093





Broca Haste Reforçada Helicoidal 3xD sem Refrigeração

					Referência	3010	3016
Corte a Direita - Hélice a Direita Metal Duro					Tipo do Furo		
					Especificações do Produto	Sem Cobertura	Com Cobertura
Dimensões					Código		
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes			
2,0	4,0	62,0	20,0	2	30100200	30160200	
2,5	4,0	62,0	20,0	2	30100250	30160250	
3,0	4,0	62,0	20,0	2	30100300	30160300	
3,2	4,0	62,0	20,0	2	30100320	30160320	
3,5	4,0	62,0	20,0	2	30100350	30160350	
3,8	4,0	62,0	20,0	2	30100380	30160380	
4,0	4,0	62,0	20,0	2	30100400	30160400	
4,2	6,0	66,0	24,0	2	30100420	30160420	
4,5	6,0	66,0	24,0	2	30100450	30160450	
4,8	6,0	66,0	24,0	2	30100480	30160480	
5,0	6,0	66,0	24,0	2	30100500	30160500	
5,2	6,0	66,0	28,0	2	30100520	30160520	
5,5	6,0	66,0	28,0	2	30100550	30160550	
5,8	6,0	66,0	28,0	2	30100580	30160580	
6,0	6,0	66,0	28,0	2	30100600	30160600	
6,2	8,0	79,0	41,0	2	30100620	30160620	
6,5	8,0	79,0	41,0	2	30100650	30160650	
6,8	8,0	79,0	41,0	2	30100680	30160680	
7,0	8,0	79,0	41,0	2	30100700	30160700	
7,2	8,0	79,0	41,0	2	30100720	30160720	
7,5	8,0	79,0	41,0	2	30100750	30160750	
7,8	8,0	79,0	41,0	2	30100780	30160780	
8,0	8,0	79,0	41,0	2	30100800	30160800	
8,2	10,0	89,0	47,0	2	30100820	30160820	
8,5	10,0	89,0	47,0	2	30100850	30160850	
8,8	10,0	89,0	47,0	2	30100880	30160880	
9,0	10,0	89,0	47,0	2	30100900	30160900	



Broca Haste Reforçada Helicoidal 3xD sem Refrigeração

					Referência	3010	3016
Corte a Direita - Hélice a Direita Metal Duro					Tipo do Furo		
					Especificações do Produto	Sem Cobertura	Com Cobertura
Dimensões					Código		
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes			
9,2	10,0	89,0	47,0	2	30100920	30160920	
9,5	10,0	89,0	47,0	2	30100950	30160950	
9,8	10,0	89,0	47,0	2	30100980	30160980	
10,0	10,0	89,0	47,0	2	30101000	30161000	
10,2	12,0	102,0	55,0	2	30101020	30161020	
10,5	12,0	102,0	55,0	2	30101050	30161050	
10,8	12,0	102,0	55,0	2	30101080	30161080	
11,0	12,0	102,0	55,0	2	30101100	30161100	
11,5	12,0	102,0	55,0	2	30101150	30161150	
12,0	12,0	102,0	55,0	2	30101200	30161200	
12,5	14,0	107,0	60,0	2	30101250	30161250	
13,0	14,0	107,0	60,0	2	30101300	30161300	
13,5	14,0	107,0	60,0	2	30101350	30161350	
14,0	14,0	107,0	60,0	2	30101400	30161400	
14,5	16,0	115,0	65,0	2	30101450	30161450	
15,0	16,0	115,0	65,0	2	30101500	30161500	
15,5	16,0	115,0	65,0	2	30101550	30161550	
16,0	16,0	115,0	65,0	2	30101600	30161600	
16,5	18,0	123,0	73,0	2	30101650	30161650	
17,0	18,0	123,0	73,0	2	30101700	30161700	
17,5	18,0	123,0	73,0	2	30101750	30161750	
18,0	18,0	123,0	73,0	2	30101800	30161800	
18,5	20,0	131,0	79,0	2	30101850	30161850	
19,0	20,0	131,0	79,0	2	30101900	30161900	
19,5	20,0	131,0	79,0	2	30101950	30161950	
20,0	20,0	131,0	79,0	2	30102000	30162000	

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Broca Haste Reforçada Helicoidal 3xD com Refrigeração

					Referência	3110	3116
Corte a Direita - Hélice a Direita Metal Duro					Tipo do Furo		
					Especificações do Produto	Sem Cobertura	Com Cobertura
Dimensões					Código		
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes			
2,0	4,0	62,0	20,0	2	31100200	31160200	
2,5	4,0	62,0	20,0	2	31100250	31160250	
3,0	4,0	62,0	20,0	2	31100300	31160300	
3,2	4,0	62,0	20,0	2	31100320	31160320	
3,5	4,0	62,0	20,0	2	31100350	31160350	
3,8	4,0	62,0	20,0	2	31100380	31160380	
4,0	4,0	62,0	20,0	2	31100400	31160400	
4,2	6,0	66,0	24,0	2	31100420	31160420	
4,5	6,0	66,0	24,0	2	31100450	31160450	
4,8	6,0	66,0	24,0	2	31100480	31160480	
5,0	6,0	66,0	24,0	2	31100500	31160500	
5,2	6,0	66,0	28,0	2	31100520	31160520	
5,5	6,0	66,0	28,0	2	31100550	31160550	
5,8	6,0	66,0	28,0	2	31100580	31160580	
6,0	6,0	66,0	28,0	2	31100600	31160600	
6,2	8,0	79,0	41,0	2	31100620	31160620	
6,5	8,0	79,0	41,0	2	31100650	31160650	
6,8	8,0	79,0	41,0	2	31100680	31160680	
7,0	8,0	79,0	41,0	2	31100700	31160700	
7,2	8,0	79,0	41,0	2	31100720	31160720	
7,5	8,0	79,0	41,0	2	31100750	31160750	
7,8	8,0	79,0	41,0	2	31100780	31160780	
8,0	8,0	79,0	41,0	2	31100800	31160800	
8,2	10,0	89,0	47,0	2	31100820	31160820	
8,5	10,0	89,0	47,0	2	31100850	31160850	
8,8	10,0	89,0	47,0	2	31100880	31160880	
9,0	10,0	89,0	47,0	2	31100900	31160900	



Broca Haste Reforçada Helicoidal 3xD com Refrigeração

					Referência	3110	3116
Corte a Direita - Hélice a Direita Metal Duro					Tipo do Furo		
					Especificações do Produto	Sem Cobertura	Com Cobertura
Dimensões					Código		
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes			
9,2	10,0	89,0	47,0	2	31100920	31160920	
9,5	10,0	89,0	47,0	2	31100950	31160950	
9,8	10,0	89,0	47,0	2	31100980	31160980	
10,0	10,0	89,0	47,0	2	31101000	31161000	
10,2	12,0	102,0	55,0	2	31101020	31161020	
10,5	12,0	102,0	55,0	2	31101050	31161050	
10,8	12,0	102,0	55,0	2	31101080	31161080	
11,0	12,0	102,0	55,0	2	31101100	31161100	
11,5	12,0	102,0	55,0	2	31101150	31161150	
12,0	12,0	102,0	55,0	2	31101200	31161200	
12,5	14,0	107,0	60,0	2	31101250	31161250	
13,0	14,0	107,0	60,0	2	31101300	31161300	
13,5	14,0	107,0	60,0	2	31101350	31161350	
14,0	14,0	107,0	60,0	2	31101400	31161400	
14,5	16,0	115,0	65,0	2	31101450	31161450	
15,0	16,0	115,0	65,0	2	31101500	31161500	
15,5	16,0	115,0	65,0	2	31101550	31161550	
16,0	16,0	115,0	65,0	2	31101600	31161600	
16,5	18,0	123,0	73,0	2	31101650	31161650	
17,0	18,0	123,0	73,0	2	31101700	31161700	
17,5	18,0	123,0	73,0	2	31101750	31161750	
18,0	18,0	123,0	73,0	2	31101800	31161800	
18,5	20,0	131,0	79,0	2	31101850	31161850	
19,0	20,0	131,0	79,0	2	31101900	31161900	
19,5	20,0	131,0	79,0	2	31101950	31161950	
20,0	20,0	131,0	79,0	2	31102000	31162000	

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Broca Haste Reforçada Helicoidal 5xD sem Refrigeração

					Referência	3020	3026
Corte a Direita - Hélice a Direita Metal Duro					Tipo do Furo		
					Especificações do Produto	Sem Cobertura	Com Cobertura
Dimensões					Código		
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes			
2,0	4,0	66,0	28,0	2	30200200	30260200	
2,5	4,0	66,0	28,0	2	30200250	30260250	
3,0	4,0	66,0	28,0	2	30200300	30260300	
3,2	4,0	66,0	28,0	2	30200320	30260320	
3,5	4,0	66,0	28,0	2	30200350	30260350	
3,8	4,0	66,0	28,0	2	30200380	30260380	
4,0	4,0	66,0	28,0	2	30200400	30260400	
4,2	6,0	74,0	36,0	2	30200420	30260420	
4,5	6,0	74,0	36,0	2	30200450	30260450	
4,8	6,0	74,0	36,0	2	30200480	30260480	
5,0	6,0	74,0	36,0	2	30200500	30260500	
5,2	6,0	82,0	44,0	2	30200520	30260520	
5,5	6,0	82,0	44,0	2	30200550	30260550	
5,8	6,0	82,0	44,0	2	30200580	30260580	
6,0	6,0	82,0	44,0	2	30200600	30260600	
6,2	8,0	91,0	53,0	2	30200620	30260620	
6,5	8,0	91,0	53,0	2	30200650	30260650	
6,8	8,0	91,0	53,0	2	30200680	30260680	
7,0	8,0	91,0	53,0	2	30200700	30260700	
7,2	8,0	91,0	53,0	2	30200720	30260720	
7,5	8,0	91,0	53,0	2	30200750	30260750	
7,8	8,0	91,0	53,0	2	30200780	30260780	
8,0	8,0	91,0	53,0	2	30200800	30260800	
8,2	10,0	103,0	61,0	2	30200820	30260820	
8,5	10,0	103,0	61,0	2	30200850	30260850	
8,8	10,0	103,0	61,0	2	30200880	30260880	
9,0	10,0	103,0	61,0	2	30200900	30260900	



Broca Haste Reforçada Helicoidal 5xD sem Refrigeração

					Referência	3020	3026
Corte a Direita - Hélice a Direita Metal Duro					Tipo do Furo		
					Especificações do Produto	Sem Cobertura	Com Cobertura
Dimensões					Código		
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes			
9,2	10,0	103,0	61,0	2	30200920	30260920	
9,5	10,0	103,0	61,0	2	30200950	30260950	
9,8	10,0	103,0	61,0	2	30200980	30260980	
10,0	10,0	103,0	61,0	2	30201000	30261000	
10,2	12,0	118,0	71,0	2	30201020	30261020	
10,5	12,0	118,0	71,0	2	30201050	30261050	
10,8	12,0	118,0	71,0	2	30201080	30261080	
11,0	12,0	118,0	71,0	2	30201100	30261100	
11,5	12,0	118,0	71,0	2	30201150	30261150	
12,0	12,0	118,0	71,0	2	30201200	30261200	
12,5	14,0	124,0	77,0	2	30201250	30261250	
13,0	14,0	124,0	77,0	2	30201300	30261300	
13,5	14,0	124,0	77,0	2	30201350	30261350	
14,0	14,0	124,0	77,0	2	30201400	30261400	
14,5	16,0	133,0	83,0	2	30201450	30261450	
15,0	16,0	133,0	83,0	2	30201500	30261500	
15,5	16,0	133,0	83,0	2	30201550	30261550	
16,0	16,0	133,0	83,0	2	30201600	30261600	
16,5	18,0	143,0	83,0	2	30201650	30261650	
17,0	18,0	143,0	83,0	2	30201700	30261700	
17,5	18,0	143,0	83,0	2	30201750	30261750	
18,0	18,0	143,0	83,0	2	30201800	30261800	
18,5	20,0	153,0	101,0	2	30201850	30261850	
19,0	20,0	153,0	101,0	2	30201900	30261900	
19,5	20,0	153,0	101,0	2	30201950	30261950	
20,0	20,0	153,0	101,0	2	30202000	30262000	

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Broca Haste Reforçada Helicoidal 5xD com Refrigeração

					Referência	3120	3126
Corte a Direita - Hélice a Direita Metal Duro					Tipo do Furo		
					Especificações do Produto	Sem Cobertura	Com Cobertura
Dimensões					Código		
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes			
2,0	4,0	66,0	28,0	2	31200200	31260200	
2,5	4,0	66,0	28,0	2	31200250	31260250	
3,0	4,0	66,0	28,0	2	31200300	31260300	
3,2	4,0	66,0	28,0	2	31200320	31260320	
3,5	4,0	66,0	28,0	2	31200350	31260350	
3,8	4,0	66,0	28,0	2	31200380	31260380	
4,0	4,0	66,0	28,0	2	31200400	31260400	
4,2	6,0	74,0	36,0	2	31200420	31260420	
4,5	6,0	74,0	36,0	2	31200450	31260450	
4,8	6,0	74,0	36,0	2	31200480	31260480	
5,0	6,0	74,0	36,0	2	31200500	31260500	
5,2	6,0	82,0	44,0	2	31200520	31260520	
5,5	6,0	82,0	44,0	2	31200550	31260550	
5,8	6,0	82,0	44,0	2	31200580	31260580	
6,0	6,0	82,0	44,0	2	31200600	31260600	
6,2	8,0	91,0	53,0	2	31200620	31260620	
6,5	8,0	91,0	53,0	2	31200650	31260650	
6,8	8,0	91,0	53,0	2	31200680	31260680	
7,0	8,0	91,0	53,0	2	31200700	31260700	
7,2	8,0	91,0	53,0	2	31200720	31260720	
7,5	8,0	91,0	53,0	2	31200750	31260750	
7,8	8,0	91,0	53,0	2	31200780	31260780	
8,0	8,0	91,0	53,0	2	31200800	31260800	
8,2	10,0	103,0	61,0	2	31200820	31260820	
8,5	10,0	103,0	61,0	2	31200850	31260850	
8,8	10,0	103,0	61,0	2	31200880	31260880	
9,0	10,0	103,0	61,0	2	31200900	31260900	



Broca Haste Reforçada Helicoidal 5xD com Refrigeração

					Referência	3120	3126
Corte a Direita - Hélice a Direita Metal Duro					Tipo do Furo		
					Especificações do Produto	Sem Cobertura	Com Cobertura
Dimensões					Código		
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes			
9,2	10,0	103,0	61,0	2	31200920	31260920	
9,5	10,0	103,0	61,0	2	31200950	31260950	
9,8	10,0	103,0	61,0	2	31200980	31260980	
10,0	10,0	103,0	61,0	2	31201000	31261000	
10,2	12,0	118,0	71,0	2	31201020	31261020	
10,5	12,0	118,0	71,0	2	31201050	31261050	
10,8	12,0	118,0	71,0	2	31201080	31261080	
11,0	12,0	118,0	71,0	2	31201100	31261100	
11,5	12,0	118,0	71,0	2	31201150	31261150	
12,0	12,0	118,0	71,0	2	31201200	31261200	
12,5	14,0	124,0	77,0	2	31201250	31261250	
13,0	14,0	124,0	77,0	2	31201300	31261300	
13,5	14,0	124,0	77,0	2	31201350	31261350	
14,0	14,0	124,0	77,0	2	31201400	31261400	
14,5	16,0	133,0	83,0	2	31201450	31261450	
15,0	16,0	133,0	83,0	2	31201500	31261500	
15,5	16,0	133,0	83,0	2	31201550	31261550	
16,0	16,0	133,0	83,0	2	31201600	31261600	
16,5	18,0	143,0	83,0	2	31201650	31261650	
17,0	18,0	143,0	83,0	2	31201700	31261700	
17,5	18,0	143,0	83,0	2	31201750	31261750	
18,0	18,0	143,0	83,0	2	31201800	31261800	
18,5	20,0	153,0	101,0	2	31201850	31261850	
19,0	20,0	153,0	101,0	2	31201900	31261900	
19,5	20,0	153,0	101,0	2	31201950	31261950	
20,0	20,0	153,0	101,0	2	31202000	31262000	

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Broca Haste Reforçada Canal Reto 5xD com Refrigeração

					Referência	3130	3136
Corte a Direita - Hélice a Direita Metal Duro					Tipo do Furo		
Dimensões					Código		
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes			
2,0	4,0	66,0	28,0	2	31300200	31360200	
2,5	4,0	66,0	28,0	2	31300250	31360250	
3,0	4,0	66,0	28,0	2	31300300	31360300	
3,2	4,0	66,0	28,0	2	31300320	31360320	
3,5	4,0	66,0	28,0	2	31300350	31360350	
3,8	4,0	66,0	28,0	2	31300380	31360380	
4,0	4,0	66,0	28,0	2	31300400	31360400	
4,2	6,0	74,0	36,0	2	31300420	31360420	
4,5	6,0	74,0	36,0	2	31300450	31360450	
4,8	6,0	74,0	36,0	2	31300480	31360480	
5,0	6,0	74,0	36,0	2	31300500	31360500	
5,2	6,0	82,0	44,0	2	31300520	31360520	
5,5	6,0	82,0	44,0	2	31300550	31360550	
5,8	6,0	82,0	44,0	2	31300580	31360580	
6,0	6,0	82,0	44,0	2	31300600	31360600	
6,2	8,0	91,0	53,0	2	31300620	31360620	
6,5	8,0	91,0	53,0	2	31300650	31360650	
6,8	8,0	91,0	53,0	2	31300680	31360680	
7,0	8,0	91,0	53,0	2	31300700	31360700	
7,2	8,0	91,0	53,0	2	31300720	31360720	
7,5	8,0	91,0	53,0	2	31300750	31360750	
7,8	8,0	91,0	53,0	2	31300780	31360780	
8,0	8,0	91,0	53,0	2	31300800	31360800	
8,2	10,0	103,0	61,0	2	31300820	31360820	
8,5	10,0	103,0	61,0	2	31300850	31360850	
8,8	10,0	103,0	61,0	2	31300880	31360880	
9,0	10,0	103,0	61,0	2	31300900	31360900	




Broca Haste Reforçada Canal Reto 5xD com Refrigeração

					Referência	3130	3136
Corte a Direita - Hélice a Direita Metal Duro					Tipo do Furo		
Dimensões					Código		
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes			
9,2	10,0	103,0	61,0	2	31300920	31360920	
9,5	10,0	103,0	61,0	2	31300950	31360950	
9,8	10,0	103,0	61,0	2	31300980	31360980	
10,0	10,0	103,0	61,0	2	31301000	31361000	
10,2	12,0	118,0	71,0	2	31301020	31361020	
10,5	12,0	118,0	71,0	2	31301050	31361050	
10,8	12,0	118,0	71,0	2	31301080	31361080	
11,0	12,0	118,0	71,0	2	31301100	31361100	
11,5	12,0	118,0	71,0	2	31301150	31361150	
12,0	12,0	118,0	71,0	2	31301200	31361200	
12,5	14,0	124,0	77,0	2	31301250	31361250	
13,0	14,0	124,0	77,0	2	31301300	31361300	
13,5	14,0	124,0	77,0	2	31301350	31361350	
14,0	14,0	124,0	77,0	2	31301400	31361400	
14,5	16,0	133,0	83,0	2	31301450	31361450	
15,0	16,0	133,0	83,0	2	31301500	31361500	
15,5	16,0	133,0	83,0	2	31301550	31361550	
16,0	16,0	133,0	83,0	2	31301600	31361600	
16,5	18,0	143,0	83,0	2	31301650	31361650	
17,0	18,0	143,0	83,0	2	31301700	31361700	
17,5	18,0	143,0	83,0	2	31301750	31361750	
18,0	18,0	143,0	83,0	2	31301800	31361800	
18,5	20,0	153,0	101,0	2	31301850	31361850	
19,0	20,0	153,0	101,0	2	31301900	31361900	
19,5	20,0	153,0	101,0	2	31301950	31361950	
20,0	20,0	153,0	101,0	2	31302000	31362000	

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Broca Haste Reforçada Canal Reto 10xD com Refrigeração

					Referência	3140	3146
Corte a Direita - Hélice a Direita Metal Duro					Tipo do Furo		
Dimensões					Código		
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes			
2,0	4,0	132,0	56,0	2	31400200	31460200	
2,5	4,0	132,0	56,0	2	31400250	31460250	
3,0	4,0	132,0	56,0	2	31400300	31460300	
3,2	4,0	132,0	56,0	2	31400320	31460320	
3,5	4,0	132,0	56,0	2	31400350	31460350	
3,8	4,0	132,0	56,0	2	31400380	31460380	
4,0	4,0	132,0	56,0	2	31400400	31460400	
4,2	6,0	148,0	72,0	2	31400420	31460420	
4,5	6,0	148,0	72,0	2	31400450	31460450	
4,8	6,0	148,0	72,0	2	31400480	31460480	
5,0	6,0	148,0	72,0	2	31400500	31460500	
5,2	6,0	164,0	88,0	2	31400520	31460520	
5,5	6,0	164,0	88,0	2	31400550	31460550	
5,8	6,0	164,0	88,0	2	31400580	31460580	
6,0	6,0	164,0	88,0	2	31400600	31460600	
6,2	8,0	182,0	106,0	2	31400620	31460620	
6,5	8,0	182,0	106,0	2	31400650	31460650	
6,8	8,0	182,0	106,0	2	31400680	31460680	
7,0	8,0	182,0	106,0	2	31400700	31460700	
7,2	8,0	182,0	106,0	2	31400720	31460720	
7,5	8,0	182,0	106,0	2	31400750	31460750	
7,8	8,0	182,0	106,0	2	31400780	31460780	
8,0	8,0	182,0	106,0	2	31400800	31460800	
8,2	10,0	206,0	122,0	2	31400820	31460820	
8,5	10,0	206,0	122,0	2	31400850	31460850	
8,8	10,0	206,0	122,0	2	31400880	31460880	
9,0	10,0	206,0	122,0	2	31400900	31460900	



Broca Haste Reforçada Canal Reto 10xD com Refrigeração

					Referência	3140	3146
Corte a Direita - Hélice a Direita Metal Duro					Tipo do Furo		
					Referência		
					Especificações do Produto	Sem Cobertura	Com Cobertura
Dimensões					Código		
D1 mm	D2 mm	L1 mm	L2 mm	Nº Cortes			
9,2	10,0	206,0	122,0	2	31400920	31460920	
9,5	10,0	206,0	122,0	2	31400950	31460950	
9,8	10,0	206,0	122,0	2	31400980	31460980	
10,0	10,0	206,0	122,0	2	31401000	31461000	
10,2	12,0	236,0	142,0	2	31401020	31461020	
10,5	12,0	236,0	142,0	2	31401050	31461050	
10,8	12,0	236,0	142,0	2	31401080	31461080	
11,0	12,0	236,0	142,0	2	31401100	31461100	
11,5	12,0	236,0	142,0	2	31401150	31461150	
12,0	12,0	236,0	142,0	2	31401200	31461200	
12,5	14,0	248,0	154,0	2	31401250	31461250	
13,0	14,0	248,0	154,0	2	31401300	31461300	
13,5	14,0	248,0	154,0	2	31401350	31461350	
14,0	14,0	248,0	154,0	2	31401400	31461400	
14,5	16,0	266,0	166,0	2	31401450	31461450	
15,0	16,0	266,0	166,0	2	31401500	31461500	
15,5	16,0	266,0	166,0	2	31401550	31461550	
16,0	16,0	266,0	166,0	2	31401600	31461600	
16,5	18,0	286,0	166,0	2	31401650	31461650	
17,0	18,0	286,0	166,0	2	31401700	31461700	
17,5	18,0	286,0	166,0	2	31401750	31461750	
18,0	18,0	286,0	166,0	2	31401800	31461800	
18,5	20,0	300,0	200,0	2	31401850	31461850	
19,0	20,0	300,0	200,0	2	31401900	31461900	
19,5	20,0	300,0	200,0	2	31401950	31461950	
20,0	20,0	300,0	200,0	2	31402000	31462000	

* Para outros diâmetros entre em contato conosco ou contate um de nossos representantes.



Tabela de Velocidade de Corte e Avanço de Brocas

Materiais	Dureza	Velocidade de Corte (m/min)								Velocidade de Avanço (mm/rot)										
		Sem Cobertura		TIN		Futura TOP		Hard Lube		3	4	6	8	10	12	14	16	18	20	25
										4	6	8	10	12	14	16	18	20	25	
Aços Baixo Carbono	150~225 HB	60	80	80	120	150	200	150	300	0,130	0,130	0,150	0,180	0,200	0,220	0,250	0,280	0,300	0,350	0,350
Aços Médio Carbono	250~350 HB	50	80	70	140	100	150	100	250	0,130	0,130	0,150	0,180	0,200	0,220	0,250	0,280	0,300	0,350	0,350
Aços de Alto Carbono	30~50 HRC	40	60	60	90	60	100	80	150	0,100	0,100	0,120	0,150	0,180	0,200	0,220	0,250	0,280	0,300	0,300
Aço Temperado	50~60 HRC	20	50	40	60	30	80	60	120	0,080	0,080	0,100	0,120	0,150	0,180	0,180	0,200	0,200	0,220	0,220
Aço Inoxidável	225~250 HB	20	40	30	80	60	80	60	120	0,080	0,080	0,100	0,120	0,150	0,180	0,180	0,200	0,220	0,250	0,250
Aço Inoxidável	250~300 HB	20	40	30	80	80	100	60	120	0,080	0,080	0,100	0,120	0,150	0,180	0,180	0,200	0,220	0,250	0,250
Ferro Fundido Maleável	110~130 HB	60	100	80	140	140	180	180	300	0,200	0,200	0,230	0,250	0,250	0,280	0,280	0,300	0,330	0,350	0,350
Ferro Fundido Cinzento	180~240 HB	60	80	80	120	120	140	140	250	0,200	0,200	0,230	0,250	0,250	0,280	0,280	0,300	0,330	0,350	0,350
Ferro Fundido Nodular	240~260 HB	40	60	60	80	90	120	80	180	0,180	0,180	0,200	0,230	0,250	0,250	0,250	0,280	0,300	0,330	0,330
Liga de Alumínio	80~100 HB	80	150	100	200	200	600	250	1000	0,200	0,200	0,230	0,250	0,280	0,300	0,300	0,300	0,330	0,350	0,350
Liga de Cobre	80~100 HB	40	60	60	80	80	120	100	200	0,200	0,200	0,230	0,250	0,280	0,300	0,300	0,300	0,330	0,350	0,350
Liga de Latão	100~110 HB	60	100	100	140	140	210	120	300	0,200	0,200	0,230	0,250	0,280	0,300	0,300	0,300	0,330	0,350	0,350
Liga de Bronze	100~110 HB	40	60	60	80	80	100	100	200	0,200	0,200	0,230	0,250	0,280	0,300	0,300	0,300	0,330	0,350	0,350
Titânio e liga de Titânio		15	25	20	30	30	50	40	80	0,080	0,080	0,100	0,120	0,150	0,180	0,180	0,200	0,220	0,250	0,250