

Frese in metallo duro

Solid carbide end mills



Catalogo C



Srl

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CONDIZIONI GENERALI DI VENDITA
GENERAL SALES CONDITIONS

PREZZI <i>PRICES</i>	Se espressi, sono intesi franco nostro magazzino, IVA esclusa. <i>If quoted are ex-warehouse, VAT excluded</i>
ORDINI <i>ORDERS</i>	Verranno evasi nei tempi previsti salvo inconvenienti di forza maggiore. <i>Will be processed as agreed, unless force majeure events.</i>
VALORE MINIMO <i>MINIMUM AMOUNT</i>	Per ordinazioni d'importo inferiore a € 100 si addebita un importo di € 10. <i>Orders under 100 € have a 10 € charge</i>
PAGAMENTI <i>PAYMENT</i>	Saranno eseguiti presso la nostra sede. Il mancato rispetto dei termini di pagamento porterà ad esigere le scadenze concordate e ricalcolate con i relativi interessi bancari più le spese accessorie. <i>Will be made at our headquarters. Non compliance to payment conditions will imply concurred and reprocessed recovery of claims, with addition of bank interests and ancillary expenses.</i>
SPEDIZIONI <i>SHIPPING</i>	Per ogni ordine è necessario specificare vettore e mezzo di trasporto. La merce viaggia a rischio e pericolo del committente, anche se spedita in porto franco. Reclami relativi a danni, furti o perdite di merce nella fase di trasporto dovranno essere segnalati al vettore. <i>Carrier and means of transport are to be specified for all orders. All merchandise is shipped at customer's risks and perils, even if shipped to FOB designated port. Complaints of damage, theft, or missing goods are to be reported to the carrier.</i>
RECLAMI <i>COMPLAINTS</i>	Sono ammessi entro otto giorni dal ricevimento della merce e segnalati con lettera raccomandata. <i>Only within eight days of reception, and are to be reported through registered letter.</i>
RESI <i>STOCK RETURNS</i>	Si accettano resi quando preventivamente concordati. La merce dovrà pervenire in porto franco integra, nella confezione originale e con la relativa documentazione. Si riserva l'accettazione fino alla verifica della merce resa. <i>Stock return is allowed if previously established. Entire lot of merchandise must arrive undamaged, carriage paid, in its original packaging, inclusive of all relative documentation. Acceptance is reserved until returned stock is inspected</i>
GARANZIA <i>GUARANTEE</i>	I prodotti sono originali di fabbrica e rispettano le caratteristiche tecniche dichiarate dal produttore. La garanzia commerciale è quella del costruttore e soggetta alle normative in vigore. Inizia dalla data di consegna e riguarda i vizi di fabbricazione o l'accertato difetto intrinseco dei materiali o prodotti che non siano stati oggetto di trasformazione, uso improprio o riparazione da parte dell'acquirente. <i>The products are authentic and comply to the technical specifications stated by the manufacturer. Commercial guarantee coincides to that of manufacturer, and is subject to laws in force. It has validity from delivery date, and regards manufacturing flaws or ascertained intrinsic defects of materials or products that the customer has not transformed, used improperly or repaired.</i>
DATI TECNICI <i>TECHNICAL DATA</i>	Le illustrazioni, le caratteristiche ed i dati tecnici dei prodotti presenti nel catalogo sono puramente indicativi. Possono essere soggetti a modifiche senza preavviso e non sono vincolanti. <i>All technical drawings, characteristics and data related to the products listed in the catalogue are purely indicative in nature. They are subject to change without notification, and are in no way binding.</i>
FORO <i>COURT</i>	In caso di controversie è competente il Foro di Brescia. <i>All disputes are to be settled in the Court of Brescia</i>

NOMENCLATURA
NOMENCLATURE

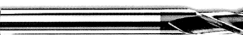
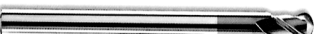
Le indicazioni tecniche ed i parametri di lavorazione degli articoli presenti nel catalogo sono puramente orientativi in quanto la loro validità di applicazione è influenzata da condizioni estremamente variabili.
Technical indications and manufacturing parameters of the articles listed in the catalogue solely serve purposes of orientation, given that application validity is influenced by extremely variable conditions.
Dove non espressamente indicate le misure presenti nel catalogo appartengono al sistema Metrico Decimale.
If not explicitly stated, all units of measure belong to the Metric Decimal System.
Di seguito sono riportati simboli, icone ed abbreviazioni con le specifiche definizioni.
Below symbols, icons and abbreviations with relevant definitions are listed

- Articolo normalmente disponibile a magazzino
Article usually in stock
- Articolo non sempre disponibile a magazzino
Article not always available
- Articolo a richiesta od a consegna differita
Article available upon request or forward delivery
- * Articolo a condizioni o indicazioni particolari
Article under particular conditions or indications
- ◇ Articolo presente in più paragrafi

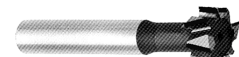
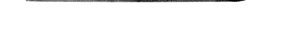
Indicazioni tecno - applicative del prodotto
Tecno - application indications of article



FRESE METALLO DURO PIANE			
descrizione	HRc	articolo	pagina
2T CORTA K2N	60		C 305
2T LUNGA K2ELF	60		C 305
2T NERVATURE K2ELN	60		C 307
2T NERVATURE HLS	65		C 309
4T CORTA K4EN	60		C 321
4T LUNGA K4ELF	60		C 321
4T LUNGA K4EPXLF	62		C 321
4T CORTA WE ET54W	62		C 327
4T LUNGA WE	62		C 327
4T EXLUNGA WE	62		C 327
SGROSSARE 4TW K4ERO	60		C 329
5 T HARVI II	52		C 329
MULTITAGLIO CORTA	60		C 335
MULTITAGLIO LUNGA	60		C 335
CORTA 3T - 4T F/ASPORT	60		C 395

FRESE METALLO DURO SFERICHE			
descrizione	HRc	articolo	pagina
2T CORTA K2BN	60		C 341
2T LUNGA K2VLB	60		C 341
2T EXLUNGA K2BLS	60		C 343
2T LUNGA HB	65		C 345
2T NERVATURE HLB	65		C 351
CORTA F/ASPORT	60		C 395

FRESE METALLO DURO TORICHE			
descrizione	HRc	articolo	pagina
2T LUNGA 5812	60		C 363
2T NERVATURE 5822	62		C 365
2T NERVATURE HLRS	65		C 375
4T NERVATURE RASTREMATA 5824	65		C 377
4T QUICK LAB	60		C 381
4T LUNGA 5814	50		C 383
4T LUNGA C-CHRS	65		C 385
MTAGLIO CORTA 4228.37	65		C 387
MTAGLIO LUNGA 4228.31	65		C 387
5 T WELDON HARVI II	52		C 393

FRESE METALLO DURO VARIE			
descrizione	HRc	articolo	pagina
3T CONICA 62	60		C 401
3T CONICA RAGGIATA 62R	60		C 402
BRASATA 3/4 T 381	50		C 407
BRASATA AT 361	50		C 407
FRESA HM SVASARE 2T	60		C 411
PIANA 2T PER CHIAVETTE	50		C 415
BULINO MD 1T 53108	50		C 419
CILINDRETTO MD 53105	50		C 419
1T ALLUMINIO 5241.49	AL		C 431
2T ALLUMINIO 4228.14	AL		C 431
3T ALLUMINIO K3EA	AL		C 431
PIANA 2 T DIAMANT	DMT		C 451
TORICA 2 T DIAMANT	DMT		C 451
SFERICA 2 T DIAMANT	DMT		C 453

CARBIDE 2 FLUTE SQUARE END MILL 60 RC

Solid carbide - Titanium nitride coated

C 4303 - FRESA HM PIANA 2T 60 RC

Metallo duro micro grana
 Per materiali fino a HRC 60
 Taglio centrale continuo


K2EN


D h9	L	L1	g h6	z			stock	code	num	12.012.07	€
0.2	38	0.4	3	2	1	-	□	K2EN 002C	569 606		
0.3	38	0.6	3	2	1	-	□	K2EN 003C	569 613		
0.4	38	0.8	3	2	1	-	□	K2EN 004C	569 620		
0.5	38	1	3	2	1	-	□	K2EN 005C	569 637		
0.6	38	1.2	3	2	1	-	□	K2EN 006C	569 644		
0.7	38	1.4	3	2	1	-	□	K2EN 007C	569 651		
0.8	38	1.6	3	2	1	-	□	K2EN 008C	569 668		
0.9	38	2.0	3	2	1	-	□	K2EN 009C	569 675		
1	38	2	3	2	1	-	●	K2EN 010C	569 682		
1.5	38	4	3	2	1	-	●	K2EN 015C	569 699		
2	38	5	3	2	1	-	●	K2EN 020C	569 705		
2.5	38	6	3	2	1	-	●	K2EN 025C	569 712		
3	38	8	3	2	1	-	●	K2EN 030C	569 729		
4	50	11	4	2	1	-	●	K2EN 040C	569 743		
5	50	13	5	2	1	-	●	K2EN 050C	569 767		
6	57	14	6	2	1	-	●	K2EN 060C	569 774		
8	63	18	8	2	1	-	●	K2EN 080C	569 798		
10	72	22	10	2	1	-	●	K2EN 100C	569 811		
12	83	25	12	2	1	-	●	K2EN 120C	569 835		
14	83	28	14	2	1	-	●	K2EN 140C	569 842		
16	92	30	16	2	1	-	●	K2EN 160C	569 859		
18	92	32	18	2	1	-	○	K2EN 180C	569 866		
20	100	38	20	2	1	-	●	K2EN 200C	569 873		

CARBIDE 2 FLUTE SQUARE LONG END MILL 60 RC

Solid carbide - Titanium nitride coated

C 4305 - FRESA HM PIANA 2T 60 RC LUNGA

Metallo duro micro grana
 Per materiali fino a HRC 60
 Taglio centrale continuo


K2ELF


D h9	L	L1	g h6	z			stock	code	num	12.012.07	€
3	60	12	3	2	1	-	○	K2ELF 030C	635 127		
4	60	16	4	2	1	-	○	K2ELF 040C	635 134		
5	60	20	5	2	1	-	○	K2ELF 050C	635 141		
6	75	25	6	2	1	-	○	K2ELF 060C	635 158		
8	100	35	8	2	1	-	○	K2ELF 080C	635 165		
10	100	40	10	2	1	-	○	K2ELF 100C	635 172		
12	100	45	12	2	1	-	○	K2ELF 120C	635 189		

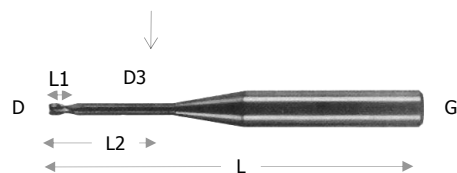
CARBIDE 2 FLUTE LONG NECK SQUARE END MILL 60RC

Solid carbide - Titanium nitride coated

K2ELN

 C 4307 - **FRESA HM PIANA 2T NERVATURE 60 RC**

Metallo duro micro grana
 Per materiali fino a HRC 60
 Taglio centrale continuo



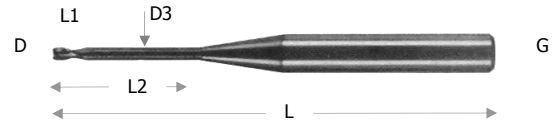
D h9	L2	L	g h6	z	D3		ΔT	stock	code	num	12.012.07	€
0.5	4	50	4.0	0.8	0.45	1	-	●	K2ELN04005C	569 880		
1.0	8	50	4.0	1.6	0.95	1	-	●	K2ELN08010C	569 897		
	12	50	4.0	1.6	0.95	1	-	○	K2ELN12010C	569 903		
1.5	8	50	4.0	2.4	1.42	1	-	●	K2ELN08015C	569 910		
	12	50	4.0	2.4	1.42	1	-	○	K2ELN12015C	570 367		
	16	50	4.0	2.4	1.42	1	-	□	K2ELN16015C	570 374		
	20	60	4.0	2.4	1.42	1	-	□	K2ELN20015C	570 381		
2.0	10	50	4.0	3.2	1.90	1	-	●	K2ELN10020C	570 398		
	14	50	4.0	3.2	1.90	1	-	□	K2ELN14020C	570 404		
	18	60	4.0	3.2	1.90	1	-	○	K2ELN18020C	570 411		
	25	60	4.0	3.2	1.90	1	-	□	K2ELN25020C	570 428		
2.5	14	50	4.0	4.0	2.40	1	-	□	K2ELN14025C	570 435		
	25	60	4.0	4.0	2.40	1	-	□	K2ELN25025C	570 442		
3.0	25	60	6	4.8	2.88	1	-	□	K2ELN25030C	570 459		
4.0	25	60	6	6.4	3.84	1	-	□	K2ELN25040C	570 466		

CARBIDE 2 FLUTE LONG NECK SQUARE END MILL 65RC

Solid carbide - Titanium nitride coated

C 4311 - FRESA HM PIANA 2T NERVATURE 65 RC

Metallo duro super micro grana 0.2 – 0.3 µ
 Per materiali fino a HRC 65
 Taglio centrale continuo


HLS


D h10	L2	L	G h6	D3	stock	code	num	12.012.07 €
0.2	1	45	4	0.18	○	HLS 2002-010	495 448	
	1.5	45	4	0.18	○	HLS 2003-015	698 429	
0.3	2	45	4	0.28	○	HLS 2003-020	495 455	
	3	45	4	0.28	○	HLS 2003-030	610 612	
	6	45	4	0.28	○	HLS 2003-060	610 629	
0.4	2	45	4	0.38	○	HLS 2004-020	495 462	
	3	45	4	0.38	○	HLS 2004-030	610 636	
	4	45	4	0.38	○	HLS 2004-040	495 479	
	5	45	4	0.38	○	HLS 2004-050	610 643	
0.5	8	45	4	0.38	○	HLS 2004-080	610 650	
	2	45	4	0.48	○	HLS 2005-020	559 867	
	4	45	4	0.48	○	HLS 2005-040	700 276	
	6	45	4	0.48	○	HLS 2005-060	610 667	
0.6	8	45	4	0.48	○	HLS 2005-080	495 493	
	10	50	4	0.48	○	HLS 2005-100	610 674	
	2	45	4	0.58	○	HLS 2006-020	610 681	
	4	45	4	0.58	○	HLS 2006-040	495 509	
0.7	6	45	4	0.58	○	HLS 2006-060	698 436	
	8	45	4	0.58	○	HLS 2006-080	495 516	
	10	45	4	0.58	○	HLS 2006-100	495 523	
	12	50	4	0.58	○	HLS 2006-120	698 443	
0.8	2	45	4	0.68	○	HLS 2007-020	606 219	
	4	45	4	0.68	○	HLS 2007-040	495 530	
	6	45	4	0.68	○	HLS 2007-060	698 450	
	8	45	4	0.68	○	HLS 2007-080	495 547	
0.9	10	50	4	0.68	○	HLS 2007-100	495 554	
	4	45	4	0.78	○	HLS 2008-040	610 278	
	6	45	4	0.78	○	HLS 2008-060	495 561	
	8	45	4	0.78	○	HLS 2008-080	698 467	
1.0	10	50	4	0.78	○	HLS 2008-100	495 578	
	12	50	4	0.78	○	HLS 2008-120	495 585	
	16	50	4	0.78	○	HLS 2008-160	698 474	
	24	60	4	0.78	○	HLS 2008-240	698 481	
1.2	4	45	4	0.88	○	HLS 2009-040	698 498	
	6	45	4	0.88	○	HLS 2009-060	698 504	
	8	45	4	0.88	○	HLS 2009-080	698 511	
	10	45	4	0.88	○	HLS 2009-100	495 592	
1.4	15	50	4	0.88	○	HLS 2009-150	698 528	
	4	45	4	0.95	○	HLS 2010-040	562 515	
	6	45	4	0.95	●	HLS 2010-060	536 202	
	8	45	4	0.95	●	HLS 2010-080	564 908	
1.6	10	45	4	0.95	●	HLS 2010-100	564 915	
	12	45	4	0.95	●	HLS 2010-120	541 763	
	14	45	4	0.95	○	HLS 2010-140	698 535	
	16	50	4	0.95	●	HLS 2010-160	495 639	
1.8	20	55	4	0.95	○	HLS 2010-200	586 733	
	25	70	4	0.95	○	HLS 2010-250	698 542	
	30	70	4	0.95	○	HLS 2010-300	698 559	
	6	45	4	1.14	○	HLS 2012-060	547 741	
2.0	8	45	4	1.14	○	HLS 2012-080	663 748	
	10	45	4	1.14	○	HLS 2012-100	495 646	
	12	45	4	1.14	○	HLS 2012-120	698 566	
	16	50	4	1.14	○	HLS 2012-160	495 653	
2.5	6	45	4	1.34	○	HLS 2014-060	698 573	
	8	45	4	1.34	○	HLS 2014-080	698 580	
	10	45	4	1.34	○	HLS 2014-100	698 597	
	12	45	4	1.34	○	HLS 2014-120	698 603	
3.0	14	45	4	1.34	○	HLS 2014-140	495 660	
	6	45	4	1.44	●	HLS 2015-060	536 219	
	8	45	4	1.44	●	HLS 2015-080	564 922	
	10	45	4	1.44	●	HLS 2015-100	537 674	
3.5	12	45	4	1.44	●	HLS 2015-120	564 939	
	14	50	4	1.44	○	HLS 2015-140	698 610	
	16	50	4	1.44	○	HLS 2015-160	541 015	
	18	55	4	1.44	○	HLS 2015-180	698 627	
4.0	20	55	4	1.44	○	HLS 2015-200	495 738	
	25	70	4	1.44	○	HLS 2015-250	698 634	
	30	70	4	1.44	○	HLS 2015-300	698 641	

D h10	L2	L	G h6	D3	stock	code	num	12.012.07 €
1.6	10	45	4	1.54	○	HLS 2016-100	495 745	
	12	45	4	1.54	○	HLS 2016-120	693 974	
	14	50	4	1.54	○	HLS 2016-140	693 981	
	16	50	4	1.54	○	HLS 2016-160	495 752	
	18	55	4	1.54	○	HLS 2016-180	693 998	
	20	55	4	1.54	○	HLS 2016-200	495 769	
1.8	10	45	4	1.7	○	HLS 2018-100	694 001	
	12	45	4	1.7	○	HLS 2018-120	495 783	
	14	50	4	1.7	○	HLS 2018-140	696 142	
	16	50	4	1.7	○	HLS 2018-160	495 790	
	18	55	4	1.7	○	HLS 2018-180	696 159	
	20	55	4	1.7	○	HLS 2018-200	495 806	
2.0	25	60	4	1.7	○	HLS 2018-250	495 813	
	6	45	4	1.91	○	HLS 2020-060	568 845	
	8	45	4	1.91	●	HLS 2020-080	564 946	
	10	45	4	1.91	●	HLS 2020-100	564 953	
	12	45	4	1.91	●	HLS 2020-120	564 960	
	14	50	4	1.91	○	HLS 2020-140	638 364	
2.5	16	50	4	1.91	●	HLS 2020-160	545 211	
	18	55	4	1.91	○	HLS 2020-180	561 686	
	20	55	4	1.91	○	HLS 2020-200	545 204	
	25	60	4	1.91	○	HLS 2020-250	495 868	
	30	70	4	1.91	○	HLS 2020-300	495 875	
	35	80	4	1.91	○	HLS 2020-350	696 166	
3.0	40	90	4	1.91	○	HLS 2020-400	545 198	
	8	45	4	2.41	○	HLS 2025-080	637 473	
	10	45	4	2.41	○	HLS 2025-100	696 173	
	12	45	4	2.41	○	HLS 2025-120	668 859	
	14	50	4	2.41	○	HLS 2025-140	696 180	
	16	50	4	2.41	●	HLS 2025-160	557 788	
3.5	18	55	4	2.41	○	HLS 2025-180	696 197	
	20	55	4	2.41	○	HLS 2025-200	562 157	
	25	60	4	2.41	○	HLS 2025-250	691 772	
	30	70	4	2.41	○	HLS 2025-300	495 905	
	40	90	4	2.41	○	HLS 2025-400	696 203	
	8	45	6	2.92	○	HLS 2030-080	627 559	
4.0	10	45	6	2.92	○	HLS 2030-100	696 210	
	12	50	6	2.92	●	HLS 2030-120	545 815	
	14	50	6	2.92	○	HLS 2030-140	696 319	
	16	60	6	2.92	●	HLS 2030-160	486 491	
	18	60	6	2.92	○	HLS 2030-180	696 326	
	20	60	6	2.92	○	HLS 2030-200	495 929	
4.5	25	70	6	2.92	○	HLS 2030-250	495 936	
	30	80	6	2.92	○	HLS 2030-300	646 697	
	35	80	6	2.92	○	HLS 2030-350	495 950	
	40	90	6	2.92	○	HLS 2030-400	696 333	
	50	100	6	2.92	○	HLS 2030-500	696 340	
	16	60	6	3.82	○	HLS 2040-160	608 176	
5.0	20	60	6	3.82	○	HLS 2040-200	537 681	
	25	70	6	3.82	○	HLS 2040-250	696 364	
	30	70	6	3.82	○	HLS 2040-300	496 001	
	35	80	6	3.82	○	HLS 2040-350	696 371	
	40	90	6	3.82	○	HLS 2040-400	496 018	
	45	90	6	3.82	○	HLS 2040-450	696 388	
5.5	50	100	6	3.82	○	HLS 2040-500	496 025	
	60	110	6	3.82	○	HLS 2040-600	696 395	
	16	60	6	4.82	○	HLS 2050-160	696 401	
	20	60	6	4.82	○	HLS 2050-200	496 032	
	25	60	6	4.82	○	HLS 2050-250	696 418	
	30	80	6	4.82	○	HLS 2050-300	496 049	
6.0	35	80	6	4.82	○	HLS 2050-350	696 425	
	40	80	6	4.82	○	HLS 2050-400	496 056	
	50	110	6	4.82	○	HLS 2050-500	496 063	
	20	80	6	5.82	○	HLS 2060-200	627 566	
	30	80	6	5.82	○	HLS 2060-300	696 432	
	40	100	6	5.82	○	HLS 2060-400	696 449	
6.5	50	120	6	5.82	○	HLS 2060-500	696 456	
	60	120	6	5.82	○	HLS 2060-600	696 463	

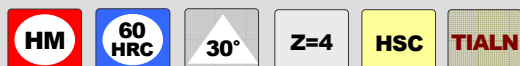
CARBIDE 4 FLUTE SQUARE END MILL 60RC

Solid carbide - Titanium nitride coated

K4EN

 C 4333 - **FRESA HM PIANA 4T 60 RC**

Metallo duro micro grana
Per materiali fino a HRC 60
Taglio centrale continuo



D h9	L	L1	G h6	Z			stock	code	num	08.05.12	€
3	38	8	3	4	1	--	●	K4EN030C	570 596		
4	50	11	4	4	1	--	●	K4EN040C	570 602		
5	50	13	5	4	1	--	●	K4EN050C	570 619		
6	57	14	6	4	1	--	●	K4EN060C	570 626		
7	60	16	7	4	1	--	□	K4EN070C	570 633		
8	63	18	8	4	1	--	●	K4EN080C	570 640		
9	67	20	9	4	1	--	□	K4EN090C	570 657		
10	72	22	10	4	1	--	●	K4EN100C	570 664		
12	73	25	12	4	1	--	●	K4EN120C	570 671		
14	83	28	14	4	1	--	●	K4EN140C	570 688		
16	92	30	16	4	1	--	●	K4EN160C	570 695		
18	92	32	18	4	1	--	●	K4EN180C	570 701		
20	100	38	20	4	1	--	●	K4EN200C	570 718		

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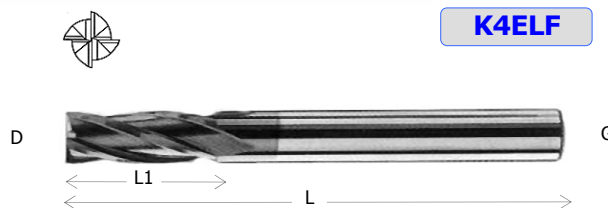
CARBIDE 4 LONG FLUTE SQUARE END MILL 60RC

Solid carbide - Titanium nitride coated

K4ELF

 C 4335 - **FRESA HM PIANA 4T LUNGA 60 RC**

Metallo duro micro grana
Per materiali fino a HRC 60
Taglio centrale continuo



D h9	L	L1	G h6	Z			stock	code	num	20.06.08	€
4	60	16	4	4	1	--	□	K4ELF040C	570 732		
6	75	25	6	4	1	--	●	K4ELF060C	570 749		
8	100	35	8	4	1	--	●	K4ELF080C	570 756		
10	100	40	10	4	1	--	●	K4ELF100C	570 763		
12	100	45	12	4	1	--	●	K4ELF120C	570 787		

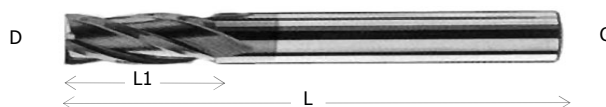
CARBIDE 4 EXTRA LONG FLUTE SQUARE END MILL 60RC

Solid carbide - Titanium nitride coated

K4EPXLF

 C 4337 - **FRESA HM PIANA 4T EXTRALUNGA 60RC**

Metallo duro micro grana
Per materiali fino a HRC 60
Taglio centrale continuo



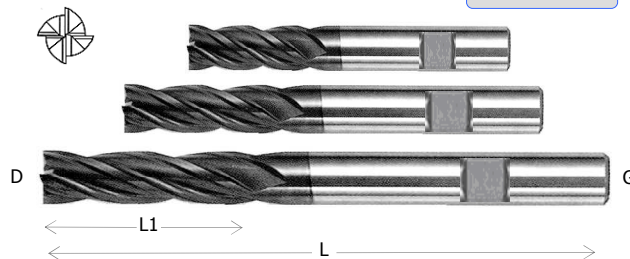
D h9	L	L1	G h6	Z			stock	code	num	08.05.12	€
4	75	30	4	4	1	--	□	K4EPXLF040C	575 577		
5	75	30	5	4	1	--	□	K4EPXLF050C	575 584		
6	75	30	6	4	1	--	□	K4EPXLF060C	575 591		
8	100	50	8	4	1	--	□	K4EPXLF080C	575 607		
10	100	50	10	4	1	--	□	K4EPXLF100C	575 614		
12	150	75	12	4	1	--	●	K4EPXLF120C	575 621		
16	150	75	16	4	1	--	●	K4EPXLF160C	575 638		
20	150	75	20	4	1	--	●	K4EPXLF200C	575 645		
20	180	75	20	4	1	--	□ S	P 8691	638 814		
20	200	75	20	4	1	--	□ S	P 8562	638 821		

CARBIDE 4 FLUTE SQUARE END MILL WELDON 60RC

Solid carbide - Titanium nitride coated

C 4349 - FRESA HM PIANA 4T WELDON 60 RC

Metallo duro micro grana - Attacco Weldon DIN 6335HB
 Per materiali fino a HRC 60
 Taglio centrale continuo


ET54W


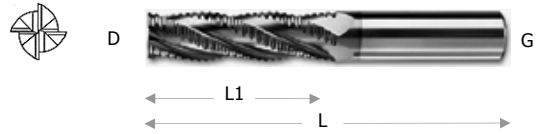
D h10	L	L1	Gh6	z			stock	code	num	12.03.12	€
6	50	16	6	4	1	-	☐	ET 54W06F	575 669		
6	70	30	6	4	1	-	☐	ET 54WL06F	556 149		
8	60	19	8	4	1	-	☐	ET 54W08F	575 676		
8	80	35	8	4	1	-	☐	ET 54WL08F	556 156		
10	70	22	10	4	1	-	☐	ET 54W10F	575 683		
10	90	40	10	4	1	-	☐	ET 54WL10F	556 163		
10	120	50	10	4	1	-	☐	ET 54WXL10F	545 099		
12	75	26	12	4	1	-	☐	ET 54W12F	575 690		
12	100	50	12	4	1	-	☐	ET 54WL12F	556 170		
12	150	60	12	4	1	-	☐	ET 54WXL12F	545 105		
14	75	28	14	4	1	-	☐	ET 54W14F	575 706		
14	120	55	14	4	1	-	☐	ET 54WL14F	556 187		
14	150	75	14	4	1	-	☐	ET 54WXL14F	545 112		
16	90	32	16	4	1	-	☐	ET 54W16F	575 713		
16	120	55	16	4	1	-	☐	ET 54WL16F	556 194		
16	150	75	16	4	1	-	☐	ET 54WXL16F	545 129		
18	90	32	18	4	1	-	☐	ET 54W18F	661 560		
18	120	55	18	4	1	-	☐	ET 54WL18F	556 200		
18	150	75	18	4	1	-	☐	ET 54WXL18F	686 983		
20	100	34	20	4	1	-	☐	ET 54W20F	575 720		
20	125	60	20	4	1	-	☐	ET 54WL20F	556 217		
20	150	75	20	4	1	-	☐	ET 54WXL20F	545 136		

CARBIDE 4 FLUTE ROUGHING END MILL 60RC

Solid carbide - Titanium nitride coated

C 4359 - FRESA HM PIANA 4T SGROSSARE 60 RC

Metallo duro micro grana
 Per materiali fino a HRC 60
 Taglio centrale continuo


K4ERO


D h9	L	L1	G h6	Z			stock	code	num	12.012.07	€
6	57	14	6	4	1	--	●	K4ERO060C	635 196		
8	63	18	8	4	1	--	●	K4ERO080C	635 202		
10	72	22	10	4	1	--	●	K4ERO100C	635 219		
12	73	25	12	4	1	--	●	K4ERO120C	635 226		
16	92	30	16	4	1	--	○	K4ERO160C	635 233		
20	100	38	20	4	1	--	○	K4ERO200C	635 240		

CARBIDE 5 FLUTE END MILL HARVI II UCDE 52RC

Solid carbide - Titanium nitride coated

C 4361 - FRESA HM PIANA 5T HARVY II UCDE

Metallo duro micro grana ultrafine
 Per materiali fino a HRC 52
 Per sgrossatura e finitura
 Scanalature fino a 1 x D


HARVI II UCDE
 per materiali ferrosi


D1 h10	D	AP1 MAX	L	Rε	α°			stock	code	num	12.03.12	€
4	6	11	55	0	38°	1	-	○	UCDE 0400A5SAKC643M	622 257		
5	6	13	57	0	38°	1	-	○	UCDE 0500A5SAKC643M	686 990		
6	6	13	57	0	38°	1	-	○	UCDE 0600 A5SAKC643M	622 264		
7	8	16	63	0	38°	1	-	○	UCDE 0700A5SAKC643M	687 010		
8	8	19	63	0	38°	1	-	○	UCDE 0800A5SAKC643M	622 271		
9	10	19	72	0	38°	1	-	○	UCDE 0900A5SAKC643M	687 034		
10	10	22	72	0	38°	1	-	○	UCDE 1000A5SAKC643M	622 288		
12	12	26	83	0	38°	1	-	○	UCDE 1200A5SAKC643M	622 295		
14	14	26	83	0	38°	1	-	○	UCDE 1400A5SAKC643M	687 058		
16	16	32	92	0	38°	1	-	○	UCDE 1600A5SAKC643M	622 301		
18	18	32	92	0	38°	1	-	○	UCDE 1800A5SAKC643M	687 072		
20	20	38	104	0	38°	1	-	○	UCDE 2000A5SAKC643M	687 096		
25	25	45	121	0	38°	1	-	○	UCDE 2500A5SAKC643M	687 119		

CARBIDE 6 FLUTE SQUARE END MILL 60RC

Solid carbide - Titanium nitride coated

K6EN

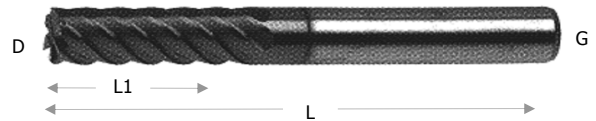
 C 4369 - **FRESA HM PIANA 6T 60 RC**
Metallo duro micro grana
Per materiali fino a HRC 60


D h9	L	L1	G h6	Z	α°			stock	code	num	12.012.07	€
6	57	14	6	6	45°	1	--	●	K6EN 060X	570 817		
8	63	18	8	6	45°	1	--	●	K6EN 080X	570 824		
10	72	22	10	6	45°	1	--	●	K6EN 100X	570 848		
12	83	25	12	6	45°	1	--	●	K6EN 120X	570 855		
16	92	30	16	6	45°	1	--	○	K6EN 160X	570 862		
20	100	38	20	6	45°	1	--	○	K6EN 200X	570 879		

CARBIDE MULTIFLUTE END MILL 60RC

Solid carbide - Titanium nitride coated

4228.27

 C 4373 - **FRESA RUBIG HM PIANA MTAGLIO 60 RC**
Metallo duro micro grana
Per materiali fino a HRC 60
Taglio al centro


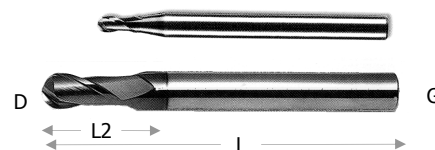
D h10	L	L1	G h6	Z	α°			stock	code	num	12.012.07	€
6	62	18	6	6	45°	1	-	□	ER 422827000060	493 871		
8	68	24	8	6	45°	1	-	□	ER 422827000080	493 888		
10	80	30	10	6	45°	1	-	□	ER 422827000100	493 895		
12	93	36	12	6	45°	1	-	□	ER 422827000120	493 901		
16	108	48	16	6	45°	1	-	□	ER 422827000160	490 399		
20	126	60	20	8	45°	1	-	□	ER 422827000200	493 918		
25	150	75	25	8	45°	1	-	□	ER 422827000250	493 925		

CARBIDE 2 FLUTE BALLNOSE 60RC

Solid carbide - Titanium nitride coated

K2BN

 C 4383 - **FRESA HM SFERICA 2T 60 RC**

 Metallo duro micro grana
Per materiali fino a HRC 60


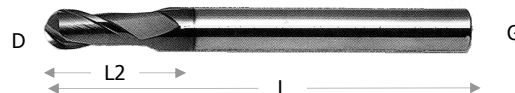
D h9	L	L2	Gh6	raggio	toll r			stock	code	num	12.012.07	€
0.2	38	0.4	3	0.10	0.01	1	-	○	K2BN 002C	570 893		
0.3	38	0.6	3	0.15	0.01	1	-	○	K2BN 003C	570 909		
0.4	38	0.8	3	0.20	0.01	1	-	○	K2BN 004C	570 916		
0.5	38	1.0	3	0.25	0.01	1	-	○	K2BN 005C	570 923		
0.6	38	1.2	3	0.30	0.01	1	-	○	K2BN 006C	570 930		
0.7	38	1.4	3	0.35	0.01	1	-	○	K2BN 007C	570 947		
0.8	38	1.6	3	0.40	0.01	1	-	○	K2BN 008C	570 954		
0.9	38	2.0	3	0.45	0.01	1	-	○	K2BN 009C	570 961		
1	38	2.0	3	0.50	0.01	1	-	●	K2BN 010C	570 978		
1.5	38	2.5	3	0.75	0.01	1	-	●	K2BN 015C	570 985		
2	38	3.0	3	1.00	0.01	1	-	●	K2BN 020C	570 992		
2.5	38	4.0	3	1.25	0.01	1	-	●	K2BN 025C	571 005		
3	38	5.0	3	1.50	0.01	1	-	●	K2BN 030C	571 012		
4	50	11	4	2.0	0.01	1	-	●	K2BN 040C	571 029		
5	50	13	5	2.5	0.01	1	-	●	K2BN 050C	571 036		
6	57	14	6	3.0	0.01	1	-	●	K2BN 060C	571 043		
8	63	18	8	4.0	0.01	1	-	●	K2BN 080C	571 050		
10	72	22	10	5.0	0.01	1	-	●	K2BN 100C	571 067		
12	73	25	12	6.0	0.01	1	-	●	K2BN 120C	571 074		
14	83	28	14	7.0	0.01	1	-	○	K2BN 140C	571 081		
16	92	30	16	8.0	0.01	1	-	○	K2BN 160C	571 098		
18	92	32	18	9.0	0.01	1	-	○	K2BN 180C	571 104		
20	100	38	20	10	0.01	1	-	○	K2BN 200C	571 111		

CARBIDE 2 FLUTE LONG BALLNOSE 60RC

Solid carbide - Titanium nitride coated

K2VLB

 C 4385 - **FRESA HM SFERICA 2T LUNGA 60 RC**

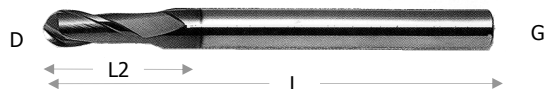
 Metallo duro micro grana
Per materiali fino a HRC 60


D h7	L	L2	g h6	raggio	toll r			stock	code	num	12.012.07	€
1	50	1.5	6	0.5	0.01	1	-	●	K2VLB010HX	571 128		
1.5	50	2.5	6	0.75	0.01	1	-	●	K2VLB015HX	571 135		
2	50	5	6	1.0	0.01	1	-	●	K2VLB020HX	571 142		
2.5	50	4	6	1.25	0.01	1	-	□	K2VLB025HX	571 159		
3	70	4.5	6	1.5	0.01	1	-	●	K2VLB030HX	571 166		
4	70	6	6	2.0	0.01	1	-	●	K2VLB040HX	571 173		
5	80	7.5	6	2.5	0.01	1	-	●	K2VLB050HX	571 180		
6	90	9	6	3.0	0.01	1	-	●	K2VLB060HX	571 197		
8	100	12	8	4.0	0.01	1	-	●	K2VLB080HX	571 203		
10	100	15	10	5.0	0.01	1	-	●	K2VLB100HX	571 210		
12	120	18	12	6.0	0.01	1	-	●	K2VLB120HX	571 227		

CARBIDE 2 FLUTE EXTRALONG BALLNOSE 60RC

Solid carbide - Titanium nitride coated

K2BLS

 C 4391 - **FRESA HM SFERICA 2T EXTRALUNGA**
60 RC
Metallo duro micro grana
 Per materiali fino a HRC 60


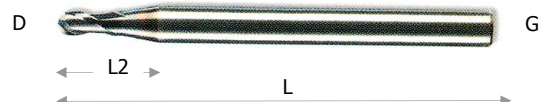
D h9	L	L2	Gh6	raggio	toll r			stock	code	num	12.012.07	€
3	100	8	3	1.0	0.01	1	-	☐	K2BLS030C	571 241		
4	100	11	4	2.0	0.01	1	-	☐	K2BLS040C	571 258		
5	100	13	5	2.5	0.01	1	-	☐	K2BLS050C	571 265		
6	100	14	6	3.0	0.01	1	-	☐	K2BLS060C	571 272		
8	100	18	8	4.0	0.01	1	-	☐	K2BLS080C	571 289		
10	150	22	10	5.0	0.01	1	-	☐	K2BLS100C	571 296		
12	150	24	12	6.0	0.01	1	-	☐	K2BLS120C	571 302		

CARBIDE 2 FLUTE ROUND LONG BALLNOSE 65RC

Solid carbide - Titanium nitride coated

 C 4397 - **FRESA HM SFERICA 2T LUNGA 65 RC**

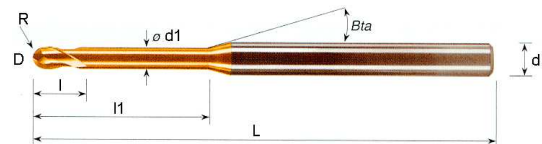
Metallo duro super micro grana 0.2-0.3µ
 Per materiali fino a HRC 65
 Tolleranza raggio +/- 0.005 mm
 Tolleranza gambo 0 -0.005 mm


HB


D h10	L	L2	Gh6	raggio	z			stock	code	num	12.012.07	€
0.1	50	0.2	6	0.05	2	1	-	○	HB1001-0020-6	575 898		
0.2	50	0.2	6	0.1	2	1	-	○	HB2002-0020-6	575 904		
	50	0.3	4	0.1	2	1	-	○	HB2002-0030	575 911		
0.3	50	0.3	6	0.15	2	1	-	○	HB2003-0030-6	575 928		
	50	0.45	4	0.15	2	1	-	○	HB2003-0045	575 935		
0.4	50	0.6	4	0.2	2	1	-	○	HB2004-0060	575 942		
	50	0.4	6	0.2	2	1	-	○	HB2004-0040-6	575 959		
0.5	50	0.5	6	0.25	2	1	-	○	HB2005-0050-6	575 966		
	50	0.75	4	0.25	2	1	-	○	HB2005-0075	575 973		
0.6	50	0.6	6	0.3	2	1	-	○	HB2006-0060-6	575 980		
	50	0.9	4	0.3	2	1	-	○	HB2006-0090	575 997		
0.8	50	0.8	6	0.4	2	1	-	○	HB2008-0080-6	576 000		
	50	1.2	4	0.4	2	1	-	○	HB2008-0120	576 017		
1.0	50	1	6	0.5	2	1	-	○	HB2010-0100-6	566 384		
	50	1.5	4	0.5	2	1	-	○	HB2010-0150	576 024		
	50	2.5	4	0.5	2	1	-	○	HB2010-0250	576 031		
1.5	50	1.5	6	0.75	2	1	-	○	HB2015-0150-6	576 048		
	50	2	4	0.75	2	1	-	○	HB2015-0200	576 055		
	50	4	4	0.75	2	1	-	○	HB2015-0400	576 062		
2	60	2	6	1	2	1	-	○	HB2020-0200-6	576 079		
	60	3	4	1	2	1	-	○	HB2020-0300	576 086		
	60	6	4	1	2	1	-	○	HB2020-0600	576 093		
2.5	60	2.5	6	1.25	2	1	-	○	HB2025-0250-6	576 109		
	60	3.75	4	1.25	2	1	-	○	HB2025-0375	576 116		
	60	6	4	1.25	2	1	-	○	HB2025-0600	576 123		
3	70	4.5	6	1.5	2	1	-	○	HB2030-0450	576 130		
	70	8	6	1.5	2	1	-	○	HB2030-0800	576 147		
4	70	6	6	2	2	1	-	○	HB2040-0600	576 154		
	70	8	6	2	2	1	-	○	HB2040-0800	576 161		
5	70	8	6	2.5	2	1	-	○	HB2050-0800	576 178		
	80	12	6	2.5	2	1	-	○	HB2050-1200	576 185		
6	80	10	6	3	2	1	-	○	HB2060-1000	576 192		
	80	12	6	3	2	1	-	○	HB2060-1200	576 208		
8	90	12	8	4	2	1	-	○	HB2080-1200	543 088		
	90	14	8	4	2	1	-	○	HB2080-1400	576 215		
10	100	15	10	5	2	1	-	○	HB2100-1500	543 095		
	100	18	10	5	2	1	-	○	HB2100-1800	567 954		
12	110	18	12	6	2	1	-	○	HB2120-1800	576 222		
	110	22	12	6	2	1	-	○	HB2120-2200	576 239		

C 4413 - FRESA HM SFERICA 2T NERVATURE 65RC

Metallo duro super micro grana 0.2-0.3µ
 Per materiali fino a HRC 65
 Tolleranza raggio +/- 0.005 - Tolleranza gambo 0 - 0.005



D h10	L1	L	G	R	L2	stock	code	num	€
0,1	45	4	0.05	0,2	□	HLB1001-002	537 858		
0.2	0,3	45	4	0.1	0.16	□	HLB2002-003	537 865	
	0.5	45	4	0.1	0.16	□	HLB2002-005	537 872	
	0.5	50	6	0.1	0.16	□	HLB2002-005-6	581 103	
	0.75	45	4	0.1	0.16	□	HLB2002-0075	592 154	
	1	45	4	0.1	0.16	□	HLB2002-010	537 889	
	1	50	6	0.1	0.16	□	HLB2002-010-6	592 161	
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	3.5	45	4	0.25	0.4	□	HLB2005-035	592604	
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	7	45	4	0.25	0.4	□	HLB2005-070	538114	
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	2.5	45	4	0.3	0.48	□	HLB2006-025	592703	
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	12	50	4	0.3	0.48	□	HLB2006-120	538251	
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C4413 - FRESA HM SFERICA 2T NERVATURE 65RC

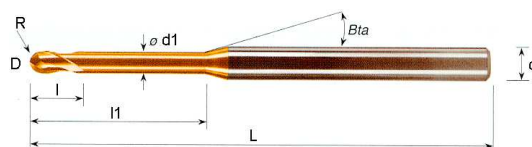
Metallo duro super micro grana 0.2-0.3µ

Per materiali fino a HRC 65

Tolleranza raggio +/- 0.005 - Tolleranza gambo 0 -0.005



HLB

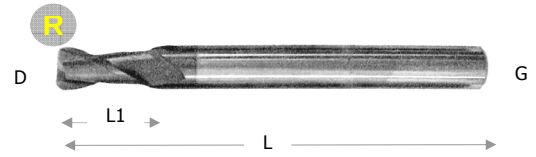


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	3	50	6	0.5	0.8	□	HLB2010-030-6	591829			4	50	6	1	1.6	□	HLB2020-040-6	592055	
	4	45	4	0.5	0.8	□	HLB2010-040	538374			6	45	4	1	1.6	●	HLB2020-060	538701	
	4	50	6	0.5	0.8	□	HLB2010-040-6	591836			6	50	6	1	1.6	□	HLB2020-060-6	592062	
	5	45	4	0.5	0.8	□	HLB2010-050	538381			8	45	4	1	1.6	●	HLB2020-080	537346	
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	6	45	4	0.5	0.8	●	HLB2010-060	535328			10	45	4	1	1.6	●	HLB2020-100	534741	
	6	50	6	0.5	0.8	□	HLB2010-060-6	591850			10	50	6	1	1.6	□	HLB2020-100-6	592086	
	7	45	4	0.5	0.8	□	HLB2010-070	538398			12	45	4	1	1.6	●	HLB2020-120	538718	
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	8	45	4	0.5	0.8	●	HLB2010-080	537698			14	50	4	1	1.6	□	HLB2020-140	534703	
	8	50	6	0.5	0.8	□	HLB2010-080-6	591874			16	50	4	1	1.6	●	HLB2020-160	537032	
	9	45	4	0.5	0.8	□	HLB2010-090	538404			16	60	6	1	1.6	□	HLB2020-160-6	569514	
	10	45	4	0.5	0.8	●	HLB2010-100	534673			18	55	4	1	1.6	□	HLB2020-180	538725	
	10	50	6	0.5	0.8	□	HLB2010-100-6	591881			20	55	4	1	1.6	●	HLB2020-200	534758	
	12	45	4	0.5	0.8	●	HLB2010-120	538411			20	70	6	1	1.6	□	HLB2020-200-6	569521	
	12	50	6	0.5	0.8	□	HLB2010-120-6	591898			22	60	4	1	1.6	□	HLB2020-220	538732	
	14	50	4	0.5	0.8	□	HLB2010-140	538428			25	65	4	1	1.6	○	HLB2020-250	538749	
	14	60	6	0.5	0.8	□	HLB2010-140-6	591904			25	80	6	1	1.6	□	HLB2020-250-6	592109	
	16	50	4	0.5	0.8	●	HLB2010-160	537025			30	70	4	1	1.6	□	HLB2020-300	586603	
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	16	50	4	0.6	0.96	□	HLB2012-160	538503			25	70	6	1.5	2.40	○	HLB2030-250	538800	
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	18	55	4	0.6	0.96	□	HLB2012-180	538510			35	80	6	1.5	2.40	□	HLB2030-350	538824	
	20	60	4	0.6	0.96	□	HLB2012-200	538527			40	80	6	1.5	2.40	□	HLB2030-400	538831	
	8	45	4	0.7	1.12	□	HLB2014-080	538534		4.0	8	70	4	2	3.20	●	HLB2040-080-4	534734	
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	16	50	4	0.7	1.12	□	HLB2014-160	538558			10	70	6	2	3.20	●	HLB2040-100	534543	
	3	45	4	0.75	1.20	□	HSLB2015-030	538565			12	70	6	2	3.20	●	HLB2040-120	538855	
	4	45	4	0.75	1.20	□	HLB2015-040	591980			14	70	6	2	3.20	□	HLB2040-140	538862	
	6	45	4	0.75	1.20	●	HLB2015-060	538572			16	70	6	2	3.20	○	HLB2040-160	534550	
	6	50	6	0.75	1.20	□	HLB2015-060-6	591997			20	70	6	2	3.20	○	HLB2040-200	531771	
	8	45	4	0.75	1.20	●	HLB2015-080	535311			25	70	6	2	3.20	○	HLB2040-250	538879	
	8	50	6	0.75	1.20	□	HLB2015-080-6	564052			30	70	6	2	3.20	○	HLB2040-300	534574	
	10	45	4	0.75	1.20	●	HLB2015-100	538589			35	80	6	2	3.20	□	HLB2040-350	538886	
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	12	45	4	0.75	1.20	●	HLB2015-120	538596			45	90	6	2	3.20	□	HLB2040-450	538909	
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	14	50	4	0.75	1.20	□	HLB2015-140	538602		5.0	10	70	6	2.5	4.00	□	HLB2050-100	538923	
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	20	60	6	0.75	1.20	□	HLB2015-200-6	592031			10	80	6	3	4.80	□	HLB2060-100	538978	
	22	55	4	0.75	1.20	□	HLB2015-220	592048			30	80	6	3	4.80	□	HLB2060-300	538985	
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	20	55	4	0.9	1.44	□	HLB2018-200	538688											

CARBIDE 2 FLUTE LONG CORNER RADIUS END MILL 65RC

Solid carbide - Titanium nitride coated

 C 4429 - **FRESA HM TORICA 2T LUNGA 60 RC**

 Metallo duro micro grana
 Per materiali fino a HRC 60

5812

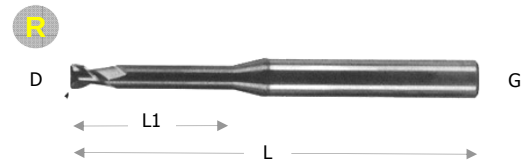
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4	0.5	11	70	6	-	1	--	●	5812-040-R0.5	528 146		
4	1	11	70	6	-	1	--	○	5812-040-R1	533 959		
5	0.2	13	80	6	-	1	--	○	5812-050-R0.2	540 681		
5	0.5	13	80	6	-	1	--	●	5812-050-R0.5	533 515		
6	0.2	13	80	6	-	1	--	○	5812-060-R0.2	532 754		
6	0.5	13	80	6	-	1	--	●	5812-060-R0.5	511 582		
6	1	13	80	6	-	1	--	●	5812-060-R1	517 805		
8	0.5	19	100	8	-	1	--	●	5812-080-R0.5	516 839		
8	1	19	100	8	-	1	--	●	5812-080-R1	533 263		
8	2	19	100	8	-	1	--	○	5812-080-R2	533 942		
10	0.5	22	100	10	-	1	--	●	5812-100-R0.5	537 247		
10	1	22	100	10	-	1	--	●	5812-100-R1	532 761		
10	2	22	100	10	-	1	--	○	5812-100-R2	532 952		
10	3	22	100	10	-	1	--	○	5812-100-R3	532 969		
12	1	26	100	12	-	1	--	●	5812-120-R1	532 778		
12	2	26	100	12	-	1	--	○	5812-120-R2	532 976		
12	3	26	100	12	-	1	--	○	5812-120-R3	532 983		

CARBIDE 2 FLUTE LONG NECK CORNER RADIUS END MILL 60RC

Solid carbide - Titanium nitride coated

C 4433 - FRESA HM TORICA 2T NERVATURE 60 RC

Metallo duro micro grana
Per materiali fino a HRC 60


5822 G6

D +/- 0.01	R	L1	L	g h6	d3	L2		ΔT	stock	code	num	12.012.07	€
0.5	0.05	2	50	6	0.46	0.7	1	-	○	5822-005-R0.05-L2	540162		
		4	50	6	0.46	0.7	1	-	○	5822-005-R0.05-L4	540179		
1	0.1	4	50	6	0.95	1.5	1	-	○	5822-010-R0.1-L4	540186		
		8	50	6	0.95	1.5	1	-	○	5822-010-R0.1-L8	540193		
		12	50	6	0.95	1.5	1	-	○	5822-010-R0.1-L12	540209		
	0.2	4	50	6	0.95	1.5	1	-	○	5822-010-R0.2-L4	540216		
		8	50	6	0.95	1.5	1	-	○	5822-010-R0.2-L8	540223		
		12	50	6	0.95	1.5	1	-	○	5822-010-R0.2-L12	540230		
	0.3	4	50	6	0.95	1.5	1	-	○	5822-010-R0.3-L4	540247		
		8	50	6	0.95	1.5	1	-	○	5822-010-R0.3-L8	540254		
		12	50	6	0.95	1.5	1	-	○	5822-010-R0.3-L12	540261		
	0.3	6	50	6	1.45	2.3	1	-	○	5822-015-R0.3-L6	540278		
		12	50	6	1.45	2.3	1	-	○	5822-015-R0.3-L12	540285		
		18	60	6	1.45	2.3	1	-	○	5822-015-R0.3-L18	540292		
2	0.3	6	50	6	1.45	2.3	1	-	○	5822-015-R0.5-L6	544894		
		12	50	6	1.45	2.3	1	-	○	5822-015-R0.5-L12	540995		
		18	60	6	1.45	2.3	1	-	○	5822-015-R0.5-L18	541008		
	0.5	10	60	6	1.94	3	1	-	○	5822-020-R0.3-L10	534581		
		16	70	6	1.94	3	1	-	○	5822-020-R0.3-L16	534598		
		24	70	6	1.94	3	1	-	○	5822-020-R0.3-L24	539999		
	0.5	30	70	6	1.94	3	1	-	○	5822-020-R0.3-L30	540001		
		10	60	6	1.94	3	1	-	○	5822-020-R0.5-L10	540018		
		16	70	6	1.94	3	1	-	○	5822-020-R0.5-L16	540025		
		24	70	6	1.94	3	1	-	○	5822-020-R0.5-L24	540032		
		30	70	6	1.94	3	1	-	○	5822-020-R0.5-L30	540049		
2.5	0.5	15	70	6	2.4	3.7	1	-	○	5822-025-R0.5-L15	540056		
		30	70	6	2.4	3.7	1	-	○	5822-025-R0.5-L30	540063		
3	0.5	12	70	6	2.85	4.5	1	-	○	5822-030-R0.5-L12	534604		
		24	70	6	2.85	4.5	1	-	○	5822-030-R0.5-L24	534611		
		36	80	6	2.85	4.5	1	-	○	5822-030-R0.5-L36	540070		
	1	12	70	6	2.85	4.5	1	-	○	5822-030-R1.0-L12	540087		
		24	80	6	2.85	4.5	1	-	○	5822-030-R1.0-L24	540094		
		36	80	6	2.85	4.5	1	-	○	5822-030-R1.0-L36	540100		
3.5	0.5	16	80	6	3.35	5	1	-	○	5822-035-R0.5-L16	534628		
		32	80	6	3.35	5	1	-	○	5822-035-R0.5-L32	540117		
	1	16	80	6	3.35	5	1	-	○	5822-035-R1.0-L16	540124		
4	0.5	16	80	6	3.80	6	1	-	○	5822-040-R0.5-L16	534635		
		24	80	6	3.80	6	1	-	○	5822-040-R0.5-L24	565011		
		32	80	6	3.80	6	1	-	○	5822-040-R0.5-L32	534642		
	1	16	80	6	3.80	6	1	-	○	5822-040-R1.0-L16	540131		
		24	80	6	3.80	6	1	-	○	5822-040-R1.0-L24	621366		
		32	80	6	3.80	6	1	-	○	5822-040-R1.0-L32	534994		
4.5	0.5	16	80	6	4.30	5	1	-	○	5822-045-R0.5-L16	540148		
		32	80	6	4.30	5	1	-	○	5822-045-R0.5-L32	540155		

CARBIDE 2 FLUTE LONG NECK CORNER RADIUS END MILL 65RC

Solid carbide - Titanium nitride coated

C4437 - FRESA HM TORICA 2T NERVATURE 65 RC

Metallo duro super micro grana 0.2-0.3µ
Per materiali fino a HRC 65
Tolleranza raggio +/- 0.005 mm - Tolleranza gambo 0 -0.005

mm



HLRS 2T

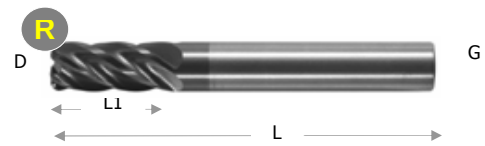
D h10	R	L1	L	G	S	stock	code	num	€
0.5	0.05	2	45	4	0.48	○	HLRS2005-005-020	576 475	
		4	45	4	0.48	○	HLRS2005-005-040	576 482	
		6	45	4	0.48	○	HLRS2005-005-060	576 499	
		8	45	4	0.48	○	HLRS2005-005-080	576 505	
		10	50	4	0.48	○	HLRS2005-005-100	576 512	
0.6	0.05	4	45	4	0.58	○	HLRS2006-005-040	576 529	
		8	45	4	0.58	○	HLRS2006-005-080	576 543	
		10	45	4	0.58	○	HLRS2006-005-100	576 536	
0.8	0.1	4	45	4	0.78	○	HLRS2008-01-040	576 550	
		8	45	4	0.78	○	HLRS2008-01-080	576 567	
		10	50	4	0.78	○	HLRS2008-01-100	576 581	
1	0.1	4	45	4	0.95	●	HLRS2010-01-040	564 977	
		6	45	4	0.95	●	HLRS2010-01-060	565 028	
		8	45	4	0.95	○	HLRS2010-01-080	576 598	
		10	45	4	0.95	●	HLRS2010-01-100	565 035	
		12	45	4	0.95	○	HLRS2010-01-120	576 604	
		16	50	4	0.95	○	HLRS2010-01-160	576 611	
	0.25	20	55	4	0.95	○	HLRS2010-01-200	576 628	
		4	45	4	0.95	○	HLRS2010-025-040	576 635	
		6	45	4	0.95	○	HLRS2010-025-060	576 642	
		8	45	4	0.95	○	HLRS2010-025-080	576 659	
		10	45	4	0.95	○	HLRS2010-025-100	576 666	
		12	45	4	0.95	○	HLRS2010-025-120	576 673	
		16	50	4	0.95	○	HLRS2010-025-160	576 680	
		6	45	4	1.14	○	HLRS2012-01-060	576 697	
		10	45	4	1.14	○	HLRS2012-01-100	576 703	
1.2	0.1	16	50	4	1.14	○	HLRS2012-01-160	576 710	
		6	45	4	1.14	○	HLRS2012-025-060	576 727	
		10	45	4	1.14	○	HLRS2012-025-100	548 298	
1.4	0.15	16	50	4	1.14	○	HLRS2012-025-160	576 734	
		6	45	4	1.34	○	HLRS2014-015-060	576 741	
		12	45	4	1.34	○	HLRS2014-015-120	576 758	
1.5	0.15	16	50	4	1.34	○	HLRS2014-015-160	576 765	
		6	45	4	1.44	●	HLRS2015-015-060	565 042	
		8	45	4	1.44	○	HLRS2015-015-080	576 772	
		10	45	4	1.44	●	HLRS2015-015-100	565 059	
		12	45	4	1.44	○	HLRS2015-015-120	576 789	
		16	50	4	1.44	●	HLRS2015-015-160	565 066	
	0.5	20	55	4	1.44	○	HLRS2015-015-200	559 751	
		30	70	4	1.44	○	HLRS2015-015-300	576 796	
		6	45	4	1.44	○	HLRS2015-05-060	576 802	
		8	45	4	1.44	○	HLRS2015-05-080	576 819	
		10	45	4	1.44	○	HLRS2015-05-100	576 826	
		12	45	4	1.44	○	HLRS2015-05-120	576 833	
		16	50	4	1.44	○	HLRS2015-05-160	576 840	
		20	55	4	1.44	○	HLRS2015-05-200	576 857	
		30	70	4	1.44	○	HLRS2015-05-300	576 864	
1.8	0.2	8	45	4	1.7	○	HLRS2018-02-080	576 871	
		12	45	4	1.7	○	HLRS2018-02-120	576 888	
		16	50	4	1.7	○	HLRS2018-02-160	576 895	
		20	55	4	1.7	○	HLRS2018-02-200	576 901	
2	0.2	6	45	4	1.91	○	HLRS2020-02-060	569 347	
		8	45	4	1.91	○	HLRS2020-02-080	565 073	
		12	45	4	1.91	○	HLRS2020-02-120	560 757	
		16	50	4	1.91	○	HLRS2020-02-160	560 764	
		20	55	4	1.91	○	HLRS2020-02-200	565 080	
		25	60	4	1.91	○	HLRS2020-02-250	576 918	
	0.5	30	70	4	1.91	○	HLRS2020-02-300	576 925	
		6	45	4	1.91	○	HLRS2020-05-060	559 041	
		8	45	4	1.91	●	HLRS2020-05-080	565 158	
		12	45	4	1.91	●	HLRS2020-05-120	565 165	
		16	50	4	1.91	●	HLRS2020-05-160	565 172	
		20	55	4	1.91	●	HLRS2020-05-200	560 016	
		25	60	4	1.91	○	HLRS2020-05-250	576 932	
		30	70	4	1.91	○	HLRS2020-05-300	576 949	

D h10	R	L1	L	G	S	stock	code	num	€
2.5	0.2	10	45	4	2.41	○	HLRS2025-02-100	576 956	
		16	50	4	2.41	○	HLRS2025-02-160	576 963	
		20	55	4	2.41	○	HLRS2025-02-200	576 970	
		30	70	4	2.41	○	HLRS2025-02-300	576 987	
	0.5	10	45	4	2.41	○	HLRS2025-05-100	576 994	
		16	50	4	2.41	○	HLRS2025-05-160	577 007	
		20	55	4	2.41	○	HLRS2025-05-200	577 014	
		30	70	4	2.41	○	HLRS2025-05-300	577 021	
3	0.2	8	45	6	2.92	○	HLRS2030-02-080	577 038	
		12	50	6	2.92	○	HLRS2030-02-120	577 045	
		16	60	6	2.92	○	HLRS2030-02-160	568 838	
		20	60	6	2.92	○	HLRS2030-02-200	577 052	
		25	70	6	2.92	○	HLRS2030-02-250	577 069	
		30	80	6	2.92	○	HLRS2030-02-300	577 083	
		35	80	6	2.92	○	HLRS2030-02-360	577 090	
		40	90	6	2.92	○	HLRS2030-02-400	577 106	
	0.5	8	45	6	2.92	○	HLRS2030-05-080	567 985	
		12	50	6	2.92	●	HLRS2030-05-120	565 097	
		16	60	6	2.92	●	HLRS2030-05-160	565 103	
		20	60	6	2.92	●	HLRS2030-05-200	560 030	
		25	70	6	2.92	●	HLRS2030-05-250	565 110	
		30	80	6	2.92	●	HLRS2030-05-300	565 127	
	1.0	8	45	6	2.92	○	HLRS2030-10-080	577 113	
		12	50	6	2.92	○	HLRS2030-10-120	577 120	
		16	60	6	2.92	○	HLRS2030-10-160	577 137	
		20	60	6	2.92	○	HLRS2030-10-200	565 875	
		25	70	6	2.92	○	HLRS2030-10-250	568 067	
		30	80	6	2.92	○	HLRS2030-10-300	577 144	
	4	0.2	4	50	6	3.82	○	HLRS2040-02-040	577 151
12			50	6	3.82	○	HLRS2040-02-120	577 168	
16			60	6	3.82	○	HLRS2040-02-160	577 175	
20			60	6	3.82	○	HLRS2040-02-200	577 182	
25			70	6	3.82	○	HLRS2040-02-250	577 199	
30			70	6	3.82	○	HLRS2040-02-300	568 722	
35			80	6	3.82	○	HLRS2040-02-350	577 205	
40			90	6	3.82	○	HLRS2040-02-400	568 739	
45			90	6	3.82	○	HLRS2040-02-450	577 212	
50			100	6	3.82	○	HLRS2040-02-500	577 229	
0.5		12	50	6	3.82	○	HLRS2040-05-120	570 183	
		16	60	6	3.82	●	HLRS2040-05-160	565 134	
		20	60	6	3.82	●	HLRS2040-05-200	560 047	
		25	70	6	3.82	●	HLRS2040-05-250	563 048	
		30	70	6	3.82	●	HLRS2040-05-300	561 365	
		40	90	6	3.82	●	HLRS2040-05-400	565 141	
		50	100	6	3.82	○	HLRS2040-05-500	577 236	
1.0		12	50	6	3.82	○	HLRS2040-10-120	568 821	
		16	60	6	3.82	○	HLRS2040-10-160	577 243	
		20	60	6	3.82	○	HLRS2040-10-200	560 054	
	25	70	6	3.82	○	HLRS2040-10-250	563 055		
	30	70	6	3.82	○	HLRS2040-10-300	566 599		
5	0.2	5	50	6	4.82	○	HLRS2050-02-050	577 250	
		16	60	6	4.82	○	HLRS2050-02-160	577 267	
		25	60	6	4.82	○	HLRS2050-02-250	577 274	
		40	80	6	4.82	○	HLRS2050-02-400	577 281	
	0.5	16	60	6	4.82	○	HLRS2050-05-160	572 774	
		25	60	6	4.82	○	HLRS2050-05-250	577 397	
		40	80	6	4.82	○	HLRS2050-05-400	577 403	
	1.0	16	60	6	4.82	○	HLRS2050-10-160	577 298	
25		60	6	4.82	○	HLRS2050-10-250	577 304		
40		80	6	4.82	○	HLRS2050-10-400	577 311		
6	0.2	6	80	6	5.82	○	HLRS2060-02-060	577 328	
		20	80	6	5.82	○	HLRS2060-02-200	577 335	
		30	80	6	5.82	○	HLRS2060-02-300	577 342	
	0.5	20	80	6	5.82	○	HLRS2060-05-200	577 359	
		30	80	6	5.82	○	HLRS2060-05-300	577 366	
	1.0	20	80	6	5.82	○	HLRS2060-10-200	577 373	
		30	80	6	5.82	○	HLRS2060-10-300	577 380	

CARBIDE 4 FLUTE CORNER RADIUS END MILL 60RC

Solid carbide - Titanium nitride coated

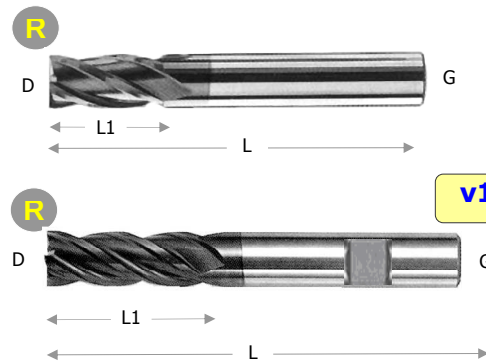
C 4439 - FRESA HM TORICA 4T 60 RC

 Metallo duro micro grana
 Per materiali fino a HRC 62
 Dente al centro

K4ER

D h7	R	L1	L	G h6	cf	ΔT	stock	code	num	12.03.12	€
3	0.2	8	38	3	1	-	□	K4ER02030C	572 170		
3	0.5	8	38	3	1	-	●	K4ER05030C	572 194		
4	0.2	11	50	4	1	-		K4ER02040C	572 200		
4	0.5	11	50	4	1	-	●	K4ER05040C	572 217		
4	1	11	50	4	1	-	□	K4ER10040C	572 224		
5	0.5	13	50	5	1	-	□	K4ER05050C	572 231		
5	1	13	50	5	1	-	□	K4ER10050C	572 248		
6	0.5	14	57	6	1	-	●	K4ER05060C	572 255		
6	1	14	57	6	1	-	●	K4ER10060C	572 262		
6	1.5	14	57	6	1	-	□	K4ER15060C	572 279		
8	0.5	18	63	8	1	-	●	K4ER05080C	572 293		
8	1	18	63	8	1	-	●	K4ER10080C	572 309		
8	1.5	18	63	8	1	-	□	K4ER15080C	572 316		
8	2	18	63	8	1	-	□	K4ER20080C	572 323		
10	0.5	22	72	10	1	-	●	K4ER05100C	572 330		
10	1	22	72	10	1	-	●	K4ER10100C	572 347		
10	1.5	22	72	10	1	-	□	K4ER15100C	572 354		
10	2	22	72	10	1	-	□	K4ER20100C	572 378		
12	0.5	25	73	12	1	-	○	K4ER05120C	572 385		
12	1	25	73	12	1	-	●	K4ER10120C	572 392		
12	1.5	25	73	12	1	-	□	K4ER15120C	572 408		
12	2	25	73	12	1	-	●	K4ER20120C	572 415		
12	3	25	73	12	1	-	□	K4ER30120C	572 422		

C 4444 - FRESA HM TORICA 4T 60 RC

Metallo duro micro grana
Per materiali fino a HRC 62
Dente al centro



v1

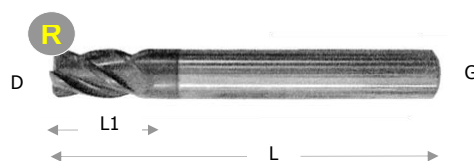
D h7	R	L1	scarico	L	g h6	cf	$\Delta \pm$	stock	code	num	09.1112	€
4	1	11	-	50	4	1	-	●	QL4D4R1	682 169		
5	1	13	-	50	5	1	-	○	QL4D5R1	669 276		
6	1	14	-	58	6	1	-	●	QL4D6R1	669 283		
8	1	18	-	64	8	1	-	●	QL4D8R1	669 290		
10	1	22	-	73	10	1	-	●	QL4D10R1	669 306		
12	1	25	-	73	12	1	-	●	QL4D12R1	669 313		
12	1	45	-	100	12	1	-	○	QL4D12X45R1	705 950		
12v1*	1	75	-	150	12	1	-	○	QL4D12X75R1	681315		
16	1	30	-	92	16	1	-	●	QL4D16R1	672 146		
16 v1*	1	20	80	150	16W	1	-	●	QL4D16X20R1	660 082		
16 v1	1	75	-	150	16W	1	-	●	QL4D16X75R1	660 075		
20	1	38	-	100	20	1	-	●	QL4D20R1	672 139		
20 v1*	1	20	85	150	20W	1	-	●	QL4D20X20R1	654 029		
20 v1*	1	75	-	150	20W	1	-	●	QL4D20X75R1	654 012		

v1 → Weldon

CARBIDE 4 FLUTE LONG SHANK CORNER RADIUS END MILL 50RC

Solid carbide - Titanium nitride coated

C 4445 - FRESA HM TORICA 4T 50 RC

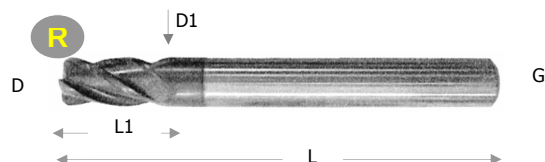
 Metallo duro micro grana
 Per materiali fino a HRC 50
 Dente al centro

5814

D h10	R	L1	L	Gh6			stock	code	num	12.012.07	€
3	0.2	8	60	6	1	-	●	5814--030-R0.2	533 522		
3	0.5	8	60	6	1	-	●	5814-030-R0.5	530 095		
4	0.2	11	70	6	1	-	○	5814-040-R0.2	533 539		
4	0.5	11	70	6	1	-	●	5814-040-R0.5	530 101		
4	1	11	70	6	1	-	●	5814-040-R1	532 785		
5	0.2	13	80	6	1	-	○	5814-050-R0.2	533 546		
5	0.5	13	80	6	1	-	●	5814-050-R0.5	533 553		
6	0.2	13	80	6	1	-	○	5814-060-R0.2	546 898		
6	0.5	13	80	6	1	-	●	5814-060-R0.5	530 071		
6	1	13	80	6	1	-	●	5814-060-R1	532 808		
6	2	13	80	6	1	-	○	5814-060-R2	513 418		
8	0.5	19	100	8	1	-	●	5814-080-R0.5	530 088		
8	1	19	100	8	1	-	●	5814-080-R1	532 815		
8	1.5	19	100	8	1	-	○	5814-080-R1.5	537 513		
8	2	19	100	8	1	-	○	5814-080-R2	533 966		
10	0.5	22	100	10	1	-	●	5814-080-R0.5	533 560		
10	1	22	100	10	1	-	●	5814-100-R1	533 577		
10	2	22	100	10	1	-	○	5814-100-R2	533 935		
12	0.5	26	110	12	1	-	○	5814-120-R0.5	537 087		
12	1	26	110	12	1	-	●	5814-120-R1	537 094		
12	2	26	110	12	1	-	○	5814-120-R2	537 100		

CARBIDE 4/6 FLUTE CORNER RADIUS END MILL 65RC

Solid carbide - Titanium nitride coated

C 4449 - FRESA HM TORICA 4T/6T 65 RC

 Metallo duro micro grana
 Per materiali fino a HRC 65
 Dente al centro

C-CHRS

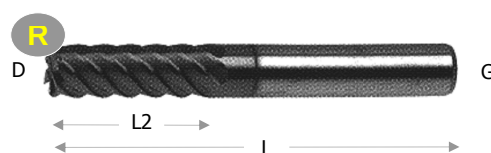
D h10	R	L1	L	Gh6	z	D1	α°		ΔTΔ	stock	code	num	12.012.07	€
3	0.1	10	60	6	4	2.9	30°	1	-	○	CCHRS 4030-01-100	687 263		
3	0.2	10	60	6	4	2.9	30°	1	-	○	CCHRS 4030-02-100	661 645		
3	0.5	10	60	6	4	2.9	30°	1	-	○	CCHRS 4030-05-100	484 800		
4	0.1	12	60	6	4	3.8	30°	1	-	○	CCHRS 4040-01-120	687 270		
4	0.2	12	60	6	4	3.8	30°	1	-	○	CCHRS 4040-02-120	687 287		
4	0.5	12	60	6	4	3.8	30°	1	-	○	CCHRS 4040-05-120	503 327		
4	1	12	60	6	4	3.8	30°	1	-	○	CCHRS 4040-10-120	687 294		
5	0.2	16	60	6	4	4.8	30°	1	-	○	CCHRS 4050-02-160	687 300		
5	0.5	16	60	6	4	4.8	30°	1	-	○	CCHRS 4050-05-160	687 317		
6	0.1	21	60	6	6	5.9	45°	1	-	○	CCHRS 4060-01-210	687 324		
6	0.2	21	60	6	6	5.9	45°	1	-	○	CCHRS 6060-02-210	687 331		
6	0.3	21	60	6	6	5.9	45°	1	-	○	CCHRS 6060-03-210	687 348		
6	0.5	21	60	6	6	5.9	45°	1	-	○	CCHRS 6060-05-210	687 355		
6	1	21	60	6	6	5.9	45°	1	-	○	CCHRS 6060-10-210	687 362		
8	0.3	26	80	8	6	7.9	45°	1	-	○	CCHRS 6080-03-260	687 379		
8	0.5	26	80	8	6	7.9	45°	1	-	○	CCHRS 6080-05-260	559 225		
8	1	26	80	8	6	7.9	45°	1	-	○	CCHRS 6080-10-260	559 232		
10	0.3	31	80	10	6	9.9	45°	1	-	○	CCHRS 6100-03-310	687 386		
10	0.5	31	80	10	6	9.9	45°	1	-	○	CCHRS 6100-05-310	559 249		
10	1	31	80	10	6	9.9	45°	1	-	○	CCHRS 6100-10-310	559 256		
12	0.3	37	100	12	6	11.9	45°	1	-	○	CCHRS 6120-03-370	687 393		
12	0.5	37	100	12	6	11.9	45°	1	-	○	CCHRS 6120-05-370	687 409		
12	1	37	100	12	6	11.9	45°	1	-	○	CCHRS 6120-10-370	596 725		

CARBIDE MULTIFLUTE CORNER RADIUS END MILL 65RC

Solid carbide - Titanium nitride coated

C 4453 - FRESA HM TORICA MULTITAGLIO 65RC

Metallo duro micro grana ultrafine
Per materiali fino a HRC 65
Taglio al centro


42228.37


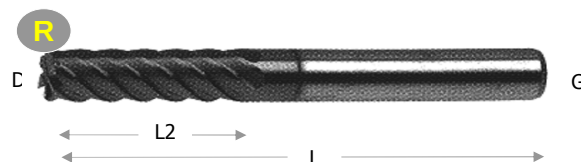
D h10	R	L	L2	G h6	Z		$\Delta \pm$	stock	code	num	21.05.07	€
6	0.5	57	13	6	6	1	-	☐	ER 422837006005	494 335		
8	0.5	63	19	8	6	1	-	☐	ER 422837008005	494 342		
10	0.5	72	22	10	6	1	-	☐	ER 422837010005	487 290		
12	0,5	83	26	12	6	1	-	☐	ER 422837012005	687 416		
12	1.0	83	26	12	6	1	-	☐	ER 422837012010	494 359		
16	0,5	92	32	16	6	1	-	☐	ER 422837016005	687 423		
16	1.0	92	32	16	6	1	-	☐	ER 422837016010	494 366		
20	0,5	104	38	20	8	1	-	☐	ER 422837020005	687 430		
20	1.0	104	38	20	8	1	-	☐	ER 422837020010	494 373		
25	0,5	121	45	25	8	1	-	☐	ER 422837025005	687 447		
25	1,5	121	45	25	8	1	-	☐	ER 422837025015	494 380		

CARBIDE MULTIFLUTE CORNER RADIUS LONG END MILL 65RC

Solid carbide - Titanium nitride coated

C 4455 - FRESA HM TORICA MULTITAGLIO LUNGA 65RC

Metallo duro micro grana ultrafine
Per materiali fino a HRC 65
Taglio al centro


42228.31


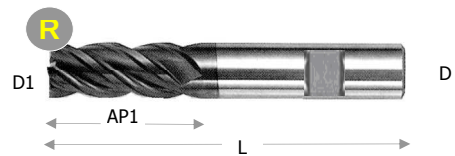
D h10	R	L	L2	G h6	Z		$\Delta \pm$	stock	code	num	21.05.07	€
6	0.5	62	18	6	6	1	-	☐	ER 422831006005	494 397		
8	0.5	68	24	8	6	1	-	☐	ER 422831008005	494 403		
10	0.5	80	30	10	6	1	-	☐	ER 422831010005	494 410		
12	0,5	93	36	12	6	1	-	☐	ER 422831012005	590 389		
12	1.0	93	36	12	6	1	-	☐	ER 422831012010	494 427		
16	0,5	108	48	16	6	1	-	☐	ER 422831016005	687 454		
16	1.0	108	48	16	6	1	-	☐	ER 422831016010	494 434		
20	0,5	126	+0	20	8	1	-	☐	ER 422831020005	687 461		
20	1.0	126	60	20	8	1	-	☐	ER 422831020010	494 441		
25	0,5	150	75	25	8	1	-	☐	ER 422831025005	697 149		
25	1,5	150	75	25	8	1	-	☐	ER 422831025015	697 156		

CARBIDE 5 FLUTE RADIUS END MILL HARVI WELDON

Solid carbide - Titanium nitride coated

**C 4463 - FRESA HM TORICA 5T WELDON
HARVI II UCDE**

Metallo duro micro grana ultrafine
 Per materiali fino a HRC 52
 Per sgrossatura e finitura
 Scanalature fino a 1 x D

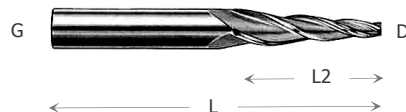

HARVI II UCDE
 per materiali ferrosi


D1 h10	D	AP1 MAX	L	R	α°			stock	code	num	12.03.12	€
4	6	11	55	0.25	38°	1	-	●	UCDE 0400B5ARAKC643M	687 133		
5	6	13	57	0.25	38°	1	-	●	UCDE 0500B5ARAKC643M	652 476		
6	6	13	57	0.4	38°	1	-	●	UCDE 0600B5ARAKC643M	687 140		
8	8	19	63	0.5	38°	1	-	●	UCDE 0800B5ARAKC643M	634 878		
9	10	19	72	0.5	38°	1	-	○	UCDE 0900B5ARAKC643M	687 157		
10	10	22	72	0.5	38°	1	-	●	UCDE 1000B5ARAKC643M	632 768		
12	12	26	83	0.75	38°	1	-	●	UCDE 1200B5ARAKC643M	625 548		
14	14	26	83	0.75	38°	1	-	○	UCDE 1400B5ARAKC643M	687 164		
16	16	32	92	0.75	38°	1	-	●	UCDE 1600B5ARAKC643M	636 308		
18	18	32	92	0.75	38°	1	-	○	UCDE 1800B5ARAKC643M	687 171		
20	20	38	104	0.75	38°	1	-	○	UCDE 2000B5ARAKC643M	628 020		
25	25	45	121	0.75	38°	1	-	○	UCDE 2500B5ARAKC643M	687 188		

CARBIDE TAPERED END MILL 55RC

Solid carbide - Titanium nitride coated

ET 62
C 4501 - FRESA HM CONICA 3 T PIANA 55RC

 Metallo duro micro grana
 Per materiali fino a HRC 55
 Dente al centro


α°	D h10	L2	L	G h6			stock	code	num	12.012.07	€
1°	4.5	20	60	6	1	--	☐	ET 6206-1°	431 606		
1°	6	30	65	8	1	--	☐	ET 6208-1°	431 613		
1°	8	30	75	10	1	--	☐	ET 6210-1°	431 620		
1°	10	35	85	12	1	--	☐	ET 6212-1°	431 637		
1°	12	35	85	14	1	--	☐	ET 6214-1°	431 644		
1°	14.5	45	90	16	1	--	☐	ET 6216-1°	431 651		
1°	16	55	100	18	1	--	☐	ET 6218-1°	687 478		
1°	18	55	100	20	1	--	☐	ET 6220-1°	431 668		
3°	2.5	20	60	6	1	--	☐	ET 6206-3°	431 675		
3°	4	30	65	8	1	--	☐	ET 6208-3°	431 682		
3°	6	30	75	10	1	--	☐	ET 6210-3°	431 699		
3°	8	35	85	12	1	--	☐	ET 6212-3°	431 705		
3°	10	35	85	14	1	--	☐	ET 6214-3°	431 712		
3°	11.3	45	90	16	1	--	☐	ET 6216-3°	431 729		
3°	12	55	100	18	1	--	☐	ET 6218-3°	687 485		
3°	14.2	55	100	20	1	--	☐	ET 6220-3°	431 736		
5°	2.5	20	60	6	1	--	☐	ET 6206-5°	431 743		
5°	3	25	63	8	1	--	☐	ET 6208-5°	431 750		
5°	3.5	30	75	10	1	--	☐	ET 6210-5°	431 767		
5°	4	35	75	12	1	--	☐	ET 6212-5°	431 774		
5°	8	35	83	14	1	--	☐	ET 6214-5°	431 781		
5°	9	40	92	16	1	--	☐	ET 6216-5°	431 798		
5°	11	40	100	18	1	--	☐	ET 6218-5°	687 492		
5°	12	45	100	20	1	--	☐	ET 6220-5°	431 804		

CARBIDE TAPERED ROUND END MILL 55RC

Solid carbide - Titanium nitride

ET 62R
C 4505 - FRESA HM CONICA 3 T RAGGIATA 55 RC

 Metallo duro micro grana
 Per materiali fino a HRC 55


α°	D h10	L2	L	G h6			stock	code	num	12.012.07	€
1°	4.5	20	60	6	1	--	☐	ET 62R06-1°	687 522		
1°	6	30	65	8	1	--	☐	ET 62R08-1°	687 539		
1°	8	30	75	10	1	--	☐	ET 62R10-1°	687 546		
1°	10	35	85	12	1	--	☐	ET 62R12-1°	687 560		
1°	12	35	85	14	1	--	☐	ET 62R14-1°	687 577		
1°	14.5	45	90	16	1	--	☐	ET 62R16-1°	687 584		
1°	16	55	100	18	1	--	☐	ET 62R18-1°	687 614		
1°	18	55	100	20	1	--	☐	ET 62R20-1°	687 621		
3°	2.5	20	60	6	1	--	☐	ET 62R06-3°	687 638		
3°	4	30	65	8	1	--	☐	ET 62R08-3°	687 645		
3°	6	30	75	10	1	--	☐	ET 62R10-3°	687 652		
3°	8	35	85	12	1	--	☐	ET 62R12-3°	687 669		
3°	10	35	85	14	1	--	☐	ET 62R14-3°	687 676		
3°	11.3	45	90	16	1	--	☐	ET 62R16-3°	687 683		
3°	12	55	100	18	1	--	☐	ET 62R18-3°	687 690		
3°	14.2	55	100	20	1	--	☐	ET 62R20-3°	687 706		
5°	2.5	20	60	6	1	--	☐	ET 62R06-5°	687 713		
5°	3	25	63	8	1	--	☐	ET 62R08-5°	687 720		
5°	3.5	30	75	10	1	--	☐	ET 62R10-5°	687 737		
5°	4	35	75	12	1	--	☐	ET 62R12-5°	687 744		
5°	8	35	83	14	1	--	☐	ET 62R14-5°	687 751		
5°	9	40	92	16	1	--	☐	ET 62R16-5°	687 768		
5°	11	40	100	18	1	--	☐	ET 62R18-5°	687 775		
5°	12	45	100	20	1	--	☐	ET 62R20-5°	687 782		

CARBIDE TINED 3/4 FLUTE END MILL

Solid carbide

216

C 4521 - FRESA HM BRASATA 3/4 T

 Metallo duro riportato
Per materiali fino a HRC 50

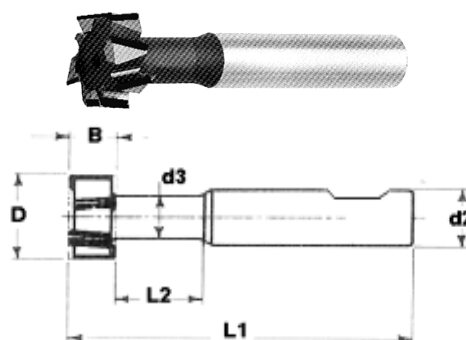

D h10	L	L1	G h6	z	L2			stock	code	num	12.012.07	€
8	63	12	8	3	-	5	--	○	216K 8	218 948		
10	63	12	10	3	-	5	--	○	216K 10	218 863		
12	75	16	12	3	-	5	--	○	216K 12	218 870		
14	75	19	12	4	-	3	--	○	216K 14	218 894		
16	80	22	16	4	-	3	--	○	216K 16	218 900		
18	80	22	16	4	-	1	--	○	216K 18	218 917		
20	90	22	20	4	-	1	--	○	216K 20	218 924		

CARBIDE TINED T-SLOT END MILL

Solid carbide

361

C 4523 - FRESA HM BRASATA A T

 Metallo duro
Denti alternati
Attacco Weldon
Per materiali fino a HRC 50
DIN 851 AB


D h11	B k11	L1	d3	L2	d2 h8	Z			stock	code	num	25.02.09	€
12*	3	70	6	28	10	6	3	--	○	SA 361 1203	582 186		
12.5*	4	57	5	10	10	6	3	--	●	SA 361 12.504	220 514		
12.5	6	57	5	7	10	6	3	--	○	SA 361 12.506	555 302		
16*	3	70	7.2	28	10	6	5	--	○	SA 361 1603	563 741		
16*	4	62	7	10	10	6	3	--	●	SA 361 1604	220 521		
16*	6	62	7	10	10	6	3	--	●	SA 361 1606	220 545		
16	8	62	7	10	10	6	3	--	○	SA 361 1608	555 319		
19*	6	70	8	15	12	6	3	--	●	SA 361 1906	220 583		
19	9	70	8	13	12	6	3	--	○	SA 361 1909	555 326		
20*	3	70	7.2	28	10	6	5	--	○	SA 361 2003	563 734		
22	10	70	10	16	12	6	1	--	○	SA 361 2210	555 333		
25	11	82	12	17	16	6	1	--	○	SA 361 2511	555 340		
28	12	85	13	20	16	6	1	--	○	242K 28	220 507		
30*	12	110	15.4	36	16	8	1	--	○	SA 361 3012	629 317		

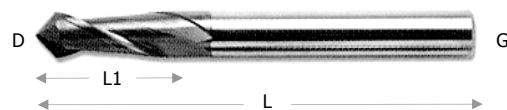
* misure speciali

CARBIDE 2 FLUTE CHAMFERING END MILL 90°

Solid carbide - Titanium nitride coated

C 4539 - FRESA HM SVASARE 2T 90°

 Metallo duro micro grana
 Per materiali fino a HRC 60
 Angolo assiale 45°

K2EC90


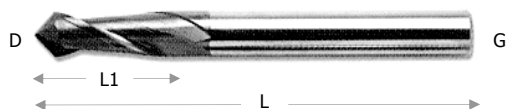
D h9	L	L1	g h6	α°			stock	code	num	12.03.12	€
3	38	8	3	90°	1	--	○	K2EC090030C	577 410		
4	50	11	4	90°	1	--	○	K2EC090040C	577 427		
5	50	13	5	90°	1	--	○	K2EC090050C	577 434		
6	57	14	6	90°	1	--	●	K2EC090060C	577 441		
8	63	18	8	90°	1	--	●	K2EC090080C	577 458		
10	72	22	10	90°	1	--	●	K2EC090100C	577 465		
12	73	25	12	90°	1	--	●	K2EC090120C	577 540		

CARBIDE 2 FLUTE CHAMFERING END MILL 60°

Solid carbide - Titanium nitride coated

C 4541 - FRESA HM SVASARE 2T 60°

 Metallo duro micro grana
 Per materiali fino a HRC 60
 Angolo assiale 45°

K2EC60


D h9	L	L1	g h6	α°			stock	code	num	12.012.07	€
3	38	8	3	60°	1	--	○	K2EC060030C	577 472		
4	50	11	4	60°	1	--	○	K2EC060040C	577 489		
5	50	13	5	60°	1	--	○	K2EC060050C	577 496		
6	57	14	6	60°	1	--	○	K2EC060060C	577 502		
8	63	18	8	60°	1	--	○	K2EC060080C	577 519		
10	72	22	10	60°	1	--	○	K2EC060100C	577 526		
12	73	25	12	60°	1	--	○	K2EC060120C	577 533		

CARBIDE 2 FLUTE END MILL

Solid carbide

 C 4555 - **FRESA HM PIANA 2T PER CHIAVETTE**

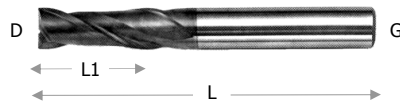
 Metallo duro micro grana
 Per materiali fino a HRC 50

0Q0X

15°

TIALN

 50
HRC

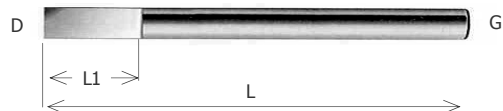
F2AJ


D h10	L	L1	G h6	Z			stock	code	num	12.012.07	€
2.80	50	4	6	2	1	--	○	F2AU 0280ADK30KC625M	420 372		
3.80	54	5	6	2	1	--	○	F2AU 0380ADK30KC625M	412 155		
4.80	54	6	6	2	1	--	○	F2AU 0480ADK30KC625M	455 886		
5.75	54	7	6	2	1	--	○	F2AU 0575ADK30KC625M	376 846		
7.75	58	9	8	2	1	--	○	F2AU 0775ADK30KC625M	412 162		
9.70	58	11	10	2	1	--	○	F2AU 0970ADK30KC625M	455 893		
11.70	66	12	12	2	1	--	○	F2AU 1170ADK30KC625M	412 179		

CARBIDE ENGRAVING TOOL

Solid carbide

53108
C 4569 - BULINO HM 1 TAGLIO

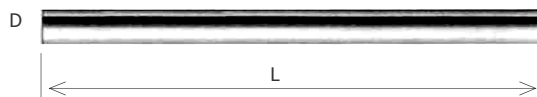
 Metallo duro
Per materiali fino a HRC 50


D h10	L	L1	G g6	z			stock	code	num	12.012.07	€
4	100	5	4	1	1	--	●	53108 0410KM	563 635		
6	100	8	6	1	1	--	●	53108 0610KM	551 892		
8	100	10	8	1	1	--	●	53108 0810KM	551 908		
10	100	13	10	1	1	--	●	53108 1010KM	563 642		
12	100	16	12	1	1	--	○	53108 1210KM	577649		

CARBIDE ROUND TOOLBIT

Solid carbide

53105
C 4571 - CILINDRETTO HM

 Metallo duro
Per materiali fino a HRC 50


D h10	L			stock	code	num	12.012.07	€
3	100	1	--	○	53105 0310KM	247 719		
3	100	1	--	○	53105 0410KM	320 436		
4	150	1	--	○	53105 0415KM	247 733		
4	200	1	--	○	53105 0420KM	450 959		
4	100	1	--	○	531050610KM	557 009		
6	150	1	--	○	53105 0615KM	247 764		
6	200	1	--	○	53105 0620KM	450 966		
6	100	1	--	○	53105 0810KM	247 788		
8	150	1	--	○	53105 0815KM	247 795		
8	200	1	--	○	53105 0820KM	450 973		
8	100	1	--	○	53105 1010 KM	247 818		
10	150	1	--	○	53105 1015KM	247 825		
10	200	1	--	○	53105 1020KM	247 832		
10	100	1	--	○	53105 1210KM	577 656		
12	150	1	--	○	53105 1215KM	353 809		
12	200	1	--	○	53105 1220KM	370 967		
12	100	1	--	○	53105 1610KM	557 016		
16	150	1	--	○	53105 1615KM	247 863		
16	200	1	--	○	53105 1620KM	450 980		

CARBIDE 1 FLUTE END MILL FOR ALUMINIUM

Solid carbide - Titanium nitride coated

C 4601 - FRESA HM PIANA 1T PER ALLUMINIO

Metallo duro K10F TIALN micrograna ultrafine
 Taglio al centro
 Per leghe leggere


5241.49

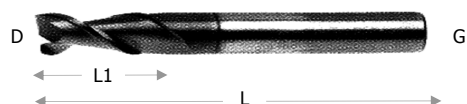

d1 h10	l2	l1	d2 h6	z			stock	code	num	12.012.07	€
2	10	40	2	1	1	--	○	ER 022849000020	494 861		
3	10	40	3	1	1	--	○	ER 022849000030	494 878		
4	14	50	4	1	1	--	○	ER 022849000040	494 885		
5	16	60	5	1	1	--	○	ER 022849000050	494 892		
6	20	60	6	1	1	--	○	ER 022849000060	494 908		
8	25	75	8	1	1	--	○	ER 022849000080	494 915		
10	25	75	10	1	1	--	○	ER 022849000100	494 922		
12	25	75	12	1	1	--	○	ER 022849000120	494 939		

CARBIDE 2 FLUTE END MILL FOR ALUMINIUM

Solid carbide - Titanium nitride coated

C 4603 - FRESA HM PIANA 2T PER ALLUMINIO

Metallo duro K10F TIALN micrograna ultrafine
 Taglio al centro
 Per leghe leggere


4228.14


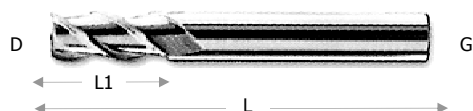
D h10	L1	L	G h6	z			stock	code	num	12.012.07	€
4	8	57	6	2	1	--	●	ER 422814000040	428 323		
5	10	57	6	2	1	--	●	ER 422814000050	403 917		
6	10	57	6	2	1	--	●	ER 422814000060	403 924		
8	16	63	8	2	1	--	●	ER 422814000080	403 931		
10	19	72	10	2	1	--	●	ER 422814000100	420 334		
12	22	83	12	2	1	--	●	ER 422814000120	420 341		
14	22	83	14	2	1	--	○	ER 422814000140	482 752		
16	26	92	16	2	1	--	●	ER 422814000160	477 253		
18	26	92	18	2	1	--	○	ER 422814000180	494 731		
20	32	104	20	2	1	--	○	ER 422814000200	477 260		

CARBIDE 3 FLUTE END MILL FOR ALUMINIUM

Solid carbide - Titanium nitride coated

C 4605 - FRESA HM PIANA 3T PER ALLUMINIO

Metallo duro micrograna ultrafine
 Taglio al centro
 Per leghe leggere


K3EA


D h9	l2	l1	d2 h6	z			stock	code	num	12.012.07	€
3	8.0	38	3	3	1	--	□	K3EA030A	577 557		
4	11	50	4	3	1	--	□	K3EA040A	577 564		
5	13	50	5	3	1	--	□	K3EA050A	577 571		
6	14	57	6	3	1	--	□	K3EA060A	577 588		
8	18	63	8	3	1	--	□	K3EA080A	577 595		
10	22	72	10	3	1	--	□	K3EA100A	577 601		
12	25	73	12	3	1	--	□	K3EA120A	577 618		
16	30	92	16	3	1	--	□	K3EA160A	577 625		
20	38	100	20	3	1	--	□	K3EA200A	577 632		

CARBIDE 2 FLUTE END MILL FOR GRAPHITE

Solid carbide - Diamond coated


C 4651 - FRESA HM 2T DIAMANT

 Per **GRAFITE**

Metallo duro micro grana - Rivestimento diamantato


90110

D e8	L	L1	Gh6	d3		$\Delta \pm$	stock	code	num	12.012.07	€
2	80	10	4	1.9	1	-	○	901 100210KMD	687 799		
2	100	20	4	1.9	1	-	○	901 100220KMD	519 007		
3	80	10	4	2.9	1	-	○	901 100310KMD	687 805		
3	100	20	4	2.9	1	-	○	901 100320KMD	519 014		
4	100	20	4	3.9	1	-	○	901 100420KMD	519 021		
4	110	30	4	3.9	1	-	○	901 100430KMD	687 812		
5	100	30	6	4.9	1	-	○	901 100530KMD	687 289		
5	110	40	6	4.9	1	-	○	901 100540KMD	687 836		
6	110	30	6	5.8	1	-	○	901 100630KMD	595 186		
6	160	40	6	5.8	1	-	○	901 100640KMD	522 182		
8	110	40	8	7.8	1	-	○	901 100840KMD	687 843		
8	160	50	8	7.8	1	-	○	901 100850KMD	545 877		
10	110	40	10	9.8	1	-	○	901 101040KMD	687 850		
10	160	50	10	9.8	1	-	○	901 101050KMD	687 867		
12	160	50	12	11.8	1	-	○	901 101250KMD	687 874		

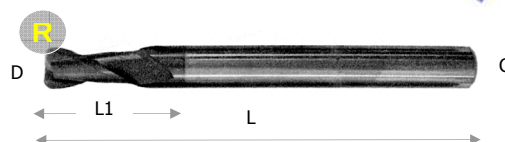
CARBIDE 2 FLUTE CORNER RADIUS END MILL FOR GRAPHITE

Solid carbide - Diamond coated


C 4653 - FRESA HM TORICA 2T DIAMANT

 Per **GRAFITE**

Metallo duro micro grana - Rivestimento diamantato


90107

D e8	L1	R	L	g h6	d3		$\Delta \pm$	stock	code	num	12.012.07	€
2	10	0.2	80	4	1.9	1	-	□	901 070212KMD	687 881		
2	20	0.2	100	4	1.9	1	-	□	901 070222KMD	687 898		
3	10	0.3	80	4	2.9	1	-	□	901 070313KMD	687 904		
3	20	0.3	100	4	2.9	1	-	□	901 070323KMD	687 911		
4	20	0.5	100	4	3.9	1	-	□	901 070425KMD	687 928		
4	30	0.5	110	4	3.9	1	-	□	901 070435KMD	687 935		
5	30	0.5	100	6	4.9	1	-	□	901 070535KMD	687 942		
5	40	0.5	110	6	4.9	1	-	□	901 070545KMD	687 959		
6	30	0.5	110	6	5.8	1	-	□	901 070635KMD	687 966		
6	40	0.5	160	6	5.8	1	-	□	901 070645KMD	687 973		
8	40	0.5	110	8	7.8	1	-	□	901 070845KMD	687 980		
8	50	0.5	160	8	7.8	1	-	□	901 070855KMD	687 997		
10	40	1	110	10	9.8	1	-	□	901 071040KMD	688 000		
10	50	1	160	10	9.8	1	-	□	901 071050KMD	688 017		
12	50	1	160	12	11.8	1	-	□	901 071250KMD	688 024		

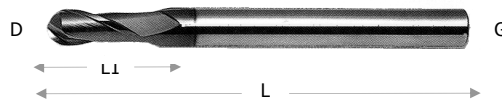
CARBIDE 2 FLUTE ROUND END MILL FOR GRAPHITE

Solid carbide - Diamond coated

C 4661 - FRESA HM SEMISFERICA 2T DIAMANT

Per **GRAFITE**

Metallo duro micro grana - Rivestimento diamantato



90105

D e8	L	L1	R	G h6	z	elica		ΔT	stock	code	num	12.012.07	€
2	80	10	1	4	2	15°	1	-	□	901 050210KMD	688 031		
2	100	20	1	4	2	15°	1	-	□	901 050220KMD	518 970		
3	80	10	1.5	4	2	15°	1	-	□	901 050310KMD	688 048		
3	100	20	1.5	4	2	15°	1	-	□	901 050320KMD	518 987		
4	100	20	2	4	2	15°	1	-	□	901 050420KMD	518 994		
4	110	30	2	4	2	15°	1	-	□	901 050430KMD	688 055		
5	100	30	2.5	6	2	15°	1	-	□	901 050530KMD	688 062		
5	110	40	2.5	6	2	15°	1	-	□	901 050540KMD	688 079		
6	110	30	3	6	2	15°	1	-	□	901 050630KMD	688 086		
6	160	40	3	6	2	15°	1	-	□	901 050640KMD	522 199		
8	110	40	4	8	2	15°	1	-	□	901 050840KMD	688 093		
8	160	50	4	8	2	15°	1	-	□	901 050850KMD	688 109		
10	110	40	5	10	2	15°	1	-	□	901 051040KMD	688 116		
10	160	50	5	10	2	15°	1	-	□	901 051050KMD	688 123		
12	160	50	6	12	2	15°	1	-	□	901 051250KMD	688 130		

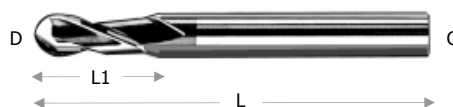
CARBIDE 2 FLUTE BALLNOSE END MILL FOR GRAPHITE

Solid carbide - Diamond coated

C 4663 - FRESA HM SFERICA 2T DIAMANT

Per **GRAFITE**

Metallo duro micro grana - Rivestimento diamantato



90130

D e8	L	L1	R	D1	G h6	z	elica		ΔT	stock	code	num	12.012.07	€
3	80	30	1.5	2.5	6	2	32°	1	-	□	90130 0300KMD	688 147		
4	80	30	2	3.3	6	2	32°	1	-	□	90130 0400KMD	688 154		
5	80	43	2.5	4.1	6	2	32°	1	-	□	90130 0500KMD	688 161		
6	100	30	3	4.7	6	2	32°	1	-	□	90130 0600KMD	688 178		
8	100	36	4	6.5	8	2	32°	1	-	□	90130 0800KMD	688 185		
10	100	43	5	8.2	10	2	32°	1	-	□	90130 1000KMD	688 192		
12	100	52	6	9.8	12	2	32°	1	-	□	90130 1200KMD	688 208		

simboli	definizioni	formule	unità di misura
f	Avanzamento al giro	$f = \frac{V_f}{n}$	mm/giro
fz	Avanzamento per dente (spessore del truciolo)	$f_z = \frac{V_f}{z \times n}$	mm/dente
n	Numero dei giri (RPM)	$n = \frac{V_c \times 1000}{D \times \pi}$	min-1
Vc	Velocità di taglio	$V_c = \frac{D \times \pi \times n}{1000}$	m/min
Vf	Velocità di avanzamento	$V_f = f_z \times z \times n$	mm/min
z	Taglienti effettivi	$z = \frac{V_f}{f_z \times n}$	n°
ap	Profondità di taglio (assiale)		mm
ae	Profondità radiale		mm
b	Larghezza di taglio		mm
D	Diametro		mm

anomalia	possibili cause	rimedio	
		RIDURRE ↓	AUMENTARE ↑
Rottura del tagliente	Metallo duro troppo fragile Geometria inadeguata Posizione fresa scorretta	Avanzamento per dente	Velocità di taglio Tenacità del metallo duro Stabilità della geometria tagliente Stabilità della macchina
Usura de tagliente	Metallo duro non adatto Parametri di lavorazione errati Fresatura in discordanza	Velocità di taglio	Avanzamento per dente Resistenza all'usura Fase del tagliente
Craterizzazione	Insufficiente resistenza agli sbalzi termici	Velocità di taglio Avanzamento per dente	Resistenza all'usura Pressione del refrigerante
Incollamento del truciolo	Temperatura troppo bassa nella zona contatto truciolo/tagliente	Apporto di refrigerante	Velocità di taglio Durezza superficiale fresa (rivestimento)
Tagliente di riporto	Temperatura troppo bassa nella zona contatto truciolo/tagliente	Profondità di passata	Velocità di taglio Avanzamento per dente Pressione del refrigerante
Insufficiente finitura superficiale	Affilatura fresa Errore di planarità Fresatura in discordanza	Avanzamento per dente Fase del tagliente Profondità di passata	Velocità di taglio Stabilità della macchina Angolo dell'elica Concentricità della fresa Numero dei tagliente
Vibrazioni	Stabilità della macchina Stabilità del pezzo Elevato numero di denti in presa Spoglia fresa inadeguata Sporgenza eccessiva Fresatura in discordanza	Profondità di passata Velocità di taglio Sporgenza della fresa	Stabilità della macchina Stabilità del pezzo Densità del refrigerante Fase del tagliente (passo variabile) Incremento per dente
Scheggiatura del pezzo	Pressione di taglio Materiale del pezzo troppo fragile	Avanzamento per dente Fase del tagliente Profondità di passata	Affilatura dei taglienti Geometria di taglio
Sovraccarico della macchina		Velocità di taglio Avanzamento per dente Profondità di passata	

La lavorazione in concordanza consente una:

- diminuzione delle vibrazioni
- buona qualità della superficie
- maggiore durata del tagliente
- velocità di taglio superiore

