



Frese per lavorazioni universali

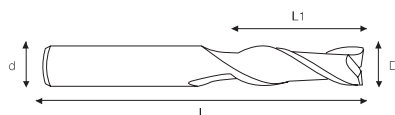
Universal end mills



Frese Z2 denti elicoidali taglio al centro lavorazioni universali

Universal end mills 2 flutes center cutting

SERIES
10



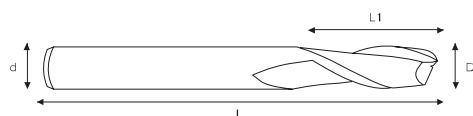
D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
1	3	40	1	2	103501	20,30	23,00	24,30
1,5	3	40	1,5	2	1035015	20,30	23,00	24,30
2	8	40	2	2	103502	8,50	11,40	12,00
2,5	8	40	2,5	2	1035025	8,80	12,20	12,80
3	10	40	3	2	103503	10,30	13,70	14,40
3,5	10	40	3,5	2	1035035	10,80	14,20	14,90
4	12	40	4	2	103504	11,50	14,90	15,70
4,5	12	50	4,5	2	1035045	12,90	17,50	18,40
5	14	50	5	2	103505	13,70	18,30	19,20
5,5	14	50	5,5	2	1035055	15,60	20,20	21,20
6	16	50	6	2	103506	16,30	20,90	22,00
6,5	16	50	6,5	2	1035065	19,00	24,50	25,70
7	16	60	7	2	103507	21,20	26,70	28,00
7,5	16	60	7,5	2	1035075	22,40	28,00	29,40
8	18	60	8	2	103508	23,70	29,30	30,80
8,5	18	60	8,5	2	1035085	24,90	31,60	33,20
9	20	60	9	2	103509	26,10	32,80	34,40
9,5	20	70	9,5	2	1035095	30,50	37,30	39,20
10	22	70	10	2	103510	32,20	38,90	40,90
10,5	22	70	10,5	2	1035105	35,60	42,40	44,50
11	22	70	11	2	103511	39,70	46,50	48,90
11,5	22	70	11,5	2	1035115	41,30	48,00	50,40
12	25	70	12	2	103512	41,90	48,60	51,00
13	25	75	13	2	103513	47,80	55,20	58,00
14	28	75	14	2	103514	56,50	63,90	67,10
15	28	75	15	2	103515	66,50	73,80	77,50
16	32	80	16	2	103516	73,80	82,80	87,00
17	32	80	17	2	103517	88,90	99,70	104,70
18	32	80	18	2	103518	96,70	107,50	112,90
19	38	104	19	2	103519	121,10	137,90	144,80
20	38	104	20	2	103520	133,80	150,60	158,10
22	38	104	22	2	103522	166,70	183,50	192,70
25	38	104	25	2	103525	206,60	230,10	241,60
30	38	104	30	2	103530	289,50	316,20	332,00

	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/ STAINLESS STEEL	NON FERROSI/ NON FERROUS	LEGHE LEGGERE/ LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE- TITANIO SUPER ALLOYS- TITANIUM	GRAFITE / GRAPHITE
APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	●	●	○	●	○	●	○	●	○

Frese Z2 denti elicoidali taglio al centro lavorazioni universali

Universal long series end mills 2 flutes center cutting

SERIES
10L



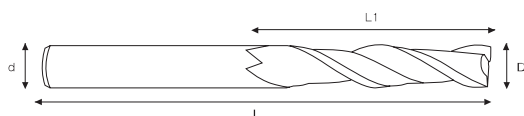
D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
2	20	50	2	2	103502L	10,70	13,60	14,30
3	20	55	3	2	103503L	11,80	15,20	16,00
4	20	60	4	2	103504L	15,10	18,50	19,40
5	20	60	5	2	103505L	16,50	21,10	22,20
6	24	65	6	2	103506L	20,20	24,80	26,00
7	30	75	7	2	103507L	25,50	31,00	32,60
8	32	80	8	2	103508L	29,60	36,60	38,40
9	32	80	9	2	103509L	34,80	43,10	45,30
10	32	80	10	2	103510L	38,40	46,70	49,00
11	50	100	11	2	103511L	53,90	62,30	65,40
12	50	100	12	2	103512L	61,80	70,20	73,70
13	50	100	13	2	103513L	69,10	78,10	82,00
14	55	100	14	2	103514L	77,20	86,20	90,50
15	60	120	15	2	103515L	97,20	109,00	114,50
16	60	120	16	2	103516L	109,80	121,60	127,70
17	60	120	17	2	103517L	122,30	135,90	142,70
18	60	120	18	2	103518L	133,10	146,60	154,00
19	60	130	19	2	103519L	155,90	172,70	181,30
20	60	130	20	2	103520L	176,30	193,10	202,80
22	75	150	22	2	103522L	270,00	295,20	310,00
25	75	150	25	2	103525L	334,90	377,70	396,60
30	75	150	30	2	103530L	436,90	491,40	516,00

	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/ STAINLESS STEEL	NON FERROSI/ NON FERROUS	LEGHE LEGGERE/ LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE- TITANIO SUPER ALLOYS- TITANIUM	GRAFITE / GRAPHITE
APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	●	●	○	●	○	●	○	●	○

Frese Z2 denti elicoidali taglio al centro lavorazioni universali

Universal extra long series end mills 2 flutes center cutting

SERIES
10EL



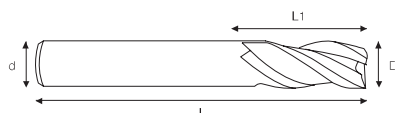
D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
6	40	80	6	2	103506EL	26,10	32,00	33,60
8	42	100	8	2	103508EL	35,50	42,50	44,60
10	45	100	10	2	103510EL	48,00	56,30	59,10
12	75	150	12	2	103512EL	84,70	97,60	102,50
14	75	150	14	2	103514EL	111,80	126,50	132,80
16	75	150	16	2	103516EL	139,70	154,30	162,00
18	75	150	18	2	103518EL	171,40	189,60	199,10
20	75	150	20	2	103520EL	212,70	237,90	249,80
22	80	200	22	2	103522EL	333,30	375,70	394,50
25	80	200	25	2	103525EL	413,10	465,30	488,60
30	80	200	30	2	103530EL	540,00	602,80	633,00

APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/STAINLESS STEEL	NON FERROSI/NON FERROUS	LEGHE LEGGERE/LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE-TITANIO SUPER ALLOYS-TITANIUM	GRAFITE / GRAPHITE
	●	●	○	●	○	●	○	●	○

Frese Z3 denti elicoidali taglio al centro lavorazioni universali

Universal end mills 3 flutes center cutting

SERIES
12



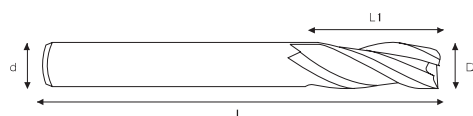
D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
2	8	40	2	3	123502	8,50	11,40	12,00
2,5	8	40	2,5	3	1235025	8,80	12,20	12,80
3	10	40	3	3	123503	10,30	13,70	14,40
3,5	10	40	3,5	3	1235035	10,80	14,20	14,90
4	12	40	4	3	123504	11,50	14,90	15,70
4,5	12	50	4,5	3	1235045	12,90	17,50	18,40
5	14	50	5	3	123505	13,70	18,30	19,20
5,5	14	50	5,5	3	1235055	15,60	20,20	21,20
6	16	50	6	3	123506	16,30	20,90	22,00
6,5	16	50	6,5	3	1235065	19,00	24,50	25,70
7	16	60	7	3	123507	21,20	26,70	28,00
7,5	16	60	7,5	3	1235075	22,40	28,00	29,40
8	18	60	8	3	123508	23,70	29,30	30,80
8,5	18	60	8,5	3	1235085	24,90	31,60	33,20
9	20	60	9	3	123509	26,10	32,80	34,40
9,5	20	70	9,5	3	1235095	30,50	37,30	39,20
10	22	70	10	3	123510	32,20	38,90	40,90
10,5	22	70	10,5	3	1235105	35,60	42,40	44,50
11	22	70	11	3	123511	39,70	46,50	48,90
11,5	22	70	11,5	3	1235115	41,30	48,00	50,40
12	25	70	12	3	123512	41,90	48,60	51,00
13	25	75	13	3	123513	47,80	55,20	58,00
14	28	75	14	3	123514	56,50	63,90	67,10
15	28	75	15	3	123515	66,50	73,80	77,50
16	32	80	16	3	123516	73,80	82,80	87,00
17	32	80	17	3	123517	88,90	99,70	104,70
18	32	80	18	3	123518	96,70	107,50	112,90
19	38	104	19	3	123519	121,10	137,90	144,80
20	38	104	20	3	123520	133,80	150,60	158,10
22	38	104	22	3	123522	166,70	183,50	192,70
25	38	104	25	3	123525	206,60	230,10	241,60
30	38	104	30	3	123530	289,50	316,20	332,00

	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/ STAINLESS STEEL	NON FERROSI/ NON FERROUS	LEGHE LEGGERE/ LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE- TITANIO SUPER ALLOYS- TITANIUM	GRAFITE / GRAPHITE
APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	●	●	○	○	○	○	○	○	○

Frese Z3 denti elicoidali taglio al centro lavorazioni universali

Universal long series end mills 3 flutes center cutting

SERIES
12L



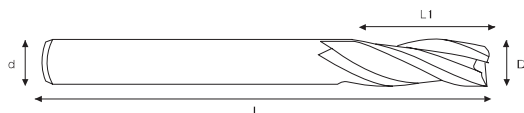
D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
2	20	50	2	3	123502L	10,70	13,60	14,30
3	20	55	3	3	123503L	11,80	15,20	16,00
4	20	60	4	3	123504L	15,10	18,50	19,40
5	20	60	5	3	123505L	16,50	21,10	22,20
6	24	65	6	3	123506L	20,20	24,80	26,00
7	30	75	7	3	123507L	25,50	31,00	32,60
8	32	80	8	3	123508L	29,60	36,60	38,40
9	32	80	9	3	123509L	34,80	43,10	45,30
10	32	80	10	3	123510L	38,40	46,70	49,00
11	50	100	11	3	123511L	53,90	62,30	65,40
12	50	100	12	3	123512L	61,80	70,20	73,70
13	50	100	13	3	123513L	69,10	78,10	82,00
14	55	100	14	3	123514L	77,20	86,20	90,50
15	60	120	15	3	123515L	97,20	109,00	114,50
16	60	120	16	3	123516L	109,80	121,60	127,70
17	60	120	17	3	123517L	122,30	135,90	142,70
18	60	120	18	3	123518L	133,10	146,60	154,00
19	60	130	19	3	123519L	155,90	172,70	181,30
20	60	130	20	3	123520L	176,30	193,10	202,80
22	75	150	22	3	123522L	270,00	295,20	310,00
25	75	150	25	3	123525L	334,90	377,70	396,60
30	75	150	30	3	123530L	436,90	491,40	516,00

	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/ STAINLESS STEEL	NON FERROSI/ NON FERROUS	LEGHE LEGGERE/ LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE- TITANIO SUPER ALLOYS- TITANIUM	GRAFITE / GRAPHITE
APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	●	●	○	○	○	○	○	○	○

Frese Z3 denti elicoidali taglio al centro lavorazioni universali

Universal extra long series end mills 3 flutes center cutting

SERIES
12EL



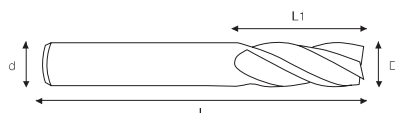
D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
6	40	80	6	3	123506EL	26,10	32,00	33,60
8	42	100	8	3	123508EL	35,50	42,50	44,60
10	45	100	10	3	123510EL	48,00	56,30	59,10
12	75	150	12	3	123512EL	84,70	97,60	102,50
14	75	150	14	3	123514EL	111,80	126,50	132,80
16	75	150	16	3	123516EL	139,70	154,30	162,00
18	75	150	18	3	123518EL	171,40	189,60	199,10
20	75	150	20	3	123520EL	212,70	237,90	249,80
22	80	200	22	3	123522EL	333,30	375,70	394,50
25	80	200	25	3	123525EL	413,10	465,30	488,60
30	80	200	30	3	123530EL	540,00	602,80	633,00

APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/STAINLESS STEEL	NON FERROSI/NON FERROUS	LEGHE LEGGERE/LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE-TITANIO SUPER ALLOYS-TITANIUM	GRAFITE / GRAPHITE
	●	●	○	○	○	○	○	○	○

Frese Z4 denti elicoidali taglio al centro lavorazioni universali

Universal end mills 4 flutes center cutting

SERIES
14



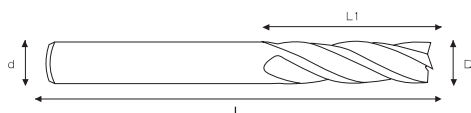
D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
2	8	40	2	4	143002	8,50	11,40	12,00
2,5	8	40	2,5	4	1430025	8,80	12,20	12,80
3	10	40	3	4	143003	10,30	13,70	14,40
3,5	10	40	3,5	4	1430035	10,80	14,20	14,90
4	12	40	4	4	143004	11,50	14,90	15,70
4,5	12	50	4,5	4	1430045	12,90	17,50	18,40
5	14	50	5	4	143005	13,70	18,30	19,20
5,5	14	50	5,5	4	1430055	15,60	20,20	21,20
6	16	50	6	4	143006	16,30	20,90	22,00
6,5	16	50	6,5	4	1430065	19,00	24,50	25,70
7	16	60	7	4	143007	21,20	26,70	28,00
7,5	16	60	7,5	4	1430075	22,40	28,00	29,40
8	18	60	8	4	143008	23,70	29,30	30,80
8,5	18	60	8,5	4	1430085	24,90	31,60	33,20
9	20	60	9	4	143009	26,10	32,80	34,40
9,5	20	70	9,5	4	1430095	30,50	37,30	39,20
10	22	70	10	4	143010	32,20	38,90	40,90
10,5	22	70	10,5	4	1430105	35,60	42,40	44,50
11	22	70	11	4	143011	39,70	46,50	48,90
11,5	22	70	11,5	4	1430115	41,30	48,00	50,40
12	25	70	12	4	143012	41,90	48,60	51,00
13	25	75	13	4	143013	47,80	55,20	58,00
14	28	75	14	4	143014	56,50	63,90	67,10
15	28	75	15	4	143015	66,50	73,80	77,50
16	32	80	16	4	143016	73,80	82,80	87,00
17	32	80	17	4	143017	88,90	99,70	104,70
18	32	80	18	4	143018	96,70	107,50	112,90
19	38	104	19	4	143019	121,10	137,90	144,80
20	38	104	20	4	143020	133,80	150,60	158,10
22	38	104	22	4	143022	166,70	183,50	192,70
25	38	104	25	4	143025	206,60	230,10	241,60
30	38	104	30	4	143030	289,50	316,20	332,00

	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/ STAINLESS STEEL	NON FERROSI/ NON FERROUS	LEGHE LEGGERE/ LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE- TITANIO SUPER ALLOYS- TITANIUM	GRAFITE / GRAPHITE
APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	●	●	○	○	○	○	○	○	○

Frese Z4 denti elicoidali taglio al centro lavorazioni universali

Universal long series end mills 4 flutes center cutting

SERIES
14L



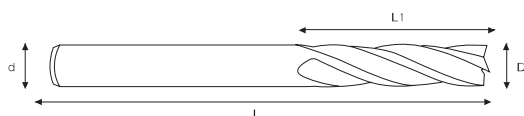
D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
2	20	50	2	4	143002L	10,70	13,60	14,30
3	20	55	3	4	143003L	11,80	15,20	16,00
4	20	60	4	4	143004L	15,10	18,50	19,40
5	20	60	5	4	143005L	16,50	21,10	22,20
6	24	65	6	4	143006L	20,20	24,80	26,00
7	30	75	7	4	143007L	25,50	31,00	32,60
8	32	80	8	4	143008L	29,60	36,60	38,40
9	32	80	9	4	143009L	34,80	43,10	45,30
10	32	80	10	4	143010L	38,40	46,70	49,00
11	50	100	11	4	143011L	53,90	62,30	65,40
12	50	100	12	4	143012L	61,80	70,20	73,70
13	50	100	13	4	143013L	69,10	78,10	82,00
14	55	100	14	4	143014L	77,20	86,20	90,50
15	60	120	15	4	143015L	97,20	109,00	114,50
16	60	120	16	4	143016L	109,80	121,60	127,70
17	60	120	17	4	143017L	122,30	135,90	142,70
18	60	120	18	4	143018L	133,10	146,60	154,00
19	60	130	19	4	143019L	155,90	172,70	181,30
20	60	130	20	4	143020L	176,30	193,10	202,80
22	75	150	22	4	143022L	270,00	295,20	310,00
25	75	150	25	4	143025L	334,90	377,70	396,60
30	75	150	30	4	124530L	436,90	491,40	516,00

	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/ STAINLESS STEEL	NON FERROSI/ NON FERROUS	LEGHE LEGGERE/ LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE- TITANIO SUPER ALLOYS- TITANIUM	GRAFITE / GRAPHITE
APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	●	●	○	●	○	●	○	●	○

Frese Z4 denti elicoidali taglio al centro lavorazioni universali

Universal extra long series end mills 4 flutes center cutting

SERIES
14EL



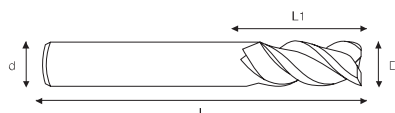
D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
6	40	80	6	4	143006EL	26,10	32,00	33,60
8	42	100	8	4	143008EL	35,50	42,50	44,60
10	45	100	10	4	143010EL	48,00	56,30	59,10
12	75	150	12	4	143012EL	84,70	97,60	102,50
14	75	150	14	4	143014EL	111,80	126,50	132,80
16	75	150	16	4	143016EL	139,70	154,30	162,00
18	75	150	18	4	143018EL	171,40	189,60	199,10
20	75	150	20	4	143020EL	212,70	237,90	249,80
22	80	200	22	4	143022EL	333,30	375,70	394,50
25	80	200	25	4	143025EL	413,10	465,30	488,60
30	80	200	30	4	143030EL	540,00	602,80	633,00

APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/ STAINLESS STEEL	NON FERROSI/ NON FERROUS	LEGHE LEGGERE/ LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE- TITANIO SUPER ALLOYS- TITANIUM	GRAFITE / GRAPHITE
	●	●	○	●	○	●	○	●	○

Frese Z3 denti elicoidali taglio al centro lavorazioni universali

Universal end mills 3 flutes center cutting

SERIES
16



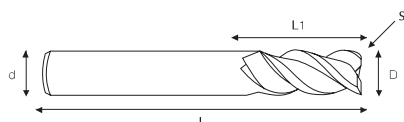
D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
2	8	40	2	3	164502	8,50	11,40	12,00
2,5	8	40	2,5	3	1645025	8,80	12,20	12,80
3	10	40	3	3	164503	10,30	13,70	14,40
3,5	10	40	3,5	3	1645035	10,80	14,20	14,90
4	12	40	4	3	164504	11,50	14,90	15,70
4,5	12	50	4,5	3	1645045	12,90	17,50	18,40
5	14	50	5	3	164505	13,70	18,30	19,20
5,5	14	50	5,5	3	1645055	15,60	20,20	21,20
6	16	50	6	3	164506	16,30	20,90	22,00
6,5	16	50	6,5	3	1645065	19,00	24,50	25,70
7	16	60	7	3	164507	21,20	26,70	28,00
7,5	16	60	7,5	3	1645075	22,40	28,00	29,40
8	18	60	8	3	164508	23,70	29,30	30,80
8,5	18	60	8,5	3	1645085	24,90	31,60	33,20
9	20	60	9	3	164509	26,10	32,80	34,40
9,5	20	70	9,5	3	1645095	30,50	37,30	39,20
10	22	70	10	3	164510	32,20	38,90	40,90
10,5	22	70	10,5	3	1645105	35,60	42,40	44,50
11	22	70	11	3	164511	39,70	46,50	48,90
11,5	22	70	11,5	3	1645115	41,30	48,00	50,40
12	25	70	12	3	164512	41,90	48,60	51,00
13	25	75	13	3	164513	47,80	55,20	58,00
14	28	75	14	3	164514	56,50	63,90	67,10
15	28	75	15	3	164515	66,50	73,80	77,50
16	32	80	16	3	164516	73,80	82,80	87,00
17	32	80	17	3	164517	88,90	99,70	104,70
18	32	80	18	3	164518	96,70	107,50	112,90
19	38	104	19	3	164519	121,10	137,90	144,80
20	38	104	20	3	164520	133,80	150,60	158,10
22	38	104	22	3	164522	166,70	183,50	192,70
25	38	104	25	3	164525	206,60	230,10	241,60
30	38	104	30	3	164530	289,50	316,20	332,00

	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/ STAINLESS STEEL	NON FERROSI/ NON FERROUS	LEGHE LEGGERE/ LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE- TITANIO SUPER ALLOYS- TITANIUM	GRAFITE / GRAPHITE
APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	○	○	○	●	●	○	○	○	○

Frese Z3 denti elicoidali taglio al centro lavorazioni universali

Universal chamfered end mills 3 flutes center cutting

SERIES
16S



D h10	L1	L	d h6	Z	S	Code	€ uncoated	€ TiAlN	€ TopTiAlN
2	8	40	2	3	0,1 - 0,2 x 45°	164502S	10,50	13,40	14,10
2,5	8	40	2,5	3	0,1 - 0,2 x 45°	1645025S	10,80	14,20	15,00
3	10	40	3	3	0,1 - 0,2 x 45°	164503S	12,30	15,70	16,50
3,5	10	40	3,5	3	0,1 - 0,2 x 45°	1645035S	12,80	16,20	17,00
4	12	40	4	3	0,1 - 0,2 x 45°	164504S	13,50	16,90	17,80
4,5	12	50	4,5	3	0,1 - 0,2 x 45°	1645045S	14,90	19,50	20,50
5	14	50	5	3	0,1 - 0,2 x 45°	164505S	15,70	20,30	21,30
5,5	14	50	5,5	3	0,1 - 0,2 x 45°	1645055S	17,60	22,20	23,30
6	16	50	6	3	0,1 - 0,2 x 45°	164506S	18,30	22,90	24,10
6,5	16	50	6,5	3	0,1 - 0,2 x 45°	1645065S	21,00	26,50	27,90
7	16	60	7	3	0,1 - 0,2 x 45°	164507S	23,20	28,70	30,20
7,5	16	60	7,5	3	0,1 - 0,2 x 45°	1645075S	24,40	30,00	31,50
8	18	60	8	3	0,1 - 0,2 x 45°	164508S	25,70	31,30	32,90
8,5	18	60	8,5	3	0,1 - 0,2 x 45°	1645085S	26,90	33,60	35,30
9	20	60	9	3	0,1 - 0,2 x 45°	164509S	28,10	34,80	36,60
9,5	20	70	9,5	3	0,1 - 0,2 x 45°	1645095S	32,50	39,30	41,30
10	22	70	10	3	0,1 - 0,2 x 45°	164510S	34,20	40,90	43,00
10,5	22	70	10,5	3	0,1 - 0,2 x 45°	1645105S	37,60	44,40	46,70
11	22	70	11	3	0,1 - 0,2 x 45°	164511S	41,70	48,50	51,00
11,5	22	70	11,5	3	0,1 - 0,2 x 45°	1645115S	43,30	50,00	52,50
12	25	70	12	3	0,1 - 0,2 x 45°	164512S	43,90	50,60	53,20
13	25	75	13	3	0,1 - 0,2 x 45°	164513S	49,80	57,20	60,10
14	28	75	14	3	0,1 - 0,2 x 45°	164514S	58,50	65,90	69,20
15	28	75	15	3	0,1 - 0,2 x 45°	164515S	68,50	75,80	79,60
16	32	80	16	3	0,1 - 0,2 x 45°	164516S	75,80	84,80	89,10
17	32	80	17	3	0,1 - 0,2 x 45°	164517S	90,90	101,70	106,80
18	32	80	18	3	0,1 - 0,2 x 45°	164518S	98,70	109,50	115,00
19	35	100	19	3	0,1 - 0,2 x 45°	164519S	123,10	139,90	146,90
20	35	100	20	3	0,1 - 0,2 x 45°	164520S	135,80	152,60	160,30
22	38	100	22	3	0,1 - 0,2 x 45°	164522S	168,70	185,50	194,80
25	38	100	25	3	0,1 - 0,2 x 45°	164525S	208,60	232,10	243,70
30	38	100	30	3	0,1 - 0,2 x 45°	164530S	291,50	318,20	334,10

A richiesta possibili Smussi diversi

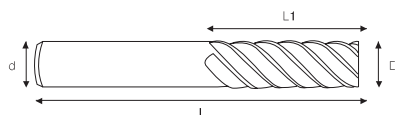
Different chamfer on request

	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/ STAINLESS STEEL	NON FERROSI/ NON FERROUS	LEGHE LEGGERE/ LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE- TITANIO SUPER ALLOYS- TITANIUM	GRAFITE / GRAPHITE
APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	○	○	○	●	●	○	○	○	○

Frese Z6 denti elicoidali lavorazioni universali

Universal end mills 6 flutes

SERIES
26



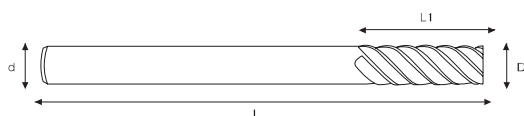
D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
4	15	40	4	6	264504	14,90	18,30	19,30
6	20	50	6	6	264506	20,30	24,90	26,20
8	25	60	8	6	264508	27,70	33,30	35,00
10	30	70	10	6	264510	39,60	46,30	48,70
12	35	75	12	6	264512	51,90	58,60	61,60
14	35	75	14	6	264514	65,90	73,30	77,00
16	38	80	16	6	264516	83,20	92,20	96,90
18	38	80	18	6	264518	104,70	115,50	121,30
20	40	104	20	6	264520	143,80	160,60	168,70
22	40	104	22	6	264522	186,70	203,50	213,70
25	40	104	25	6	264525	236,60	260,10	273,20
30	40	104	30	6	264530	309,50	336,20	353,00

APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/STAINLESS STEEL	NON FERROSI/NON FERROUS	LEGHE LEGGERE/LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE-TITANIO SUPER ALLOYS-TITANIUM	GRAFITE / GRAPHITE
	●	●	●	○	○	●	○	●	○

Frese Z6 denti elicoidali lavorazioni universali

Universal long series end mills 6 flutes

SERIES
26L



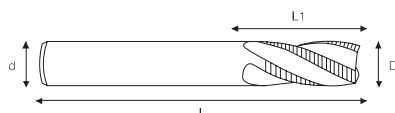
D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
4	20	100	4	6	264504L	21,10	25,60	26,90
6	24	100	6	6	264506L	28,60	34,60	36,30
8	32	100	8	6	264508L	39,50	46,50	48,80
10	32	100	10	6	264510L	50,00	58,30	61,20
12	50	100	12	6	264512L	71,80	82,50	86,70
16	60	150	16	6	264516L	137,70	152,30	160,00
18	60	150	18	6	264518L	169,40	187,60	197,00
20	60	150	20	6	264520L	208,70	233,90	245,60
22	60	150	22	6	264522L	290,00	315,20	331,00
25	60	150	25	6	264525L	354,90	397,70	417,60
30	60	150	30	6	264530L	454,30	508,80	534,20

	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/ STAINLESS STEEL	NON FERROSI/ NON FERROUS	LEGHE LEGGERE/ LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE- TITANIO SUPER ALLOYS- TITANIUM	GRAFITE / GRAPHITE
APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	●	●	●	○	○	●	○	●	○

Frese Z3 denti elicoidali taglio al centro lavorazione sgrossatura

Roughing end mills 3 flutes center cutting

SERIES
28



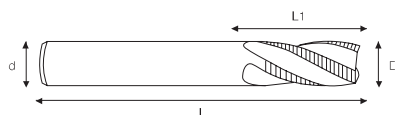
D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
6	16	60	6	3	283006	23,60	28,20	29,70
8	19	70	8	3	283008	33,70	39,20	41,20
10	22	70	10	3	283010	43,60	50,30	52,90
12	26	80	12	3	283012	57,90	66,20	69,60
14	26	80	14	3	283014	72,60	81,60	85,70
16	32	100	16	3	283016	102,50	111,50	117,10
18	32	100	18	3	283018	124,90	135,70	142,50
20	38	104	20	3	283020	155,80	172,60	181,30

APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/STAINLESS STEEL	NON FERROSI/NON FERROUS	LEGHE LEGGERE/LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE-TITANIO SUPER ALLOYS-TITANIUM	GRAFITE / GRAPHITE
	●	●	●	○	○	●	○	●	○

Frese Z4 denti elicoidali taglio al centro lavorazione sgrossatura

Roughing end mills 4 flutes center cutting

SERIES
29



D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
6	16	60	6	4	293006	23,60	28,20	29,70
8	19	70	8	4	293008	33,70	39,20	41,20
10	22	70	10	4	293010	43,60	50,30	52,90
12	26	80	12	4	293012	57,90	66,20	69,60
14	26	80	14	4	293014	72,60	81,60	85,70
16	32	100	16	4	293016	102,50	111,50	117,10
18	32	100	18	4	293018	124,90	135,70	142,50
20	38	104	20	4	293020	155,80	172,60	181,30

APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/STAINLESS STEEL	NON FERROSI/NON FERROUS	LEGHE LEGGERE/LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE-TITANIO SUPER ALLOYS-TITANIUM	GRAFITE / GRAPHITE
	●	●	●	○	○	●	○	●	○

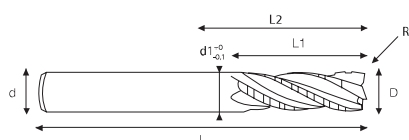
Frese divisione irregolare elica variabile taglio interrotto per ridurre la dimensione del truciolo

Unequal interrupted cut pitch and variable helix end mills to reduce chip's size

SERIES
56

NEW

DUECI



Micro
Grain



D	R.	L1	L2	d1	L	d	Z	Code	€ uncoated	€ TopTiAlN
8	0,5	19	26	7,8	63	8	4	5608	51,90	57,70
10	0,5	22	32	9,8	72	10	4	5610	65,80	73,00
12	1	26	38	11,7	83	12	4	5612	87,00	95,20
16	1,5	32	50	15,7	100	16	4	5616	135,60	145,00
20	1,5	40	60	19,7	110	20	4	5620	214,00	230,00

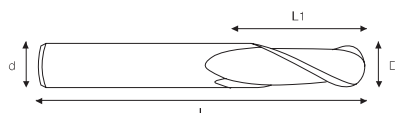


APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/STAINLESS STEEL	NON FERROSI/NON FERROUS	LEGHE LEGGERE/LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE-TITANIO SUPER ALLOYS-TITANIUM	GRAFITE / GRAPHITE
	●	●	●	○	●	●	○	●	○

Frese Z2 raggiate denti elicoidali taglio al centro lavorazioni universali

Universal ball nose end mills 2 flutes center cutting

SERIES
11



D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
1	3	40	1	2	113001	27,50	30,30	32,00
1,5	3	40	1,5	2	1130015	27,50	30,30	32,00
2	8	40	2	2	113002	11,70	14,60	15,30
2,5	8	40	2,5	2	1130025	12,00	15,40	16,20
3	10	40	3	2	113003	14,30	17,70	18,60
3,5	10	40	3,5	2	1130035	14,60	18,00	18,90
4	12	40	4	2	113004	14,90	18,30	19,20
4,5	12	50	4,5	2	1130045	16,30	20,90	22,00
5	14	50	5	2	113005	18,70	23,30	24,50
5,5	14	50	5,5	2	1130055	19,60	24,20	25,40
6	16	50	6	2	113006	20,30	24,90	26,20
6,5	16	50	6,5	2	1130065	22,00	27,50	28,90
7	16	60	7	2	113007	24,20	29,70	31,20
7,5	16	60	7,5	2	1130075	25,40	31,00	32,60
8	18	60	8	2	113008	27,70	33,30	35,00
8,5	18	60	8,5	2	1130085	30,90	37,60	39,50
9	20	60	9	2	113009	32,10	38,80	40,80
9,5	20	70	9,5	2	1130095	36,80	43,60	45,80
10	22	70	10	2	113010	38,50	45,20	47,50
10,5	22	70	10,5	2	1130105	42,60	49,40	51,90
11	22	70	11	2	113011	47,70	54,50	57,20
11,5	22	70	11,5	2	1130115	49,30	56,00	58,80
12	25	70	12	2	113012	49,90	56,60	59,40
13	25	75	13	2	113013	57,80	65,20	68,50
14	28	75	14	2	113014	64,90	72,30	76,00
15	28	75	15	2	113015	77,50	84,80	89,00
16	32	80	16	2	113016	85,20	94,20	98,90
17	32	80	17	2	113017	102,90	113,70	119,40
18	32	80	18	2	113018	112,70	123,50	129,70
19	38	104	19	2	113019	137,10	153,90	161,60
20	38	104	20	2	113020	149,80	166,60	175,00
22	38	104	22	2	113022	186,70	203,50	213,70
25	38	104	25	2	113025	236,60	260,10	273,10
30	38	104	30	2	113030	329,50	356,20	374,00

	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/ STAINLESS STEEL	NON FERROSI/ NON FERROUS	LEGHE LEGGERE/ LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE- TITANIO SUPER ALLOYS- TITANIUM	GRAFITE / GRAPHITE
APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	●	●	○	○	○	○	○	○	○

Frese Z2 raggiate denti elicoidali taglio al centro lavorazioni universali

Universal ball nose long series end mills 2 flutes center cutting

SERIES
11L



D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
2	20	50	2	2	113002L	15,00	17,90	18,80
3	20	55	3	2	113003L	16,10	19,50	20,50
4	20	60	4	2	113004L	20,30	23,70	24,90
5	20	60	5	2	113005L	21,70	26,30	27,60
6	24	65	6	2	113006L	26,20	30,80	32,30
7	30	75	7	2	113007L	32,50	38,00	39,90
8	32	80	8	2	113008L	36,60	43,60	45,80
9	32	80	9	2	113009L	42,80	51,10	53,70
10	32	80	10	2	113010L	46,40	54,70	57,40
11	50	100	11	2	113011L	63,90	72,30	75,90
12	50	100	12	2	113012L	72,80	81,20	85,30
13	50	100	13	2	113013L	81,10	90,10	94,60
14	55	100	14	2	113014L	89,20	98,20	103,10
15	60	120	15	2	113015L	110,20	122,00	128,10
16	60	120	16	2	113016L	123,80	135,60	142,40
17	60	120	17	2	113017L	138,30	151,90	159,50
18	60	120	18	2	113018L	151,10	164,60	172,80
19	60	130	19	2	113019L	175,90	192,70	202,30
20	60	130	20	2	113020L	198,30	215,10	225,90
22	75	150	22	2	113022L	310,00	335,20	352,00
25	75	150	25	2	113025L	384,90	427,70	449,10
30	75	150	30	2	113030L	496,90	551,40	579,00

	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/ STAINLESS STEEL	NON FERROSI/ NON FERROUS	LEGHE LEGGERE/ LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE- TITANIO SUPER ALLOYS- TITANIUM	GRAFITE / GRAPHITE
APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	●	●	○	○	○	○	○	○	○

Frese Z2 raggiate denti elicoidali taglio al centro lavorazioni universali

Universal ball nose extra long series end mills 2 flutes center cutting

SERIES
11EL



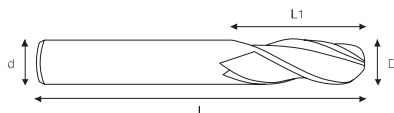
D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
6	40	80	6	2	113006EL	34,10	40,00	42,00
8	42	100	8	2	113008EL	43,50	50,50	53,00
10	45	100	10	2	113010EL	58,00	66,30	69,60
12	75	150	12	2	113012EL	97,70	110,60	116,10
14	75	150	14	2	113014EL	127,80	142,50	149,60
16	75	150	16	2	113016EL	159,70	174,30	183,00
18	75	150	18	2	113018EL	196,40	214,60	225,30
20	75	150	20	2	113020EL	242,70	267,90	281,30
22	80	200	22	2	113022EL	373,30	415,70	436,50
25	80	200	25	2	113025EL	463,10	515,30	541,10
30	80	200	30	2	113030EL	600,00	662,80	696,00

APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/STAINLESS STEEL	NON FERROSI/NON FERROUS	LEGHE LEGGERE/LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE-TITANIO SUPER ALLOYS-TITANIUM	GRAFITE / GRAPHITE
	●	●	○	●	○	●	○	●	○

Frese Z3 raggiate denti elicoidali taglio al centro lavorazioni universali

Universal ball nose end mills 3 flutes center cutting

SERIES
13



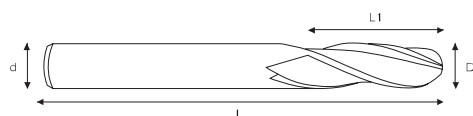
D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
2	8	40	2	3	133002	11,70	14,60	15,30
2,5	8	40	2,5	3	1330025	12,00	15,40	16,20
3	10	40	3	3	133003	14,30	17,70	18,60
3,5	10	40	3,5	3	1330035	14,60	18,00	18,90
4	12	40	4	3	133004	14,90	18,30	19,20
4,5	12	50	4,5	3	1330045	16,30	20,90	22,00
5	14	50	5	3	133005	18,70	23,30	24,50
5,5	14	50	5,5	3	1330055	19,60	24,20	25,40
6	16	50	6	3	133006	20,30	24,90	26,20
6,5	16	50	6,5	3	1330065	22,00	27,50	28,90
7	16	60	7	3	133007	24,20	29,70	31,20
7,5	16	60	7,5	3	1330075	25,40	31,00	32,60
8	18	60	8	3	133008	27,70	33,30	35,00
8,5	18	60	8,5	3	1330085	30,90	37,60	39,50
9	20	60	9	3	133009	32,10	38,80	40,80
9,5	20	70	9,5	3	1330095	36,80	43,60	45,80
10	22	70	10	3	133010	38,50	45,20	47,50
10,5	22	70	10,5	3	1330105	42,60	49,40	51,90
11	22	70	11	3	133011	47,70	54,50	57,20
11,5	22	70	11,5	3	1330115	49,30	56,00	58,80
12	25	70	12	3	133012	49,90	56,60	59,40
13	25	75	13	3	133013	57,80	65,20	68,50
14	28	75	14	3	133014	64,90	72,30	76,00
15	28	75	15	3	133015	77,50	84,80	89,00
16	32	80	16	3	133016	85,20	94,20	98,90
17	32	80	17	3	133017	102,90	113,70	119,40
18	32	80	18	3	133018	112,70	123,50	129,70
19	38	104	19	3	133019	137,10	153,90	161,60
20	38	104	20	3	133020	149,80	166,60	175,00
22	38	104	22	3	133022	186,70	203,50	213,70
25	38	104	25	3	133025	236,60	260,10	273,10
30	38	104	30	3	133030	329,50	356,20	374,00

	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/ STAINLESS STEEL	NON FERROSI/ NON FERROUS	LEGHE LEGGERE/ LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE- TITANIO SUPER ALLOYS- TITANIUM	GRAFITE / GRAPHITE
APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	●	●	○	●	○	●	○	●	○

Frese Z3 raggiate denti elicoidali taglio al centro lavorazioni universali

Universal ball nose long series end mills 3 flutes center cutting

SERIES
13L



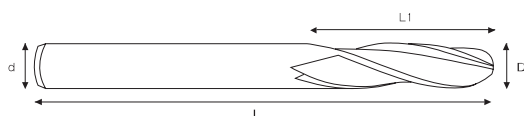
D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
2	20	50	2	3	133002L	15,00	17,90	18,80
3	20	55	3	3	133003L	16,10	19,50	20,50
4	20	60	4	3	133004L	20,30	23,70	24,90
5	20	60	5	3	133005L	21,70	26,30	27,60
6	24	65	6	3	133006L	26,20	30,80	32,30
7	30	75	7	3	133007L	32,50	38,00	39,90
8	32	80	8	3	133008L	36,60	43,60	45,80
9	32	80	9	3	133009L	42,80	51,10	53,70
10	32	80	10	3	133010L	46,40	54,70	57,40
11	50	100	11	3	133011L	63,90	72,30	75,90
12	50	100	12	3	133012L	72,80	81,20	85,30
13	50	100	13	3	133013L	81,10	90,10	94,60
14	55	100	14	3	133014L	89,20	98,20	103,10
15	60	120	15	3	133015L	110,20	122,00	128,10
16	60	120	16	3	133016L	123,80	135,60	142,40
17	60	120	17	3	133017L	138,30	151,90	159,50
18	60	120	18	3	133018L	151,10	164,60	172,80
19	60	130	19	3	133019L	175,90	192,70	202,30
20	60	130	20	3	133020L	198,30	215,10	225,90
22	75	150	22	3	133022L	310,00	335,20	352,00
25	75	150	25	3	133025L	384,90	427,70	449,10
30	75	150	30	3	133030L	496,90	551,40	579,00

	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/ STAINLESS STEEL	NON FERROSI/ NON FERROUS	LEGHE LEGGERE/ LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE- TITANIO SUPER ALLOYS- TITANIUM	GRAFITE / GRAPHITE
APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	●	●	○	○	○	○	○	○	○

Frese Z3 raggiate denti elicoidali taglio al centro lavorazioni universali

Universal ball nose extra long series end mills 3 flutes center cutting

SERIES
13EL



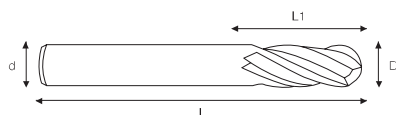
D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
6	40	80	6	3	133006EL	34,10	40,00	42,00
8	42	100	8	3	133008EL	43,50	50,50	53,00
10	45	100	10	3	133010EL	58,00	66,30	69,60
12	75	150	12	3	133012EL	97,70	110,60	116,10
14	75	150	14	3	133014EL	127,80	142,50	149,60
16	75	150	16	3	133016EL	159,70	174,30	183,00
18	75	150	18	3	133018EL	196,40	214,60	225,30
20	75	150	20	3	133020EL	242,70	267,90	281,30
22	80	200	22	3	133022EL	373,30	415,70	436,50
25	80	200	25	3	133025EL	463,10	515,30	541,10
30	80	200	30	3	133030EL	600,00	662,80	696,00

APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/ STAINLESS STEEL	NON FERROSI/ NON FERROUS	LEGHE LEGGERE/ LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE- TITANIO SUPER ALLOYS- TITANIUM	GRAFITE / GRAPHITE
	●	●	○	●	○	●	○	●	○

Frese Z4 raggiate denti elicoidali taglio al centro lavorazioni universali

Universal ball nose end mills 4 flutes center cutting

SERIES
15



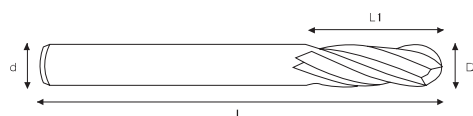
D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
2	8	40	2	4	153002	11,70	14,60	15,30
2,5	8	40	2,5	4	1530025	12,00	15,40	16,20
3	10	40	3	4	153003	14,30	17,70	18,60
3,5	10	40	3,5	4	1530035	14,60	18,00	18,90
4	12	40	4	4	153004	14,90	18,30	19,20
4,5	12	50	4,5	4	1530045	16,30	20,90	22,00
5	14	50	5	4	153005	18,70	23,30	24,50
5,5	14	50	5,5	4	1530055	19,60	24,20	25,40
6	16	50	6	4	153006	20,30	24,90	26,20
6,5	16	50	6,5	4	1530065	22,00	27,50	28,90
7	16	60	7	4	153007	24,20	29,70	31,20
7,5	16	60	7,5	4	1530075	25,40	31,00	32,60
8	18	60	8	4	153008	27,70	33,30	35,00
8,5	18	60	8,5	4	1530085	30,90	37,60	39,50
9	20	60	9	4	153009	32,10	38,80	40,80
9,5	20	70	9,5	4	1530095	36,80	43,60	45,80
10	22	70	10	4	153010	38,50	45,20	47,50
10,5	22	70	10,5	4	1530105	42,60	49,40	51,90
11	22	70	11	4	153011	47,70	54,50	57,20
11,5	22	70	11,5	4	1530115	49,30	56,00	58,80
12	25	70	12	4	153012	49,90	56,60	59,40
13	25	75	13	4	153013	57,80	65,20	68,50
14	28	75	14	4	153014	64,90	72,30	76,00
15	28	75	15	4	153015	77,50	84,80	89,00
16	32	80	16	4	153016	85,20	94,20	98,90
17	32	80	17	4	153017	102,90	113,70	119,40
18	32	80	18	4	153018	112,70	123,50	129,70
19	38	104	19	4	153019	137,10	153,90	161,60
20	38	104	20	4	153020	149,80	166,60	175,00
22	38	104	22	4	153022	186,70	203,50	213,70
25	38	104	25	4	153025	236,60	260,10	273,10
30	38	104	30	4	153030	329,50	356,20	374,00

	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/ STAINLESS STEEL	NON FERROSI/ NON FERROUS	LEGHE LEGGERE/ LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE- TITANIO SUPER ALLOYS- TITANIUM	GRAFITE / GRAPHITE
APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	●	●	○	●	○	●	○	●	○

Frese Z4 raggiate denti elicoidali taglio al centro lavorazioni universali

Universal ball nose long series end mills 4 flutes center cutting

SERIES
15L



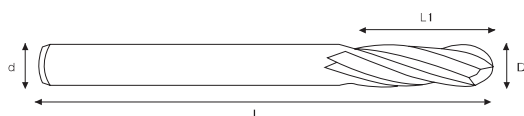
D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
2	20	50	2	4	153002L	15,00	17,90	18,80
3	20	55	3	4	153003L	16,10	19,50	20,50
4	20	60	4	4	153004L	20,30	23,70	24,90
5	20	60	5	4	153005L	21,70	26,30	27,60
6	24	65	6	4	153006L	26,20	30,80	32,30
7	30	75	7	4	153007L	32,50	38,00	39,90
8	32	80	8	4	153008L	36,60	43,60	45,80
9	32	80	9	4	153009L	42,80	51,10	53,70
10	32	80	10	4	153010L	46,40	54,70	57,40
11	50	100	11	4	153011L	63,90	72,30	75,90
12	50	100	12	4	153012L	72,80	81,20	85,30
13	50	100	13	4	153013L	81,10	90,10	94,60
14	55	100	14	4	153014L	89,20	98,20	103,10
15	60	120	15	4	153015L	110,20	122,00	128,10
16	60	120	16	4	153016L	123,80	135,60	142,40
17	60	120	17	4	153017L	138,30	151,90	159,50
18	60	120	18	4	153018L	151,10	164,60	172,80
19	60	130	19	4	153019L	175,90	192,70	202,30
20	60	130	20	4	153020L	198,30	215,10	225,90
22	75	150	22	4	153022L	310,00	335,20	352,00
25	75	150	25	4	153025L	384,90	427,70	449,10
30	75	150	30	4	153030L	496,90	551,40	579,00

	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/ STAINLESS STEEL	NON FERROSI/ NON FERROUS	LEGHE LEGGERE/ LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE- TITANIO SUPER ALLOYS- TITANIUM	GRAFITE / GRAPHITE
APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	●	●	○	○	○	○	○	○	○

Frese Z4 raggiate denti elicoidali taglio al centro lavorazioni universali

Universal ball nose extra long series end mills 4 flutes center cutting

SERIES
15EL



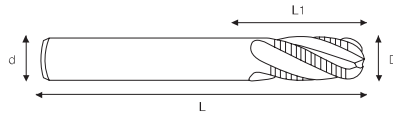
D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
6	40	80	6	4	153006EL	34,10	40,00	42,00
8	42	100	8	4	153008EL	43,50	50,50	53,00
10	45	100	10	4	153010EL	58,00	66,30	69,60
12	75	150	12	4	153012EL	97,70	110,60	116,10
14	75	150	14	4	153014EL	127,80	142,50	149,60
16	75	150	16	4	153016EL	159,70	174,30	183,00
18	75	150	18	4	153018EL	196,40	214,60	225,30
20	75	150	20	4	153020EL	242,70	267,90	281,30
22	80	200	22	4	153022EL	373,30	415,70	436,50
25	80	200	25	4	153025EL	463,10	515,30	541,10
30	80	200	30	4	153030EL	600,00	662,80	696,00

APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/STAINLESS STEEL	NON FERROSI/NON FERROUS	LEGHE LEGGERE/LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE-TITANIO SUPER ALLOYS-TITANIUM	GRAFITE / GRAPHITE
	●	●	○	●	○	●	○	●	○

Frese Z3 raggiate taglio al centro lavorazione grossatura

Roughing ball nose end mills 3 flutes center cutting

SERIES
R28



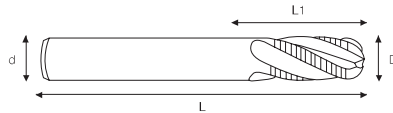
D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
6	16	60	6	3	R283006	27,60	32,20	33,90
8	19	70	8	3	R283008	37,70	43,20	45,40
10	22	70	10	3	R283010	55,60	62,30	65,50
12	26	80	12	3	R283012	69,90	78,20	82,20
14	26	80	14	3	R283014	82,60	91,60	96,20
16	32	100	16	3	R283016	114,50	123,50	129,70
18	32	100	18	3	R283018	150,90	161,70	170,00
20	38	100	20	3	R283020	179,80	196,60	206,50

APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/STAINLESS STEEL	NON FERROSI/NON FERROUS	LEGHE LEGGERE/LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE-TITANIO SUPER ALLOYS-TITANIUM	GRAFITE / GRAPHITE
	●	●	●	○	○	●	○	●	○

Frese Z4 raggiate taglio al centro lavorazione grossatura

Roughing ball nose end mills 4 flutes center cutting

SERIES
R29



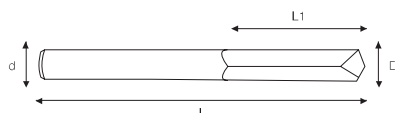
D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
6	16	60	6	4	R293006	27,60	32,20	33,90
8	19	70	8	4	R293008	37,70	43,20	45,40
10	22	70	10	4	R293010	55,60	62,30	65,50
12	26	80	12	4	R293012	69,90	78,20	82,20
14	26	80	14	4	R293014	82,60	91,60	96,20
16	32	100	16	4	R293016	114,50	123,50	129,70
18	32	100	18	4	R293018	150,90	161,70	170,00
20	38	100	20	4	R293020	179,80	196,60	206,50

APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/STAINLESS STEEL	NON FERROSI/NON FERROUS	LEGHE LEGGERE/LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE-TITANIO SUPER ALLOYS-TITANIUM	GRAFITE / GRAPHITE
	●	●	●	○	○	●	○	●	○

Utensile Salva (Rompi maschi)

Solid carbide safety break up tool

SERIES
S44



Micro
Grain



D h10	L1	L	d h6	Code	€ uncoated
2	10	50	2	S4402	25,00
2,5	15	50	2,5	S44025	25,00
3	15	50	3	S4403	25,00
3,5	15	50	3,5	S44035	25,00
4	20	50	4	S4404	25,00
4,5	20	50	4,5	S44045	30,00
5	25	50	5	S4405	30,00
6	30	60	6	S4406	30,00
7	30	75	7	S4407	35,00
8	30	80	8	S4408	35,00
9	35	100	9	S4409	35,00
10	35	100	10	S4410	50,00
11	35	100	11	S4411	50,00
12	35	100	12	S4412	55,00

MODO D'UTILIZZO USING METHOD

Ø	maschio (taps) 3mm	Salva S4402
Ø	maschio (taps) 4/5 mm	Salva S4403
Ø	maschio (taps) 6mm	Salva S4404
Ø	maschio (taps) 8/10 mm	Salva S4405
Ø	maschio (taps) 10/12 mm	Salva S4406
Ø	maschio (taps) 14/16 mm	Salva S4408
Ø	maschio (taps) 18/20 mm	Salva S4410
Ø	maschio (taps) 22/24 mm	Salva S4412

L'utensile Salva in metallo duro integrale è stato progettato per distruggere maschi spezzati dentro i fori. La lavorazione viene eseguita a secco.

1. E' consigliabile eseguire una spianatura del maschio rotto usando l'utensile Salva di una misura più grande. Passare quindi alla scelta dell'utensile Salva per il tipo di maschio rotto consultando la tabella a fianco riportata. E' molto importante che la macchina utensile sia rigida e con una velocità di lavoro da 1000 a 3500 giri/min.
2. Ultima operazione rimuovere i pezzi di maschio rimasti lungo le pareti usando un utensile appuntito. Nel caso risultasse conveniente il refrigerante avere cura che questo sia continuo e abbondante.
3. L'utensile Salva è pure adatto per eseguire fori precisi dal pieno in una sola operazione su acciai cementati, temperati stellati e tipi di acciai inox.
Può forare in limiti di tolleranza molto ristrette con ottimo grado di finitura evitando in molti casi l'operazione di alesatura.

The Safety Break Up Tool made out from Solide Carbide has been designed to totally remove the taps broken inside the machined hole. Cutting operation to be made in dry execution:

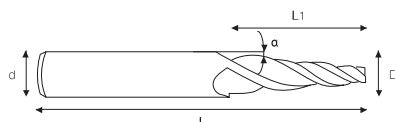
1. It is recommended to make a first flattening of the broken tap by the Carbide Safety Break Up Tool of a bigger size. Then select the most appropriate Safety Tool for the kind of broken tap (see the table below). It is very important that machinery is rigid and the cutting speed is 1000 to 3500RPM.
2. Last operation to remove all the smashed tap pieces along the hole by a sharp tool. Whenever coolant is convenient please make sure it flows nonstop and massively.
3. The Safety Break Up Tool is also suitable to machine precise holes from solide carbide materials in one operation and from hardened steels, satellite and any kind of stainless steels and steel alloys. It can machine within very strict tolerances achieving good finishing and it can substitute the reaming operation.

	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/ STAINLESS STEEL	NON FERROSI/ NON FERROUS	LEGHE LEGGERE/ LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE- TITANIO SUPER ALLOYS- TITANIUM	GRAFITE / GRAPHITE
APPLICAZIONI CONSIGLATE / RECOMMENDED APPLICATIONS	○	○	○	○	○	●	●	○	○

Frese coniche per stampi taglio al centro

Tapered end mills for mould & dies center cutting

SERIES
30



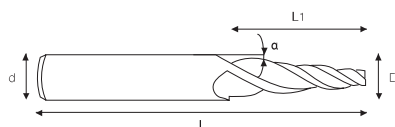
D h10	L1	L	d h6	Z	α	Code	€ uncoated	€ TiAlN	€ TopTiAlN
2,5	20	60	4	3	0,5°	300525	20,00	23,70	24,90
3	20	60	4	3	0,5°	30053	20,00	23,70	24,90
3,5	20	60	5	3	0,5°	300535	20,00	24,90	26,10
4	20	60	5	3	0,5°	30054	20,00	24,90	26,10
5	30	75	6	3	0,5°	30055	30,00	35,00	36,80
6	30	75	8	4	0,5°	30056	35,00	41,00	43,00
8	30	75	10	4	0,5°	30058	45,00	52,30	55,00
10	30	75	12	4	0,5°	300510	60,00	67,30	70,70
12	50	100	14	4	0,5°	300512	102,00	111,70	117,30
16	60	100	18	4	0,5°	300516	132,00	143,00	150,00
2,5	20	60	4	3	1°	30125	20,00	23,70	24,90
3	20	60	4	3	1°	3013	20,00	23,70	24,90
3,5	20	60	5	3	1°	30135	20,00	24,90	26,10
4	20	60	5	3	1°	3014	20,00	24,90	26,10
5	30	75	6	3	1°	3015	30,00	35,00	36,80
6	30	75	8	4	1°	3016	35,00	41,00	43,00
8	30	75	10	4	1°	3018	45,00	52,30	55,00
10	30	75	12	4	1°	30110	60,00	67,30	70,70
12	50	100	14	4	1°	30112	102,00	111,70	117,30
16	60	100	18	4	1°	30116	132,00	143,00	150,00
2,5	20	60	4	3	1,5°	301525	20,00	23,70	24,90
3	20	60	4	3	1,5°	30153	20,00	23,70	24,90
3,5	20	60	5	3	1,5°	301535	20,00	24,90	26,10
4	20	60	5	3	1,5°	30154	20,00	24,90	26,10
5	30	75	6	3	1,5°	30155	30,00	35,00	36,80
6	30	75	8	4	1,5°	30156	35,00	41,00	43,00
8	30	75	10	4	1,5°	30158	45,00	52,30	55,00
10	30	75	12	4	1,5°	301510	60,00	67,30	70,70
12	50	100	16	4	1,5°	301512	107,00	116,90	122,80
16	60	100	20	4	1,5°	301516	154,00	168,00	176,40

	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/ STAINLESS STEEL	NON FERROSI/ NON FERROUS	LEGHE LEGGERE/ LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE- TITANIO SUPER ALLOYS- TITANIUM	GRAFITE / GRAPHITE
APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	●	●	●	○	○	●	○	○	○

Frese coniche per stampi taglio al centro

Tapered end mills for mould & dies center cutting

SERIES
30



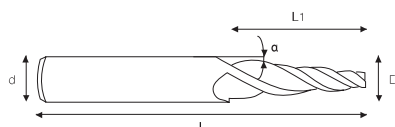
D h10	L1	L	d h6	Z	α	Code	€ uncoated	€ TiAlN	€ TopTiAlN
2,5	20	60	4	3	2°	30225	20,00	23,70	24,90
3	20	60	5	3	2°	3023	20,00	24,90	26,10
3,5	20	60	5	3	2°	30235	20,00	24,90	26,10
4	20	60	6	3	2°	3024	25,00	30,00	31,50
5	30	75	8	3	2°	3025	35,00	41,00	43,00
6	30	75	8	4	2°	3026	35,00	41,00	43,00
8	30	75	10	4	2°	3028	45,00	52,30	55,00
10	30	75	12	4	2°	30210	60,00	67,30	70,70
12	50	100	16	4	2°	30212	107,00	116,90	122,80
2,5	20	60	6	3	3°	30325	30,00	35,00	36,80
3	25	60	6	3	3°	3033	30,00	35,00	36,80
3,5	30	75	8	3	3°	30335	40,00	46,00	48,30
4	30	75	8	3	3°	3034	40,00	46,00	48,30
5	40	75	10	3	3°	3035	55,00	62,30	65,50
6	30	75	10	3	3°	3036	55,00	62,30	65,50
8	30	75	12	4	3°	3038	62,00	69,30	72,80
10	50	100	16	4	3°	30310	120,00	129,70	136,20
12	55	100	18	4	3°	30312	140,00	151,60	159,20
2,5	20	60	6	3	4°	30425	30,00	35,00	36,80
3	20	60	6	3	4°	3043	30,00	35,00	36,80
3,5	25	60	8	3	4°	30435	40,00	46,00	48,30
4	30	75	10	3	4°	3044	50,00	57,30	60,20
5	40	100	12	3	4°	3045	70,00	79,00	83,00
6	50	100	16	3	4°	3046	110,00	120,00	126,00
8	50	100	18	4	4°	3048	140,00	151,60	159,20
10	50	100	20	4	4°	30410	160,00	174,00	182,70
12	55	100	20	4	4°	30412	160,00	174,00	182,70

	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/ STAINLESS STEEL	NON FERROSI/ NON FERROUS	LEGHE LEGGERE/ LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE- TITANIO SUPER ALLOYS- TITANIUM	GRAFITE / GRAPHITE
APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	●	●	●	○	○	●	○	○	○

Frese coniche per stampi taglio al centro

Tapered end mills for mould & dies center cutting

SERIES
30



D h10	L1	L	d h6	Z	α	Code	€ uncoated	€ TiAlN	€ TopTiAlN
2,5	20	60	6	3	5°	30525	25,00	30,00	31,50
3	25	60	8	3	5°	3053	35,00	41,00	43,10
3,5	30	75	10	3	5°	30535	50,00	57,30	60,20
4	30	75	10	3	5°	3054	50,00	57,30	60,20
5	40	100	12	3	5°	3055	70,00	79,00	83,00
6	50	100	16	3	5°	3056	110,00	120,00	126,00
8	50	100	18	4	5°	3058	140,00	151,60	159,20
10	50	100	20	4	5°	30510	160,00	174,00	182,70
12	50	100	20	4	5°	30512	160,00	174,00	182,70
2,5	20	60	8	3	7°	30725	35,00	41,00	43,10
5	25	80	12	3	7°	3075	65,00	74,00	77,70
2,5	20	75	10	3	10°	301025	55,00	62,30	65,50
3	30	80	14	3	10°	30103	90,00	99,50	104,50
6	30	100	16	3	10°	30106	110,00	120,00	126,00
8	30	100	20	4	10°	30108	170,00	184,00	193,20

APPLICAZIONI CONSIGLATE / RECOMMENDED APPLICATIONS	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/ STAINLESS STEEL	NON FERROSI/ NON FERROUS	LEGHE LEGGERE/ LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE- TITANIO SUPER ALLOYS- TITANIUM	GRAFITE / GRAPHITE
	●	●	●	○	○	●	○	○	○

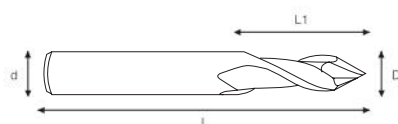
Frese Z2 multi-impiego angolo di punta 60°/90°

Multi-purpose two flutes end mills 60°/90°

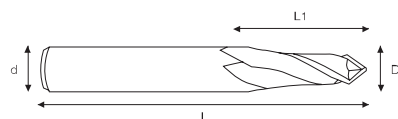
SERIES
54

NEW

DUECI



D h10	L1	L	d h6	Code	€ uncoated	€ TiAlN
3	6	50	6	546003	36,00	41,00
4	8	50	6	546004	36,00	41,00
6	12	60	8	546006	50,00	56,00
8	16	70	10	546008	56,00	62,00
10	18	70	12	546010	70,00	77,00
12	20	70	12	546012	70,00	77,00



D h10	L1	L	d h6	Code	€ uncoated	€ TiAlN
3	6	50	6	549003	36,00	41,00
4	8	50	6	549004	36,00	41,00
6	12	60	8	549006	50,00	56,00
8	16	70	10	549008	56,00	62,00
10	18	70	12	549010	70,00	77,00
12	20	70	12	549012	70,00	77,00

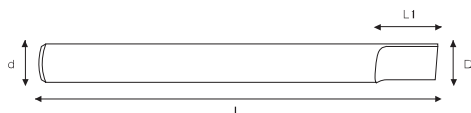


	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/STAINLESS STEEL	NON FERROSI/NON FERROUS	LEGHE LEGGERE/LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE-TITANIO SUPER ALLOYS-TITANIUM	GRAFITE / GRAPHITE
APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	●	●	●	○	○	○	○	○	○

Bulini rettificati h6

Grounded carbide rods h6

SERIES
32



TYP N



Micro
Grain



d h6	L1	L	Code	€ uncoated
2	3	50	320250	6,00
2	3	100	3202100	9,00
3	4	50	320350	6,50
3	4	100	3203100	10,00
4	5	50	320450	7,50
4	5	100	3204100	11,00
5	7	100	3205100	15,00
6	8	50	320650	11,50
6	8	100	3206100	19,00
7	8	100	3207100	24,00
8	10	100	3208100	27,00
9	10	100	3209100	33,00
10	13	100	3210100	38,00
11	16	100	3211100	45,00
12	16	100	3212100	51,50
13	18	100	3213100	59,50
14	18	100	3214100	69,00
15	20	100	3215100	76,00
16	20	100	3216100	84,00
17	22	100	3217100	92,00
18	22	100	3218100	100,50
19	25	100	3219100	110,00
20	25	100	3220100	124,50

APPLICAZIONI CONSIGLATE / RECOMMENDED APPLICATIONS	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/ STAINLESS STEEL	NON FERROSI/ NON FERROUS	LEGHE LEGGERE/ LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE- TITANIO SUPER ALLOYS- TITANIUM	GRAFITE / GRAPHITE
	●	●	●	○	○	●	●	○	○

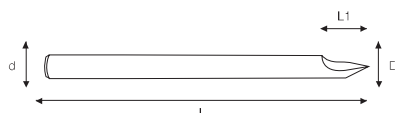
Bulini per lavorazioni su pantografi 60° - 90°

Engraving tool 60°-90° shaped on one side

SERIES
37

NEW

DUECI



TYP N



Micro
Grain



d	L1	L		Code	€ uncoated
3	4	50	60°	376003	15,00
4	5	50	60°	376004	18,00
6	7	60	60°	376006	22,50
8	9	80	60°	376008	33,00
10	11	100	60°	376010	50,00
12	13	100	60°	376012	68,00



d	L1	L		Code	€ uncoated
3	4	50	90°	379003	15,00
4	5	50	90°	379004	18,00
6	7	60	90°	379006	22,50
8	9	80	90°	379008	33,00
10	11	100	90°	379010	50,00
12	13	100	90°	379012	68,00

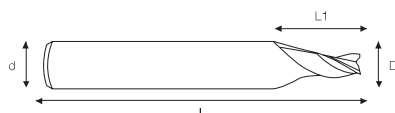


APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/ STAINLESS STEEL	NON FERROSI/ NON FERROUS	LEGHE LEGGERE/ LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE- TITANIO SUPER ALLOYS- TITANIUM	GRAFITE / GRAPHITE
	●	●	●	○	○	●	●	○	○

Frese Z3 gambo rinforzato taglio al centro

Reinforced shank carbide end mills 3 flutes center cutting

SERIES
50



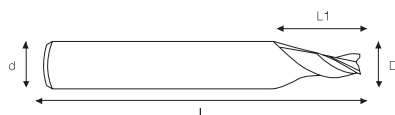
D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
2	4	38	6	3	503002	12,80	17,40	18,30
3	5	38	6	3	503003	12,80	17,40	18,30
4	7	38	6	3	503004	12,80	17,40	18,30
5	8	38	6	3	503005	11,80	16,40	17,30
6	8	38	6	3	503006	11,80	16,40	17,30

APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/STAINLESS STEEL	NON FERROSI/NON FERROUS	LEGHE LEGGERE/LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE-TITANIO SUPER ALLOYS-TITANIUM	GRAFITE / GRAPHITE
	●	●	○	◐	○	◐	○	◐	○

Frese Z3 gambo rinforzato taglio al centro

Reinforced shank carbide long series end mills 3 flutes center cutting

SERIES
50L



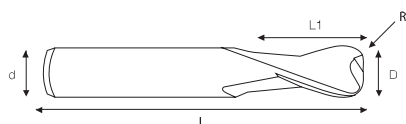
D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
2	6	60	6	3	503002L	15,60	20,20	21,30
3	8	60	6	3	503003L	15,60	20,20	21,30
4	10	60	6	3	503004L	15,60	20,20	21,30
5	12	60	6	3	503005L	16,60	21,20	22,30
6	12	60	6	3	503006L	16,60	21,20	22,30

APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/STAINLESS STEEL	NON FERROSI/NON FERROUS	LEGHE LEGGERE/LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE-TITANIO SUPER ALLOYS-TITANIUM	GRAFITE / GRAPHITE
	●	●	○	●	○	●	○	●	○

Frese Z2 toriche gambo rinforzato taglio al centro

Reinforced shank carbide corner radius end mills 2 flutes center cutting

SERIES
52



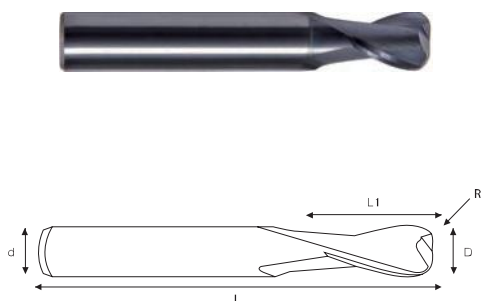
D h10	L1	L	d h6	Z	R	Code	€ uncoated	€ TiAlN	€ TopTiAlN
2	4	38	6	2	0,5	523002	15,40	20,00	21,00
3	5	38	6	2	0,5	523003	15,40	20,00	21,00
4	7	38	6	2	0,5	523004	15,40	20,00	21,00
5	8	38	6	2	0,5	523005	14,80	19,40	20,40
6	8	38	6	2	1	523006	14,80	19,40	20,40

APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/STAINLESS STEEL	NON FERROSI/NON FERROUS	LEGHE LEGGERE/LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE-TITANIO SUPER ALLOYS-TITANIUM	GRAFITE / GRAPHITE
	●	●	○	●	○	●	○	●	○

Frese Z2 toriche gambo rinforzato taglio al centro

Reinforced shank carbide corner radius long series end mills 2 flutes center cutting

SERIES
52L



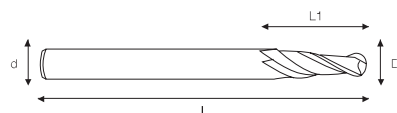
D h10	L1	L	d h6	Z	R	Code	€ uncoated	€ TiAlN	€ TopTiAlN
2	6	60	6	2	0,5	523002L	18,20	22,80	24,00
3	8	60	6	2	0,5	523003L	18,20	22,80	24,00
4	10	60	6	2	0,5	523004L	18,20	22,80	24,00
5	12	60	6	2	0,5	523005L	20,60	25,20	26,50
6	12	60	6	2	1	523006L	20,60	25,20	26,50

APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/STAINLESS STEEL	NON FERROSI/NON FERROUS	LEGHE LEGGERE/LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE-TITANIO SUPER ALLOYS-TITANIUM	GRAFITE / GRAPHITE
	●	●	○	○	○	○	○	○	○

Frese Z2 raggiate gambo rinforzato taglio al centro

Reinforced shank carbide ball nose end mills 2 flutes center cutting

SERIES
51



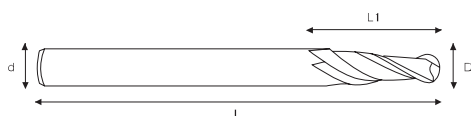
D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
2	4	38	6	2	513002	15,40	20,00	21,00
3	5	38	6	2	513003	15,40	20,00	21,00
4	7	38	6	2	513004	15,40	20,00	21,00
5	8	38	6	2	513005	14,80	19,40	20,40
6	8	38	6	2	513006	14,80	19,40	20,40

APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/STAINLESS STEEL	NON FERROSI/NON FERROUS	LEGHE LEGGERE/LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE-TITANIO SUPER ALLOYS-TITANIUM	GRAFITE / GRAPHITE
	●	●	○	●	○	●	○	●	○

Frese Z2 raggiate gambo rinforzato taglio al centro

Reinforced shank carbide ball nose long series end mills
2 flutes center cutting

SERIES
51L



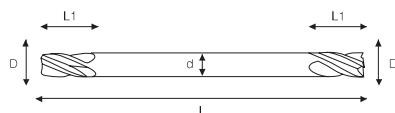
D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
2	6	60	6	2	513002L	18,20	22,80	24,00
3	8	60	6	2	513003L	18,20	22,80	24,00
4	10	60	6	2	513004L	18,20	22,80	24,00
5	12	60	6	2	513005L	20,60	25,20	26,50
6	12	60	6	2	513006L	20,60	25,20	26,50

APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/ STAINLESS STEEL	NON FERROSI/ NON FERROUS	LEGHE LEGGERE/ LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE- TITANIO SUPER ALLOYS- TITANIUM	GRAFITE / GRAPHITE
	●	●	○	◐	○	◐	○	◐	○

Frese Z2 gambo rinforzato doppie taglio al centro

Reinforced shank double ended mills 2 flutes center cutting

SERIES
D21



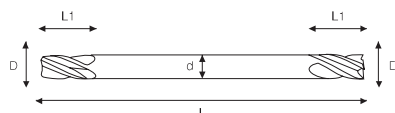
D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
1	2	38	3	2	D213001	13,00	16,00	16,80
1,5	3	38	3	2	D2130015	13,00	16,00	16,80
2	4	38	3	2	D213002	12,00	15,00	15,80
2,5	5	38	3	2	D2130025	12,00	15,00	15,80
3	6	38	3	2	D213003	11,00	14,00	14,70
3,5	7	50	4	2	D2130035	15,00	18,00	18,90
4	8	50	4	2	D213004	14,00	17,00	17,90
5	10	63	5	2	D213005	17,00	21,50	22,60
6	12	63	6	2	D213006	21,00	25,00	26,30
8	12	63	8	2	D213008	27,00	32,00	33,60
10	14	75	10	2	D213010	40,00	46,00	48,30
12	16	75	12	2	D213012	51,00	58,00	60,90

APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/STAINLESS STEEL	NON FERROSI/NON FERROUS	LEGHE LEGGERE/LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE-TITANIO SUPER ALLOYS-TITANIUM	GRAFITE / GRAPHITE
	●	●	○	●	○	●	○	●	○

Frese Z4 gambo rinforzato doppie taglio al centro

Reinforced shank double ended mills 4 flutes center cutting

SERIES
D25



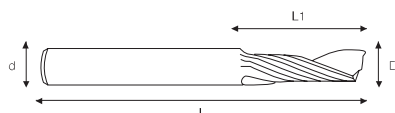
D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
1	2	38	3	4	D253001	13,00	16,00	16,80
1,5	3	38	3	4	D2530015	13,00	16,00	16,80
2	4	38	3	4	D253002	12,00	15,00	15,80
2,5	5	38	3	4	D2530025	12,00	15,00	15,80
3	6	38	3	4	D253003	11,00	14,00	14,70
3,5	7	50	4	4	D2530035	15,00	18,00	18,90
4	8	50	4	4	D253004	14,00	17,00	17,90
5	10	63	5	4	D253005	17,00	21,50	22,60
6	12	63	6	4	D253006	21,00	25,00	26,30
8	12	63	8	4	D253008	27,00	32,00	33,60
10	14	75	10	4	D253010	40,00	46,00	48,30
12	16	75	12	4	D253012	51,00	58,00	60,90

	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/ STAINLESS STEEL	NON FERROSI/ NON FERROUS	LEGHE LEGGERE/ LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE- TITANIO SUPER ALLOYS- TITANIUM	GRAFITE / GRAPHITE
APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	●	●	○	●	○	●	○	●	○

Frese monoelica elica dx tagliente dx lavorazione alluminio

Single fluted carbide end mills right helix
right cut - designed for aluminium application

SERIES
18



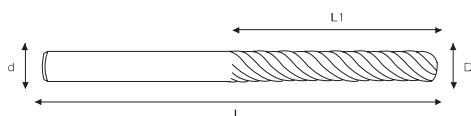
D h10	L1	L	d h6	Z	Code	€ uncoated	€ ALU
2	10	40	2	1	18002	9,00	15,30
2,5	12	40	2,5	1	180025	9,00	15,30
3	12	40	3	1	18003	10,80	17,30
3,5	12	40	3,5	1	180035	10,80	17,30
4	12	40	4	1	18004	11,50	18,00
5	16	50	5	1	18005	14,00	22,50
6	16	50	6	1	18006	17,00	25,00
8	22	60	8	1	18008	24,00	33,60
10	25	70	10	1	18010	33,60	45,50
12	25	70	12	1	18012	43,90	55,80
14	28	75	14	1	18014	58,00	71,00
16	35	80	16	1	18016	75,20	90,60
18	35	80	18	1	18018	101,00	119,00
20	40	100	20	1	18020	138,00	160,00

	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/ STAINLESS STEEL	NON FERROSI/ NON FERROUS	LEGHE LEGGERE/ LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE- TITANIO SUPER ALLOYS- TITANIUM	GRAFITE / GRAPHITE
APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	○	○	○	●	●	○	○	○	DLC

Frese elicoidali Z6/Z8 per sbavatura alluminio

Carbide end mills 6/8 flutes for aluminium deburring

SERIES
RA18



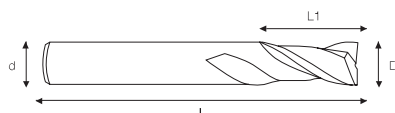
D h10	L1	L	d h6	Z	Code	€ uncoated
3	40	80	6	6	RA18003	40,00
4	40	80	6	8	RA18004	40,00
5	40	80	6	8	RA18005	40,00
6	40	80	6	8	RA18006	36,00

APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/STAINLESS STEEL	NON FERROSI/NON FERROUS	LEGHE LEGGERE/LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE-TITANIO SUPER ALLOYS-TITANIUM	GRAFITE / GRAPHITE
	○	○	○	●	●	○	○	○	○

Frese Z2 per alluminio taglio al centro

End mills 2 flutes center cutting -
aluminium application

SERIES
A18



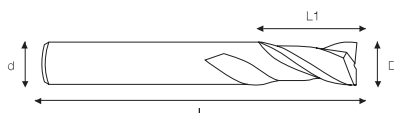
D h10	L1	L	d h6	Z	Code	€ uncoated	€ ALU
2	8	40	2	2	A18002	8,50	15,00
2,5	8	40	2,5	2	A180025	8,80	15,30
3	10	40	3	2	A18003	10,30	16,80
3,5	10	40	3,5	2	A180035	10,80	17,30
4	12	40	4	2	A18004	11,50	18,00
5	14	50	5	2	A18005	13,70	22,30
6	16	50	6	2	A18006	16,30	24,90
8	18	60	8	2	A18008	23,70	33,60
10	22	70	10	2	A18010	32,20	44,10
12	25	70	12	2	A18012	41,90	53,80
14	28	75	14	2	A18014	56,50	69,40
16	32	80	16	2	A18016	73,80	89,20
18	32	80	18	2	A18018	96,70	114,80
20	35	100	20	2	A18020	133,80	155,20

	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/ STAINLESS STEEL	NON FERROSI/ NON FERROUS	LEGHE LEGGERE/ LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE- TITANIO SUPER ALLOYS- TITANIUM	GRAFITE / GRAPHITE
APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	○	○	○	●	●	○	○	○	○

Frese Z2 per alluminio taglio al centro

End mills 2 flutes center cutting -
45° designed for aluminium applications

SERIES
A1845



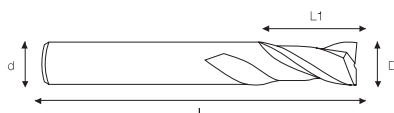
D h10	L1	L	d h6	Z	Code	€ uncoated	€ ALU
3	8	57	6	2	A184503	17,80	26,40
4	11	57	6	2	A184504	17,80	26,40
5	13	57	6	2	A184505	17,80	26,40
6	13	57	6	2	A184506	17,20	25,80
8	19	63	8	2	A184508	24,30	34,20
10	22	72	10	2	A184510	32,70	44,70
12	26	83	12	2	A184512	47,00	61,40
14	26	83	14	2	A184514	60,80	76,20
16	32	92	16	2	A184516	81,80	97,20
20	38	100	20	2	A184520	137,90	165,10

	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/ STAINLESS STEEL	NON FERROSI/ NON FERROUS	LEGHE LEGGERE/ LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE- TITANIO SUPER ALLOYS- TITANIUM	GRAFITE / GRAPHITE
APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	○	○	○	●	●	○	○	○	○

Frese Z2 per alluminio taglio al centro

End mills 2 flutes center cutting -
55° designed for aluminium applications

SERIES
A1855



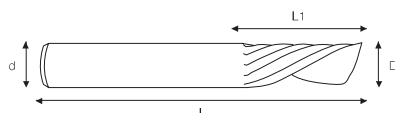
D h10	L1	L	d h6	Z	Code	€ uncoated	€ ALU
3	12	50	3	2	A185503	11,50	18,00
4	14	50	4	2	A185504	13,60	20,10
5	20	50	6	2	A185505	16,90	25,50
6	20	63	6	2	A185506	18,50	27,10
8	20	63	8	2	A185508	24,90	34,80
10	25	70	10	2	A185510	33,60	45,50
12	25	75	12	2	A185512	44,50	56,40
16	32	88	16	2	A185516	80,50	96,00
20	38	100	20	2	A185520	134,40	161,60

	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/STAINLESS STEEL	NON FERROSI/NON FERROUS	LEGHE LEGGERE/LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE-TITANIO SUPER ALLOYS-TITANIUM	GRAFITE / GRAPHITE
APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	○	○	○	●	●	○	○	○	○

Frese Monoelica elica sx tagliente dx lavorazioni plastiche vetroresina

Single fluted carbide end mills left helix right cut -
plastic material and fiberglass

SERIES
19



D h10	L1	L	d h6	Z	Code	€ uncoated
2	10	40	2	1	19002	9,00
2,5	12	40	2,5	1	190025	9,00
3	12	40	3	1	19003	10,80
3,5	12	40	3,5	1	190035	10,80
4	12	40	4	1	19004	11,50
5	16	50	5	1	19005	14,00
6	16	50	6	1	19006	17,00
8	22	60	8	1	19008	24,00
10	25	70	10	1	19010	33,60
12	25	70	12	1	19012	43,90
14	28	75	14	1	19014	58,00
16	35	80	16	1	19016	75,20
18	35	80	18	1	19018	101,00
20	40	100	20	1	19020	138,00

	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/STAINLESS STEEL	NON FERROSI/NON FERROUS	LEGHE LEGGERE/LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE-TITANIO SUPER ALLOYS-TITANIUM	GRAFITE / GRAPHITE
APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	○	○	○	●	●	○	○	○	DLC

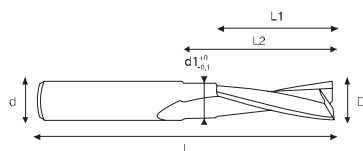
Frese a finire Z2 lavorazione plastiche

Super finishing two flutes end mills designed for plastic applications

SERIES
55

NEW

DUCCI



D	L1	L2	L	d1-0,2	d h6	Z	Code	€ uncoated
3	12	15	40	2,8	3	2	551403	21,90
4	15	18	50	3,8	4	2	551404	23,40
6	22	25	60	5,8	6	2	551406	31,90
8	32	40	80	7,8	8	2	551408	46,30
10	32	40	80	9,8	10	2	551410	59,40
12	32	40	83	9,8	12	2	551412	74,30

A RICHIESTA RIVESTIMENTO DLC / DLC coating on request



	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/STAINLESS STEEL	NON FERROSI/NON FERROUS	LEGHE LEGGERE/LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE-TITANIO SUPER ALLOYS-TITANIUM	GRAFITE / GRAPHITE
APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	○	○	○	●	●	○	○	○	DLC

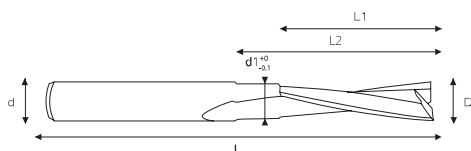
Frese a finire Z2 lavorazioni plastiche serie lunga

Super finishing two flutes long series end mills designed for plastic applications

SERIES
55L

NEW

DUECI



D	L1	L2	L	d1-0,2	d h6	Z	Code	€ uncoated
3	20	25	80	2,8	3	2	551403L	34,00
4	20	25	100	3,8	4	2	551404L	36,80
6	30	40	100	5,8	6	2	551406L	49,00
8	40	50	100	7,8	8	2	551408L	60,40
10	40	50	110	9,8	10	2	551410L	76,00
12	40	50	110	9,8	10	2	551412L	95,50

A RICHIESTA RIVESTIMENTO DLC / DLC coating on request

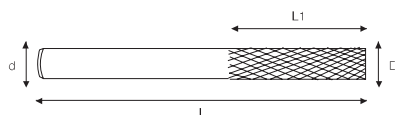


	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/STAINLESS STEEL	NON FERROSI/NON FERROUS	LEGHE LEGGERE/LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE-TITANIO SUPER ALLOYS-TITANIUM	GRAFITE / GRAPHITE
APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	○	○	○	●	●	○	○	○	DLC

Frese per lavorazione materie plastiche e vetroresina senza taglio in testa

Plastic material and fiberglass router without end cut

SERIES
FA



TYP W-N

Micro
Grain



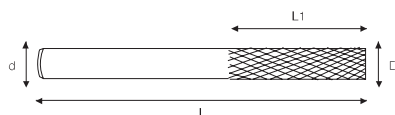
D h10	L1	L	d h6	FA	€ uncoated
2	10	40	2	FA210	11,70
3	12	40	3	FA312	12,30
4	12	40	4	FA412	12,90
4	17	50	4	FA417	14,40
5	12	40	5	FA512	15,80
5	17	60	5	FA517	17,70
6	12	40	6	FA612	21,00
6	17	60	6	FA617	23,60
6	22	60	6	FA622	23,60
6	32	80	6	FA632	30,10
8	10	40	8	FA810	23,80
8	22	60	8	FA822	31,70
8	32	80	8	FA832	39,60
10	22	70	10	FA1022	41,60
10	32	80	10	FA1032	47,00
12	10	60	12	FA1210	47,90
12	32	80	12	FA1232	59,90
12	42	90	12	FA1242	67,80
12	52	100	12	FA1252	73,80
12	62	120	12	FA1262	83,80
14	32	75	14	FA1432	75,90
16	36	80	16	FA1636	95,20
18	40	80	18	FA1840	110,70
20	45	100	20	FA2045	151,90

	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/STAINLESS STEEL	NON FERROSI/NON FERROUS	LEGHE LEGGERE/LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE-TITANIO SUPER ALLOYS-TITANIUM	GRAFITE / GRAPHITE
APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	○	○	○	●	○	○	○	○	DLC

Frese per lavorazione materie plastiche e vetroresina con taglio in testa

Plastic material and fiberglass router with end cut

SERIES
FB



TYP W-N

Micro
Grain



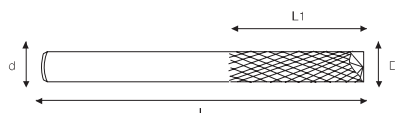
D h10	L1	L	d h6	FB	€ uncoated
2	10	40	2	FB210	11,70
3	12	40	3	FB312	12,30
4	12	40	4	FB412	12,90
4	17	50	4	FB417	14,40
5	12	40	5	FB512	15,80
5	17	60	5	FB517	17,70
6	12	40	6	FB612	21,00
6	17	60	6	FB617	23,60
6	22	60	6	FB622	23,60
6	32	80	6	FB632	30,10
8	10	40	8	FB810	23,80
8	22	60	8	FB822	31,70
8	32	80	8	FB832	39,60
10	22	70	10	FB1022	41,60
10	32	80	10	FB1032	47,00
12	10	60	12	FB1210	47,90
12	32	80	12	FB1232	59,90
12	42	90	12	FB1242	67,80
12	52	100	12	FB1252	73,80
12	62	120	12	FB1262	83,80
14	32	75	14	FB1432	75,90
16	36	80	16	FB1636	95,20
18	40	80	18	FB1840	110,70
20	45	100	20	FB2045	151,90

APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/STAINLESS STEEL	NON FERROSI/NON FERROUS	LEGHE LEGGERE/LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE-TITANIO SUPER ALLOYS-TITANIUM	GRAFITE / GRAPHITE
	○	○	○	●	○	○	○	○	DLC

Frese per lavorazione materie plastiche e vetroresina testa piana due taglienti

Plastic material and fiberglass router cross cut

SERIES
FC



TYP W-N

Micro
Grain



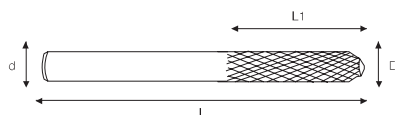
D h10	L1	L	d h6	FC	€ uncoated
2	10	40	2	FC210	11,70
3	12	40	3	FC312	12,30
4	12	40	4	FC412	12,90
4	17	50	4	FC417	14,40
5	12	40	5	FC512	15,80
5	17	60	5	FC517	17,70
6	12	40	6	FC612	21,00
6	17	60	6	FC617	23,60
6	22	60	6	FC622	23,60
6	32	80	6	FC632	30,10
8	10	40	8	FC810	23,80
8	22	60	8	FC822	31,70
8	32	80	8	FC832	39,60
10	22	70	10	FC1022	41,60
10	32	80	10	FC1032	47,00
12	10	60	12	FC1210	47,90
12	32	80	12	FC1232	59,90
12	42	90	12	FC1242	67,80
12	52	100	12	FC1252	73,80
12	62	120	12	FC1262	83,80
14	32	75	14	FC1432	75,90
16	36	80	16	FC1636	95,20
18	40	80	18	FC1840	110,70
20	45	100	20	FC2045	151,90

APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/STAINLESS STEEL	NON FERROSI/NON FERROUS	LEGHE LEGGERE/LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE-TITANIO SUPER ALLOYS-TITANIUM	GRAFITE / GRAPHITE
	○	○	○	●	○	○	○	○	DLC

Frese per lavorazione materie plastiche e vetroresina testa angolo 135°

Plastic material and fiberglass router cross cut 135°

SERIES
FD



TYP W-N

Micro
Grain

DIN
6535
HA
HA



135°



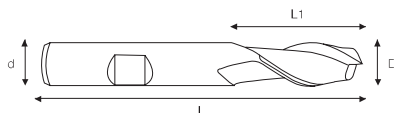
D h10	L1	L	d h6	FD	€ uncoated
2	10	40	2	FD210	11,70
3	12	40	3	FD312	12,30
4	12	40	4	FD412	12,90
4	17	50	4	FD417	14,40
5	12	40	5	FD512	15,80
5	17	60	5	FD517	17,70
6	12	40	6	FD612	21,00
6	17	60	6	FD617	23,60
6	22	60	6	FD622	23,60
6	32	80	6	FD632	30,10
8	10	40	8	FD810	23,80
8	22	60	8	FD822	31,70
8	32	80	8	FD832	39,60
10	22	70	10	FD1022	41,60
10	32	80	10	FD1032	47,00
12	10	60	12	FD1210	47,90
12	32	80	12	FD1232	59,90
12	42	90	12	FD1242	67,80
12	52	100	12	FD1252	73,80
12	62	120	12	FD1262	83,80
14	32	75	14	FD1432	75,90
16	36	80	16	FD1636	95,20
18	40	80	18	FD1840	110,70
20	45	100	20	FD2045	151,90

APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/STAINLESS STEEL	NON FERROSI/NON FERROUS	LEGHE LEGGERE/LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE-TITANIO SUPER ALLOYS-TITANIUM	GRAFITE / GRAPHITE
	○	○	○	●	○	○	○	○	DLC

Frese Z2 denti elicoidali taglio al centro lavorazione universale

Universal end mills 2 flutes center cutting Weldon Shank

SERIES
W10



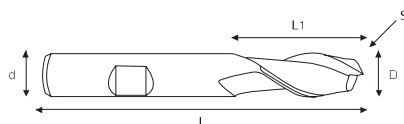
D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
2	7	57	6	2	W103502	21,20	25,80	27,10
2,5	7	57	6	2	W1035025	21,20	25,80	27,10
3	7	57	6	2	W103503	21,20	25,80	27,10
3,5	7	57	6	2	W1035035	21,20	25,80	27,10
4	8	57	6	2	W103504	21,20	25,80	27,10
4,5	8	57	6	2	W1035045	21,20	25,80	27,10
5	10	57	6	2	W103505	19,20	23,80	25,00
6	10	57	6	2	W103506	17,80	22,40	23,50
7	13	63	8	2	W103507	27,00	32,50	34,10
8	19	63	8	2	W103508	26,00	31,50	33,10
9	19	72	10	2	W103509	35,70	42,50	44,60
10	22	72	10	2	W103510	34,70	41,50	43,60
12	26	83	12	2	W103512	49,60	58,00	60,90
14	26	83	14	2	W103514	64,80	73,80	77,50
16	30	92	16	2	W103516	85,20	94,20	98,90
18	32	92	18	2	W103518	108,40	119,30	125,30
20	38	100	20	2	W103520	141,90	158,70	166,70

	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/STAINLESS STEEL	NON FERROSI/NON FERROUS	LEGHE LEGGERE/LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE-TITANIO SUPER ALLOYS-TITANIUM	GRAFITE / GRAPHITE
APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	●	●	○	○	○	○	○	○	○

Frese Z2 denti elicoidali taglio al centro lavorazione universale

Chamfered universal end mills 2 flutes center cutting
Weldon Shank

SERIES
WS10



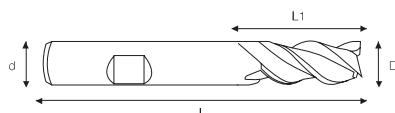
D h10	L1	L	d h6	Z	S	Code	€ uncoated	€ TiAlN	€ TopTiAlN
2	7	57	6	2	0,1 - 0,2 x 45°	WS103502	23,20	27,80	29,20
2,5	7	57	6	2	0,1 - 0,2 x 45°	WS1035025	23,20	27,80	29,20
3	7	57	6	2	0,1 - 0,2 x 45°	WS103503	23,20	27,80	29,20
3,5	7	57	6	2	0,1 - 0,2 x 45°	WS1035035	23,20	27,80	29,20
4	8	57	6	2	0,1 - 0,2 x 45°	WS103504	23,20	27,80	29,20
4,5	8	57	6	2	0,1 - 0,2 x 45°	WS1035045	23,20	27,80	29,20
5	10	57	6	2	0,1 - 0,2 x 45°	WS103505	21,20	25,80	27,10
6	10	57	6	2	0,1 - 0,2 x 45°	WS103506	19,80	24,40	25,60
7	13	63	8	2	0,1 - 0,2 x 45°	WS103507	29,30	34,90	36,60
8	19	63	8	2	0,1 - 0,2 x 45°	WS103508	28,30	33,90	35,60
9	19	72	10	2	0,1 - 0,2 x 45°	WS103509	37,70	44,50	46,70
10	22	72	10	2	0,1 - 0,2 x 45°	WS103510	36,70	43,50	45,70
12	26	83	12	2	0,1 - 0,2 x 45°	WS103512	51,60	60,00	63,00
14	26	83	14	2	0,1 - 0,2 x 45°	WS103514	66,80	75,80	79,60
16	30	92	16	2	0,1 - 0,2 x 45°	WS103516	87,20	96,20	101,00
18	32	92	18	2	0,1 - 0,2 x 45°	WS103518	110,40	121,30	127,40
20	38	100	20	2	0,1 - 0,2 x 45°	WS103520	143,90	160,70	168,80

APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/STAINLESS STEEL	NON FERROSI/NON FERROUS	LEGHE LEGGERE/LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE-TITANIO SUPER ALLOYS-TITANIUM	GRAFITE / GRAPHITE
	●	●	○	○	○	○	○	○	○

Frese Z3 denti elicoidali taglio al centro lavorazione universale

Universal end mills 3 flutes center cutting Weldon Shank

SERIES
W16



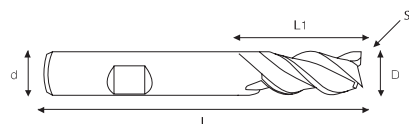
D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
2	7	57	6	3	W164502	21,20	25,80	27,10
2,5	7	57	6	3	W1645025	21,20	25,80	27,10
3	7	57	6	3	W164503	21,20	25,80	27,10
3,5	7	57	6	3	W1645035	21,20	25,80	27,10
4	8	57	6	3	W164504	21,20	25,80	27,10
4,5	8	57	6	3	W1645045	21,20	25,80	27,10
5	10	57	6	3	W164505	19,20	23,80	25,00
6	10	57	6	3	W164506	17,80	22,40	23,50
7	13	63	8	3	W164507	27,00	32,50	34,10
8	19	63	8	3	W164508	26,00	31,50	33,10
9	19	72	10	3	W164509	35,70	42,50	44,60
10	22	72	10	3	W164510	34,70	41,50	43,60
12	26	83	12	3	W164512	49,60	58,00	60,90
14	26	83	14	3	W164514	64,80	73,80	77,50
16	30	92	16	3	W164516	85,20	94,20	98,90
18	32	92	18	3	W164518	108,40	119,30	125,30
20	38	100	20	3	W164520	141,90	158,70	166,70

	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/STAINLESS STEEL	NON FERROSI/NON FERROUS	LEGHE LEGGERE/LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE-TITANIO SUPER ALLOYS-TITANIUM	GRAFITE / GRAPHITE
APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	○	○	○	●	●	○	○	○	○

Frese Z3 denti elicoidali taglio al centro lavorazione universale

Chamfered universal end mills 3 flutes center cutting
Weldon Shank

SERIES
WS16



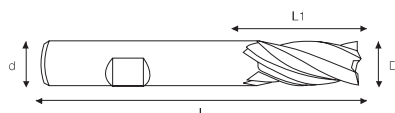
D h10	L1	L	d h6	Z	S	Code	€ uncoated	€ TiAlN	€ TopTiAlN
2	7	57	6	3	0,1 - 0,2 x 45°	WS164502	23,20	27,80	29,20
2,5	7	57	6	3	0,1 - 0,2 x 45°	WS1645025	23,20	27,80	29,20
3	7	57	6	3	0,1 - 0,2 x 45°	WS164503	23,20	27,80	29,20
3,5	7	57	6	3	0,1 - 0,2 x 45°	WS1645035	23,20	27,80	29,20
4	8	57	6	3	0,1 - 0,2 x 45°	WS164504	23,20	27,80	29,20
4,5	8	57	6	3	0,1 - 0,2 x 45°	WS1645045	23,20	27,80	29,20
5	10	57	6	3	0,1 - 0,2 x 45°	WS164505	21,20	25,80	27,10
6	10	57	6	3	0,1 - 0,2 x 45°	WS164506	19,80	24,40	25,60
7	13	63	8	3	0,1 - 0,2 x 45°	WS164507	29,30	34,90	36,60
8	19	63	8	3	0,1 - 0,2 x 45°	WS164508	28,30	33,90	35,60
9	19	72	10	3	0,1 - 0,2 x 45°	WS164509	37,70	44,50	46,70
10	22	72	10	3	0,1 - 0,2 x 45°	WS164510	36,70	43,50	45,70
12	26	83	12	3	0,1 - 0,2 x 45°	WS164512	51,60	60,00	63,00
14	26	83	14	3	0,1 - 0,2 x 45°	WS164514	66,80	75,80	79,60
16	30	92	16	3	0,1 - 0,2 x 45°	WS164516	87,20	96,20	101,00
18	32	92	18	3	0,1 - 0,2 x 45°	WS164518	110,40	121,30	127,40
20	38	100	20	3	0,1 - 0,2 x 45°	WS164520	143,90	160,70	168,80

	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/ STAINLESS STEEL	NON FERROSI/ NON FERROUS	LEGHE LEGGERE/ LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE- TITANIO SUPER ALLOYS- TITANIUM	GRAFITE / GRAPHITE
APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	○	○	○	●	●	○	○	○	○

Frese Z4 denti elicoidali taglio al centro lavorazione universale

Universal end mills 4 flutes center cutting Weldon Shank

SERIES
W14



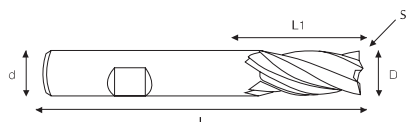
D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
2	7	57	6	4	W143002	21,20	25,80	27,10
2,5	7	57	6	4	W1430025	21,20	25,80	27,10
3	7	57	6	4	W143003	21,20	25,80	27,10
3,5	7	57	6	4	W1430035	21,20	25,80	27,10
4	8	57	6	4	W143004	21,20	25,80	27,10
4,5	8	57	6	4	W1430045	21,20	25,80	27,10
5	10	57	6	4	W143005	19,20	23,80	25,00
6	10	57	6	4	W143006	17,80	22,40	23,50
7	13	63	8	4	W143007	27,00	32,50	34,10
8	19	63	8	4	W143008	26,00	31,50	33,10
9	19	72	10	4	W143009	35,70	42,50	44,60
10	22	72	10	4	W143010	34,70	41,50	43,60
12	26	83	12	4	W143012	49,60	58,00	60,90
14	26	83	14	4	W143014	64,80	73,80	77,50
16	30	92	16	4	W143016	85,20	94,20	98,90
18	32	92	18	4	W143018	108,40	119,30	125,30
20	38	100	20	4	W143020	141,90	158,70	166,70

	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/ STAINLESS STEEL	NON FERROSI/ NON FERROUS	LEGHE LEGGERE/ LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE- TITANIO SUPER ALLOYS- TITANIUM	GRAFITE / GRAPHITE
APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	●	●	○	○	○	○	○	○	○

Frese Z4 denti elicoidali taglio al centro lavorazione universale

Chamfered universal end mills 4 flutes center cutting
Weldon Shank

SERIES
WS14



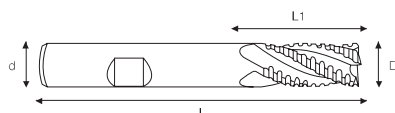
D h10	L1	L	d h6	Z	S	Code	€ uncoated	€ TiAlN	€ TopTiAlN
2	7	57	6	4	0,1 - 0,2 x 45°	WS143002	23,20	27,80	29,20
2,5	7	57	6	4	0,1 - 0,2 x 45°	WS1430025	23,20	27,80	29,20
3	7	57	6	4	0,1 - 0,2 x 45°	WS143003	23,20	27,80	29,20
3,5	7	57	6	4	0,1 - 0,2 x 45°	WS1430035	23,20	27,80	29,20
4	8	57	6	4	0,1 - 0,2 x 45°	WS143004	23,20	27,80	29,20
4,5	8	57	6	4	0,1 - 0,2 x 45°	WS1430045	23,20	27,80	29,20
5	10	57	6	4	0,1 - 0,2 x 45°	WS143005	21,20	25,80	27,10
6	10	57	6	4	0,1 - 0,2 x 45°	WS143006	19,80	24,40	25,60
7	13	63	8	4	0,1 - 0,2 x 45°	WS143007	29,30	34,90	36,60
8	19	63	8	4	0,1 - 0,2 x 45°	WS143008	28,30	33,90	35,60
9	19	72	10	4	0,1 - 0,2 x 45°	WS143009	37,70	44,50	46,70
10	22	72	10	4	0,1 - 0,2 x 45°	WS143010	36,70	43,50	45,70
12	26	83	12	4	0,1 - 0,2 x 45°	WS143012	51,60	60,00	63,00
14	26	83	14	4	0,1 - 0,2 x 45°	WS143014	66,80	75,80	79,60
16	30	92	16	4	0,1 - 0,2 x 45°	WS143016	87,20	96,20	101,00
18	32	92	18	4	0,1 - 0,2 x 45°	WS143018	110,40	121,30	127,40
20	38	100	20	4	0,1 - 0,2 x 45°	WS143020	143,90	160,70	168,80

APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/STAINLESS STEEL	NON FERROSI/NON FERROUS	LEGHE LEGGERE/LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE-TITANIO SUPER ALLOYS-TITANIUM	GRAFITE / GRAPHITE
	●	●	○	○	○	○	○	○	○

Frese Z3 lavorazione sgrossatura

Roughing end mills 3 flutes center cutting Weldon Shank

SERIES
W28



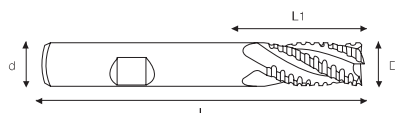
D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
6	16	57	6	3	W283006	25,20	29,80	31,30
8	19	63	8	3	W283008	34,30	39,90	41,90
10	22	72	10	3	W283010	46,10	52,90	55,60
12	26	83	12	3	W283012	61,00	69,40	72,90
14	26	83	14	3	W283014	76,20	85,20	89,50
16	32	92	16	3	W283016	99,20	108,20	113,60
18	32	92	18	3	W283018	120,40	131,30	137,90
20	38	100	20	3	W283020	161,90	178,70	187,70

APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/STAINLESS STEEL	NON FERROSI/NON FERROUS	LEGHE LEGGERE/LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE-TITANIO SUPER ALLOYS-TITANIUM	GRAFITE / GRAPHITE
	●	●	●	○	○	●	○	●	○

Frese Z4 lavorazione sgrossatura

Roughing end mills 4 flutes center cutting Weldon Shank

SERIES
W29



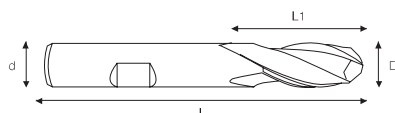
D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
6	16	57	6	4	W293006	25,20	29,80	31,30
8	19	63	8	4	W293008	34,30	39,90	41,90
10	22	72	10	4	W293010	46,10	52,90	55,60
12	26	83	12	4	W293012	61,00	69,40	72,90
14	26	83	14	4	W293014	76,20	85,20	89,50
16	32	92	16	4	W293016	99,20	108,20	113,60
18	32	92	18	4	W293018	120,40	131,30	137,90
20	38	100	20	4	W293020	161,90	178,70	187,70

APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/STAINLESS STEEL	NON FERROSI/NON FERROUS	LEGHE LEGGERE/LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE-TITANIO SUPER ALLOYS-TITANIUM	GRAFITE / GRAPHITE
	●	●	●	○	○	●	○	●	○

Frese Z2 raggiate denti elicoidali taglio al centro lavorazioni universali

Universal ball nose end mills 2 flutes center cutting
Weldon Shank

SERIES
W11



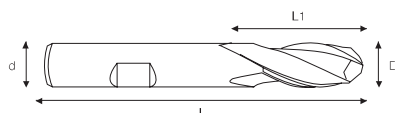
D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
2	7	57	6	2	W113002	25,20	29,80	31,30
2,5	7	57	6	2	W1130025	25,20	29,80	31,30
3	7	57	6	2	W113003	25,20	29,80	31,30
3,5	7	57	6	2	W1130035	25,20	29,80	31,30
4	8	57	6	2	W113004	25,20	29,80	31,30
4,5	8	57	6	2	W1130045	25,20	29,80	31,30
5	10	57	6	2	W113005	23,20	27,80	29,20
6	10	57	6	2	W113006	21,80	26,40	27,70
7	13	63	8	2	W113007	31,90	37,50	39,40
8	19	63	8	2	W113008	30,90	36,50	38,40
9	19	72	10	2	W113009	43,70	50,50	53,00
10	22	72	10	2	W113010	42,70	49,50	52,00
12	26	83	12	2	W113012	59,00	67,40	70,80
14	26	83	14	2	W113014	72,80	81,80	85,90
16	30	92	16	2	W113016	95,80	104,80	110,10
18	32	92	18	2	W113018	124,40	135,30	142,10
20	38	100	20	2	W113020	157,90	174,70	183,50

	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/ STAINLESS STEEL	NON FERROSI/ NON FERROUS	LEGHE LEGGERE/ LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE- TITANIO SUPER ALLOYS- TITANIUM	GRAFITE / GRAPHITE
APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	●	●	○	●	○	●	○	●	○

Frese Z3 raggiate denti elicoidali taglio al centro lavorazioni universali

Universal ball nose end mills 3 flutes center cutting
Weldon Shank

SERIES
W13



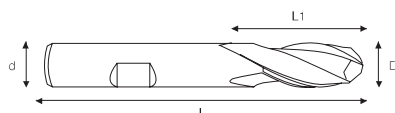
D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
2	7	57	6	3	W133002	25,20	29,80	31,30
2,5	7	57	6	3	W1330025	25,20	29,80	31,30
3	7	57	6	3	W133003	25,20	29,80	31,30
3,5	7	57	6	3	W1330035	25,20	29,80	31,30
4	8	57	6	3	W133004	25,20	29,80	31,30
4,5	8	57	6	3	W1330045	25,20	29,80	31,30
5	10	57	6	3	W133005	23,20	27,80	29,20
6	10	57	6	3	W133006	21,80	26,40	27,70
7	13	63	8	3	W133007	31,90	37,50	39,40
8	19	63	8	3	W133008	30,90	36,50	38,40
9	19	72	10	3	W133009	43,70	50,50	53,00
10	22	72	10	3	W133010	42,70	49,50	52,00
12	26	83	12	3	W133012	59,00	67,40	70,80
14	26	83	14	3	W133014	72,80	81,80	85,90
16	30	92	16	3	W133016	95,80	104,80	110,10
18	32	92	18	3	W133018	124,40	135,30	142,10
20	38	100	20	3	W133020	157,90	174,70	183,50

	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/STAINLESS STEEL	NON FERROSI/NON FERROUS	LEGHE LEGGERE/LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE-TITANIO SUPER ALLOYS-TITANIUM	GRAFITE / GRAPHITE
APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	●	●	○	●	○	●	○	●	○

Frese Z4 raggiate denti elicoidali taglio al centro lavorazioni universali

Universal ball nose end mills 4 flutes center cutting
Weldon Shank

SERIES
W15



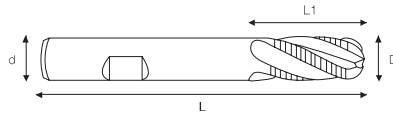
D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
2	7	57	6	4	W153002	25,20	29,80	31,30
2,5	7	57	6	4	W1530025	25,20	29,80	31,30
3	7	57	6	4	W153003	25,20	29,80	31,30
3,5	7	57	6	4	W1530035	25,20	29,80	31,30
4	8	57	6	4	W153004	25,20	29,80	31,30
4,5	8	57	6	4	W1530045	25,20	29,80	31,30
5	10	57	6	4	W153005	23,20	27,80	29,20
6	10	57	6	4	W153006	21,80	26,40	27,70
7	13	63	8	4	W153007	31,90	37,50	39,40
8	19	63	8	4	W153008	30,90	36,50	38,40
9	19	72	10	4	W153009	43,70	50,50	53,00
10	22	72	10	4	W153010	42,70	49,50	52,00
12	26	83	12	4	W153012	59,00	67,40	70,80
14	26	83	14	4	W153014	72,80	81,80	85,90
16	30	92	16	4	W153016	95,80	104,80	110,10
18	32	92	18	4	W153018	124,40	135,30	142,10
20	38	100	20	4	W153020	157,90	174,70	183,50

	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/ STAINLESS STEEL	NON FERROSI/ NON FERROUS	LEGHE LEGGERE/ LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE- TITANIO SUPER ALLOYS- TITANIUM	GRAFITE / GRAPHITE
APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	●	●	○	○	○	○	○	○	○

Frese Z3 raggiate lavorazione sgrossatura

Roughing ball nose end mills 3 flutes center cutting
Weldon Shank

SERIES
WR28



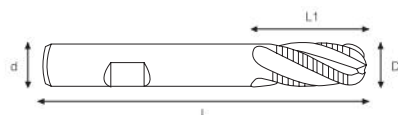
D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
6	16	57	6	3	WR283006	29,60	34,20	35,90
8	19	63	8	3	WR283008	39,70	45,20	47,50
10	22	72	10	3	WR283010	57,60	64,30	67,50
12	26	83	12	3	WR283012	71,90	80,20	84,20
14	26	83	14	3	WR283014	84,60	93,60	98,30
16	32	92	16	3	WR283016	116,50	125,50	131,80
18	32	92	18	3	WR283018	152,90	163,70	171,90
20	38	100	20	3	WR283020	181,80	198,60	208,50

APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/ STAINLESS STEEL	NON FERROSI/ NON FERROUS	LEGHE LEGGERE/ LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE- TITANIO SUPER ALLOYS- TITANIUM	GRAFITE / GRAPHITE
	●	●	●	○	○	●	○	●	○

Frese Z4 raggiate lavorazione sgrossatura

Roughing ball nose end mills 4 flutes center cutting
Weldon Shank

SERIES
WR29



D h10	L1	L	d h6	Z	Code	€ uncoated	€ TiAlN	€ TopTiAlN
6	16	57	6	4	WR293006	29,60	34,20	35,90
8	19	63	8	4	WR293008	39,70	45,20	47,50
10	22	72	10	4	WR293010	57,60	64,30	67,50
12	26	83	12	4	WR293012	71,90	80,20	84,20
14	26	83	14	4	WR293014	84,60	93,60	98,30
16	32	92	16	4	WR293016	116,50	125,50	131,80
18	32	92	18	4	WR293018	152,90	163,70	171,90
20	38	100	20	4	WR293020	181,80	198,60	208,50

	ACCIAI/STEEL	GHISA/CAST IRON	ACC.INOX/STAINLESS STEEL	NON FERROSI/NON FERROUS	LEGHE LEGGERE/LIGHT ALLOYS	ACCIAI TEMPRATI < 50 HRC HARDENED STEELS < 50 HRC	ACCIAI TEMPRATI > 50 HRC HARDENED STEELS > 50 HRC	SUPER LEGHE-TITANIO SUPER ALLOYS-TITANIUM	GRAFITE / GRAPHITE
APPLICAZIONI CONSIGLIATE / RECOMMENDED APPLICATIONS	●	●	●	○	○	●	○	●	○