

## >> VHM-SCHAFTFRÄSER, KURZ, ZWEISCHNEIDER

## SOLID CARBIDE END MILLS, SHORT SERIES, TWO FLUTES

## FRESE FRONTALI MDI, SERIE CORTA, 2 TAGLIANTI

### Einsatzbereich:

Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit bis ca. 1.300 N/mm<sup>2</sup>. Zum Bohren und anschließenden Längs- sowie Passnutenfräsen.

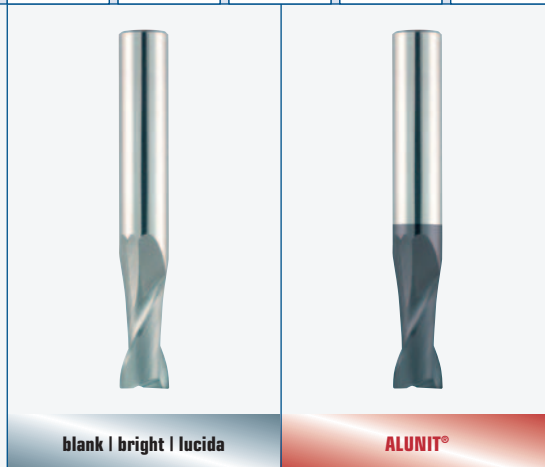
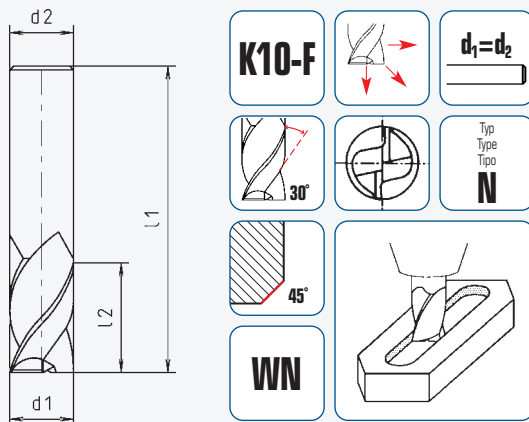
### Range of application:

Recommended for milling in materials with medium and high tensile strength up to 1.300 N/mm<sup>2</sup>. For drilling continued by horizontal milling with exact tolerances.

### Impiego:

Adatte per fresatura di materiali di media ed alta resistenza fino a 1.300 N/mm<sup>2</sup>. Foratura dal pieno e successiva fresatura di scanalature.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	GRAUGUSS CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
-----------------------------	-----------------------------	-------------------------------	-------------------------------	--------------	--	--	---------------------------------------	-----------	---------------	-----------	--



d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 6015 Art.-Nr.	€	Code 6017 Art.-Nr.	€
1	1	38	5	2	0 6015001001 00	13,97	0 6017001001 00	20,44
1,5	1,5	38	5	2	0 6015001501 00	13,97	0 6017001501 00	20,44
2	2	38	8	2	0 6015002001 00	13,49	0 6017002001 00	19,96
2,5	2,5	38	8	2	0 6015002501 00	13,49	0 6017002501 00	19,96
3	3	38	12	2	0 6015003001 00	11,98	0 6017003001 00	19,00
3,5	3,5	40	12	2	0 6015003501 00	13,97	0 6017003501 00	20,91
4	4	40	12	2	0 6015004001 00	13,97	0 6017004001 00	20,91
4,5	4,5	50	14	2	0 6015004501 00	15,48	0 6017004501 00	21,86
5	5	50	14	2	0 6015005001 00	17,03	0 6017005001 00	23,28
6	6	50	16	2	0 6015006001 00	21,00	0 6017006001 00	27,09
7	7	60	20	2	0 6015007001 00	27,94	0 6017007001 00	37,07
8	8	63	20	2	0 6015008001 00	30,99	0 6017008001 00	39,94
9	9	67	20	2	0 6015009001 00	34,97	0 6017009001 00	45,63
10	10	72	22	2	0 6015010001 00	44,96	0 6017010001 00	55,14
12	12	73	22	2	0 6015012001 00	59,88	0 6017012001 00	70,34
14	14	75	25	2	0 6015014001 00	84,89	0 6017014001 00	98,87
16	16	82	28	2	0 6015016001 00	114,90	0 6017016001 00	130,80
18	18	84	28	2	0 6015018001 00	149,80	0 6017018001 00	168,80
20	20	104	35	2	0 6015020001 00	199,70	0 6017020001 00	223,50



## >> VHM-SCHAFTFRÄSER, LANG, ZWEISCHNEIDER

## SOLID CARBIDE END MILLS, LONG SERIES, TWO FLUTES

## FRESE FRONTALI MDI, SERIE LUNGA, 2 TAGLIENTI

### Einsatzbereich:







Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit bis ca. 1.300 N/mm<sup>2</sup>. Zum Bohren und anschließenden Längs- sowie Passnutenfräsen.

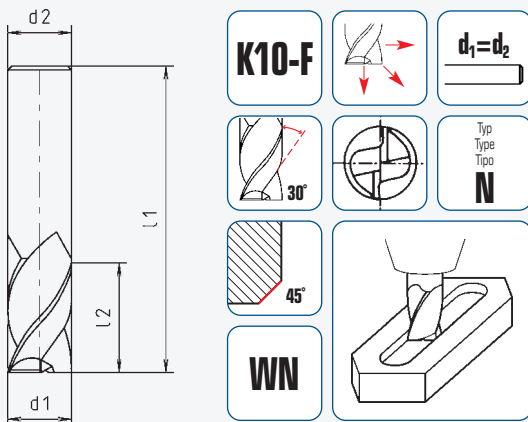
### Range of application:

Recommended for milling in materials with medium and high tensile strength up to 1.300 N/mm<sup>2</sup>. For drilling continued by horizontal milling with exact tolerances.

### Impiego:

Adatte per fresatura di materiali di media ed alta resistenza fino a 1.300 N/mm<sup>2</sup>. Foratura dal pieno e successiva fresatura di scanalature.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	<b>GRAUGUSS CAST IRON GHISA GRIGIA</b>	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	--	-----------	---------------	-----------	---



blank | bright | lucida



**ALUNIT®**

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 6025 Art.-Nr.	€	Code 6027 Art.-Nr.	€
3	3	60	25	2	0 6025003001 00	<b>17,97</b>	0 6027003001 00	<b>24,72</b>
4	4	60	25	2	0 6025004001 00	<b>21,00</b>	0 6027004001 00	<b>27,56</b>
5	5	70	30	2	0 6025005001 00	<b>25,00</b>	0 6027005001 00	<b>31,37</b>
6	6	70	30	2	0 6025006001 00	<b>29,94</b>	0 6027006001 00	<b>37,54</b>
8	8	80	35	2	0 6025008001 00	<b>42,39</b>	0 6027008001 00	<b>53,71</b>
10	10	100	45	2	0 6025010001 00	<b>64,94</b>	0 6027010001 00	<b>77,48</b>
12	12	100	45	2	0 6025012001 00	<b>84,89</b>	0 6027012001 00	<b>98,87</b>
12	12	150	75	2	0 6025012101 00	<b>119,80</b>	0 6027012101 00	<b>140,80</b>
14	14	100	45	2	0 6025014001 00	<b>114,90</b>	0 6027014001 00	<b>130,30</b>
14	14	150	75	2	0 6025014101 00	<b>159,80</b>	0 6027014101 00	<b>181,60</b>
16	16	100	45	2	0 6025016001 00	<b>149,80</b>	0 6027016001 00	<b>166,40</b>
16	16	150	75	2	0 6025016101 00	<b>219,70</b>	0 6027016101 00	<b>243,00</b>
18	18	100	45	2	0 6025018001 00	<b>194,70</b>	0 6027018001 00	<b>215,40</b>
18	18	150	75	2	0 6025018101 00	<b>259,60</b>	0 6027018101 00	<b>285,70</b>
20	20	125	55	2	0 6025020001 00	<b>249,60</b>	0 6027020001 00	<b>274,80</b>
20	20	150	75	2	0 6025020101 00	<b>299,50</b>	0 6027020101 00	<b>328,50</b>



## >> VHM-SCHAFTFRÄSER, KURZ, DREISCHNEIDER

## SOLID CARBIDE END MILLS, SHORT SERIES, THREE FLUTES

## FRESE FRONTALI MDI, SERIE CORTA, 3 TAGLIENTI

### Einsatzbereich:

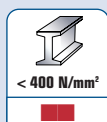

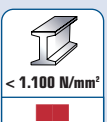
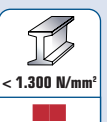
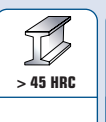
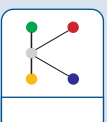
Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit bis ca. 1.300 N/mm<sup>2</sup>. Zum Bohren und anschließenden Längs- sowie Passnutenfräsen.

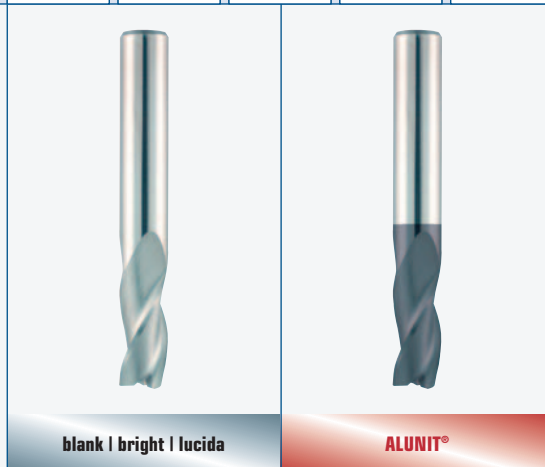
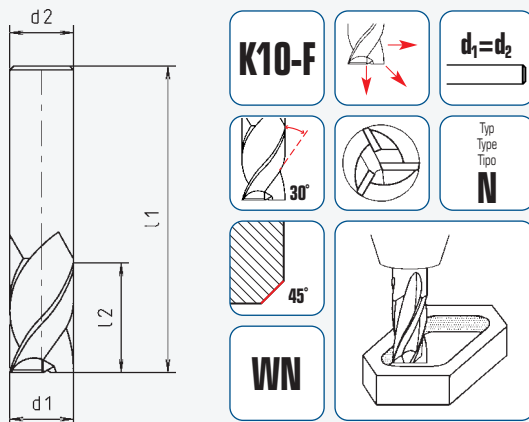
### Range of application:

Recommended for milling in materials with medium and high tensile strength up to 1.300 N/mm<sup>2</sup>. For drilling continued by horizontal milling with exact tolerances.

### Impiego:

Adatte per fresatura di materiali di media ed alta resistenza fino a 1.300 N/mm<sup>2</sup>. Foratura dal pieno e successiva fresatura di scanalature.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	GRAUGUSS CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	---------------------------------------	-----------	---------------	-----------	---



d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 6055 Art.-Nr.	€	Code 6057 Art.-Nr.	€
1	1	38	5	3	0 6055001001 00	13,97	0 6057001001 00	20,44
1,5	1,5	38	5	3	0 6055001501 00	13,97	0 6057001501 00	20,44
2	2	38	8	3	0 6055002001 00	13,49	0 6057002001 00	19,96
2,5	2,5	38	8	3	0 6055002501 00	13,49	0 6057002501 00	19,96
3	3	38	12	3	0 6055003001 00	11,98	0 6057003001 00	19,00
3,5	3,5	40	12	3	0 6055003501 00	13,97	0 6057003501 00	20,91
4	4	40	12	3	0 6055004001 00	13,97	0 6057004001 00	20,91
4,5	4,5	50	14	3	0 6055004501 00	15,48	0 6057004501 00	21,86
5	5	50	14	3	0 6055005001 00	17,03	0 6057005001 00	23,28
6	6	50	16	3	0 6055006001 00	21,00	0 6057006001 00	27,09
7	7	60	20	3	0 6055007001 00	27,94	0 6057007001 00	37,07
8	8	63	20	3	0 6055008001 00	30,99	0 6057008001 00	39,94
9	9	67	20	3	0 6055009001 00	34,97	0 6057009001 00	45,63
10	10	72	22	3	0 6055010001 00	44,96	0 6057010001 00	55,14
12	12	73	22	3	0 6055012001 00	59,88	0 6057012001 00	70,34
14	14	75	25	3	0 6055014001 00	84,89	0 6057014001 00	98,87
16	16	82	28	3	0 6055016001 00	114,90	0 6057016001 00	130,80
18	18	84	28	3	0 6055018001 00	149,80	0 6057018001 00	168,80
20	20	104	35	3	0 6055020001 00	199,70	0 6057020001 00	223,50
25	25	104	35	3	0 6055025001 00	299,50	0 6057025001 00	327,10



## >> VHM-SCHAFTFRÄSER, LANG, DREISCHNEIDER

## SOLID CARBIDE END MILLS, LONG SERIES, THREE FLUTES

## FRESE FRONTALI MDI, SERIE LUNGA, 3 TAGLIANTI

### Einsatzbereich:







Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit bis ca. 1.300 N/mm<sup>2</sup>. Zum Bohren und anschließenden Längs- sowie Passnutenfräsen.

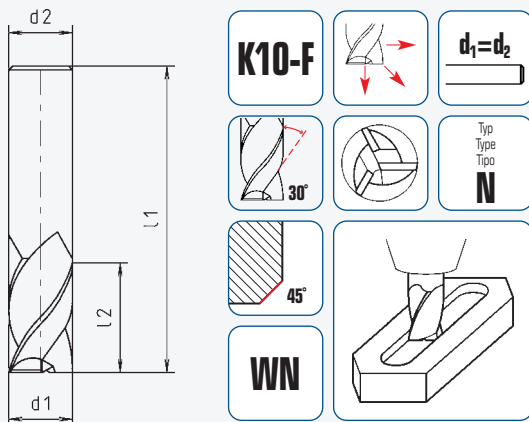
### Range of application:

Recommended for milling in materials with medium and high tensile strength up to 1.300 N/mm<sup>2</sup>. For drilling continued by horizontal milling with exact tolerances.

### Impiego:

Adatte per fresatura di materiali di media ed alta resistenza fino a 1.300 N/mm<sup>2</sup>. Foratura dal pieno e successiva fresatura di scanalature.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	<b>GRAUGUSS CAST IRON GHISA GRIGIA</b>	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	--	-----------	---------------	-----------	---



blank | bright | lucida



**ALUNIT®**

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 6065 Art.-Nr.	€	Code 6067 Art.-Nr.	€
3	3	60	25	3	0 6065003001 00	<b>17,97</b>	0 6067003001 00	<b>24,72</b>
4	4	60	25	3	0 6065004001 00	<b>21,00</b>	0 6067004001 00	<b>27,56</b>
5	5	70	30	3	0 6065005001 00	<b>25,00</b>	0 6067005001 00	<b>31,37</b>
6	6	70	30	3	0 6065006001 00	<b>29,94</b>	0 6067006001 00	<b>37,54</b>
8	8	80	35	3	0 6065008001 00	<b>42,39</b>	0 6067008001 00	<b>53,71</b>
10	10	100	45	3	0 6065010001 00	<b>64,94</b>	0 6067010001 00	<b>77,48</b>
12	12	100	45	3	0 6065012001 00	<b>84,89</b>	0 6067012001 00	<b>98,87</b>
12	12	150	75	3	0 6065012101 00	<b>120,10</b>	0 6067012101 00	<b>140,80</b>
14	14	100	45	3	0 6065014001 00	<b>114,90</b>	0 6067014001 00	<b>130,30</b>
14	14	150	75	3	0 6065014101 00	<b>159,80</b>	0 6067014101 00	<b>181,60</b>
16	16	100	45	3	0 6065016001 00	<b>149,80</b>	0 6067016001 00	<b>166,40</b>
16	16	150	75	3	0 6065016101 00	<b>219,70</b>	0 6067016101 00	<b>243,00</b>
18	18	100	45	3	0 6065018001 00	<b>194,70</b>	0 6067018001 00	<b>215,40</b>
18	18	150	75	3	0 6065018101 00	<b>259,60</b>	0 6067018101 00	<b>285,70</b>
20	20	125	55	3	0 6065020001 00	<b>249,60</b>	0 6067020001 00	<b>274,80</b>
20	20	150	75	3	0 6065020101 00	<b>299,50</b>	0 6067020101 00	<b>328,50</b>
25	25	125	55	3	0 6065025001 00	<b>399,30</b>	0 6067025001 00	<b>428,80</b>
25	25	150	75	3	0 6065025101 00	<b>574,10</b>	0 6067025101 00	<b>605,60</b>



## >> VHM-SCHAFTFRÄSER, KURZ, VIERSCHNEIDER

## SOLID CARBIDE END MILLS, SHORT SERIES, FOUR FLUTES

## FRESE FRONTALI MDI, SERIE CORTA, 4 TAGLIENTI

### Einsatzbereich:

Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit. Fräsen von Nuten mit größerer Bohrtiefe, exakten Passungen, ebenso zum Stirn- und Umfangfräsen geeignet. Hoher Zerspanungsleistung und große Laufruhe ergeben exzellente Oberflächengüte.

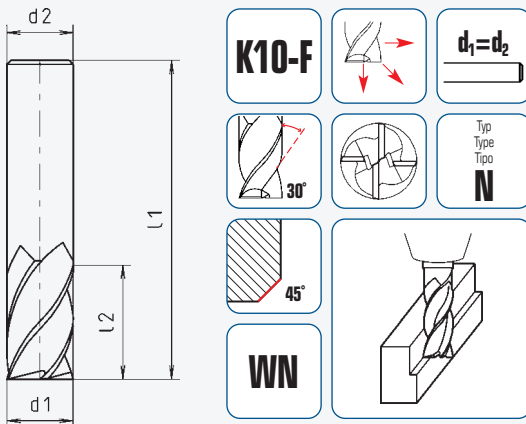
### Range of application:

Recommended for milling in materials with medium and high tensile strength. Milling of slots with large depth, accurate fits as well as face and surface milling. High cutting performance in chipping and a smooth run result an excellent surface.

### Impiego:

Adatte per fresatura di materiali di media ed alta resistenza. Fresatura di scanalature profonde, con accoppiamenti precisi, anche per fresatura frontale e tangenziale. Elevato rendimento, silenziosità di passata, eccellente finitura della superficie.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	GRAUGUSS CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
-----------------------------	-----------------------------	-------------------------------	-------------------------------	--------------	--	--	---------------------------------------	-----------	---------------	-----------	--



d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 6075 Art.-Nr.	€	Code 6077 Art.-Nr.	€
1	1	38	5	4	0 6075001001 00	13,97	0 6077001001 00	20,44
1,5	1,5	38	5	4	0 6075001501 00	13,97	0 6077001501 00	20,44
2	2	38	8	4	0 6075002001 00	13,49	0 6077002001 00	19,96
2,5	2,5	38	8	4	0 6075002501 00	13,49	0 6077002501 00	19,96
3	3	38	12	4	0 6075003001 00	11,98	0 6077003001 00	19,00
3,5	3,5	40	12	4	0 6075003501 00	13,97	0 6077003501 00	20,91
4	4	40	12	4	0 6075004001 00	13,97	0 6077004001 00	20,91
4,5	4,5	50	14	4	0 6075004501 00	15,48	0 6077004501 00	21,86
5	5	50	14	4	0 6075005001 00	17,03	0 6077005001 00	23,28
6	6	50	16	4	0 6075006001 00	21,00	0 6077006001 00	27,09
7	7	60	20	4	0 6075007001 00	27,94	0 6077007001 00	37,07
8	8	63	20	4	0 6075008001 00	30,99	0 6077008001 00	39,94
9	9	67	20	4	0 6075009001 00	34,97	0 6077009001 00	45,63
10	10	72	22	4	0 6075010001 00	44,96	0 6077010001 00	55,14
12	12	73	22	4	0 6075012001 00	59,88	0 6077012001 00	70,34
14	14	75	25	4	0 6075014001 00	84,89	0 6077014001 00	98,87
16	16	82	28	4	0 6075016001 00	114,90	0 6077016001 00	130,80
18	18	84	28	4	0 6075018001 00	149,80	0 6077018001 00	168,80
20	20	104	35	4	0 6075020001 00	199,70	0 6077020001 00	223,50
25	25	104	35	4	0 6075025001 00	299,50	0 6077025001 00	327,10



## >> VHM-SCHAFTFRÄSER, LANG, VIERSCHNEIDER

## SOLID CARBIDE END MILLS, LONG SERIES, FOUR FLUTES

## FRESE FRONTALI MDI, SERIE LUNGA, 4 TAGLIENTI

### Einsatzbereich:







Zum Schlichten mit hoher Zerspanungsleistung bei gleichzeitig exzellenter Oberfläche von Stählen mit mittlerer bis hoher Festigkeit (z.B. Bau-, Einsatz-, Vergütungsstähle); NE-Metalle, rost- und säurebeständige Stähle. Bevorzugt Gleichlaufräsen.

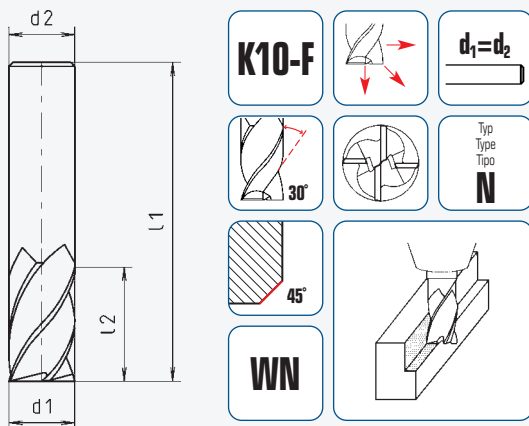
### Range of application:

Finishing with high cutting performance and excellent surface on steels with medium to high tensile strength (for example structural, case-hardening, heat-treatable steels); non-ferrous metals, stainless and acid resistant steels. Climb milling preferred.

### Impiego:

Adatte per finitura ad alto rendimento realizzo di ottima superficie, in acciai di media fino ad elevata resistenza (es. acciai bonificati), materiali non ferrosi, acciai inox e resistenti agli acidi. Consigliata fresatura concorde.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	<b>GRAUGUSS CAST IRON GHISA GRIGIA</b>	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	--	-----------	---------------	-----------	---



blank | bright | lucida



ALUNIT®

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 6085 Art.-Nr.	€	Code 6087 Art.-Nr.	€
3	3	60	25	4	0 6085003001 00	17,97	0 6087003001 00	24,72
4	4	60	25	4	0 6085004001 00	21,00	0 6087004001 00	27,56
5	5	70	30	4	0 6085005001 00	25,00	0 6087005001 00	31,37
6	6	70	30	4	0 6085006001 00	29,94	0 6087006001 00	37,54
8	8	80	35	4	0 6085008001 00	42,39	0 6087008001 00	53,71
10	10	100	45	4	0 6085010001 00	64,94	0 6087010001 00	77,48
12	12	100	45	4	0 6085012001 00	84,89	0 6087012001 00	98,87
12	12	150	75	4	0 6085012101 00	119,80	0 6087012101 00	140,80
14	14	100	45	4	0 6085014001 00	114,90	0 6087014001 00	130,30
14	14	150	75	4	0 6085014101 00	159,80	0 6087014101 00	181,60
16	16	100	45	4	0 6085016001 00	149,80	0 6087016001 00	166,40
16	16	150	75	4	0 6085016101 00	219,70	0 6087016101 00	243,00
18	18	100	45	4	0 6085018001 00	194,70	0 6087018001 00	215,40
18	18	150	75	4	0 6085018101 00	259,60	0 6087018101 00	285,70
20	20	125	55	4	0 6085020001 00	249,60	0 6087020001 00	274,80
20	20	150	75	4	0 6085020101 00	299,50	0 6087020101 00	328,50
25	25	125	55	4	0 6085025001 00	399,30	0 6087025001 00	428,80
25	25	150	75	4	0 6085025101 00	574,10	0 6087025101 00	605,60



## >> VHM-SCHAFTFRÄSER, LANG, ZWEISCHNEIDER, DIN 6527L

## SOLID CARBIDE END MILLS, LONG SERIES, TWO FLUTES, DIN 6527L

## FRESE FRONTALI MDI, SERIE LUNGA, 2 TAGLIENTI, DIN 6527L

### Einsatzbereich:

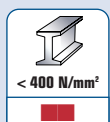
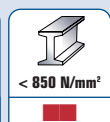
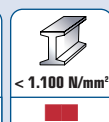
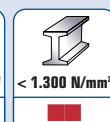
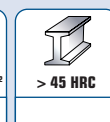
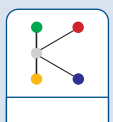
Empfohlen zum Fräsen von Werkstoffen mit mittleren und hohen Festigkeiten. Bohren auf volle Tiefe und Längsfräsen mit genauen Passungen.

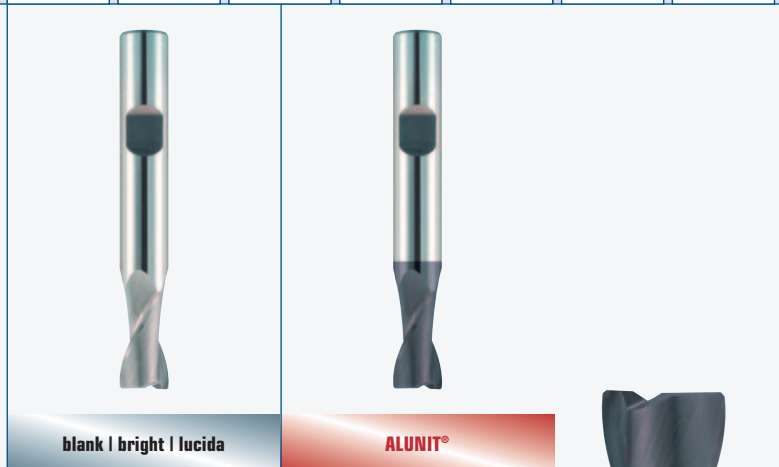
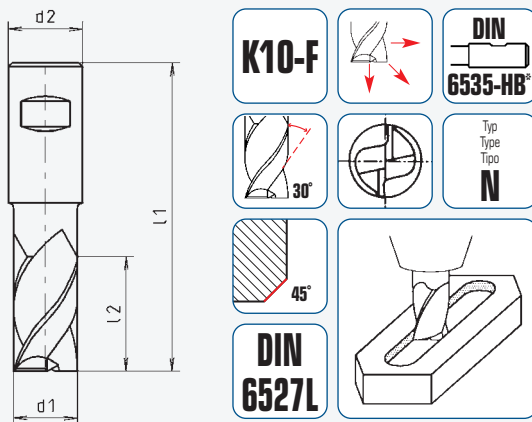
### Range of application:

Recommended for milling in materials with medium and high tensile strength. Vertical cutting to full depth and horizontal cutting with exact tolerances.

### Impiego:

Adatte per fresatura di materiali di media ed alta resistenza. Foratura dal pieno e fresatura di scanalature con accoppiamenti precisi.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	GRAUGUSS CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	---------------------------------------	-----------	---------------	-----------	---



d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 7635 Art.-Nr.	€	Code 7637 Art.-Nr.	€
2	6	50	6	2	0 7635002001 00	22,99	0 7637002001 00	29,46
2,5	6	50	6	2	0 7635002501 00	22,99	0 7637002501 00	31,37
3	6	57	7	2	0 7635003001 00	24,43	0 7637003001 00	30,89
3,5	6	57	7	2	0 7635003501 00	24,43	0 7637003501 00	30,89
4	6	57	8	2	0 7635004001 00	24,43	0 7637004001 00	30,89
4,5	6	57	8	2	0 7635004501 00	24,43	0 7637004501 00	30,89
5	6	57	10	2	0 7635005001 00	24,43	0 7637005001 00	30,89
5,5	6	57	10	2	0 7635005501 00	24,43	0 7637005501 00	30,89
6	6	57	10	2	0 7635006001 00	24,43	0 7637006001 00	30,89
6,5	8	63	13	2	0 7635006501 00	40,71	0 7637006501 00	48,83
7	8	63	13	2	0 7635007001 00	34,97	0 7637007001 00	43,74
7,5	8	63	16	2	0 7635007501 00	40,71	0 7637007501 00	48,83
8	8	63	16	2	0 7635008001 00	34,97	0 7637008001 00	43,74
8,5	10	72	16	2	0 7635008501 00	52,33	0 7637008501 00	63,95
9	10	72	16	2	0 7635009001 00	47,42	0 7637009001 00	58,00
9,5	10	72	19	2	0 7635009501 00	52,33	0 7637009501 00	63,95
10	10	72	19	2	0 7635010001 00	47,42	0 7637010001 00	58,00
11	12	83	22	2	0 7635011001 00	69,88	0 7637011001 00	80,34
12	12	83	22	2	0 7635012001 00	69,88	0 7637012001 00	80,34
13	14	83	22	2	0 7635013001 00	99,83	0 7637013001 00	113,70
14	14	83	22	2	0 7635014001 00	99,83	0 7637014001 00	113,70
15	16	92	26	2	0 7635015001 00	132,30	0 7637015001 00	147,40
16	16	92	26	2	0 7635016001 00	132,30	0 7637016001 00	147,40
18	18	92	26	2	0 7635018001 00	167,70	0 7637018001 00	186,40
20	20	104	32	2	0 7635020001 00	209,70	0 7637020001 00	233,40



\* Ausführung ohne Weldon-Schaft innerhalb von 30 Tagen lieferbar. | Version without Weldon-shank will be supplied within 30 days. | Esecuzione senza Weldon consegna 30 giorni.

## >> VHM-SCHAFTFRÄSER, LANG, DREISCHNEIDER, DIN 6527L

## SOLID CARBIDE END MILLS, LONG SERIES, THREE FLUTES, DIN 6527L

## FRESE FRONTALI MDI, SERIE LUNGA, 3 TAGLIENTI, DIN 6527L

### Einsatzbereich:

Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit. Fräsen von Nuten mit größerer Bohrtiefe, genauen Passungen, ebenso zum Stirn- und Umfangfräsen geeignet. Hohe Zerspanungsleistung und große Laufruhe ergeben exzellente Oberflächengüte.

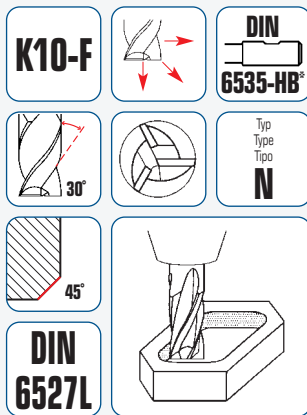
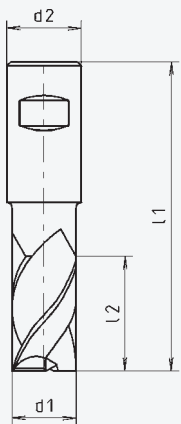
### Range of application:

Recommended for milling in materials with medium/high tensile strength. Milling of slots with large depth, accurate fits as well as face and surface milling. High cutting performance in chipping and a smooth run result in an excellent surface.

### Impiego:

Adatte per fresatura di materiali di media ed alta resistenza. Fresatura di scanalature profonde, con accoppiamenti precisi, anche per fresatura frontale e tangenziale. Elevato rendimento, silenziosità di passata, eccellente finitura della superficie.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	<b>GRAUGUSS CAST IRON GHISA GRIGIA</b>	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
-----------------------------	-----------------------------	-------------------------------	-------------------------------	--------------	--	--	--	-----------	---------------	-----------	--



blank | bright | lucida



ALUNIT®



d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 7655 Art.-Nr.	€	Code 7657 Art.-Nr.	€
2	6	50	6	3	0 7655002001 00	22,99	0 7657002001 00	29,46
2,5	6	50	6	3	0 7655002501 00	22,99	0 7657002501 00	31,37
3	6	57	7	3	0 7655003001 00	24,43	0 7657003001 00	30,89
3,5	6	57	7	3	0 7655003501 00	24,43	0 7657003501 00	30,89
4	6	57	8	3	0 7655004001 00	24,43	0 7657004001 00	30,89
4,5	6	57	8	3	0 7655004501 00	24,43	0 7657004501 00	30,89
5	6	57	10	3	0 7655005001 00	24,43	0 7657005001 00	30,89
5,5	6	57	10	3	0 7655005501 00	24,43	0 7657005501 00	30,89
6	6	57	10	3	0 7655006001 00	24,43	0 7657006001 00	30,89
6,5	8	63	13	3	0 7655006501 00	40,71	0 7657006501 00	48,83
7	8	63	13	3	0 7655007001 00	34,97	0 7657007001 00	43,74
7,5	8	63	16	3	0 7655007501 00	40,71	0 7657007501 00	48,83
8	8	63	16	3	0 7655008001 00	34,97	0 7657008001 00	43,74
8,5	10	72	16	3	0 7655008501 00	52,33	0 7657008501 00	63,95
9	10	72	16	3	0 7655009001 00	47,42	0 7657009001 00	58,00
9,5	10	72	19	3	0 7655009501 00	52,33	0 7657009501 00	63,95
10	10	72	19	3	0 7655010001 00	47,42	0 7657010001 00	58,00
11	12	83	22	3	0 7655011001 00	69,88	0 7657011001 00	80,34
12	12	83	22	3	0 7655012001 00	69,88	0 7657012001 00	80,34
13	14	83	22	3	0 7655013001 00	99,83	0 7657013001 00	113,70
14	14	83	22	3	0 7655014001 00	99,83	0 7657014001 00	113,70
15	16	92	26	3	0 7655015001 00	132,30	0 7657015001 00	147,40
16	16	92	26	3	0 7655016001 00	132,30	0 7657016001 00	147,40
18	18	92	26	3	0 7655018001 00	167,70	0 7657018001 00	186,40
20	20	104	32	3	0 7655020001 00	209,70	0 7657020001 00	233,40

\* Ausführung ohne Weldon-Schaft: innerhalb von 30 Tagen lieferbar. | Version without Weldon-shank will be supplied within 30 days. | Esecuzione senza Weldon consegna 30 giorni.



## >> VHM-SCHAFTFRÄSER, LANG, VIERSCHEIDER, DIN 6527L

## SOLID CARBIDE END MILLS, LONG SERIES, FOUR FLUTES, DIN 6527L

## FRESE FRONTALI MDI, SERIE LUNGA, 4 TAGLIENTI, DIN 6527L

### Einsatzbereich:

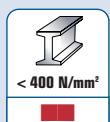
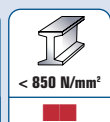
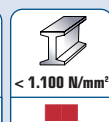
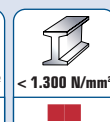
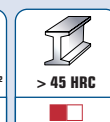
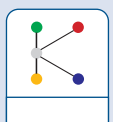
Zum Schlichten mit hoher Zerspanungsleistung bei gleichzeitig exzellenter Oberfläche von Stählen mit mittlerer bis hoher Festigkeit (z.B. Bau-, Einsatz-, Vergütungsstähle); NE-Metalle, rost- und säurebeständige Stähle. Bevorzugt Gleichlaufräsen.

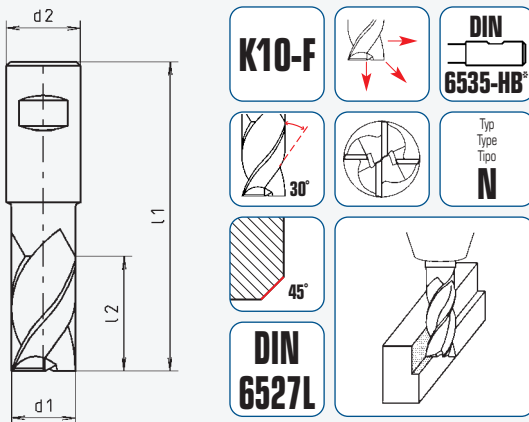
### Range of application:

Finishing with high cutting performance and excellent surface on steels with medium to high tensile strength (for example structural, case-hardening, heat-treatable steels); non-ferrous metals, stainless and acid resistant steels. Climb milling preferred.

### Impiego:

Adatte per finitura ad alto rendimento realizzo di ottima superficie, in acciai di media fino ad elevata resistenza (es. acciai bonificati), materiali non ferrosi, acciai inox e resistenti agli acidi. Consigliata fresatura concorde.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	GRAUGUSS CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	---------------------------------------	-----------	---------------	-----------	---



d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 7675 Art.-Nr.	€	Code 7677 Art.-Nr.	€
2	6	50	7	4	0 7675002001 00	22,99	0 7677002001 00	29,46
2,5	6	50	7	4	0 7675002501 00	22,99	0 7677002501 00	31,37
3	6	57	8	4	0 7675003001 00	24,43	0 7677003001 00	30,89
3,5	6	57	10	4	0 7675003501 00	24,43	0 7677003501 00	30,89
4	6	57	11	4	0 7675004001 00	24,43	0 7677004001 00	30,89
4,5	6	57	11	4	0 7675004501 00	24,43	0 7677004501 00	30,89
5	6	57	13	4	0 7675005001 00	24,43	0 7677005001 00	30,89
5,5	6	57	13	4	0 7675005501 00	24,43	0 7677005501 00	30,89
6	6	57	13	4	0 7675006001 00	24,43	0 7677006001 00	30,89
6,5	8	63	16	4	0 7675006501 00	34,97	0 7677006501 00	48,83
7	8	63	16	4	0 7675007001 00	34,97	0 7677007001 00	43,74
7,5	8	63	16	4	0 7675007501 00	40,71	0 7677007501 00	48,83
8	8	63	19	4	0 7675008001 00	34,97	0 7677008001 00	43,74
8,5	10	72	19	4	0 7675008501 00	52,33	0 7677008501 00	63,95
9	10	72	19	4	0 7675009001 00	47,42	0 7677009001 00	58,00
9,5	10	72	22	4	0 7675009501 00	52,33	0 7677009501 00	63,95
10	10	72	22	4	0 7675010001 00	47,42	0 7677010001 00	58,00
11	12	83	26	4	0 7675011001 00	69,88	0 7677011001 00	80,34
12	12	83	26	4	0 7675012001 00	69,88	0 7677012001 00	80,34
13	14	83	26	4	0 7675013001 00	99,83	0 7677013001 00	113,70
14	14	83	26	4	0 7675014001 00	99,83	0 7677014001 00	113,70
15	16	92	32	4	0 7675015001 00	132,30	0 7677015001 00	147,40
16	16	92	32	4	0 7675016001 00	132,30	0 7677016001 00	147,40
18	18	92	32	4	0 7675018001 00	167,70	0 7677018001 00	186,40
20	20	104	38	4	0 7675020001 00	209,70	0 7677020001 00	233,40

\* Ausführung ohne Weldon-Schaft innerhalb von 30 Tagen lieferbar. | Version without Weldon-shank will be supplied within 30 days. | Esecuzione senza Weldon consegna 30 giorni.

## >> VHM-SCHAFTFRÄSER, LANG, DREISCHNEIDER, DIN 6527L

## SOLID CARBIDE END MILLS, LONG SERIES, THREE FLUTES, DIN 6527L

## FRESE FRONTALI MDI, SERIE LUNGA, 3 TAGLIANTI, DIN 6527L

### Einsatzbereich:







Empfohlen zum Fräsen von Werkstoffen mit mittleren und hohen Festigkeiten. Bohren auf volle Tiefe und Längsfräsen mit genauen Passungen.

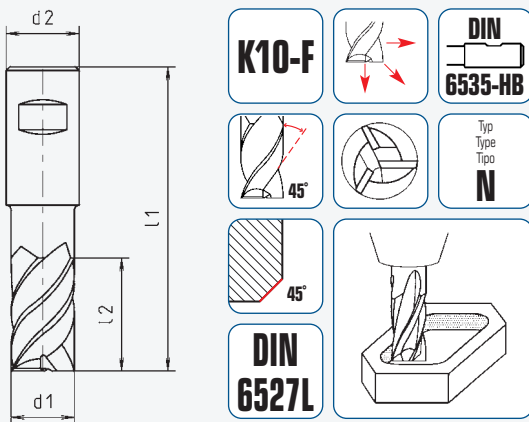
### Range of application:

Recommended for milling in materials with medium and high tensile strength. Vertical cutting to full depth and horizontal cutting with exact tolerances.

### Impiego:

Adatte per fresatura di materiali di media ed alta resistenza. Foratura dal pieno e fresatura di scanalature con accoppiamenti precisi.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	<b>GRAUGUSS CAST IRON GHISA GRIGIA</b>	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	--	-----------	---------------	-----------	---



blank | bright | lucida



ALUNIT®

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 6765 Art.-Nr.	€	Code 6767 Art.-Nr.	€
3	6	57	7	3	0 6765003001 00	<b>27,01</b>	0 6767003001 00	<b>34,22</b>
4	6	57	8	3	0 6765004001 00	<b>27,01</b>	0 6767004001 00	<b>34,22</b>
5	6	57	10	3	0 6765005001 00	<b>27,01</b>	0 6767005001 00	<b>34,22</b>
6	6	57	10	3	0 6765006001 00	<b>27,01</b>	0 6767006001 00	<b>34,22</b>
8	8	63	16	3	0 6765008001 00	<b>38,39</b>	0 6767008001 00	<b>49,43</b>
10	10	72	19	3	0 6765010001 00	<b>51,91</b>	0 6767010001 00	<b>64,17</b>
12	12	83	22	3	0 6765012001 00	<b>76,91</b>	0 6767012001 00	<b>87,93</b>
14	14	83	22	3	0 6765014001 00	<b>109,80</b>	0 6767014001 00	<b>125,10</b>
16	16	92	26	3	0 6765016001 00	<b>144,80</b>	0 6767016001 00	<b>162,60</b>
18	18	92	26	3	0 6765018001 00	<b>184,80</b>	0 6767018001 00	<b>205,40</b>
20	20	104	32	3	0 6765020001 00	<b>229,60</b>	0 6767020001 00	<b>256,70</b>
25	25	104	32	3	0 6765025001 00	<b>359,40</b>	0 6767025001 00	<b>384,60</b>



## >> VHM-SCHAFTFRÄSER, LANG, VIERSCHEIDER, DIN 6527L

## SOLID CARBIDE END MILLS, LONG SERIES, FOUR FLUTES, DIN 6527L

## FRESE FRONTALI MDI, SERIE LUNGA, 4 TAGLIENTI, DIN 6527L

### Einsatzbereich:

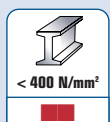
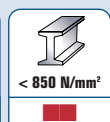
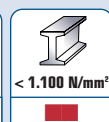
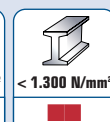
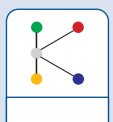
Schaftfräser, hochgedrallt mit hoher Konturgenauigkeit durch geringe Abdrängung, ruhiges Fräsverhalten durch geringe Vibrationsneigung, sehr gute Oberflächengüte.

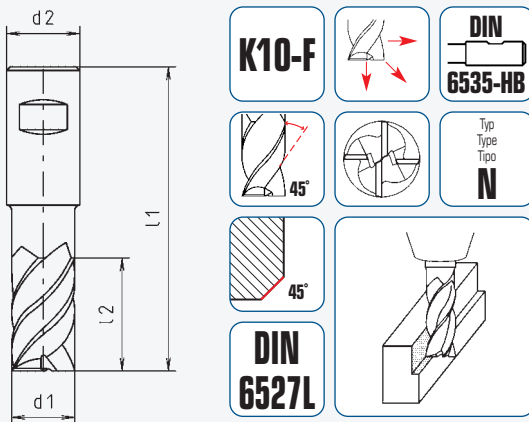
### Range of application:

End mills, high helix angle with high contour accuracy due to low deflection, smooth milling operation because of low vibration in tendency, excellent surface quality.

### Impiego:

Frese a finire a grande torsione con elevata precisione di contornatura. La minima flessione, la silenziosità di passata, e la minima tendenza alle vibrazioni, garantiscono una ottima finitura della superficie.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	GRAUGUSS CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	---------------------------------------	-----------	---------------	-----------	---



blank | bright | lucida



ALUNIT®

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 7545 Art.-Nr.	€	Code 7547 Art.-Nr.	€
3	6	57	8	4	0 7545003001 00	27,01	0 7547003001 00	34,22
4	6	57	11	4	0 7545004001 00	27,01	0 7547004001 00	34,22
5	6	57	13	4	0 7545005001 00	27,01	0 7547005001 00	34,22
6	6	57	13	4	0 7545006001 00	27,01	0 7547006001 00	34,22
8	8	63	19	4	0 7545008001 00	38,39	0 7547008001 00	49,43
10	10	72	22	4	0 7545010001 00	51,91	0 7547010001 00	64,17
12	12	83	26	4	0 7545012001 00	76,91	0 7547012001 00	87,93
14	14	83	26	4	0 7545014001 00	109,80	0 7547014001 00	125,10
16	16	92	32	4	0 7545016001 00	144,80	0 7547016001 00	162,60
18	18	92	32	4	0 7545018001 00	184,80	0 7547018001 00	205,40
20	20	104	38	4	0 7545020001 00	229,60	0 7547020001 00	256,70
25	25	104	38	4	0 7545025001 00	359,40	0 7547025001 00	384,60



## >> VHM-SCHRUPPFRÄSER, LANG, DREISCHNEIDER, DIN 6527L

## SOLID CARBIDE ROUGHING END MILLS, LONG SERIES, THREE FLUTES, DIN 6527L

## FRESE FRONTALI MDI A SGROSSARE, 3 TAGLIENTI, SERIE LUNGA, DIN 6527L

### Einsatzbereich:

Großer Anwendungsbereich bei Werkstoffen mit mittlerer bis hoher Festigkeit (ca. 900–1.400 N/mm<sup>2</sup>), z.B. Einsatz-, Vergütungsstähle, Werkzeugstahl legiert, vergütet, NE-Metalle, hochwarmfeste Werkstoffe sowie Gusseisen und Gusslegierungen.

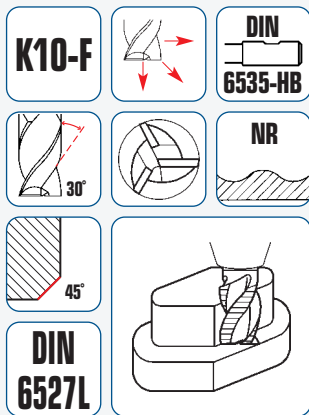
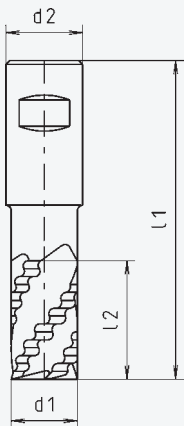
### Range of application:

Wide range of applications on materials of medium strength up to high tensile strength (~ 900–1.400 N/mm<sup>2</sup>), for example case-hardening, heat-treatable steels, alloyed tool steels; hardened and tempered non-ferrous metals, high temperature materials as well as cast iron and alloyed cast iron.

### Impiego:

Adatte per fresatura in molti settori di materiali di media ed alta resistenza (ca. 900–1.400 N/mm<sup>2</sup>) es. acciai da cementazione, acciai bonificati, acciai da utensili legati, bonificati, materiali non ferrosi, acciai resistenti al calore, ghisa, leghe di ghisa.

					<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	<b>GRAUGUSS CAST IRON GHISA GRIGIA</b>	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	--	--	--	--	-----------	---------------	-----------	--



blank | bright | lucida



ALUNIT®

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 7095 Art.-Nr.	€	Code 7097 Art.-Nr.	€
3	6	57	8	3	0 7095003001 00	<b>33,94</b>	0 7097003001 00	<b>39,94</b>
4	6	57	11	3	0 7095004001 00	<b>33,94</b>	0 7097004001 00	<b>39,94</b>
5	6	57	13	3	0 7095005001 00	<b>33,94</b>	0 7097005001 00	<b>39,94</b>
6	6	57	13	3	0 7095006001 00	<b>33,94</b>	0 7097006001 00	<b>39,94</b>
8	8	63	19	3	0 7095008001 00	<b>44,96</b>	0 7097008001 00	<b>53,71</b>
10	10	72	22	3	0 7095010001 00	<b>62,37</b>	0 7097010001 00	<b>72,72</b>
12	12	83	26	3	0 7095012001 00	<b>89,84</b>	0 7097012001 00	<b>99,83</b>
14	14	83	26	3	0 7095014001 00	<b>129,80</b>	0 7097014001 00	<b>142,60</b>
16	16	92	32	3	0 7095016001 00	<b>169,70</b>	0 7097016001 00	<b>184,00</b>
18	18	92	32	3	0 7095018001 00	<b>209,70</b>	0 7097018001 00	<b>226,80</b>
20	20	104	38	3	0 7095020001 00	<b>269,60</b>	0 7097020001 00	<b>290,50</b>



## >> VHM-SCHRUPPFRÄSER, LANG, VIERSCHEIDER, DIN 6527L

## SOLID CARBIDE ROUGHING END MILLS, LONG SERIES, FOUR FLUTES, DIN 6527L

## FRESE FRONTALI MDI A SGROSSARE, 4 TAGLIENTI, SERIE LUNGA, DIN 6527L

### Einsatzbereich:

Großer Anwendungsbereich bei Werkstoffen mit mittlerer bis hoher Festigkeit (ca. 900–1.400 N/mm<sup>2</sup>), z.B. Einsatz-, Vergütungsstähle, Werkzeugstahl legiert, vergütet, NE-Metalle, hochwarmfeste Werkstoffe sowie Gusseisen und Gusslegierungen.

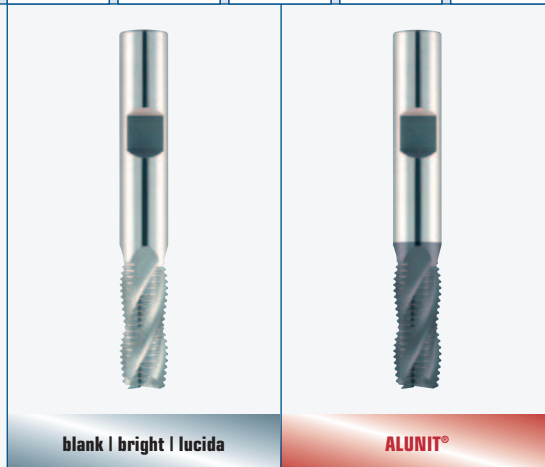
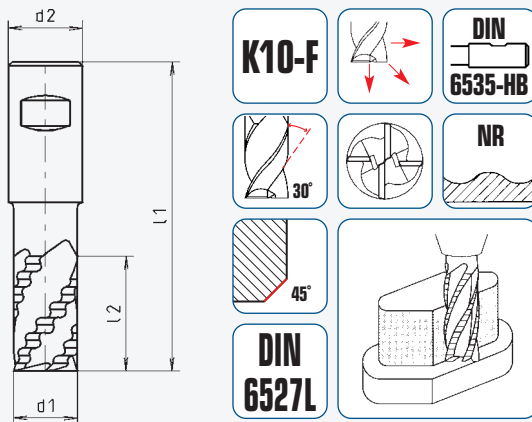
### Range of application:

Wide range of applications on materials of medium strength up to high tensile strength (~ 900–1.400 N/mm<sup>2</sup>), for example case-hardening, heat-treatable steels, alloyed tool steels; hardened and tempered non-ferrous metals, high temperature materials as well as cast iron and alloyed cast iron.

### Impiego:

Adatte per fresatura in molti settori di materiali di media ed alta resistenza (ca. 900–1.400 N/mm<sup>2</sup>) es. acciai da cementazione, acciai bonificati, acciai da utensili legati, bonificati, materiali non ferrosi, acciai resistenti al calore, ghisa, leghe di ghisa.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	GRAUGUSS CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
-----------------------------	-----------------------------	-------------------------------	-------------------------------	--------------	--	--	---------------------------------------	-----------	---------------	-----------	--



blank | bright | lucida

ALUNIT®

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 7695 Art.-Nr.	€	Code 7697 Art.-Nr.	€
3	6	57	8	4	0 7695003001 00	33,94	0 7697003001 00	39,94
4	6	57	11	4	0 7695004001 00	33,94	0 7697004001 00	39,94
5	6	57	13	4	0 7695005001 00	33,94	0 7697005001 00	39,94
6	6	57	13	4	0 7695006001 00	33,94	0 7697006001 00	39,94
8	8	63	19	4	0 7695008001 00	44,96	0 7697008001 00	53,71
10	10	72	22	4	0 7695010001 00	62,37	0 7697010001 00	72,72
12	12	83	26	4	0 7695012001 00	89,84	0 7697012001 00	99,83
14	14	83	26	4	0 7695014001 00	129,80	0 7697014001 00	142,60
16	16	92	32	4	0 7695016001 00	169,70	0 7697016001 00	184,00
18	18	92	32	4	0 7695018001 00	209,70	0 7697018001 00	226,80
20	20	104	38	4	0 7695020001 00	269,60	0 7697020001 00	290,50
25	25	104	38	4	0 7695025001 00	421,80	0 7697025001 00	445,40



**>> VHM-SCHAFTFRÄSER  
„SPEEDCUT“, KURZ, VIER-  
SCHNEIDER, UNGLEICHE  
DRALLSTEIGUNG**

**Einsatzbereich:**

Universeller Einsatz: Fein-Schlichten, Schlichten, Schrapp-Schlichten und Schruppen mit einem Werkzeug. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Hohe Zerspanungsleistung.

**SOLID CARBIDE END MILL  
“SPEEDCUT”, SHORT SERIES,  
FOUR FLUTES, UNEQUAL  
ANGLE OF SPIRAL**







**Range of application:**

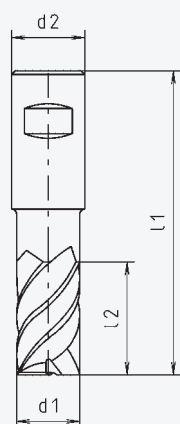
Universal applicable: fine-finishing, finishing, rough finishing and roughing with the same tool. Unequal angle of spiral effects smooth, vibrationless running and excellent surface. High cutting performance.

**FRESE FRONTALI MDI  
„SPEEDCUT“, SERIE CORTA,  
4 TAGLIANTI, ANGOLO ELICA  
DISUGUALE**


**Impiego:**

In un solo utensile super finitura, finitura, semi-finitura e sgrossatura, l'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima finitura della superficie. Con un elevato rendimento.


 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	<b>GRAUGUSS CAST IRON GHISA GRIGIA</b>	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	--	-----------	---------------	-----------	---




**K30-F**




**DIN 6535-HB**

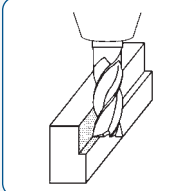




**DIN 6527K**



**H**





**ALUNIT-S®**

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 7707 Art.-Nr.	€
6	6	54	10	4	0 7707006001 00	<b>33,80</b>
8	8	58	12	4	0 7707008001 00	<b>43,76</b>
10	10	66	14	4	0 7707010001 00	<b>61,65</b>
12	12	73	16	4	0 7707012001 00	<b>79,55</b>
14	14	75	18	4	0 7707014001 00	<b>99,44</b>
16	16	82	22	4	0 7707016001 00	<b>129,30</b>
20	20	92	26	4	0 7707020001 00	<b>210,00</b>



>> **VHM-SCHAFTFRÄSER  
„SPEEDCUT“, LANG, VIER-  
SCHNEIDER, UNGLEICHE  
DRALLSTEIGUNG**

**Einsatzbereich:**

Universeller Einsatz: Fein-Schlichten, Schlichten, Schrapp-Schlichten und Schruppen mit einem Werkzeug. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Hohe Zerspanungsleistung.

**SOLID CARBIDE END MILL  
“SPEEDCUT”, LONG SERIES,  
FOUR FLUTES, UNEQUAL  
ANGLE OF SPIRAL**


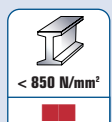


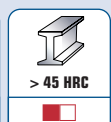
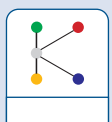
**Range of application:**

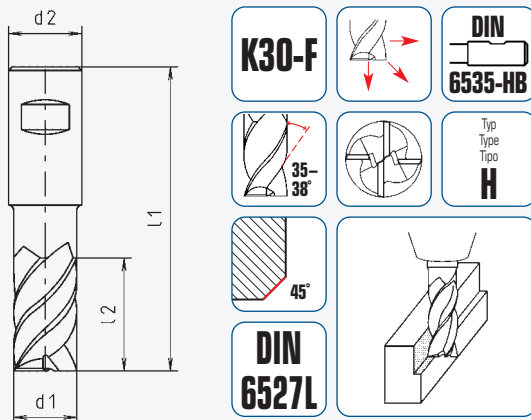
Universal applicable: fine-finishing, finishing, rough finishing and roughing with the same tool. Unequal angle of spiral effects smooth, vibrationless running and excellent surface. High cutting performance.

**FRESE FRONTALI MDI  
„SPEEDCUT“, SERIE LUNGA,  
4 TAGLIANTI, ANGOLO ELICA  
DISUGUALE**

**Impiego:**

In un solo utensile super finitura, finitura, semi-finitura e sgrossatura, l'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima finitura della superficie. Con un elevato rendimento.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	GRAUGUSS CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	---------------------------------------	-----------	---------------	-----------	---



**ALUNIT-S®**

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 7717 Art.-Nr.	€
6	6	57	13	4	0 7717006001 00	<b>37,79</b>
8	8	63	19	4	0 7717008001 00	<b>51,71</b>
10	10	72	22	4	0 7717010001 00	<b>75,57</b>
12	12	83	26	4	0 7717012001 00	<b>95,46</b>
14	14	83	26	4	0 7717014001 00	<b>127,30</b>
16	16	92	32	4	0 7717016001 00	<b>167,10</b>
20	20	104	38	4	0 7717020001 00	<b>254,60</b>



**>> VHM-SCHAFTFRÄSER  
„SPEEDCUT“, EXTRA-LANG,  
FREIGESTELLT, VIER-  
SCHNEIDER, UNGLEICHE  
DRALLSTEIGUNG**

**Einsatzbereich:**

Universeller Einsatz: Fein-Schlichten, Schlichten, Schrupp-Schlichten und Schruppen mit einem Werkzeug. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Hohe Zerspanungsleistung.

**SOLID CARBIDE END MILL  
“SPEEDCUT”, EXTRA LONG  
SERIES, RELIEVED, FOUR  
FLUTES, UNEQUAL ANGLE OF  
SPIRAL**







**Range of application:**

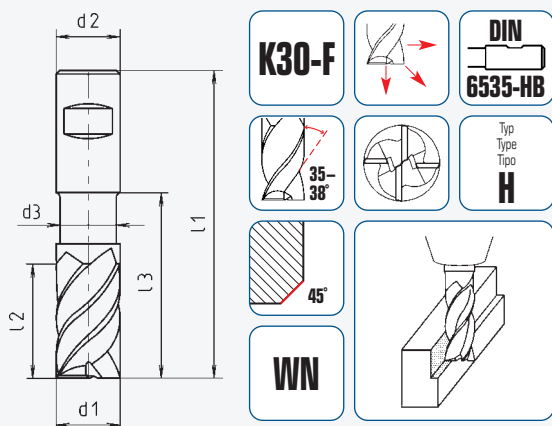
Universal applicable: fine-finishing, finishing, rough finishing and roughing with the same tool. Unequal angle of spiral effects smooth, vibrationless running and excellent surface. High cutting performance.

**FRESE FRONTALI MDI  
„SPEEDCUT“, SERIE EXTRA  
LUNGA, LIBERO, 4 TAGLIENTI,  
ANGOLO ELICA DISUGUALE**

**Impiego:**

In un solo utensile super finitura, finitura, semi-finitura e sgrossatura, l'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima finitura della superficie. Con un elevato rendimento.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	<b>GRAUGUSS CAST IRON GHISA GRIGIA</b>	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	--	-----------	---------------	-----------	---



**NEU | NEW | NUOVO**

**ALUNIT-S®**

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	d3 mm	l1 mm	l2 mm	l3 mm	Z	Code 7737 Art.-Nr.	€
6	6	5,6	62	13	25	4	0 7737006001 00	<b>50,30</b>
8	8	7,5	70	19	32	4	0 7737008001 00	<b>72,00</b>
10	10	9,5	80	22	40	4	0 7737010001 00	<b>105,80</b>
12	12	11,5	95	26	48	4	0 7737012001 00	<b>135,50</b>
14	14	13,5	95	26	48	4	0 7737014001 00	<b>166,40</b>
16	16	15,5	105	32	56	4	0 7737016001 00	<b>202,50</b>
20	20	19,5	125	38	70	4	0 7737020001 00	<b>330,00</b>

**FREIGESTELLT  
RELIEVED | LIBERO**





>> **VHM-SCHAFTFRÄSER  
„SPEEDCUT“ FÜR INOX,  
LANG, VIERSCHNEIDER,  
UNGLEICHE DRALLSTEIGUNG**

**Einsatzbereich:**

Hochleistungsfräser besonders geeignet zur Bearbeitung von austenitischen rostfreien Stählen: Fein-Schlichten, Schlichten, Schrupp-Schlichten und Schruppen mit einem Werkzeug. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Hohe Zerspanungsleistung.

**SOLID CARBIDE END MILL  
“SPEEDCUT” FOR INOX,  
LONG SERIES, FOUR FLUTES,  
UNEQUAL ANGLE OF SPIRAL**

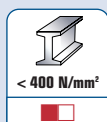

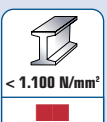
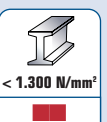
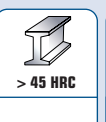
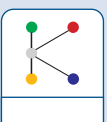
**Range of application:**

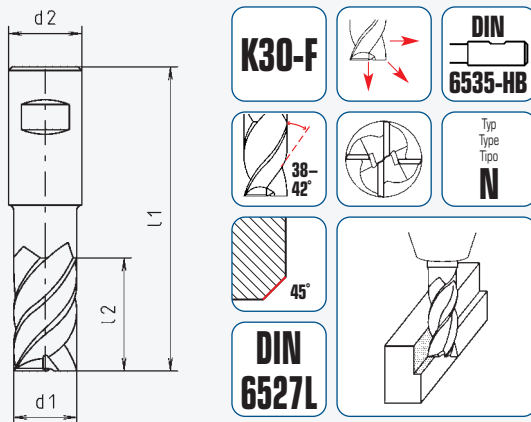
High performance end mill especially suitable for cutting in austenitic stainless steels: fine-finishing, finishing, rough finishing and roughing with the same tool. Unequal angle of spiral effects smooth, vibrationless running and excellent surface. High cutting performance.

**FRESE FRONTALI MDI „SPEED-  
CUT“ PER ACCIAI INOX, SERIE  
LUNGA, 4 TAGLIANTI, ANGOLO  
ELICA DISUGUALE**

**Impiego:**

Frese ad alto rendimento, particolarmente adatte per la lavorazione di acciai austenitici inossidabili: Fresatura di super-finitura, finitura, sgrossatura-finitura e sgrossatura con una sola fresa. L'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima finitura della superficie. Con un elevato rendimento.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	GRAUGUSS CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	---------------------------------------	-----------	---------------	-----------	---



**NEU | NEW | NUOVO**

**ALUNIT-S®**

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 7747	€
					Art.-Nr.	
6	6	57	13	4	0 7747006001 00	<b>40,06</b>
8	8	63	19	4	0 7747008001 00	<b>54,81</b>
10	10	72	22	4	0 7747010001 00	<b>80,10</b>
12	12	83	26	4	0 7747012001 00	<b>101,19</b>
14	14	83	26	4	0 7747014001 00	<b>134,94</b>
16	16	92	32	4	0 7747016001 00	<b>177,13</b>
20	20	104	38	4	0 7747020001 00	<b>269,88</b>

**FÜR | FOR | PER  
INOX**

## >> VHM-SCHAFTFRÄSER MIT VERSTÄRKTEM SCHAFT, ZWEISCHNEIDER

## SOLID CARBIDE END MILLS WITH REINFORCED STRAIGHT SHANK, TWO FLUTES

## FRESE FRONTALI MDI, CODOLO RINFORZATO, SERIE CORTA, 2 TAGLIANTI

### Einsatzbereich:

Empfohlen zum Fräsen von Werkstoffen mit mittleren und hohen Festigkeiten. Bohren auf volle Tiefe und Längsfräsen mit genauen Passungen.

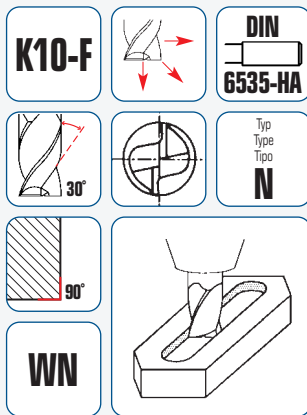
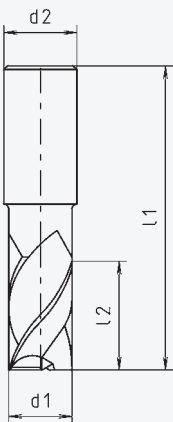
### Range of application:

Recommended for milling in materials with medium and high tensile strength. Vertical cutting to full depth and horizontal cutting with exact tolerances.

### Impiego:

Adatte per fresatura di materiali di media ed alta resistenza. Foratura dal pieno e fresatura di scanalature con accoppiamenti precisi.

					<b>INOX</b> < 850 N/mm²	<b>INOX</b> > 850 N/mm²	<b>GRAUGUSS</b> CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	--	----------------------------	----------------------------	--	-----------	---------------	-----------	--



blank | bright | lucida



ALUNIT®

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 6615 Art.-Nr.	€	Code 6617 Art.-Nr.	€
1	6	40	4	2	0 6615001001 00	17,49	0 6617001001 00	24,24
1,5	6	40	4	2	0 6615001501 00	17,49	0 6617001501 00	24,24
2	6	40	6	2	0 6615002001 00	17,49	0 6617002001 00	24,24
2,5	6	40	6	2	0 6615002501 00	17,49	0 6617002501 00	24,24
3	6	40	7	2	0 6615003001 00	17,03	0 6617003001 00	23,28
3,5	6	40	7	2	0 6615003501 00	17,03	0 6617003501 00	23,28
4	6	40	8	2	0 6615004001 00	17,03	0 6617004001 00	23,28
4,5	6	40	8	2	0 6615004501 00	17,03	0 6617004501 00	23,28
5	6	40	10	2	0 6615005001 00	17,03	0 6617005001 00	23,28
5,5	6	40	10	2	0 6615005501 00	17,03	0 6617005501 00	23,28
6	6	40	10	2	0 6615006001 00	17,03	0 6617006001 00	23,28



## >> VHM-SCHAFTFRÄSER MIT VERSTÄRKTEM SCHAFT, DREISCHNEIDER

### Einsatzbereich:

Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit. Fräsen von Nuten mit größerer Bohrtiefe, genauen Passungen, ebenso zum Stirn- und Umfangfräsen geeignet. Hohe Zerspanungsleistung und große Laufruhe ergeben exzellente Oberflächengüte.

## SOLID CARBIDE END MILLS WITH REINFORCED STRAIGHT SHANK, THREE FLUTES

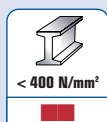

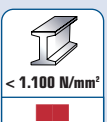
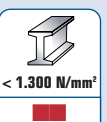
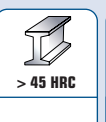
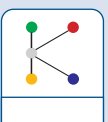
### Range of application:

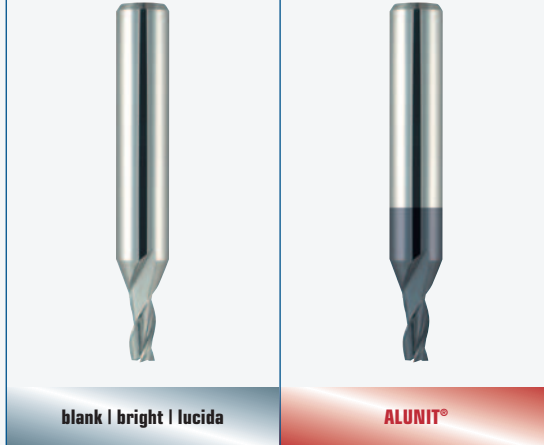
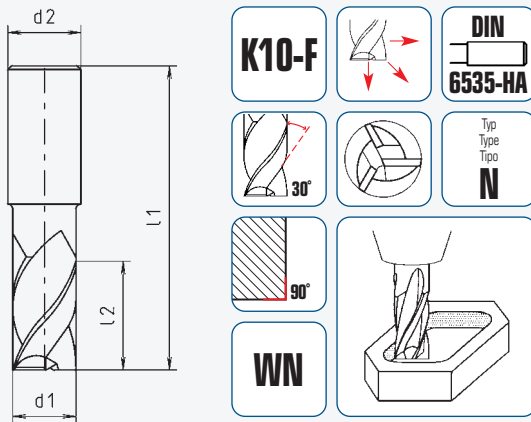
Recommended for milling in materials with medium/high tensile strength. Milling of slots with large depth, accurate fits as well as face and surface milling. High cutting performance in chipping and a smooth run result in an excellent surface.

## FRESE FRONTALI MDI, CODOLO RINFORZATO, SERIE CORTA, 3 TAGLIANTI

### Impiego:

Adatte per fresatura di materiali di media ed alta resistenza. Fresatura di scanalature profonde, con accoppiamenti precisi, anche per fresatura frontale e tangenziale. Elevato rendimento, silenziosità di passata, eccellente finitura della superficie.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	GRAUGUSS CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	---------------------------------------	-----------	---------------	-----------	---



d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 6315 Art.-Nr.	€	Code 6317 Art.-Nr.	€
1	6	40	4	3	0 6315001001 00	17,49	0 6317001001 00	24,24
1,5	6	40	4	3	0 6315001501 00	17,49	0 6317001501 00	24,24
2	6	40	6	3	0 6315002001 00	17,49	0 6317002001 00	24,24
2,5	6	40	6	3	0 6315002501 00	17,49	0 6317002501 00	24,24
3	6	40	7	3	0 6315003001 00	17,03	0 6317003001 00	23,28
3,5	6	40	7	3	0 6315003501 00	17,03	0 6317003501 00	23,28
4	6	40	8	3	0 6315004001 00	17,03	0 6317004001 00	23,28
4,5	6	40	8	3	0 6315004501 00	17,03	0 6317004501 00	23,28
5	6	40	10	3	0 6315005001 00	17,03	0 6317005001 00	23,28
5,5	6	40	10	3	0 6315005501 00	17,03	0 6317005501 00	23,28
6	6	40	10	3	0 6315006001 00	17,03	0 6317006001 00	23,28



## >> VHM-SCHAFTFRÄSER MIT VERSTÄRKTEM SCHAFT, VIERSCHNEIDER

## SOLID CARBIDE END MILLS WITH REINFORCED STRAIGHT SHANK, FOUR FLUTES

## FRESE FRONTALI MDI, CODOLO RINFORZATO, SERIE CORTA, 4 TAGLIANTI

### Einsatzbereich:







Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit. Fräsen von Nuten mit größerer Bohrtiefe, exakten Passungen, ebenso zum Stirn- und Umfangfräsen geeignet. Hoher Zerspanungsleistung und große Laufruhe ergeben exzellente Oberflächenqualität.

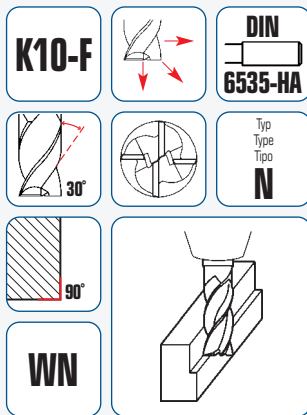
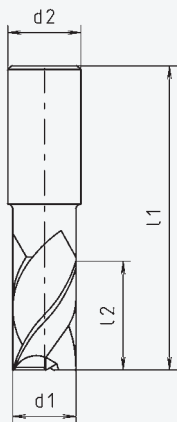
### Range of application:

Recommended for milling in materials with medium and high tensile strength. Milling of slots with large depth, accurate fits as well as face and surface milling. High cutting performance in chipping and a smooth run result an excellent surface.

### Impiego:

Adatte per fresatura di materiali di media ed alta resistenza. Fresatura di scanalature profonde, con accoppiamenti precisi, anche per fresatura frontale e tangenziale. Elevato rendimento, silenziosità di passata, eccellente finitura della superficie.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	<b>GRAUGUSS</b> CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	--	-----------	---------------	-----------	---



blank | bright | lucida



ALUNIT®

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 6515 Art.-Nr.	€	Code 6517 Art.-Nr.	€
1	6	40	4	4	0 6515001001 00	17,49	0 6517001001 00	24,24
1,5	6	40	4	4	0 6515001501 00	17,49	0 6517001501 00	24,24
2	6	40	6	4	0 6515002001 00	17,49	0 6517002001 00	24,24
2,5	6	40	6	4	0 6515002501 00	17,49	0 6517002501 00	24,24
3	6	40	7	4	0 6515003001 00	17,03	0 6517003001 00	23,28
3,5	6	40	7	4	0 6515003501 00	17,03	0 6517003501 00	23,28
4	6	40	8	4	0 6515004001 00	17,03	0 6517004001 00	23,28
4,5	6	40	8	4	0 6515004501 00	17,03	0 6517004501 00	23,28
5	6	40	10	4	0 6515005001 00	17,03	0 6517005001 00	23,28
5,5	6	40	10	4	0 6515005501 00	17,03	0 6517005501 00	23,28
6	6	40	10	4	0 6515006001 00	17,03	0 6517006001 00	23,28



## >> VHM-MINIATURFRÄSER MIT VERSTÄRKTEM SCHAFT, KURZ, ZWEISCHNEIDER

### Einsatzbereich:

Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit bis ca. 1.300 N/mm<sup>2</sup>. Zum Bohren und anschließenden Längsfräsen, besonders zum Kopierfräsen geeignet.

## SOLID CARBIDE MINI END MILLS WITH REINFORCED STRAIGHT SHANK, SHORT SERIES, TWO FLUTES

### Range of application:

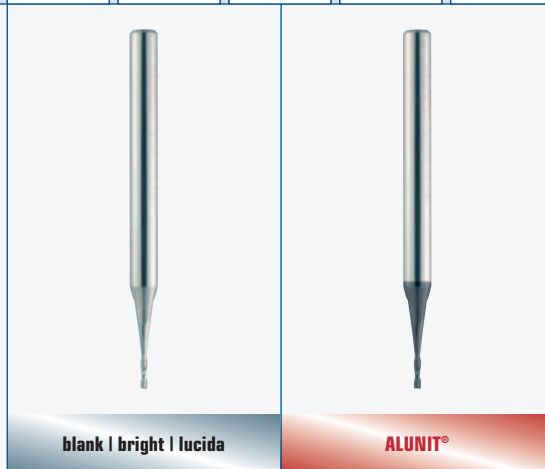
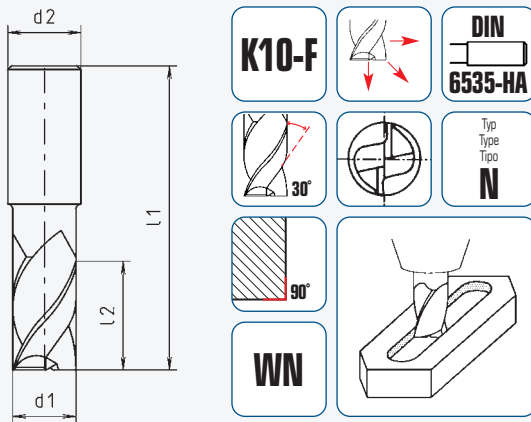
Recommended for milling in materials with medium and high tensile strength up to 1.300 N/mm<sup>2</sup>. For drilling continued by horizontal milling, especially suited for copy milling.

## FRESE IN MINIATURA MDI, CODOLO RINFORZATO, SERIE CORTA, 2 TAGLIANTI

### Impiego:

Adatte per fresatura di materiali di media ed alta resistenza fino a 1.300 N/mm<sup>2</sup>. Foratura dal pieno e successiva fresatura di scanalature, particolarmente indicate per fresatura a copiare.

					<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	GRAUGUSS CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	--	--	--	---------------------------------------	-----------	---------------	-----------	--



d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 6245 Art.-Nr.	€	Code 6247 Art.-Nr.	€
0,4	3	38	1,5	2	0 6245000401 00	17,11	0 6247000401 00	23,67
0,5	3	38	1,5	2	0 6245000501 00	17,11	0 6247000501 00	23,67
0,6	3	38	2	2	0 6245000601 00	14,73	0 6247000601 00	21,39
0,7	3	38	3	2	0 6245000701 00	14,73	0 6247000701 00	21,39
0,8	3	38	3	2	0 6245000801 00	13,76	0 6247000801 00	20,44
0,9	3	38	3	2	0 6245000901 00	13,76	0 6247000901 00	20,44
1	3	38	3	2	0 6245001001 00	12,36	0 6247001001 00	19,11
1,5	3	38	5	2	0 6245001501 00	12,36	0 6247001501 00	19,11
2	3	38	6	2	0 6245002001 00	12,36	0 6247002001 00	19,11
2,5	3	38	7	2	0 6245002501 00	12,36	0 6247002501 00	19,11
3	3	38	8	2	0 6245003001 00	11,98	0 6247003001 00	18,72



## >> VHM-MINIATURFRÄSER MIT VERSTÄRKTEM SCHAFT, LANG, ZWEISCHNEIDER

### Einsatzbereich:

Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit bis ca. 1.300 N/mm<sup>2</sup>. Zum Bohren und anschließenden Längsfräsen, besonders zum Kopierfräsen geeignet.

## SOLID CARBIDE MINI END MILLS WITH REINFORCED STRAIGHT SHANK, LONG SERIES, TWO FLUTES

### Range of application:

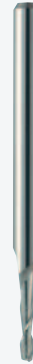
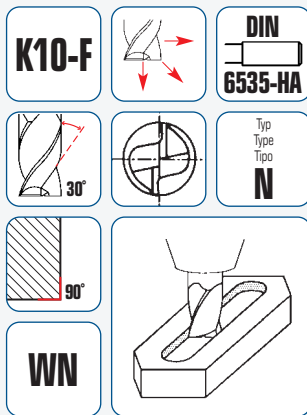
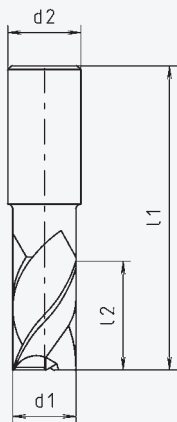
Recommended for milling in materials with medium and high tensile strength up to 1.300 N/mm<sup>2</sup>. For drilling continued by horizontal milling, especially suited for copy milling.

## FRESE IN MINIATURA MDI, CODOLO RINFORZATO, SERIE LUNGA, 2 TAGLIANTI

### Impiego:

Adatte per fresatura di materiali di media ed alta resistenza fino a 1.300 N/mm<sup>2</sup>. Foratura dal pieno e successiva fresatura di scanalature, particolarmente indicate per fresatura a copiare.

					<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	GRAUGUSS CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	--	--	--	---------------------------------------	-----------	---------------	-----------	--



blank | bright | lucida



ALUNIT®

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 6465 Art.-Nr.	€	Code 6467 Art.-Nr.	€
1	3	38	4	2	0 6465001001 00	<b>12,36</b>	0 6467001001 00	<b>19,11</b>
1,5	3	38	6	2	0 6465001501 00	<b>12,36</b>	0 6467001501 00	<b>19,11</b>
2	3	38	9	2	0 6465002001 00	<b>12,36</b>	0 6467002001 00	<b>19,11</b>
2,5	3	38	12	2	0 6465002501 00	<b>12,36</b>	0 6467002501 00	<b>19,11</b>
3	3	38	12	2	0 6465003001 00	<b>11,98</b>	0 6467003001 00	<b>18,72</b>



## >> VHM-MINIATURFRÄSER MIT VERSTÄRKTEM SCHAFT, LANG, DREISCHNEIDER

### Einsatzbereich:

Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit bis ca. 1.300 N/mm<sup>2</sup>. Zum Bohren und anschließenden Längsfräsen, besonders zum Kopierfräsen geeignet.

## SOLID CARBIDE MINI END MILLS WITH REINFORCED STRAIGHT SHANK, LONG SERIES, THREE FLUTES

### Range of application:

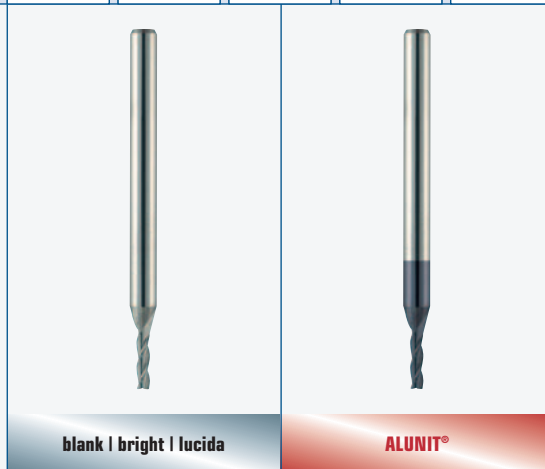
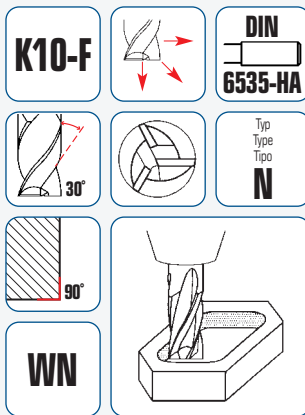
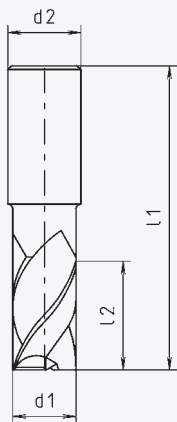
Recommended for milling in materials with medium and high tensile strength up to 1.300 N/mm<sup>2</sup>. For drilling continued by horizontal milling, especially suited for copy milling.

## FRESE IN MINIATURA MDI, CODOLO RINFORZATO, SERIE LUNGA, 3 TAGLIENTI

### Impiego:

Adatte per fresatura di materiali di media ed alta resistenza fino a 1.300 N/mm<sup>2</sup>. Foratura dal pieno e successiva fresatura di scanalature, particolarmente indicate per fresatura a copiare.

					<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	GRAUGUSS CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	--	--	--	---------------------------------------	-----------	---------------	-----------	--



d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 6475 Art.-Nr.	€	Code 6477 Art.-Nr.	€
1	3	38	4	3	0 6475001001 00	12,36	0 6477001001 00	19,11
1,5	3	38	6	3	0 6475001501 00	12,36	0 6477001501 00	19,11
2	3	38	9	3	0 6475002001 00	12,36	0 6477002001 00	19,11
2,5	3	38	12	3	0 6475002501 00	12,36	0 6477002501 00	19,11
3	3	38	12	3	0 6475003001 00	11,98	0 6477003001 00	18,72



## >> VHM-MINIATURFRÄSER MIT VERSTÄRKTEM SCHAFT, LANG, VIERSCHNEIDER

### Einsatzbereich:

Zum Schlichten mit hoher Zerspanungsleistung bei gleichzeitig exzellenter Oberfläche von Stählen mit mittlerer bis hoher Festigkeit (z.B. Bau-, Einsatz-, Vergütungsstähle); NE-Metalle, rost- und säurebeständige Stähle. Bevorzugt Gleichlaufräsen.

## SOLID CARBIDE MINI END MILLS WITH REINFORCED STRAIGHT SHANK, LONG SERIES, FOUR FLUTES

### Range of application:

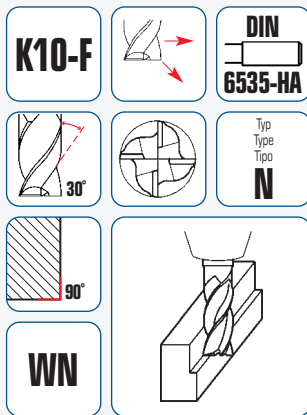
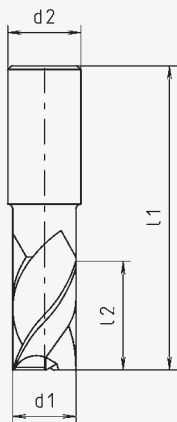
Finishing with high cutting performance and excellent surface on steels with medium to high tensile strength (for example structural, case-hardening, heat-treatable steels); non-ferrous metals, stainless and acid resistant steels. Climb milling preferred.

## FRESE IN MINIATURA MDI, CODOLO RINFORZATO, SERIE LUNGA, 4 TAGLIANTI

### Impiego:

Adatte per fresatura di finitura con un elevato rendimento e contemporanea eccellente finitura della superficie, in acciai di media fino ad elevata resistenza (es. acciai da costruzione, acciai da cementazione, acciai bonificati); materiali non ferrosi, acciai inox e resistenti agli acidi. Consigliata fresatura concorde.

< 400 N/mm <sup>2</sup>	< 850 N/mm <sup>2</sup>	< 1.100 N/mm <sup>2</sup>	< 1.300 N/mm <sup>2</sup>	> 45 HRC	INOX < 850 N/mm <sup>2</sup>	INOX > 850 N/mm <sup>2</sup>	GRAUGUSS CAST IRON GHISA GRIGIA	Ti	Cu, Ms	Al		



blank | bright | lucida



ALUNIT®

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 6485 Art.-Nr.	€	Code 6487 Art.-Nr.	€
1	3	38	4	4	0 6485001001 00	12,36	0 6487001001 00	19,11
1,5	3	38	6	4	0 6485001501 00	12,36	0 6487001501 00	19,11
2	3	38	9	4	0 6485002001 00	12,36	0 6487002001 00	19,11
2,5	3	38	12	4	0 6485002501 00	12,36	0 6487002501 00	19,11
3	3	38	12	4	0 6485003001 00	11,98	0 6487003001 00	18,72





## >> VHM-RADIUSFRÄSER, KURZ, ZWEISCHNEIDER

## SOLID CARBIDE BALL NOSE END MILLS, SHORT SERIES, TWO FLUTES

## FRESE CILINDRICHE RAGGIATE MDI, SERIE CORTA, 2 TAGLIANTI

### Einsatzbereich:

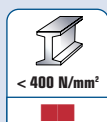

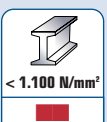
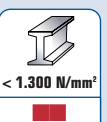
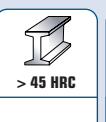
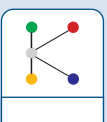
Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit. Besonders zum Kopierfräsen geeignet.

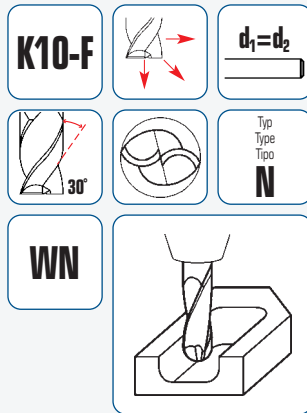
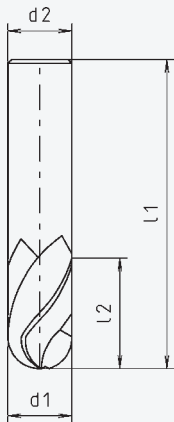
### Range of application:

Recommended for milling materials with medium/high tensile strength. Especially suited for copy milling.

### Impiego:

Adatte per fresatura di materiali di media ed alta resistenza, particolarmente indicate per fresatura a copiare.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	GRAUGUSS CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	---------------------------------------	-----------	---------------	-----------	---



d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 7525 Art.-Nr.	€	Code 7527 Art.-Nr.	€
1	1	38	5	2	0 7525001001 00	21,96	0 7527001001 00	28,52
1,5	1,5	38	5	2	0 7525001501 00	21,96	0 7527001501 00	28,52
2	2	38	8	2	0 7525002001 00	19,49	0 7527002001 00	26,14
2,5	2,5	38	8	2	0 7525002501 00	19,49	0 7527002501 00	26,14
3	3	38	12	2	0 7525003001 00	17,97	0 7527003001 00	24,72
3,5	3,5	40	12	2	0 7525003501 00	20,44	0 7527003501 00	26,63
4	4	40	12	2	0 7525004001 00	21,00	0 7527004001 00	27,09
4,5	4,5	50	14	2	0 7525004501 00	21,96	0 7527004501 00	28,51
5	5	50	14	2	0 7525005001 00	23,48	0 7527005001 00	29,46
6	6	50	16	2	0 7525006001 00	28,42	0 7527006001 00	34,71
8	8	63	20	2	0 7525008001 00	39,94	0 7527008001 00	48,49
10	10	72	22	2	0 7525010001 00	55,91	0 7527010001 00	66,07
12	12	73	22	2	0 7525012001 00	74,91	0 7527012001 00	85,09
14	14	75	25	2	0 7525014001 00	116,30	0 7527014001 00	129,30
16	16	82	28	2	0 7525016001 00	139,80	0 7527016001 00	155,00
18	18	84	28	2	0 7525018001 00	187,20	0 7527018001 00	205,40
20	20	104	35	2	0 7525020001 00	249,60	0 7527020001 00	271,90



## >> VHM-RADIUSFRÄSER, LANG, ZWEISCHNEIDER

## SOLID CARBIDE BALL NOSE END MILLS, LONG SERIES, TWO FLUTES

## FRESE CILINDRICHE RAGGIATE MDI, SERIE LUNGA, 2 TAGLIANTI

### Einsatzbereich:







Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit. Besonders zum Kopierfräsen geeignet.

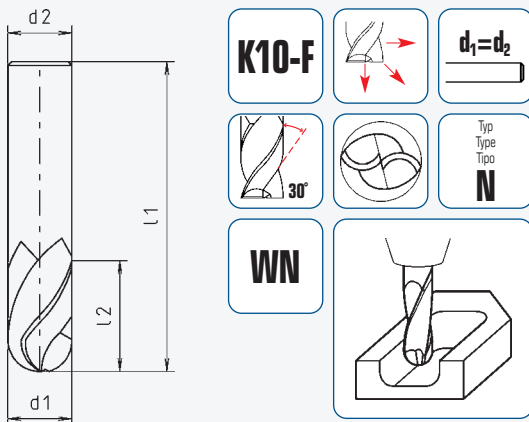
### Range of application:

Recommended for milling materials with medium/high tensile strength. Especially suited for copy milling.

### Impiego:

Adatte per fresatura di materiali di media ed alta resistenza, particolarmente indicate per fresatura a copiare.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	<b>GRAUGUSS CAST IRON GHISA GRIGIA</b>	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	--	-----------	---------------	-----------	---



blank | bright | lucida



ALUNIT®

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 7535 Art.-Nr.	€	Code 7537 Art.-Nr.	€
3	3	60	25	2	0 7535003001 00	<b>23,48</b>	0 7537003001 00	<b>29,94</b>
4	4	60	25	2	0 7535004001 00	<b>27,94</b>	0 7537004001 00	<b>34,71</b>
5	5	70	30	2	0 7535005001 00	<b>35,93</b>	0 7537005001 00	<b>41,83</b>
6	6	70	30	2	0 7535006001 00	<b>39,94</b>	0 7537006001 00	<b>47,04</b>
8	8	80	35	2	0 7535008001 00	<b>50,95</b>	0 7537008001 00	<b>61,31</b>
10	10	100	45	2	0 7535010001 00	<b>77,86</b>	0 7537010001 00	<b>90,32</b>
12	12	100	45	2	0 7535012001 00	<b>101,90</b>	0 7537012001 00	<b>115,60</b>
12	12	150	75	2	0 7535012101 00	<b>144,80</b>	0 7537012101 00	<b>164,50</b>
14	14	100	45	2	0 7535014001 00	<b>139,80</b>	0 7537014001 00	<b>154,50</b>
14	14	150	75	2	0 7535014101 00	<b>194,70</b>	0 7537014101 00	<b>222,10</b>
16	16	100	45	2	0 7535016001 00	<b>179,70</b>	0 7537016001 00	<b>195,40</b>
16	16	150	75	2	0 7535016101 00	<b>264,60</b>	0 7537016101 00	<b>286,70</b>
18	18	100	45	2	0 7535018001 00	<b>234,70</b>	0 7537018001 00	<b>253,90</b>
18	18	150	75	2	0 7535018101 00	<b>312,00</b>	0 7537018101 00	<b>336,60</b>
20	20	125	55	2	0 7535020001 00	<b>299,50</b>	0 7537020001 00	<b>323,30</b>
20	20	150	75	2	0 7535020101 00	<b>359,40</b>	0 7537020101 00	<b>398,40</b>



## >> VHM-RADIUSFRÄSER, KURZ, DREISCHNEIDER

## SOLID CARBIDE BALL NOSE END MILLS, SHORT SERIES, THREE FLUTES

## FRESE CILINDRICHE RAGGIATE MDI, SERIE CORTA, 3 TAGLIANTI

### Einsatzbereich:

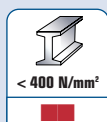

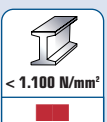
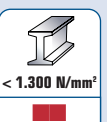
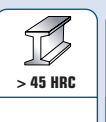
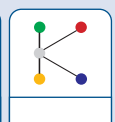
Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit. Besonders zum Kopierfräsen geeignet.

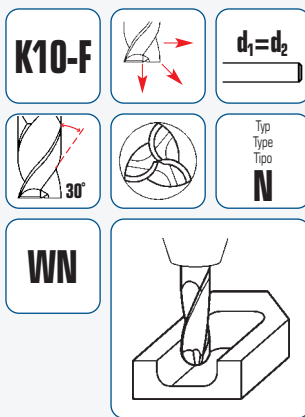
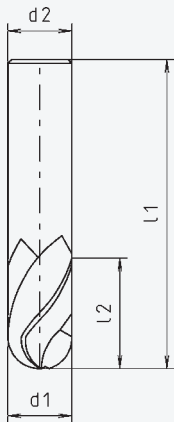
### Range of application:

Recommended for milling materials with medium/high tensile strength. Especially suited for copy milling.

### Impiego:

Adatte per fresatura di materiali di media ed alta resistenza, particolarmente indicate per fresatura a copiare.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	GRAUGUSS CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	---------------------------------------	-----------	---------------	-----------	---



blank | bright | lucida



ALUNIT®

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 7555 Art.-Nr.	€	Code 7557 Art.-Nr.	€
1	1	38	5	3	0 7555001001 00	21,96	0 7557001001 00	28,52
1,5	1,5	38	5	3	0 7555001501 00	21,96	0 7557001501 00	28,52
2	2	38	8	3	0 7555002001 00	19,49	0 7557002001 00	26,14
2,5	2,5	38	8	3	0 7555002501 00	19,49	0 7557002501 00	26,14
3	3	38	12	3	0 7555003001 00	17,97	0 7557003001 00	24,72
3,5	3,5	40	12	3	0 7555003501 00	20,44	0 7557003501 00	26,63
4	4	40	12	3	0 7555004001 00	21,00	0 7557004001 00	27,09
4,5	4,5	50	14	3	0 7555004501 00	21,96	0 7557004501 00	29,46
5	5	50	14	3	0 7555005001 00	23,48	0 7557005001 00	29,46
6	6	50	16	3	0 7555006001 00	28,42	0 7557006001 00	34,71
8	8	63	20	3	0 7555008001 00	39,94	0 7557008001 00	48,49
10	10	72	22	3	0 7555010001 00	55,91	0 7557010001 00	66,07
12	12	73	22	3	0 7555012001 00	74,91	0 7557012001 00	85,09
14	14	75	25	3	0 7555014001 00	116,30	0 7557014001 00	129,30
16	16	82	28	3	0 7555016001 00	139,80	0 7557016001 00	155,00
18	18	84	28	3	0 7555018001 00	187,20	0 7557018001 00	205,40
20	20	104	35	3	0 7555020001 00	249,60	0 7557020001 00	271,90



## >> VHM-RADIUSFRÄSER, KURZ, VIERSCHNEIDER

## SOLID CARBIDE BALL NOSE END MILLS, SHORT SERIES, FOUR FLUTES

## FRESE CILINDRICHE RAGGIATE MDI, SERIE CORTA, 4 TAGLIANTI

### Einsatzbereich:







Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit. Besonders zum Kopierfräsen geeignet.

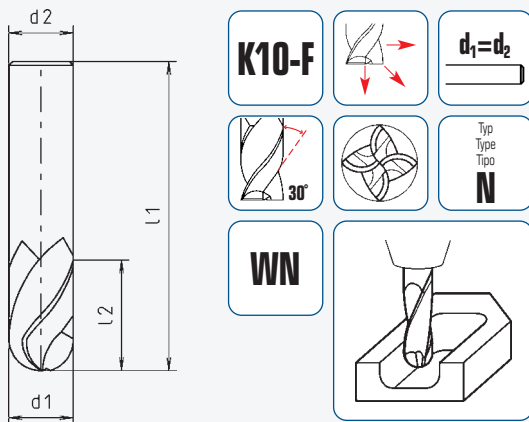
### Range of application:

Recommended for milling materials with medium/high tensile strength. Especially suited for copy milling.

### Impiego:

Adatte per fresatura di materiali di media ed alta resistenza, particolarmente indicate per fresatura a copiare

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	<b>GRAUGUSS CAST IRON GHISA GRIGIA</b>	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	--	-----------	---------------	-----------	---



blank | bright | lucida



ALUNIT®

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 7075 Art.-Nr.	€	Code 7077 Art.-Nr.	€
1	1	38	5	4	0 7075001001 00	21,96	0 7077001001 00	28,52
1,5	1,5	38	5	4	0 7075001501 00	21,96	0 7077001501 00	28,52
2	2	38	8	4	0 7075002001 00	19,49	0 7077002001 00	26,14
2,5	2,5	38	8	4	0 7075002501 00	19,49	0 7077002501 00	26,14
3	3	38	12	4	0 7075003001 00	17,97	0 7077003001 00	24,72
3,5	3,5	40	12	4	0 7075003501 00	20,44	0 7077003501 00	26,63
4	4	40	12	4	0 7075004001 00	21,00	0 7077004001 00	27,09
4,5	4,5	50	14	4	0 7075004501 00	21,96	0 7077004501 00	29,46
5	5	50	14	4	0 7075005001 00	23,48	0 7077005001 00	29,46
6	6	50	16	4	0 7075006001 00	28,42	0 7077006001 00	34,71
8	8	63	20	4	0 7075008001 00	39,94	0 7077008001 00	48,49
10	10	72	22	4	0 7075010001 00	55,91	0 7077010001 00	66,07
12	12	73	22	4	0 7075012001 00	74,91	0 7077012001 00	85,09
14	14	75	25	4	0 7075014001 00	116,30	0 7077014001 00	129,30
16	16	82	28	4	0 7075016001 00	139,80	0 7077016001 00	155,00
18	18	84	28	4	0 7075018001 00	187,20	0 7077018001 00	205,40
20	20	104	35	4	0 7075020001 00	249,60	0 7077020001 00	271,90



## >> VHM-RADIUSFRÄSER, LANG, ZWEISCHNEIDER, DIN 6527L

## SOLID CARBIDE BALL NOSE END MILLS, LONG SERIES, TWO FLUTES, DIN 6527L

## FRESE CILINDRICHE RAGGIATE MDI, SERIE LUNGA, 2 TAGLIANTI, DIN 6527L

### Einsatzbereich:

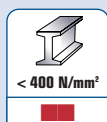

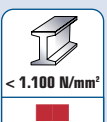
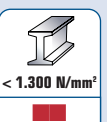
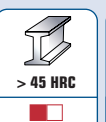
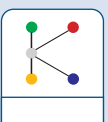
Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit. Besonders zum Kopierfräsen geeignet.

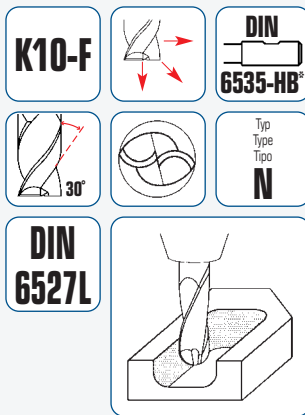
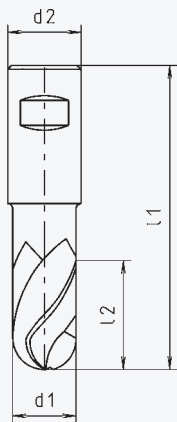
### Range of application:

Recommended for milling materials with medium/high tensile strength. Especially suited for copy milling.

### Impiego:

Adatte per fresatura di materiali di media ed alta resistenza, particolarmente indicate per fresatura a copiare.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	GRAUGUSS CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	---------------------------------------	-----------	---------------	-----------	---



blank | bright | lucida

ALUNIT®

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 7515 Art.-Nr.	€	Code 7517 Art.-Nr.	€
2	6	50	6	2	0 7515002001 00	31,93	0 7517002001 00	38,50
3	6	57	7	2	0 7515003001 00	33,46	0 7517003001 00	40,96
4	6	57	8	2	0 7515004001 00	33,46	0 7517004001 00	40,96
5	6	57	10	2	0 7515005001 00	33,46	0 7517005001 00	40,96
6	6	57	10	2	0 7515006001 00	33,46	0 7517006001 00	40,96
7	8	63	13	2	0 7515007001 00	48,39	0 7517007001 00	57,04
8	8	63	16	2	0 7515008001 00	48,39	0 7517008001 00	57,04
9	10	72	16	2	0 7515009001 00	63,40	0 7517009001 00	73,68
10	10	72	19	2	0 7515010001 00	63,40	0 7517010001 00	73,68
12	12	83	22	2	0 7515012001 00	87,37	0 7517012001 00	97,45

\* Ausführung ohne Weldon-Schaft innerhalb von 30 Tagen lieferbar.  
Version without Weldon-shank will be supplied within 30 days.  
Esecuzione senza Weldon consegna 30 giorni.



## >> VHM-MINIATUR-RADIUS-FRÄSER MIT VERSTÄRKTEM SCHAFT, KURZ, ZWEI-SCHNEIDER

### Einsatzbereich:

Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit. Besonders zum Kopierfräsen geeignet.

## SOLID CARBIDE MINI BALL NOSE END MILLS WITH RE-INFORCED STRAIGHT SHANK, SHORT SERIES, TWO FLUTES







### Range of application:

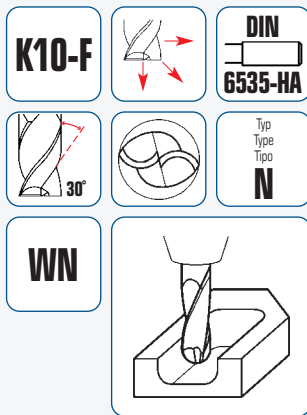
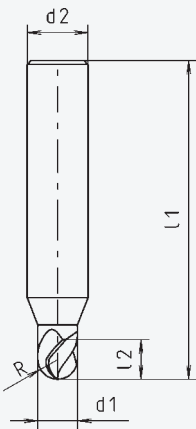
Recommended for milling materials with medium/high tensile strength. Especially suited for copy milling.

## FRESE IN MINIATURA RAGGIATE MDI, CODOLO RINFORZATO, SERIE CORTA, 2 TAGLIANTI

### Impiego:

Adatte per fresatura di materiali di media ed alta resistenza, particolarmente indicate per fresatura a copiare.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	<b>GRAUGUSS</b> CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	--	-----------	---------------	-----------	---



blank | bright | lucida



ALUNIT®

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	R mm	Z	Code 6345 Art.-Nr.	€	Code 6347 Art.-Nr.	€
0,4	3	38	1,5	0,2	2	0 6345000401 00	<b>23,97</b>	0 6347000401 00	<b>30,03</b>
0,5	3	38	1,5	0,25	2	0 6345000501 00	<b>23,97</b>	0 6347000501 00	<b>30,03</b>
0,6	3	38	2	0,3	2	0 6345000601 00	<b>20,63</b>	0 6347000601 00	<b>27,38</b>
0,7	3	38	3	0,35	2	0 6345000701 00	<b>20,63</b>	0 6347000701 00	<b>27,38</b>
0,8	3	38	3	0,4	2	0 6345000801 00	<b>19,29</b>	0 6347000801 00	<b>25,67</b>
0,9	3	38	3	0,45	2	0 6345000901 00	<b>19,29</b>	0 6347000901 00	<b>25,67</b>
1	3	38	3	0,5	2	0 6345001001 00	<b>17,30</b>	0 6347001001 00	<b>23,76</b>
1,5	3	38	5	0,75	2	0 6345001501 00	<b>17,30</b>	0 6347001501 00	<b>23,76</b>
2	3	38	6	1	2	0 6345002001 00	<b>17,30</b>	0 6347002001 00	<b>23,76</b>
2,5	3	38	7	1,25	2	0 6345002501 00	<b>17,30</b>	0 6347002501 00	<b>23,76</b>
3	3	38	8	1,5	2	0 6345003001 00	<b>16,81</b>	0 6347003001 00	<b>23,28</b>



## >> VHM-MINIATUR RADIUS-FRÄSER MIT VERSTÄRKTEM SCHAFT, LANG, ZWEI-SCHNEIDER

### Einsatzbereich:

Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit. Besonders zum Kopierfräsen geeignet.

## SOLID CARBIDE MINI BALL NOSE END MILLS WITH RE-INFORCED STRAIGHT SHANK, LONG SERIES, TWO FLUTES

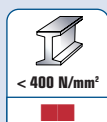

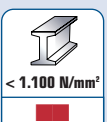
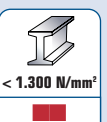
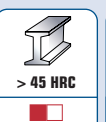
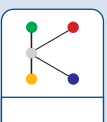
### Range of application:

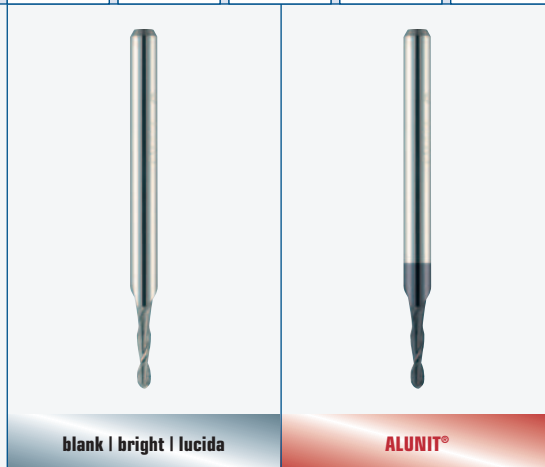
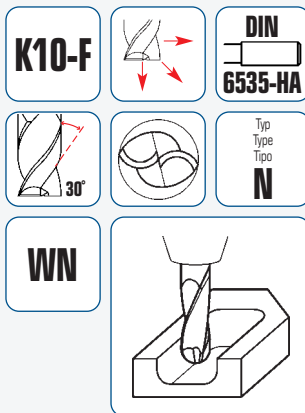
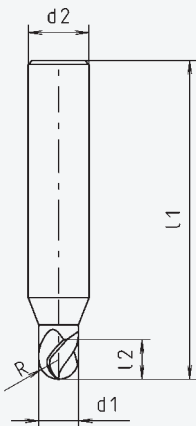
Recommended for milling materials with medium/high tensile strength. Especially suited for copy milling.

## FRESE IN MINIATURA RAGGIATE MDI, CODOLO RINFORZATO, SERIE LUNGA, 2 TAGLIANTI

### Impiego:

Adatte per fresatura di materiali di media ed alta resistenza, particolarmente indicate per fresatura a copiare.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	GRAUGUSS CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	---------------------------------------	-----------	---------------	-----------	---



d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	R mm	Z	Code 6365 Art.-Nr.	€	Code 6367 Art.-Nr.	€
1	3	38	4	0,5	2	0 6365001001 00	17,30	0 6367001001 00	23,76
1,5	3	38	6	0,75	2	0 6365001501 00	17,30	0 6367001501 00	23,76
2	3	38	9	1	2	0 6365002001 00	17,30	0 6367002001 00	23,76
2,5	3	38	12	1,25	2	0 6365002501 00	17,30	0 6367002501 00	23,76
3	3	38	12	1,5	2	0 6365003001 00	16,81	0 6367003001 00	23,28



## >> VHM-MINIATUR-RADIUS-FRÄSER MIT VERSTÄRKTEM SCHAFT, LANG, DREI-SCHNEIDER

### Einsatzbereich:

Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit. Besonders zum Kopierfräsen geeignet.

## SOLID CARBIDE MINI BALL NOSE END MILLS WITH RE-INFORCED STRAIGHT SHANK, LONG SERIES, THREE FLUTES







### Range of application:

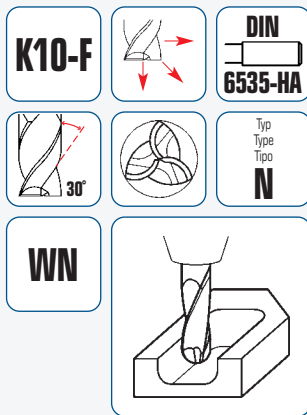
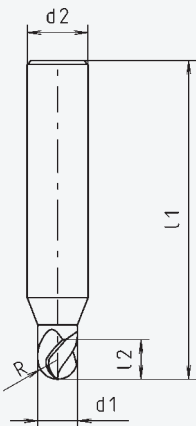
Recommended for milling materials with medium/high tensile strength. Especially suited for copy milling.

## FRESE IN MINIATURA RAGGIATE MDI, CODOLO RINFORZATO, SERIE LUNGA, 3 TAGLIANTI

### Impiego:

Adatte per fresatura di materiali di media ed alta resistenza, particolarmente indicate per fresatura a copiare.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	<b>GRAUGUSS CAST IRON GHISA GRIGIA</b>	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	--	-----------	---------------	-----------	---



	
blank   bright   lucida	<b>ALUNIT®</b>
<b>Code 6375</b> Art.-Nr.	<b>Code 6377</b> Art.-Nr.
€	€
0 6375001001 00 <b>17,30</b>	0 6377001001 00 <b>23,76</b>
0 6375001501 00 <b>17,30</b>	0 6377001501 00 <b>23,76</b>
0 6375002001 00 <b>17,30</b>	0 6377002001 00 <b>23,76</b>
0 6375002501 00 <b>17,30</b>	0 6377002501 00 <b>23,76</b>
0 6375003001 00 <b>16,81</b>	0 6377003001 00 <b>23,28</b>

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	R mm	Z	Code 6375 Art.-Nr.	€	Code 6377 Art.-Nr.	€
1	3	38	4	0,5	3	0 6375001001 00	<b>17,30</b>	0 6377001001 00	<b>23,76</b>
1,5	3	38	6	0,75	3	0 6375001501 00	<b>17,30</b>	0 6377001501 00	<b>23,76</b>
2	3	38	9	1	3	0 6375002001 00	<b>17,30</b>	0 6377002001 00	<b>23,76</b>
2,5	3	38	12	1,25	3	0 6375002501 00	<b>17,30</b>	0 6377002501 00	<b>23,76</b>
3	3	38	12	1,5	3	0 6375003001 00	<b>16,81</b>	0 6377003001 00	<b>23,28</b>





## >> VHM-MINIATUR RADIUS-FRÄSER MIT VERSTÄRKTEM SCHAFT, LANG, VIER-SCHNEIDER

### Einsatzbereich:

Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit. Besonders zum Kopierfräsen geeignet.

## SOLID CARBIDE MINI BALL NOSE END MILLS WITH RE-INFORCED STRAIGHT SHANK, LONG SERIES, FOUR FLUTES

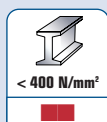

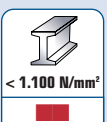
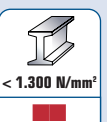
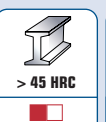
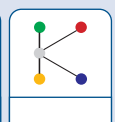
### Range of application:

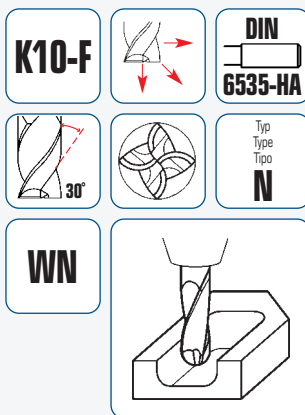
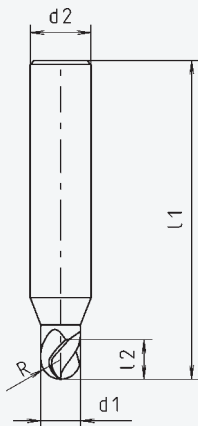
Recommended for milling materials with medium/high tensile strength. Especially suited for copy milling.

## FRESE IN MINIATURA RAGGIATE MDI, CODOLO RINFORZATO, SERIE LUNGA, 4 TAGLIANTI

### Impiego:

Adatte per fresatura di materiali di media ed alta resistenza, particolarmente indicate per fresatura a copiare.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	GRAUGUSS CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	---------------------------------------	-----------	---------------	-----------	---



d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	R mm	Z	Code 6385 Art.-Nr.	€	Code 6387 Art.-Nr.	€
1	3	38	4	0,5	4	0 6385001001 00	17,30	0 6387001001 00	23,76
1,5	3	38	6	0,75	4	0 6385001501 00	17,30	0 6387001501 00	23,76
2	3	38	9	1	4	0 6385002001 00	17,30	0 6387002001 00	23,76
2,5	3	38	12	1,25	4	0 6385002501 00	17,30	0 6387002501 00	23,76
3	3	38	12	1,5	4	0 6385003001 00	16,81	0 6387003001 00	23,28



## >> VHM-VIERTELROUND-PROFIL-FRÄSER

## SOLID CARBIDE QUARTER CIRCLE CUTTERS

## FRESE A PROFILO RAGGIATO MDI

### Einsatzbereich:







Empfohlen zum Fräsen von Bau-, Einsatz- und Vergütungsstählen mit normaler Festigkeit bis 1.100 N/mm<sup>2</sup> sowie für kurzspannende NE-Metalle.

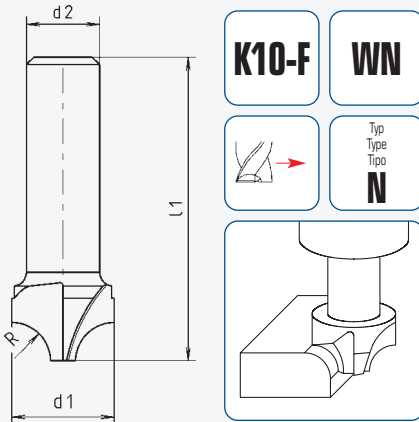
### Range of application:

Recommended for milling in construction steels, tempered steels and cementation steels with standard tensile strength up to 1.100 N/mm<sup>2</sup> and short-chipping of non-ferrous metals.

### Impiego:

Adatte per lavorazioni di acciai da costruzione, acciai da cementazione, acciai bonificati con R fino a 1.100 N/mm<sup>2</sup>, e di materiali non ferrosi a truciolo corto.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	<b>GRAUGUSS</b> <b>CAST IRON</b> <b>GHISA GRIGIA</b>	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	--	-----------	---------------	-----------	---



blank | bright | lucida

R mm	d1 <sub>h10</sub> mm	d2 <sub>h7</sub> mm	l1 mm	Z	Code 6415 Art.-Nr.	€
1	8	8	50	4	0 6415001001 00	36,98
1,25	8	8	50	4	0 6415001251 00	36,98
1,5	10	10	50	4	0 6415001501 00	41,92
1,75	10	10	50	4	0 6415001751 00	41,92
2	12	12	50	4	0 6415002001 00	44,96
2,25	12	12	50	4	0 6415002251 00	44,96
2,5	12	12	50	4	0 6415002501 00	44,96
3	14	12	55	4	0 6415003001 00	52,39
3,5	16	12	55	4	0 6415003501 00	62,93
4	16	12	60	4	0 6415004001 00	62,93
4,5	18	12	60	4	0 6415004501 00	68,35
5	20	16	65	4	0 6415005001 00	104,90
6	21	16	65	4	0 6415006001 00	104,90
8	26,5	20	70	4	0 6415008001 00	157,30
10	32	20	70	4	0 6415010001 00	209,70
12	38	20	75	6	0 6415012001 00	262,00



## >> VHM-ENTGRATER, 60°

## SOLID CARBIDE DEBURRING MILLS, 60°

## FRESE A SMUSSARE MDI, 60°

### Einsatzbereich:

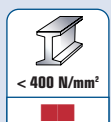
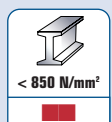



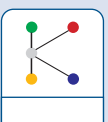
Universeller Anwendungsbereich, besonders geeignet zum Anfasen und Entgraten sowie Konturarbeiten.

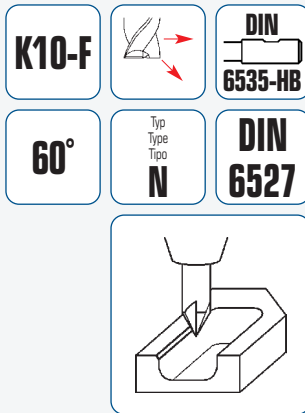
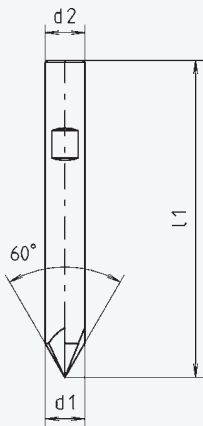
### Range of application:

Universal range of application, especially suited for chamfering and deburring as well as contouring.

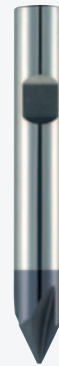
### Impiego:

Adatte per impieghi universali, particolarmente raccomandate per lavorazioni di smussatura, sbavatura ed anche di contornatura.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	GRAUGUSS CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	---------------------------------------	-----------	---------------	-----------	---



blank | bright | lucida



ALUNIT®

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	Z	Code 7725 Art.-Nr.	€	Code 7727 Art.-Nr.	€
4	4	54	4	0 7725004001 00	16,75	0 7727004001 00	23,26
6	6	57	4	0 7725006001 00	23,26	0 7727006001 00	29,77
8	8	63	4	0 7725008001 00	32,56	0 7727008001 00	40,93
10	10	72	4	0 7725010001 00	46,51	0 7727010001 00	55,82
12	12	83	4	0 7725012001 00	60,46	0 7727012001 00	70,70
<b>NEW</b> 16	16	92	6	0 7725016001 00	115,00	0 7727016001 00	128,00



## >> VHM-ENTGRATER, 90°

## SOLID CARBIDE DEBURRING MILLS, 90°

## FRESE A SMUSSARE MDI, 90°

### Einsatzbereich:

Universeller Anwendungsbereich, besonders geeignet zum Anfasen und Entgraten sowie Konturarbeiten.

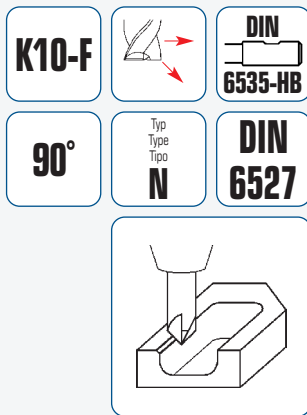
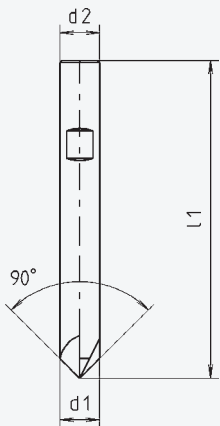
### Range of application:

Universal range of application, especially suited for chamfering and deburring as well as contouring.

### Impiego:

Adatte per impieghi universali, particolarmente raccomandate per lavorazioni di smussatura, sbavatura ed anche di contornatura.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	<b>GRAUGUSS CAST IRON GHISA GRIGIA</b>	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
-----------------------------	-----------------------------	-------------------------------	-------------------------------	--------------	--	--	--	-----------	---------------	-----------	--



blank | bright | lucida



**ALUNIT®**

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	Z	Code 7755 Art.-Nr.	€	Code 7757 Art.-Nr.	€
4	4	54	4	0 7755004001 00	<b>16,75</b>	0 7757004001 00	<b>23,26</b>
6	6	57	4	0 7755006001 00	<b>23,26</b>	0 7757006001 00	<b>29,77</b>
8	8	63	4	0 7755008001 00	<b>32,56</b>	0 7757008001 00	<b>40,93</b>
10	10	72	4	0 7755010001 00	<b>46,51</b>	0 7757010001 00	<b>55,82</b>
12	12	83	4	0 7755012001 00	<b>60,46</b>	0 7757012001 00	<b>70,70</b>
<b>NEW</b> 16	16	92	6	0 7755016001 00	<b>115,00</b>	0 7757016001 00	<b>128,00</b>





**>> VHM-FORMENBAUWERKZEUGE**  
**SOLID CARBIDE MOULD CUTTERS**  
**UTENSILI IN METALLO DURO**  
**INTEGRALE PER STAMPI**



## >> VHM-KOPIERFRÄSER, KURZ, ZWEISCHNEIDER

## SOLID CARBIDE BALL NOSE END MILLS, SHORT SERIES, TWO FLUTES

## FRESE A COPIARE RAGGIATE MDI, SERIE CORTA, 2 TAGLIENTI

### Einsatzbereich:



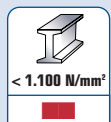
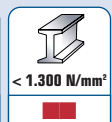
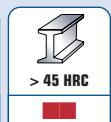
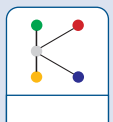
Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit. Besonders zum Kopierfräsen geeignet.

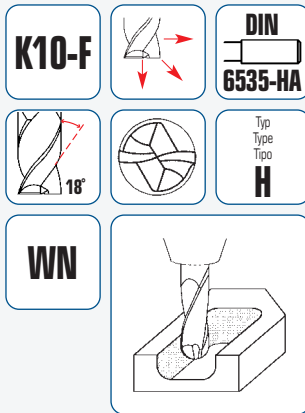
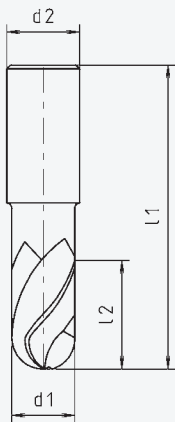
### Range of application:

Recommended for milling materials with medium/high tensile strength. Especially suited for copy milling.

### Impiego:

Adatte per fresatura di materiali di media ed alta resistenza, particolarmente indicate per fresatura a copiare.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	GRAUGUSS CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	---------------------------------------	-----------	---------------	-----------	---



ALUNIT®

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	R mm	Z	Code 7597 Art.-Nr.	€
2	6	80	6	1	2	0 7597002001 00	52,28
3	6	80	7	1,5	2	0 7597003001 00	52,28
4	6	80	8	2	2	0 7597004001 00	52,28
5	6	80	10	2,5	2	0 7597005001 00	52,28
6	6	80	10	3	2	0 7597006001 00	52,28
8	8	100	16	4	2	0 7597008001 00	75,56
10	10	120	19	5	2	0 7597010001 00	97,91
12	12	120	22	6	2	0 7597012001 00	125,10
16	16	160	26	8	2	0 7597016001 00	296,70
20	20	160	32	10	2	0 7597020001 00	400,80



## >> VHM-SCHAFTFRÄSER ZUM HARTFRÄSEN > 45 HRC, KURZ, NEGATIVER SPANWINKEL

### Einsatzbereich:

Zum Bearbeiten von gehärteten Werkstoffen über 45 HRC (mit negativem Spanwinkel). Besonders zur Trockenbearbeitung geeignet.

## SOLID CARBIDE END MILLS FOR HARD MACHINING > 45 HRC, SHORT SERIES, NEGATIVE RAKE ANGLE

### Range of application:

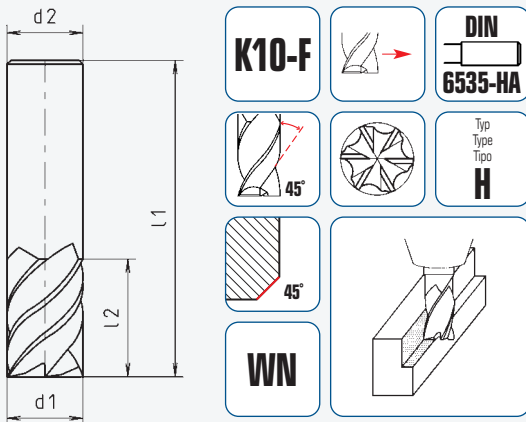
For milling hardened steels of more than 45 HRC (with negative rake angle). Especially suited for dry-cutting.

## FRESE MDI PER ACCIAI TEMPERATI > 45 HRC, SERIE CORTA, ANGOLO SPOGLIA FRONTALE NEGATIVO

### Impiego:

Adatte per superfinitura di materiali temprati > 45 HRC (con angolo spoglia frontale negativo). Particolarmente indicate per lavorazioni a secco.

					<b>INOX</b> < 850 N/mm²	<b>INOX</b> > 850 N/mm²	<b>GRAUGUSS</b> CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	--	----------------------------	----------------------------	--	-----------	---------------	-----------	--



ALUNIT®

	d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 6117 Art.-Nr.	€
<b>NEW</b>	3	6	50	10	4	0 6117003001 00	<b>37,99</b>
<b>NEW</b>	4	6	50	11	6	0 6117004001 00	<b>37,99</b>
<b>NEW</b>	5	6	50	13	6	0 6117005001 00	<b>37,99</b>
	6	6	57	13	6	0 6117006001 00	<b>39,94</b>
	8	8	63	19	6	0 6117008001 00	<b>55,14</b>
	10	10	72	22	6	0 6117010001 00	<b>72,72</b>
	12	12	83	26	6	0 6117012001 00	<b>102,70</b>
	14	14	83	26	6	0 6117014001 00	<b>161,70</b>
	16	16	92	32	6	0 6117016001 00	<b>191,60</b>
	18	18	92	32	8	0 6117018001 00	<b>266,70</b>
	20	20	104	38	8	0 6117020001 00	<b>296,70</b>
	25	25	106	40	8	0 6117025001 00	<b>453,00</b>





## >> VHM-SCHAFTFRÄSER ZUM HARTFRÄSEN > 45 HRC, LANG, NEGATIVER SPANWINKEL

### Einsatzbereich:

Zum Bearbeiten von gehärteten Werkstoffen über 45 HRC (mit negativem Spanwinkel). Besonders zur Trockenbearbeitung geeignet.

## SOLID CARBIDE END MILLS FOR HARD MACHINING > 45 HRC, LONG SERIES, NEGATIVE RAKE ANGLE

### Range of application:

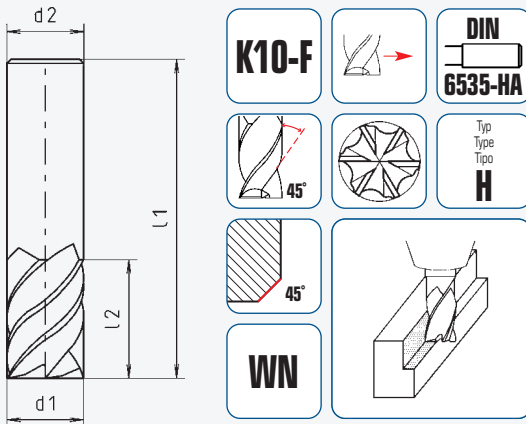
For milling hardened steels of more than 45 HRC (with negative rake angle). Especially suited for dry-cutting.

## FRESE MDI PER ACCIAI TEMPERATI > 45 HRC, SERIE LUNGA, ANGOLO SPOGLIA FRONTALE NEGATIVO

### Impiego:

Adatte per superfinitura di materiali temprati > 45 HRC (con angolo spoglia frontale negativo). Particolarmente indicate per lavorazioni a secco.

					<b>INOX</b> < 850 N/mm²	<b>INOX</b> > 850 N/mm²	GRAUGUSS CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	--	----------------------------	----------------------------	---------------------------------------	-----------	---------------	-----------	--



ALUNIT®

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 6197 Art.-Nr.	€
6	6	60	20	6	0 6197006001 00	44,21
8	8	80	25	6	0 6197008001 00	62,75
10	10	80	30	6	0 6197010001 00	83,19
12	12	100	36	6	0 6197012001 00	117,00
16	16	106	46	6	0 6197016001 00	218,70
20	20	125	60	8	0 6197020001 00	338,50
25	25	150	75	8	0 6197025001 00	517,20



## >> VHM-SCHAFTFRÄSER ZUM HARTFRÄSEN < 45 HRC, KURZ, POSITIVER SPANWINKEL

### Einsatzbereich:

Zum Schlichten mit hoher Zerspanungsleistung bei gleichzeitig exzellenter Oberfläche von Stählen mit einer Härte bis 45 HRC (z.B. Bau-, Einsatz-, Vergütungsstähle). Bevorzugt Gleichlaufräsen.

## SOLID CARBIDE END MILLS FOR HARD MACHINING < 45 HRC, SHORT SERIES, POSITIVE RAKE ANGLE







### Range of application:

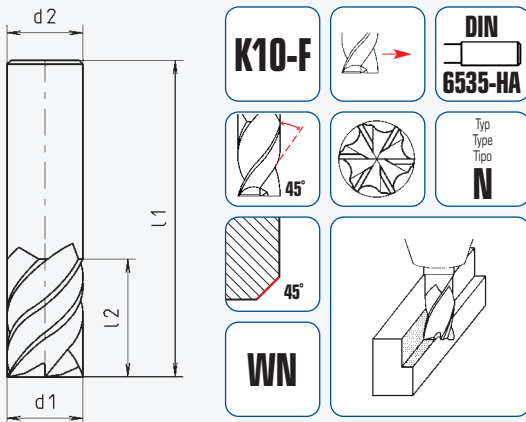
Finishing with high cutting performance and excellent surface on steels with a hardness up to 45 HRC (for example structural, case-hardening, heat-treatable steels). Climb milling preferred.

## FRESE MDI PER ACCIAI TEMPERATI < 45 HRC, SERIE CORTA, ANGOLO SPOGLIA FRONTALE POSITIVO

### Impiego:

Adatte per fresatura, con elevato rendimento e contemporanea ottima finitura della superficie, di acciai con durezza fino a 45 HRC (es. acciai da costruzione, acciai da cementazione, acciai bonificati). Consigliata fresatura concorde.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	<b>GRAUGUSS CAST IRON GHISA GRIGIA</b>	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	--	-----------	---------------	-----------	---



ALUNIT®

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 6107 Art.-Nr.	€
6	6	57	13	6	0 6107006001 00	39,94
8	8	63	19	6	0 6107008001 00	55,14
10	10	72	22	6	0 6107010001 00	72,72
12	12	83	26	6	0 6107012001 00	102,70
14	14	83	26	6	0 6107014001 00	161,70
16	16	92	32	6	0 6107016001 00	191,60
18	18	92	32	8	0 6107018001 00	266,70
20	20	104	38	8	0 6107020001 00	296,70
25	25	110	40	8	0 6107025001 00	453,00



## >> VHM-SCHAFTFRÄSER ZUM HARTFRÄSEN < 45 HRC, LANG, POSITIVER SPANWINKEL

### Einsatzbereich:

Zum Schlichten mit hoher Zerspanungsleistung bei gleichzeitig exzellenter Oberfläche von Stählen mit einer Härte bis 45 HRC (z.B. Bau-, Einsatz-, Vergütungsstähle). Bevorzugt Gleichlaufräsen.

## SOLID CARBIDE END MILLS FOR HARD MACHINING < 45 HRC, LONG SERIES, POSITIVE RAKE ANGLE






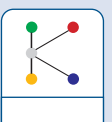
### Range of application:

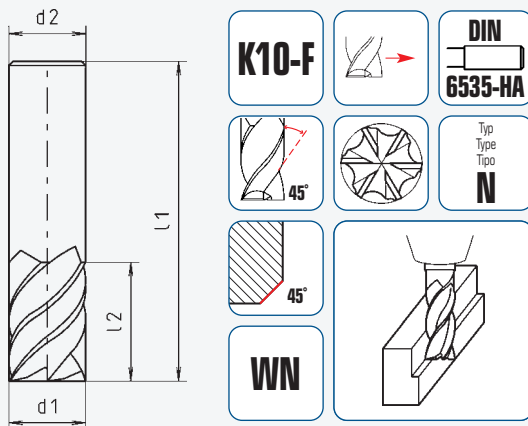
Finishing with high cutting performance and excellent surface quality by steels with tensile strength up to 45 HRC (for example structural, case-hardening, heat-treatable steels). Climb milling preferred.

## FRESE MDI PER ACCIAI TEMPERATI < 45 HRC, SERIE LUNGA, ANGOLO SPOGLIA FRONTALE POSITIVO

### Impiego:

Adatte per fresatura, con elevato rendimento e contemporanea ottima finitura della superficie, di acciai con durezza fino a 45 HRC (es. acciai da costruzione, acciai da cementazione, acciai bonificati). Consigliata fresatura concorde.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	GRAUUGUSS CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	--	-----------	---------------	-----------	---



ALUNIT®

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 6137 Art.-Nr.	€
6	6	60	20	6	0 6137006001 00	44,21
8	8	80	25	6	0 6137008001 00	62,75
10	10	80	30	6	0 6137010001 00	83,19
12	12	100	36	6	0 6137012001 00	117,00
16	16	106	46	6	0 6137016001 00	218,70
20	20	125	60	8	0 6137020001 00	338,50
25	25	150	75	8	0 6137025001 00	517,20



## >> VHM-TORUS-FRÄSER, KURZ, ZWEISCHNEIDER

## SOLID CARBIDE TORUS END MILLS, SHORT SERIES, TWO FLUTES

## FRESE TOROIDALI MDI, SERIE CORTA, 2 TAGLIANTI

### Einsatzbereich:

Torusfräser für die Bearbeitung von Werkstoffen mittlerer bis hoher Festigkeit. Besonders zum HSC-Kopierfräsen geeignet.

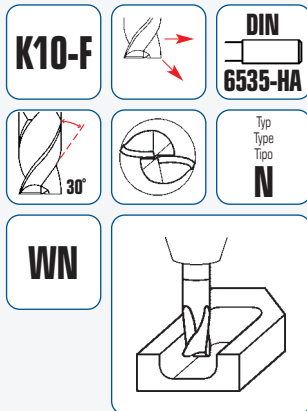
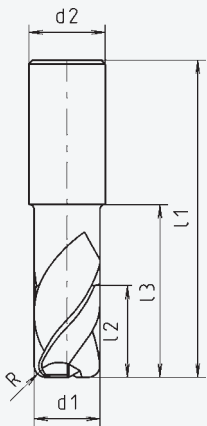
### Range of application:

Torus end mills for materials with medium/high tensile strength. Especially suited for HSC-copy milling.

### Impiego:

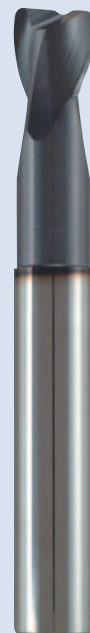
Impiego: Adatte per fresatura di materiali di media ed alta resistenza, serie alta velocità HSC particolarmente indicate per fresatura a copiare.

					<b>INOX</b> <math>< 850 \text{ N/mm}^2</math>	<b>INOX</b> <math>> 850 \text{ N/mm}^2</math>	GRAUGUSS CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	--	--	--	---------------------------------------	-----------	---------------	-----------	--



ALUNIT®

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	l3 mm	R mm	Z	Code 6327 Art.-Nr.	€
3	6	57	4	9	0,5	2	0 6327003001 00	<b>46,58</b>
4	6	57	5	12	0,5	2	0 6327004001 00	<b>46,58</b>
5	6	57	6	15	0,5	2	0 6327005001 00	<b>46,58</b>
6	6	57	7	20	1	2	0 6327006001 00	<b>46,58</b>
8	8	63	9	26	1	2	0 6327008001 00	<b>67,98</b>
10	10	72	11	31	1,5	2	0 6327010001 00	<b>85,09</b>
12	12	83	12	37	1,5	2	0 6327012001 00	<b>111,70</b>
16	16	92	16	43	2	2	0 6327016001 00	<b>213,00</b>
18	18	92	18	43	2	2	0 6327018001 00	<b>266,70</b>
20	20	104	20	48	2	2	0 6327020001 00	<b>319,50</b>



## >> VHM-TORUS-FRÄSER, LANG, ZWEISCHNEIDER

## SOLID CARBIDE TORUS END MILLS, LONG SERIES, TWO FLUTES

## FRESE TOROIDALI MDI, SERIE LUNGA, 2 TAGLIENTI

### Einsatzbereich:

Torusfräser für die Bearbeitung von Werkstoffen mittlerer bis hoher Festigkeit. Besonders zum HSC-Kopierfräsen geeignet.

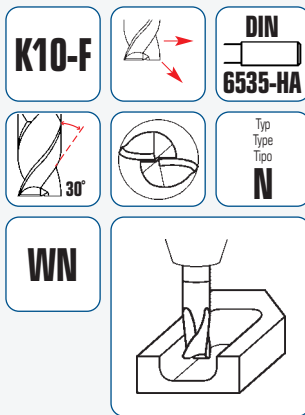
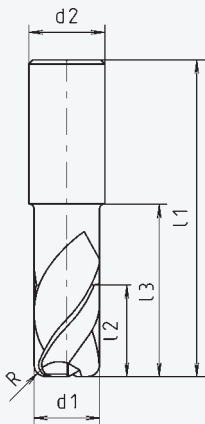
### Range of application:

Torus end mills for materials with medium/high tensile strength. Especially suited for HSC-copy milling.

### Impiego:

Adatte per fresatura di materiali di media ed alta resistenza, serie alta velocità HSC particolarmente indicate per fresatura a copiare.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	GRAUGUSS CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
-----------------------------	-----------------------------	-------------------------------	-------------------------------	--------------	--	--	---------------------------------------	-----------	---------------	-----------	--



ALUNIT®

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	l3 mm	R mm	Z	Code 6337 Art.-Nr.	€
6	6	80	7	40	1	2	0 6337006001 00	52,78
8	8	80	9	40	1	2	0 6337008001 00	77,48
10	10	100	11	55	1,5	2	0 6337010001 00	96,96
12	12	120	12	70	1,5	2	0 6337012001 00	127,40
16	16	160	16	100	2	2	0 6337016001 00	243,40



## >> VHM-TORUS-FRÄSER, KURZ, VIERSCHNEIDER

## SOLID CARBIDE TORUS END MILLS, SHORT SERIES, FOUR FLUTES

## FRESE TOROIDALI MDI, SERIE CORTA, 4 TAGLIENTI

### Einsatzbereich:







Torusfräser für die Bearbeitung von Werkstoffen mittlerer bis hoher Festigkeit. Besonders zum HSC-Kopierfräsen geeignet.

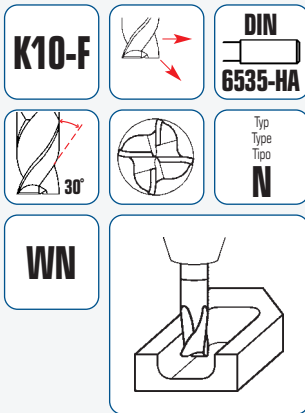
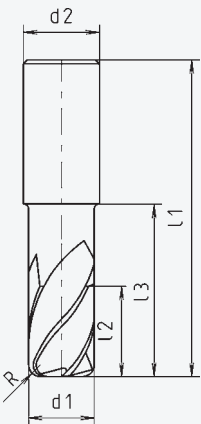
### Range of application:

Torus end mills for materials with medium/high tensile strength. Especially suited for HSC-copy milling.

### Impiego:

Adatte per fresatura di materiali di media ed alta resistenza, serie alta velocità HSC particolarmente indicate per fresatura a copiare.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	<b>GRAUGUSS CAST IRON GHISA GRIGIA</b>	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	--	-----------	---------------	-----------	---



ALUNIT®

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	l3 mm	R mm	Z	Code 6427 Art.-Nr.	€
6	6	57	7	20	1,5	4	0 6427006001 00	<b>51,32</b>
8	8	63	9	26	2	4	0 6427008001 00	<b>72,72</b>
10	10	72	11	31	2,5	4	0 6427010001 00	<b>95,07</b>
12	12	83	12	37	3	4	0 6427012001 00	<b>121,20</b>
16	16	92	16	43	4	4	0 6427016001 00	<b>227,70</b>
18	18	92	18	43	4	4	0 6427018001 00	<b>281,00</b>
20	20	104	20	48	5	4	0 6427020001 00	<b>339,00</b>



## >> VHM-TORUS-FRÄSER, LANG, VIERSCHEIDER

## SOLID CARBIDE TORUS END MILLS, LONG SERIES, FOUR FLUTES

## FRESE TOROIDALI MDI, SERIE LUNGA, 4 TAGLIENTI

### Einsatzbereich:





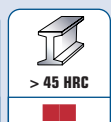
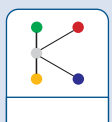
Torusfräser für die Bearbeitung von Werkstoffen mittlerer bis hoher Festigkeit. Besonders zum HSC-Kopierfräsen geeignet.

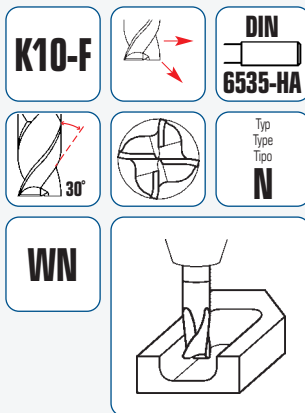
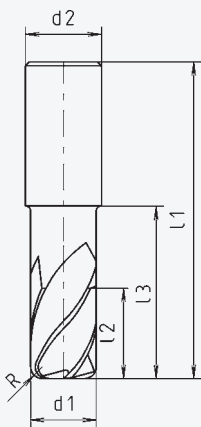
### Range of application:

Torus end mills for materials with medium/high tensile strength. Especially suited for HSC-copy milling.

### Impiego:

Adatte per fresatura di materiali di media ed alta resistenza, serie alta velocità HSC particolarmente indicate per fresatura a copiare.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	GRAUGUSS CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	---------------------------------------	-----------	---------------	-----------	---



ALUNIT®

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	l3 mm	R mm	Z	Code 6437 Art.-Nr.	€
6	6	80	7	40	1,5	4	0 6437006001 00	<b>58,00</b>
8	8	80	9	40	2	4	0 6437008001 00	<b>83,19</b>
10	10	100	11	55	2,5	4	0 6437010001 00	<b>107,90</b>
12	12	120	12	70	3	4	0 6437012001 00	<b>165,90</b>
16	16	160	16	100	4	4	0 6437016001 00	<b>260,10</b>



## >> VHM-MINIATURFRÄSER, ZWEISCHNEIDER

## SOLID CARBIDE MINI END MILLS, TWO FLUTES

## FRESE IN MINIATURA MDI, 2 TAGLIANTI

### Einsatzbereich:







Empfohlen zum Fräsen von Werkstoffen mit mittleren und hohen Festigkeiten sowie zur HSC-Bearbeitung.

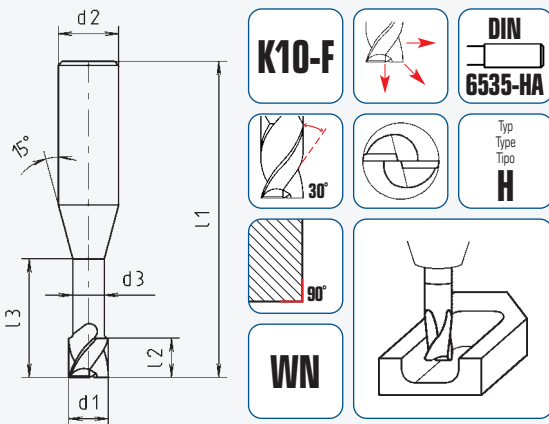
### Range of application:

Recommended for milling materials with medium and high tensile strength, HSC-milling.

### Impiego:

Adatte per fresatura di materiali di media ed alta resistenza, anche per alta velocità HSC.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	<b>GRAUGUSS CAST IRON GHISA GRIGIA</b>	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	--	-----------	---------------	-----------	---



ALUNIT®

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	d3 mm	l1 mm	l2 mm	l3 mm	Z	Code 6257 Art.-Nr.	€
0,4	3	0,35	50	0,6	5	2	0 6257000401 00	38,50
0,5	3	0,45	50	0,7	6	2	0 6257000501 00	38,50
0,6	3	0,55	50	0,9	6	2	0 6257000601 00	34,22
0,7	3	0,65	50	0,8	7	2	0 6257000701 00	34,22
0,8	3	0,75	50	1,2	8	2	0 6257000801 00	31,37
0,9	3	0,85	50	1,3	9	2	0 6257000901 00	31,37
1	3	0,95	50	1,5	12	2	0 6257001001 00	28,99
1,2	3	1,15	50	1,8	12	2	0 6257001201 00	28,99
1,4	3	1,35	50	2,1	16	2	0 6257001401 00	28,99
1,5	3	1,45	50	2,3	20	2	0 6257001501 00	28,99
1,6	3	1,55	50	2,4	20	2	0 6257001601 00	28,99
1,8	3	1,75	50	2,7	20	2	0 6257001801 00	28,99
2	3	1,95	50	3	20	2	0 6257002001 00	28,99
2,5	3	2,45	50	3,7	20	2	0 6257002501 00	28,99
3	3	2,95	50	4	20	2	0 6257003001 00	28,99





## >> VHM-MINIATUR-RADIUS-FRÄSER, ZWEISCHNEIDER

## SOLID CARBIDE MINI BALL NOSE END MILLS, TWO FLUTES

## FRESE IN MINIATURA CON PUNTA SEMISFERICA MDI, 2 TAGLIANTI

### Einsatzbereich:





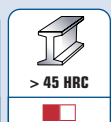
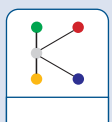
Für die Bearbeitung von Werkstoffen mit mittlerer bis hoher Festigkeit. Besonders zum HSC-Kopierfräsen geeignet.

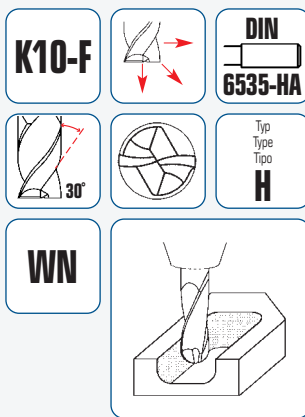
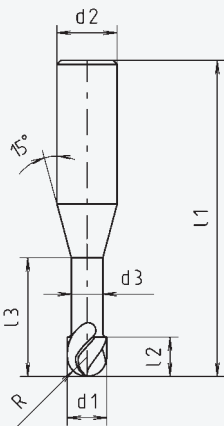
### Range of application:

For milling materials with medium/high tensile strength. Especially suited for HSC-copy milling.

### Impiego:

Adatte per fresatura di materiali di media ed alta resistenza, serie alta velocità HSC particolarmente indicate per fresatura a copiare.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	GRAUGUSS CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	---------------------------------------	-----------	---------------	-----------	---



ALUNIT®

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	d3 mm	l1 mm	l2 mm	l3 mm	R mm	Z	Code 6297 Art.-Nr.	€
0,4	3	0,45	50	0,6	5	0,2	2	0 6297000401 00	48,49
0,5	3	0,45	50	0,7	6	0,25	2	0 6297000501 00	48,49
0,6	3	0,55	50	0,9	6	0,3	2	0 6297000601 00	43,74
0,7	3	0,65	50	0,8	7	0,35	2	0 6297000701 00	43,73
0,8	3	0,75	50	1,2	8	0,4	2	0 6297000801 00	38,50
0,9	3	0,85	50	1,3	9	0,45	2	0 6297000901 00	38,50
1	3	0,95	50	1,5	12	0,50	2	0 6297001001 00	36,60
1,2	3	1,15	50	1,8	12	0,6	2	0 6297001201 00	36,60
1,4	3	1,35	50	2,1	16	0,6	2	0 6297001401 00	36,60
1,5	3	1,45	50	2,3	20	0,75	2	0 6297001501 00	36,60
1,6	3	1,55	50	2,4	20	0,8	2	0 6297001601 00	36,60
1,8	3	1,75	50	2,7	20	0,8	2	0 6297001801 00	36,60
2	3	1,95	50	3	20	1	2	0 6297002001 00	36,60
2,5	3	2,45	50	3,7	20	1,25	2	0 6297002501 00	36,60
3	3	2,95	50	4	20	1,5	2	0 6297003001 00	36,60



## >> VHM-GESENKFRÄSER, KEGELIG

## SOLID CARBIDE DIE END MILLS, CONICAL SERIES

## FRESE PER STAMPI CONICHE MDI

### Einsatzbereich:







Schlichtfräser für Anwendungsgruppen H und N,  
konstanter Drallwinkel.

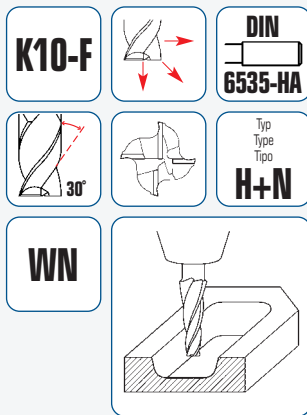
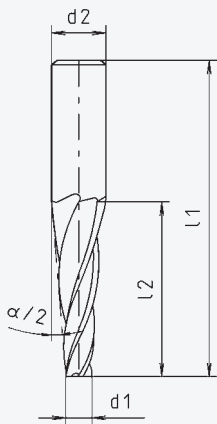
### Range of application:

Finishing cutter for application groups H and N,  
constant spiral angle.

### Impiego:

Adatte per fresatura di finitura per i campi H  
ed N, angolo elica costante.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	<b>GRAUGUSS CAST IRON GHISA GRIGIA</b>	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	--	-----------	---------------	-----------	---



ALUNIT®

$\frac{\alpha}{2}$	d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 7917 Art.-Nr.	€
0,5°	2,5	4	60	20	3	0 7917005021 00	35,17
	3	4	60	20	3	0 7917005031 00	35,17
	4	5	60	20	3	0 7917005041 00	40,88
	5	6	75	30	4	0 7917005051 00	45,16
	6	8	75	30	4	0 7917005061 00	54,66
	8	10	80	30	4	0 7917005081 00	69,39
	10	12	83	30	4	0 7917005101 00	106,50
	12	14	100	45	4	0 7917005121 00	172,10
	16	18	100	50	4	0 7917005161 00	254,80
1,0°	2,5	4	60	20	3	0 7917010021 00	35,17
	3	4	60	20	3	0 7917010031 00	35,17
	4	5	60	20	3	0 7917010041 00	40,88
	5	6	75	25	4	0 7917010051 00	45,16
	6	8	75	30	4	0 7917010061 00	54,66
	8	10	80	30	4	0 7917010081 00	69,39
	10	12	83	30	4	0 7917010101 00	106,50
	12	14	100	50	4	0 7917010121 00	172,10
	16	18	100	50	4	0 7917010161 00	254,80

Fortsetzung auf Seite III/66 | Continued on page III/66 | Segue a pagina III/66



## >> VHM-GESENKFRÄSER, KEGELIG

## SOLID CARBIDE DIE END MILLS, CONICAL SERIES

## FRESE PER STAMPI CONICHE MDI

Fortsetzung von Seite III/65 | Continued from page III/65 |  
Segue da pagina III/65

						ALUNIT®	
$\frac{\infty}{2}$	d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 7917 Art.-Nr.	€
<b>1,5°</b>	<b>2,5</b>	4	60	20	3	0 7917015021 00	<b>35,17</b>
	<b>3</b>	4	60	20	3	0 7917015031 00	<b>35,17</b>
	<b>4</b>	5	60	20	3	0 7917015041 00	<b>40,88</b>
	<b>5</b>	8	75	30	4	0 7917015051 00	<b>54,66</b>
	<b>6</b>	8	75	30	4	0 7917015061 00	<b>54,66</b>
	<b>8</b>	10	80	30	4	0 7917015081 00	<b>69,39</b>
	<b>10</b>	12	83	30	4	0 7917015101 00	<b>96,03</b>
	<b>12</b>	16	100	50	4	0 7917015121 00	<b>174,50</b>
	<b>16</b>	20	100	50	4	0 7917015161 00	<b>294,30</b>
	<b>2,0°</b>	<b>2,5</b>	4	60	20	3	0 7917020021 00
<b>3</b>		5	60	20	3	0 7917020031 00	<b>40,88</b>
<b>3,5</b>		5	60	20	3	0 7917020351 00	<b>40,88</b>
<b>4</b>		6	60	20	3	0 7917020041 00	<b>44,21</b>
<b>4,5</b>		8	75	30	3	0 7917020451 00	<b>54,66</b>
<b>5</b>		8	<b>75</b>	30	4	0 7917020051 00	<b>54,66</b>
<b>5</b>		10	<b>100</b>	50	4	0 7917020511 00	<b>92,22</b>
<b>6</b>		8	<b>75</b>	28	4	0 7917020061 00	<b>54,66</b>
<b>6</b>		10	<b>100</b>	50	4	0 7917020071 00	<b>92,22</b>
<b>8</b>		10	<b>80</b>	30	4	0 7917020081 00	<b>69,39</b>
<b>8</b>		12	<b>100</b>	50	4	0 7917020091 00	<b>135,00</b>
<b>10</b>		12	83	28	4	0 7917020101 00	<b>99,34</b>
<b>12</b>		14	<b>83</b>	28	4	0 7917020121 00	<b>134,10</b>
<b>12</b>		16	<b>100</b>	50	4	0 7917020131 00	<b>224,40</b>
<b>16</b>		20	100	50	4	0 7917020161 00	<b>296,70</b>
<b>3,0°</b>		<b>2,5</b>	6	60	20	3	0 7917030021 00
	<b>3</b>	6	<b>60</b>	25	3	0 7917030031 00	<b>44,21</b>
	<b>3</b>	8	<b>75</b>	30	3	0 7917030311 00	<b>59,42</b>
	<b>4</b>	8	75	30	3	0 7917030041 00	<b>59,42</b>
	<b>5</b>	10	80	35	4	0 7917030051 00	<b>75,10</b>
	<b>6</b>	10	<b>80</b>	30	4	0 7917030061 00	<b>75,10</b>
	<b>6</b>	12	<b>100</b>	50	4	0 7917030071 00	<b>116,00</b>
	<b>8</b>	12	<b>83</b>	30	4	0 7917030081 00	<b>96,03</b>
	<b>8</b>	14	<b>100</b>	50	4	0 7917030091 00	<b>181,20</b>
	<b>10</b>	14	<b>83</b>	30	4	0 7917030101 00	<b>135,50</b>
	<b>10</b>	16	<b>100</b>	50	4	0 7917030111 00	<b>212,00</b>
	<b>12</b>	18	100	50	4	0 7917030121 00	<b>261,00</b>

Fortsetzung auf Seite III/67 | Continued on page III/67 | Segue a pagina III/67



>> **VHM-GESENKFRÄSER,  
KEGELIG**

**SOLID CARBIDE DIE END  
MILLS, CONICAL SERIES**

**FRESE PER STAMPI CONICHE  
MDI**

Fortsetzung von Seite III/66 | Continued from page III/66 |  
Segue da pagina III/66

						ALUNIT®	
$\frac{\infty}{2}$	d1 <sub>H10</sub> mm	d2 <sub>H6</sub> mm	l1 mm	l2 mm	Z	Code 7917 Art.-Nr.	€
<b>5,0°</b>	<b>2,5</b>	8	63	20	3	0 7917050021 00	<b>51,32</b>
	<b>3</b>	10	<b>80</b>	20	3	0 7917050031 00	<b>75,10</b>
	<b>3</b>	10	<b>100</b>	40	3	0 7917050311 00	<b>81,29</b>
	<b>3,5</b>	12	83	30	3	0 7917050351 00	<b>104,60</b>
	<b>4</b>	8	<b>63</b>	22	3	0 7917050041 00	<b>57,04</b>
	<b>4</b>	10	<b>80</b>	32	3	0 7917050411 00	<b>75,10</b>
	<b>4</b>	12	<b>100</b>	45	3	0 7917050421 00	<b>100,40</b>
	<b>5</b>	12	100	40	4	0 7917050051 00	<b>106,50</b>
	<b>6</b>	12	<b>83</b>	32	4	0 7917050061 00	<b>81,29</b>
	<b>6</b>	16	<b>100</b>	50	4	0 7917050071 00	<b>189,20</b>
<b>7,0°</b>	<b>8</b>	14	<b>83</b>	32	4	0 7917050081 00	<b>108,40</b>
	<b>8</b>	18	<b>100</b>	50	4	0 7917050091 00	<b>228,20</b>
	<b>10</b>	16	<b>92</b>	32	4	0 7917050101 00	<b>160,20</b>
	<b>10</b>	20	<b>100</b>	50	4	0 7917050111 00	<b>281,90</b>
	<b>12</b>	18	<b>92</b>	32	4	0 7917050121 00	<b>225,40</b>
	<b>12</b>	20	<b>100</b>	45	4	0 7917050131 00	<b>281,90</b>
	<b>2,5</b>	8	63	20	3	0 7917070021 00	<b>57,04</b>
	<b>5</b>	12	83	30	4	0 7917070051 00	<b>106,50</b>
<b>10,0°</b>	<b>2,5</b>	10	80	20	3	0 7917090021 00	<b>78,91</b>
	<b>3</b>	14	83	30	3	0 7917090031 00	<b>145,50</b>
	<b>5</b>	16	92	30	4	0 7917090051 00	<b>186,90</b>
	<b>8</b>	20	92	32	4	0 7917090081 00	<b>331,40</b>





**>> VHM-FRÄSER FÜR ALUMINIUM UND  
KUNSTSTOFFE**

**SOLID CARBIDE END MILLS FOR  
ALUMINIUM AND PLASTICS**

**FRESE IN METALLO DURO  
INTEGRALE PER ALLUMINIO E  
MATERIE PLASTICHE**



## >> VHM-SCHAFTFRÄSER FÜR ALUMINIUM, KURZ, ZWEI-SCHNEIDER

### Einsatzbereich:

Empfohlen zum Fräsen in Aluminium und Aluminiumlegierungen, Kunststoffen, Kupferlegierungen und NE-Metallen.

## SOLID CARBIDE END MILLS FOR ALUMINIUM, SHORT SERIES, TWO FLUTES

### Range of application:

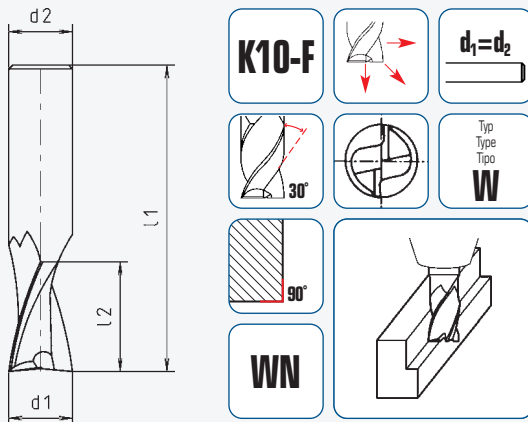
Recommended for milling aluminium and aluminium-alloys, plastics copper-alloys and non-ferrous metals.

## FRESE FRONTALI MDI PER ALLUMINIO, SERIE CORTA, 2 TAGLIANTI

### Impiego:

Adatte per fresatura di alluminio, leghe di alluminio, materie plastiche, leghe di rame e materiali non ferrosi.

					<b>INOX</b> <math>< 850 \text{ N/mm}^2</math>	<b>INOX</b> <math>> 850 \text{ N/mm}^2</math>	GRAUGUSS CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	--	--	--	---------------------------------------	-----------	---------------	-----------	--



blank | bright | lucida

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 6915 Art.-Nr.	€
1	1	38	5	2	0 6915001001 00	13,77
1,5	1,5	38	5	2	0 6915001501 00	13,77
2	2	38	8	2	0 6915002001 00	13,31
2,5	2,5	38	8	2	0 6915002501 00	13,31
3	3	38	12	2	0 6915003001 00	11,89
4	4	40	12	2	0 6915004001 00	13,77
5	5	50	14	2	0 6915005001 00	17,11
6	6	50	16	2	0 6915006001 00	20,91
8	8	63	20	2	0 6915008001 00	30,89
10	10	72	22	2	0 6915010001 00	45,16
12	12	73	22	2	0 6915012001 00	59,88
14	14	75	25	2	0 6915014001 00	85,09
16	16	82	28	2	0 6915016001 00	115,10
18	18	84	28	2	0 6915018001 00	149,80
20	20	104	35	2	0 6915020001 00	199,70



## >> VHM-RADIUSFRÄSER FÜR ALUMINIUM, KURZ, ZWEI-SCHNEIDER

## SOLID CARBIDE BALL NOSE END MILLS FOR ALUMINIUM, SHORT SERIES, TWO FLUTES

## FRESE RAGGIATE MDI PER ALLUMINIO, SERIE CORTA, 2 TAGLIANTI

### Einsatzbereich:







Empfohlen zum Kopierfräsen in Aluminium und Aluminiumlegierungen, Kunststoffen, Kupferlegierungen und NE-Metallen.

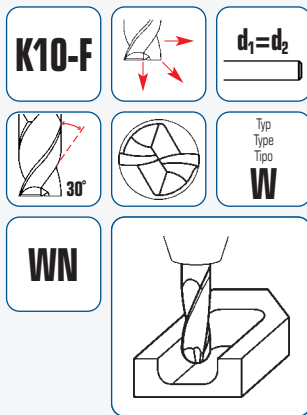
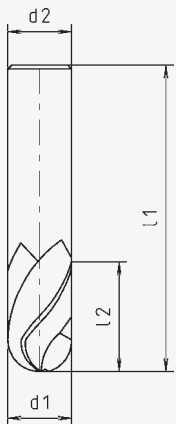
### Range of application:

Recommended for copy milling aluminium and aluminium-alloys, plastics copper-alloys and non-ferrous metals.

### Impiego:

Adatte per fresatura di alluminio, leghe di alluminio, materie plastiche, leghe di rame e materiali non ferrosi.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	<b>GRAUGUSS CAST IRON GHISA GRIGIA</b>	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	--	-----------	---------------	-----------	---



blank | bright | lucida

d <sub>1</sub> <sub>h10</sub> mm	d <sub>2</sub> <sub>h6</sub> mm	l <sub>1</sub> mm	l <sub>2</sub> mm	Z	Code 6925 Art.-Nr.	€
1	1	38	5	2	0 6925001001 00	21,86
1,5	1,5	38	5	2	0 6925001501 00	21,86
2	2	38	8	2	0 6925002001 00	19,49
2,5	2,5	38	8	2	0 6925002501 00	19,49
3	3	38	12	2	0 6925003001 00	18,06
4	4	40	12	2	0 6925004001 00	20,91
5	5	50	14	2	0 6925005001 00	23,28
6	6	50	16	2	0 6925006001 00	28,52
8	8	63	20	2	0 6925008001 00	39,94
10	10	72	22	2	0 6925010001 00	56,07
12	12	73	22	2	0 6925012001 00	75,10
14	14	75	25	2	0 6925014001 00	116,50
16	16	82	28	2	0 6925016001 00	139,80
18	18	84	28	2	0 6925018001 00	187,30
20	20	104	35	2	0 6925020001 00	249,60





## >> VHM-TORUS-FRÄSER FÜR ALUMINIUM, KURZ, ZWEI-SCHNEIDER

## SOLID CARBIDE TORUS END MILLS FOR ALUMINIUM, SHORT SERIES, TWO FLUTES

## FRESE TOROIDALI MDI PER ALLUMINIO, SERIE CORTA, 2 TAGLIANTI

### Einsatzbereich:






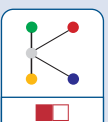
Besonders geeignet zum Kopierfräsen von Aluminium und Aluminiumlegierungen.

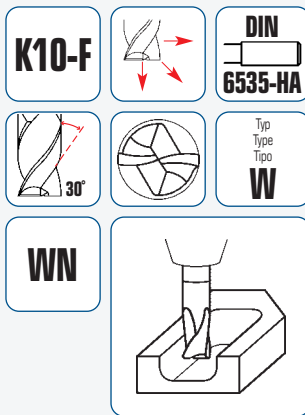
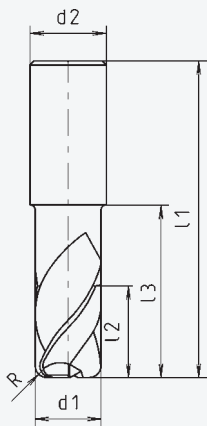
### Range of application:

Especially suited for copy milling aluminium and aluminium-alloys.

### Impiego:

Adatte particolarmente per fresatura a copiare di alluminio, leghe di alluminio.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	GRAUGUSS CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	---------------------------------------	-----------	---------------	-----------	---



blank | bright | lucida

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	l3 mm	R mm	Z	Code 7405 Art.-Nr.	€
3	6	57	4	9	0,5	2	0 7405003001 00	<b>38,02</b>
4	6	57	5	12	0,5	2	0 7405004001 00	<b>38,02</b>
5	6	57	7	20	1	2	0 7405005001 00	<b>38,02</b>
6	6	57	7	20	1	2	0 7405006001 00	<b>38,02</b>
8	8	63	9	26	1	2	0 7405008001 00	<b>57,04</b>
10	10	72	11	31	1,5	2	0 7405010001 00	<b>71,32</b>
12	12	83	12	37	1,5	2	0 7405012001 00	<b>95,07</b>
16	16	92	16	43	2	2	0 7405016001 00	<b>190,20</b>
20	20	104	20	53	2	2	0 7405020001 00	<b>285,30</b>



## >> VHM-TORUS-FRÄSER FÜR ALUMINIUM, LANG, ZWEI-SCHNEIDER

## SOLID CARBIDE TORUS END MILLS FOR ALUMINIUM, LONG SERIES, TWO FLUTES

## FRESE TOROIDALI MDI PER ALLUMINIO, SERIE LUNGA, 2 TAGLIANTI

### Einsatzbereich:

Besonders geeignet zum Kopierfräsen von Aluminium und Aluminiumlegierungen.

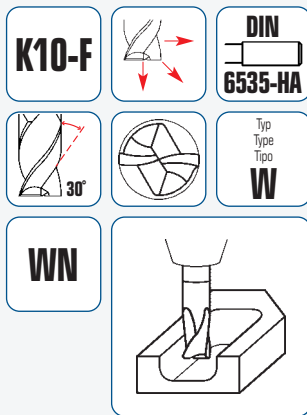
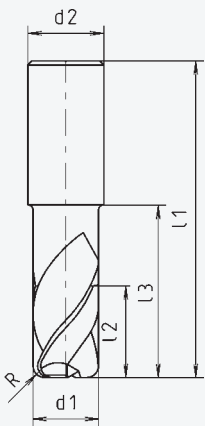
### Range of application:

Especially suited for copy milling aluminium and aluminium-alloys.

### Impiego:

Adatte particolarmente per fresatura a copiare di alluminio, leghe di alluminio.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	GRAUGUSS CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
-----------------------------	-----------------------------	-------------------------------	-------------------------------	--------------	--	--	---------------------------------------	-----------	---------------	-----------	--



blank | bright | lucida

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	l3 mm	R mm	Z	Code 7415 Art.-Nr.	€
6	6	80	7	30	1	2	0 7415006001 00	<b>45,63</b>
8	8	80	9	40	1	2	0 7415008001 00	<b>68,44</b>
10	10	100	11	40	1,5	2	0 7415010001 00	<b>85,56</b>
12	12	100	12	50	1,5	2	0 7415012001 00	<b>114,10</b>
16	16	100	16	60	2	2	0 7415016001 00	<b>228,20</b>
20	20	125	20	70	2	2	0 7415020001 00	<b>342,30</b>



## >> VHM-EINZAHNFRÄSER FÜR ALUMINIUM

## SOLID CARBIDE 1-FLUTE END MILLS FOR ALUMINIUM

## FRESE MONOELICA MDI PER ALLUMINIO

### Einsatzbereich:

Rechtsschneidend mit Rechtsdrill.  
Geeignet für die Bearbeitung von Aluminium und Aluminiumlegierungen.

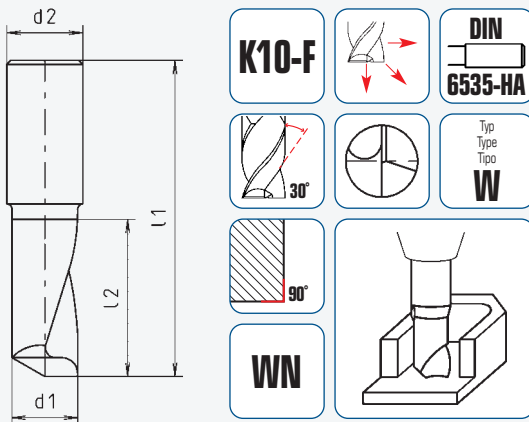
### Range of application:

Right-hand cutting with right-hand spiral.  
Especially suited for cutting aluminium and aluminium-alloys.

### Impiego:

Taglio destro con elica destra.  
Adatte per fresatura di alluminio e leghe di alluminio.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	GRAUGUSS CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
-----------------------------	-----------------------------	-------------------------------	-------------------------------	--------------	--	--	---------------------------------------	-----------	---------------	-----------	--



blank | bright | lucida

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 6205 Art.-Nr.	€
2	2	38	10	1	0 6205002001 00	13,97
2,5	2,5	38	12	1	0 6205002501 00	15,02
3	3	38	12	1	0 6205003001 00	15,02
4	4	40	15	1	0 6205004001 00	17,03
5	5	50	16	1	0 6205005001 00	21,00
6	6	50	18	1	0 6205006101 00	25,00
6	6	57	25	1	0 6205006201 00	29,94
8	8	63	22	1	0 6205008201 00	37,93
8	8	80	40	1	0 6205008401 00	45,92
10	10	72	30	1	0 6205010001 00	62,37
12	12	73	30	1	0 6205012001 00	78,91



## >> VHM-EINZAHN-MINIATUR-FRÄSER FÜR ALUMINIUM

## SOLID CARBIDE 1-FLUTE MINI END MILLS FOR ALUMINIUM

## FRESE IN MINIATURA MONOELICA MDI PER ALLUMINIO

### Einsatzbereich:

Rechtsschneidend mit Rechtsdrall.  
Geeignet für die Bearbeitung von Aluminium und Aluminiumlegierungen.

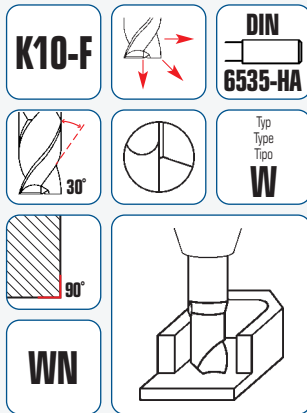
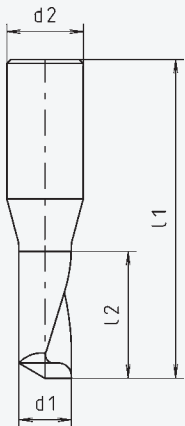
### Range of application:

Right-hand cutting with right-hand spiral.  
Especially suited for cutting aluminium and aluminium-alloys.

### Impiego:

Taglio destro con elica destra.  
Adatte per fresatura di alluminio e leghe di alluminio.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	GRAUGUSS CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
-----------------------------	-----------------------------	-------------------------------	-------------------------------	--------------	--	--	---------------------------------------	-----------	---------------	-----------	--



blank | bright | lucida

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 6935 Art.-Nr.	€
1	6	40	5	1	0 6935001001 00	23,76
1,5	6	40	7	1	0 6935001501 00	23,76
2	6	40	7	1	0 6935002001 00	23,76
2,5	6	40	8	1	0 6935002501 00	23,76
3	6	40	8	1	0 6935003001 00	23,76
3,5	6	40	10	1	0 6935003501 00	23,76
4	6	40	10	1	0 6935004001 00	23,76
4,5	6	50	12	1	0 6935004501 00	24,72
5	6	50	12	1	0 6935005001 00	24,72
5,5	6	50	14	1	0 6935005501 00	24,72
6	6	50	14	1	0 6935006001 00	24,72



## >> VHM-EINZAHNFRÄSER FÜR KUNSTSTOFF, RECHTS-SCHNEIDEND MIT RECHTS-DRALL

### Einsatzbereich:

Geeignet für die Bearbeitung von sämtlichen Kunststoffen, glasfaserverstärkte Polyester und Grafit.

## SOLID CARBIDE 1-FLUTE END MILLS FOR PLASTIC, RIGHT-HAND CUTTING WITH RIGHT-HAND SPIRAL






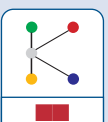
### Range of application:

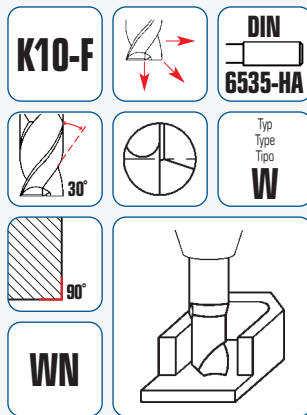
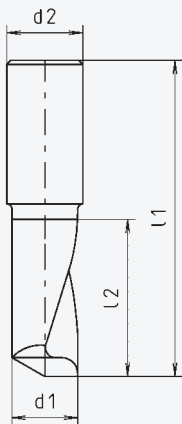
Especially suited for cutting all plastics, glass-fibre reinforced polyester as well as graphite.

## FRESE MONOELICA MDI PER MATERIALI SINTETICI, E PLASTICA, TAGLIO DESTRO ELICA SINISTRA

### Impiego:

Adatte per fresatura di tutte le materie plastiche, poliesteri vetrosi, grafite.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	GRAUGUSS CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	---------------------------------------	-----------	---------------	-----------	---



**NEU | NEW | NUOVO**

blank | bright | lucida

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 6495 Art.-Nr.	€
2	2	38	10	1	0 6495002001 00	<b>13,97</b>
2,5	2,5	38	12	1	0 6495002501 00	<b>15,02</b>
3	3	38	12	1	0 6495003001 00	<b>15,02</b>
4	4	40	15	1	0 6495004001 00	<b>17,03</b>
5	5	50	16	1	0 6495005001 00	<b>21,00</b>
6	6	50	18	1	0 6495006001 00	<b>25,00</b>
6	6	57	25	1	0 6495006101 00	<b>29,94</b>
8	8	63	22	1	0 6495008001 00	<b>37,93</b>
8	8	80	40	1	0 6495008101 00	<b>45,92</b>
10	10	72	30	1	0 6495010001 00	<b>62,37</b>
12	12	73	30	1	0 6495012001 00	<b>78,91</b>



## >> VHM-EINZAHNFRÄSER FÜR KUNSTSTOFF, RECHTS-SCHNEIDEND MIT LINKS-DRALL.

### Einsatzbereich:

Geeignet für die Bearbeitung von sämtlichen Kunststoffen, glasfaserverstärkte Polyester und Grafit.

## SOLID CARBIDE 1-FLUTE END MILLS FOR PLASTIC, RIGHT-HAND CUTTING WITH LEFT-HAND SPIRAL







### Range of application:

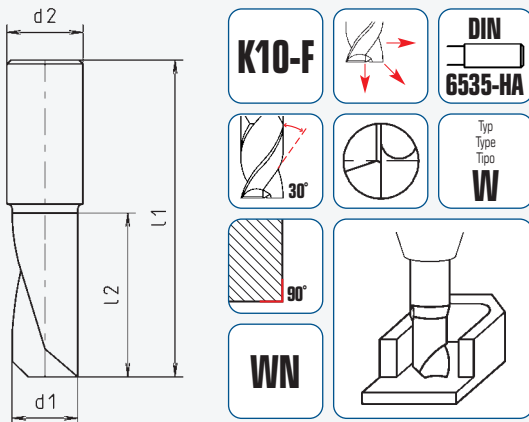
Especially suited for cutting all plastics, glass-fibre reinforced polyester as well as graphite.

## FRESE MONOELICA MDI PER MATERIALI SINTETICI, E PLASTICA, TAGLIO DESTRO ELICA SINISTRA

### Impiego:

Adatte per fresatura di tutte le materie plastiche, poliesteri vetrosi, grafite.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	<b>GRAUGUSS CAST IRON GHISA GRIGIA</b>	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	--	-----------	---------------	-----------	---



blank | bright | lucida

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 6215 Art.-Nr.	€
2	2	38	10	1	0 6215002001 00	<b>13,97</b>
2,5	2,5	38	12	1	0 6215002501 00	<b>15,02</b>
3	3	38	12	1	0 6215003001 00	<b>15,02</b>
4	4	40	15	1	0 6215004001 00	<b>17,03</b>
5	5	50	16	1	0 6215005001 00	<b>21,00</b>
6	6	50	18	1	0 6215006001 00	<b>25,00</b>
6	6	57	25	1	0 6215006101 00	<b>29,94</b>
8	8	63	22	1	0 6215008001 00	<b>37,93</b>
8	8	80	40	1	0 6215008101 00	<b>45,92</b>
10	10	72	30	1	0 6215010001 00	<b>62,37</b>
12	12	73	30	1	0 6215012001 00	<b>78,91</b>



## >> VHM-KONTURENFRÄSER FÜR KUNSTSTOFFE, ZYLINDRISCH

## SOLID CARBIDE CONTOUR END MILLS FOR PLASTICS, CYLINDRICAL

## FRESE A CONTORNARE MDI PER MATERIE PLASTICHE

### Einsatzbereich:

Geeignet zum Besäumen und Umrissfräsen von faserverstärkten Kunststoffen „GFK“ und „CFK“.

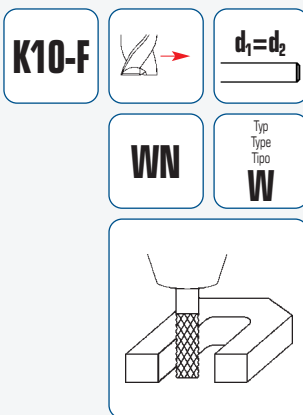
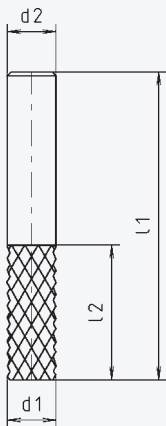
### Range of application:

Especially suitable for cutting glass-fibre and carbon-fibre-reinforced plastics „GFP“ and „CFP“.

### Impiego:

Adatte per fresatura di contornatura fibre di vetro, plastica, gomma dura.

					<b>INOX</b> <math>< 850 \text{ N/mm}^2</math>	<b>INOX</b> <math>> 850 \text{ N/mm}^2</math>	GRAUGUSS CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	--	--	--	---------------------------------------	-----------	---------------	-----------	--



blank | bright | lucida

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Code 7965 Art.-Nr.	€
2	2	38	10	0 7965002001 00	13,02
3	3	38	12	0 7965003001 00	13,97
4	4	40	15	0 7965004001 00	15,48
5	5	50	16	0 7965005001 00	21,96
6	6	50	18	0 7965006001 00	23,97
6	6	57	25	0 7965006101 00	27,47
8	8	63	25	0 7965008001 00	34,97
8	8	80	40	0 7965008101 00	39,94
10	10	72	30	0 7965010001 00	49,91
12	12	73	30	0 7965012001 00	68,92
14	14	75	30	0 7965014001 00	82,89



## >> VHM-KONTURENFRÄSER FÜR KUNSTSTOFFE, MIT STIRNVERZÄHNUNG

## SOLID CARBIDE CONTOUR END MILLS FOR PLASTICS, WITH FRONT CUT

## FRESE A CONTORNARE MDI, TAGLIENTI FRONTALI PER MATERIE PLASTICHE

### Einsatzbereich:







Geeignet zum Besäumen und Umrissfräsen von faserverstärkten Kunststoffen „GFK“ und „CFK“.

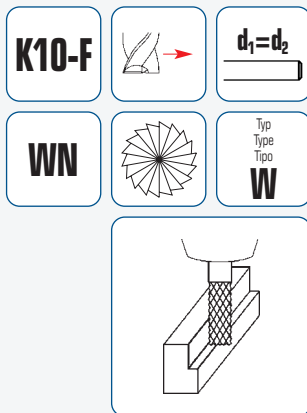
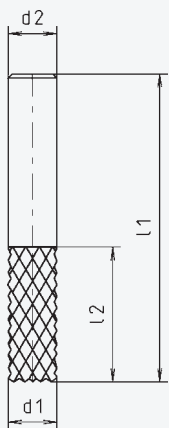
### Range of application:

Especially suitable for cutting glass-fibre and carbon-fibre-reinforced plastics „GFP“ and „CFP“.

### Impiego:

Adatte per fresatura di contornatura fibre di vetro, plastica, gomma dura.

 < 400 N/mm <sup>2</sup>	 < 850 N/mm <sup>2</sup>	 < 1.100 N/mm <sup>2</sup>	 < 1.300 N/mm <sup>2</sup>	 > 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	GRAUGUSS CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	---	--	--	---------------------------------------	-----------	---------------	-----------	---



blank | bright | lucida

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Code 7975 Art.-Nr.	€
2	2	38	10	0 7975002001 00	14,45
3	3	38	12	0 7975003001 00	15,02
4	4	40	15	0 7975004001 00	17,49
5	5	50	16	0 7975005001 00	24,43
6	6	50	18	0 7975006001 00	26,43
6	6	57	25	0 7975006101 00	29,94
8	8	63	25	0 7975008001 00	38,39
8	8	80	40	0 7975008101 00	43,92
10	10	72	30	0 7975010001 00	54,95
12	12	73	30	0 7975012001 00	72,35
14	14	75	30	0 7975014001 00	86,89





## >> VHM-KONTURENFRÄSER FÜR KUNSTSTOFFE, ZWEI- SCHNEIDER

## SOLID CARBIDE CONTOUR END MILLS FOR PLASTICS, TWO FLUTES

## FRESE A CONTORNARE MDI PER MATERIE PLASTICHE, 2 TAGLIANTI

### Einsatzbereich:

Geeignet zum Besäumen und Umrissfräsen von faserverstärkten Kunststoffen „GFK“ und „CFK“.

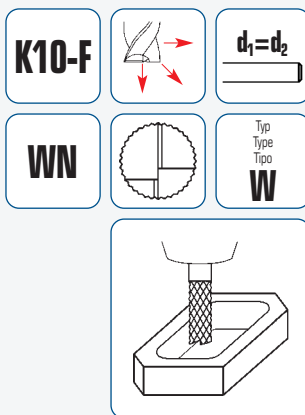
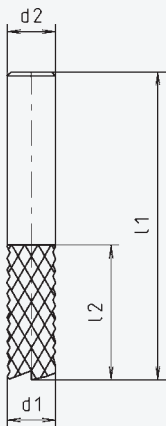
### Range of application:

Especially suitable for cutting glass-fibre and carbon-fibre-reinforced plastics „GFP“ and „CFP“.

### Impiego:

Adatte per fresatura di contornatura fibre di vetro, plastica, gomma dura.

					<b>INOX</b> <math>< 850 \text{ N/mm}^2</math>	<b>INOX</b> <math>> 850 \text{ N/mm}^2</math>	GRAUGUSS CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
--	--	--	--	--	--	--	---------------------------------------	-----------	---------------	-----------	--



blank | bright | lucida

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Z	Code 7985 Art.-Nr.	€
2	2	38	10	2	0 7985002001 00	15,02
3	3	38	12	2	0 7985003001 00	15,48
4	4	40	15	2	0 7985004001 00	17,97
5	5	50	16	2	0 7985005001 00	25,00
6	6	50	18	2	0 7985006001 00	27,01
6	6	57	25	2	0 7985006101 00	30,99
8	8	63	25	2	0 7985008001 00	39,46
8	8	80	40	2	0 7985008101 00	44,96
10	10	72	30	2	0 7985010001 00	55,91
12	12	73	30	2	0 7985012001 00	75,39
14	14	75	30	2	0 7985014001 00	90,89



## >> VHM-KONTURENFRÄSER FÜR KUNSTSTOFFE, MIT BOHRER-SPITZE

## SOLID CARBIDE CONTOUR END MILLS FOR PLASTICS, WITH DRILLING TIP

## FRESE A CONTORNARE MDI PER MATERIE PLASTICHE, CON TESTA A PUNTA

### Einsatzbereich:

Geeignet zum Besäumen und Umrissfräsen von faserverstärkten Kunststoffen „GFK“ und „CFK“.

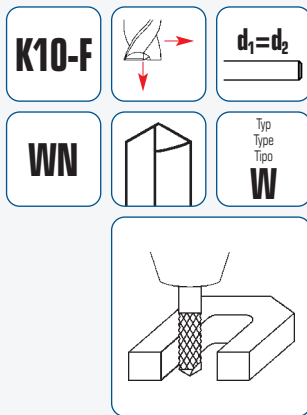
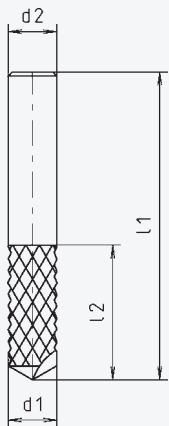
### Range of application:

Especially suitable for cutting glass-fibre and carbon-fibre-reinforced plastics „GFP“ and „CFP“.

### Impiego:

Adatte per fresatura di contornatura fibre di vetro, plastica, gomma dura.

< 400 N/mm <sup>2</sup>	< 850 N/mm <sup>2</sup>	< 1.100 N/mm <sup>2</sup>	< 1.300 N/mm <sup>2</sup>	> 45 HRC	<b>INOX</b> < 850 N/mm <sup>2</sup>	<b>INOX</b> > 850 N/mm <sup>2</sup>	GRAUGUSS CAST IRON GHISA GRIGIA	<b>Ti</b>	<b>Cu, Ms</b>	<b>Al</b>	
-------------------------	-------------------------	---------------------------	---------------------------	----------	--	--	---------------------------------------	-----------	---------------	-----------	--



blank | bright | lucida

d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	Code 7995 Art.-Nr.	€
2	2	38	10	0 7995002001 00	<b>15,97</b>
3	3	38	12	0 7995003001 00	<b>16,45</b>
4	4	40	15	0 7995004001 00	<b>19,00</b>
5	5	50	16	0 7995005001 00	<b>26,43</b>
6	6	<b>50</b>	18	0 7995006001 00	<b>28,42</b>
6	6	<b>57</b>	25	0 7995006101 00	<b>32,42</b>
8	8	<b>63</b>	25	0 7995008001 00	<b>40,96</b>
8	8	<b>80</b>	40	0 7995008101 00	<b>46,96</b>
10	10	72	30	0 7995010001 00	<b>57,88</b>
12	12	73	30	0 7995012001 00	<b>79,36</b>
14	14	75	30	0 7995014001 00	<b>94,87</b>

