

# Promotion

Senken und Entgraten  
Countersink and deburring  
Sbavature e svasature

maykestag

PERFORMANCE  
IN PRECISION



Gültig bis  
Valid until  
Valido fino al **30.11.2020**

**D** VHM-Kegelsenker ungleiche Teilung  
DIN 335 C, 90°

**Einsatzbereich:**

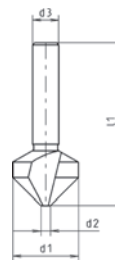
Für alle E- und NE-Metalle, Kunststoffe hart und weich. Universell einsetzbares Entgrat- und Senkwerkzeug für Bohrungen aller Art. Sehr gute Schneideigenschaften durch ungleichgeteilte Schneiden. Verringerung der Vorschubkraft und Ratterbildung an der Senkoberfläche durch reduzierte Axial- und Radialkraft.



**E** Solid carbide countersinks different partition  
DIN 335 C, 90°

**Range of application:**

For ferrous and non-ferrous metals, synthetic materials soft and hard. Universal deburring and sink tool for all kind of borings. Excellent cutting features guarantee a smooth surface by unequally divided cutting edges. Reduction of feed force and chatter marks on the countersinking surface due to reduced axial and radial force.



**I** Svasatori in metallo duro integrale disuguale tagliente  
DIN 335 C, 90°

**Impiego:**

Adatti per tutti i materiali ferrosi, non ferrosi, plastiche dure e dolci, per sbavature e svasature di tutti i tipi di fori. Perfette proprietà di taglio, a causa di disuguale tagliente. Riduzione della forza di alimentazione e vibrazioni sulla superficie di affondamento grazie alla ridotta forza assiale e radiale.



ALLUNIT®

d1 <sub>z9</sub> mm		d2 mm	d3 <sub>h9</sub> mm	l1 mm	Z	Code 6530 Art.-Nr.	€	Code 6637 Art.-Nr.	€
5,30		1,00	4,00	40	3	0 6530005301 00	23,15	0 6637005301 00	25,23
6,30	M3	1,50	5,00	45	3	0 6530006301 00	23,15	0 6637006301 00	25,23
8,30	M4	2,00	6,00	50	3	0 6530008301 00	25,39	0 6637008301 00	28,27
10,40	M5	2,50	6,00	50	3	0 6530010401 00	27,58	0 6637010401 00	30,81
12,40	M6	2,80	8,00	56	3	0 6530012401 00	30,11	0 6637012401 00	34,00
14,40		2,90	8,00	56	3	0 6530014401 00	32,35	0 6637014401 00	40,31
16,50	M8	3,20	10,00	60	3	0 6530016501 00	34,58	0 6637016501 00	44,54
19,50		3,50	10,00	63	3	0 6530019501 00	45,89	0 6637019501 00	52,55
20,50	M10	3,50	10,00	63	3	0 6530020501 00	45,89	0 6637020501 00	52,55
25,00	M12	3,80	10,00	67	3	0 6530025001 00	64,17	0 6637025001 00	72,36
31,00		4,20	12,00	71	3	0 6530031001 00	82,55	0 6637031001 00	98,94

Ø 5,30 VHM / solid carbide / metallo duro integrale

Ø 6,30-31,00 nur VHM-Kopf / only solid carbide cutting part / testa metallo duro integrale



Standard Kegelsenker  
Standard countersink  
Svasatori Standard



mit ungleicher Teilung  
with different partition  
con divisione variabile

**D** VHM-Viertelrund-Profil-Fräser

**E** Solid carbide quarter circle cutters

**I** Frese a profilo raggiato MDI

**Einsatzbereich:**

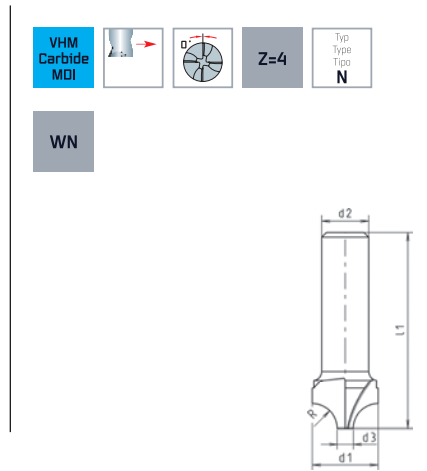
Empfohlen zum Fräsen von Bau-, Einsatz- und Vergütungsstählen mit normaler Festigkeit bis 1.100 N/mm<sup>2</sup> sowie für kurzspanende NE-Metalle.

**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.



R mm	d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	d3 mm	l1 mm	Z	Code 6415 Art.-Nr.	€	Code 6417 Art.-Nr.	€
1	8	8	6	64	4	0 6415001001 00	19,54	0 6417001001 00	21,15
1,5	8	8	5	64	4	0 6415001501 00	22,15	0 6417001501 00	22,85
2	8	8	4	64	4	0 6415002001 00	23,76	0 6417002001 00	24,44
2,5	10	10	5	67	4	0 6415002501 00	23,76	0 6417002501 00	28,92
3	10	10	4	67	4	0 6415003001 00	27,69	0 6417003001 00	30,17
3,5	12	12	5	74	4	0 6415003501 00	33,26	0 6417003501 00	39,29
4	12	12	4	74	4	0 6415004001 00	33,26	0 6417004001 00	39,29
5	16	16	6	83	4	0 6415005001 00	55,44	0 6417005001 00	68,98
6	16	16	4	83	4	0 6415006001 00	55,44	0 6417006001 00	68,98
8	26,5	20	10,5	85	4	0 6415008001 00	83,14	0 6417008001 00	100,24
10	32	20	12	85	4	0 6415010001 00	110,83	0 6417010001 00	115,52
12	38	20	14	90	4	0 6415012001 00	138,47	0 6417012001 00	172,91

≤ R 6 = VHM / Solid carbide / MDI  
 > R 8 = nur VHM-Kopf / only solid carbide cutting part / parte taglienti metallo duro integrale

**D** VHM-Entgrater, 60°

**Einsatzbereich:**

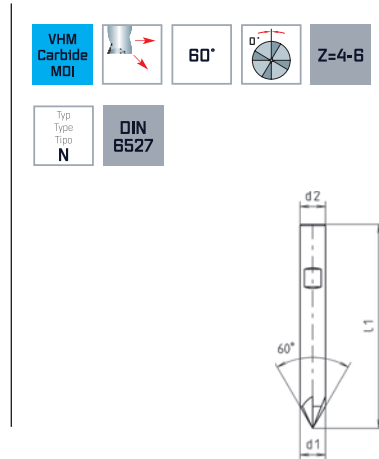
Universeller Anwendungsbereich, besonders geeignet zum Anfasen und Entgraten sowie Konturarbeiten.



**E** Solid carbide deburring mills, 60°

**Range of application:**

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



**I** Frese a smussare MDI, 60°

**Impiego:**

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



ALLUNIT®

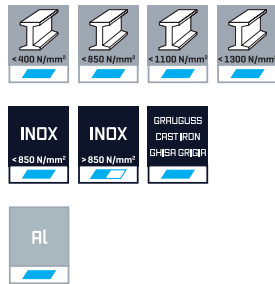
d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	l1 mm	Z	Code 7725 Art.-Nr.	€	Code 7727 Art.-Nr.	€
4	4	54	4	0 7725004001 00	8,85	0 7727004001 00	12,29
6	6	57	4	0 7725006001 00	12,29	0 7727006001 00	15,74
8	8	63	4	0 7725008001 00	17,20	0 7727008001 00	21,63
10	10	72	4	0 7725010001 00	24,58	0 7727010001 00	29,51
12	12	83	4	0 7725012001 00	28,76	0 7727012001 00	33,64
16	16	92	6	0 7725016001 00	48,63	0 7727016001 00	57,50

Ø 4 kein Weldon-Schaft / Ø 4 no weldon shaft / Ø 4 no gambo Weldon

**D** VHM-Entgrater, 90°

**Einsatzbereich:**

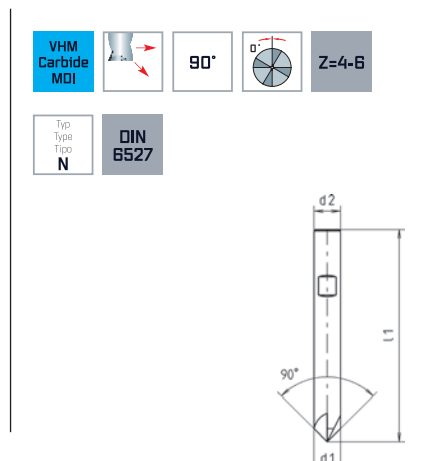
Universeller Anwendungsbereich, besonders geeignet zum Anfasen und Entgraten sowie Konturarbeiten.



**E** Solid carbide deburring mills, 90°

**Range of application:**

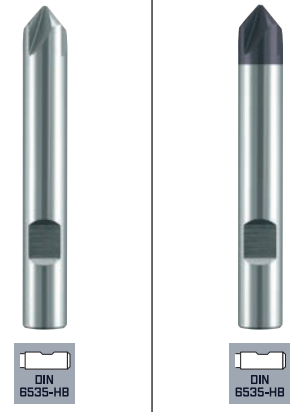
Universal range of application, especially suited for chamfering and deburring as well as contouring.



**I** Frese a smussare MDI, 90°

**Impiego:**

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



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	8,85	0 7757004001 00	12,29
6	6	57	4	0 7755006001 00	12,29	0 7757006001 00	15,74
8	8	63	4	0 7755008001 00	17,20	0 7757008001 00	21,63
10	10	72	4	0 7755010001 00	24,58	0 7757010001 00	29,51
12	12	83	4	0 7755012001 00	28,76	0 7757012001 00	33,64
16	16	92	6	0 7755016001 00	48,63	0 7757016001 00	57,50

Ø 4 kein Weldon-Schaft / Ø 4 no weldon shaft / Ø 4 no gambo Weldon

**D** VHM-Multifräser, 90°

**E** Solid carbide multi end mills 90°

**I** Multi frese MDI, 90°

**Einsatzbereich:**

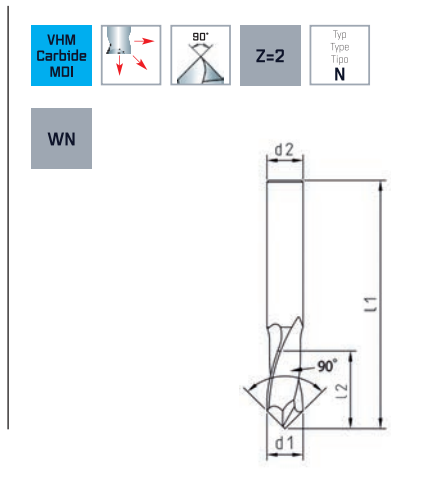
Universeller Anwendungsbereich, besonders geeignet zum Fräsen, Anfasen, Entgraten, Anbohren und Bohren.

**Range of application:**

Universal range of application, especially suited for milling, chamfering, deburring, pre-drilling and drilling.

**Impiego:**

Adatte per impieghi universali, particolarmente raccomandate per fresatura, lavorazioni, smussatura, perforazione e foratura.



ALUNIT®

d1 <sub>h9</sub> mm	d2 <sub>h6</sub> mm	l1 mm	l2 mm	$\alpha$	Z	Code 6397 Art.-Nr.	€
3	6	50	6	90°	2	0 6397003001 00	16,47
4	6	54	8	90°	2	0 6397004001 00	16,47
5	6	57	10	90°	2	0 6397005001 00	16,65
6	6	57	12	90°	2	0 6397006001 00	17,61
8	8	63	16	90°	2	0 6397008001 00	23,19
10	10	72	18	90°	2	0 6397010001 00	30,73
12	12	83	20	90°	2	0 6397012001 00	40,84

**D** VHM Vor- und Rückwärtsentgrater, 2 x 90°

**Einsatzbereich:**

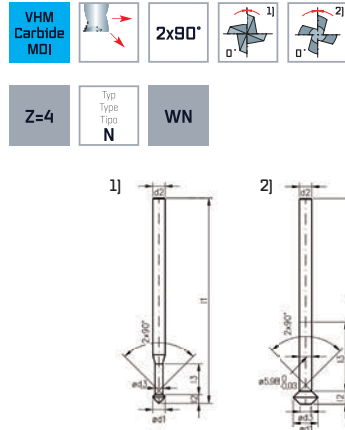
Universeller Anwendungsbereich, besonders geeignet zum Anfasen, Vor- und Rückwärtsentgraten sowie Konturarbeiten.



**E** Solid carbide forward and reverse deburring mills, 2 x 90°

**Range of application:**

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



**I** Frese in metallo duro per sbavatura reversibili, 2 x 90°

**Impiego:**

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



ALUNIT-S®

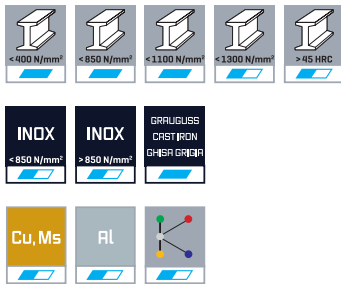
d1 <sub>h10</sub> mm	d2 <sub>h6</sub> mm	d3 mm	l1 mm	l2 mm	l3 mm	Z	Code 6507 Art.-Nr.	€
3	4	2,2	75	1,9	10	4	0 6507003001 00	30,64
4	4	2,9	75	2,5	15	4	0 6507004001 00	30,64
5	5	3,9	75	3,0	15	4	0 6507005001 00	31,73
6	6	3,9	100	4,0	15	4	0 6507006001 00	32,83
8	6	4,8	100	2,7	35	4	0 6507008001 00	43,04
10	6	4,7	100	4,7	33	4	0 6507010001 00	52,53
12	6	5,4	100	6,4	31	4	0 6507012001 00	62,74

1] d1: Ø 3 - 6 mm  
2] d1: Ø 8 - 12 mm

**D HSS Cobalt Kegelsenker ungleiche Teilung**  
DIN 334 C, 60°

**Einsatzbereich:**

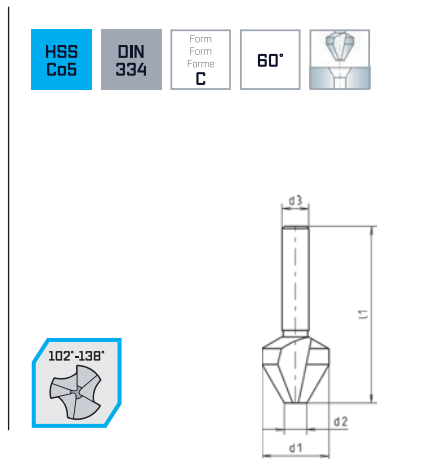
Für alle E- und NE-Metalle, Kunststoffe hart und weich. Universell einsetzbares Entgrat- und Senkwerkzeug für Bohrungen aller Art. Sehr gute Schneideigenschaften durch ungleichgeteilte Schneiden. Verringerung der Vorschubkraft und Ratterbildung an der Senkoberfläche durch reduzierte Axial- und Radialkraft.



**E HSS Cobalt countersinks different partition**  
DIN 334 C, 60°

**Range of application:**

For ferrous and non-ferrous metals, synthetic materials soft and hard. Universal deburring and sink tool for all kind of borings. Excellent cutting features guarantee a smooth surface by unequally divided cutting edges. Reduction of feed force and chatter marks on the countersinking surface due to reduced axial and radial force.



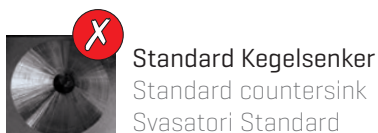
**I Svasatori HSS Cobalt disuguale tagliente**  
DIN 334 C, 60°

**Impiego:**

Adatti per tutti i materiali ferrosi, non ferrosi, plastiche dure e dolci, per sbavature e svasature di tutti i tipi di fori. Perfette proprietà di taglio, a causa di disuguale tagliente. Riduzione della forza di alimentazione e vibrazioni sulla superficie di affondamento grazie alla ridotta forza assiale e radiale.



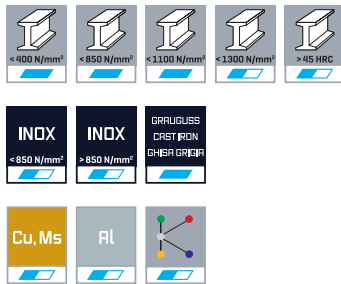
d1 mm	d2 mm	d3 <sub>h9</sub> mm	l1 mm	Z	Code 2270 Art.-Nr.	€
6,30	1,60	5,00	45	3	0 2270006301 00	8,77
8,00	2,00	6,00	50	3	0 2270008001 00	8,77
10,00	2,50	6,00	50	3	0 2270010001 00	9,66
12,50	3,20	8,00	56	3	0 2270012501 00	10,55
16,00	4,00	10,00	63	3	0 2270016001 00	13,23
20,00	5,00	10,00	67	3	0 2270020001 00	16,88
25,00	6,30	10,00	71	3	0 2270025001 00	21,21





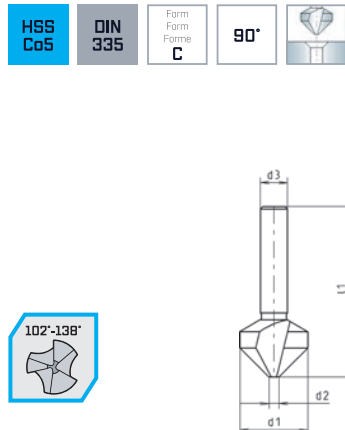
**D HSS Cobalt Kegelsenker ungleiche Teilung**  
DIN 335 C, 90°

**Einsatzbereich:**  
Für alle E- und NE-Metalle, Kunststoffe hart und weich. Universell einsetzbares Entgrat- und Senkwerkzeug für Bohrungen aller Art. Sehr gute Schneideigenschaften durch ungleichgeteilte Schneiden. Verringerung der Vorschubkraft und Ratterbildung an der Senkoberfläche durch reduzierte Axial- und Radialkraft.



**E HSS Cobalt countersinks different partition**  
DIN 335 C, 90°

**Range of application:**  
For ferrous and non-ferrous metals, synthetic materials soft and hard. Universal deburring and sink tool for all kind of borings. Excellent cutting features guarantee a smooth surface by unequal-ly divided cutting edges. Reduction of feed force and chatter marks on the countersinking surface due to reduced axial and radial force.



**I Svasatori HSS Cobalt disuguale tagliente**  
DIN 335 C, 90°

**Impiego:**  
Adatti per tutti i materiali ferrosi, non ferrosi, plastiche dure e dolci, per sbavature e svasature di tutti i tipi di fori. Perfette proprietà di taglio, a causa di disuguale tagliente. Riduzione della forza di alimentazione e vibrazioni sulla superficie di affondamento grazie alla ridotta forza assiale e radiale.



ALUNIT®

	d1 mm		d2 mm	d3 <sub>H9</sub> mm	l1 mm	Z	Code 2390 Art.-Nr.	€	Code 2397 Art.-Nr.	€
New	4,30	M2	1,30	4,00	40	3	0 2390004301 00	8,76	0 2397004301 00	11,70
New	6,00	M3	1,50	5,00	45	3	0 2390006001 00	8,76	0 2397006001 00	11,70
	6,30	M3	1,50	5,00	45	3	0 2390006301 00	8,76	0 2397006301 00	11,70
New	8,00	M4	2,00	6,00	50	3	0 2390008001 00	8,96	0 2397008001 00	12,35
	8,30	M4	2,00	6,00	50	3	0 2390008301 00	8,96	0 2397008301 00	12,35
New	10,00	M5	2,50	6,00	50	3	0 2390010001 00	9,55	0 2397010001 00	13,35
	10,40	M5	2,50	6,00	50	3	0 2390010401 00	9,40	0 2397010401 00	13,35
New	11,50	M6	2,80	8,00	50	3	0 2390011501 00	10,01	0 2397011501 00	15,00
	12,40	M6	2,80	8,00	56	3	0 2390012401 00	10,61	0 2397012401 00	15,09
New	15,00	M8	3,20	10,00	60	3	0 2390015001 00	11,88	0 2397015001 00	18,93
	16,50	M8	3,20	10,00	60	3	0 2390016501 00	12,76	0 2397016501 00	19,59
New	19,00	M10	3,50	10,00	63	3	0 2390019001 00	15,61	0 2397019001 00	24,04
	20,50	M10	3,50	10,00	63	3	0 2390020501 00	16,05	0 2397020501 00	25,32
New	23,00	M12	3,80	10,00	67	3	0 2390023001 00	17,45	0 2397023001 00	28,04
	25,00	M12	3,80	10,00	67	3	0 2390025001 00	19,70	0 2397025001 00	28,97
	31,00	M16	4,20	12,00	71	3	0 2390031001 00	25,99	0 2397031001 00	44,52



Standard Kegelsenker  
Standard countersink  
Svasatori Standard



mit ungleicher Teilung  
with different partition  
con divisione variabile

**D HSS Cobalt Kegelsenker**  
**3-Flächenschaft,**  
**ungleiche Teilung**  
 DIN 335 C, 90°

**Einsatzbereich:**

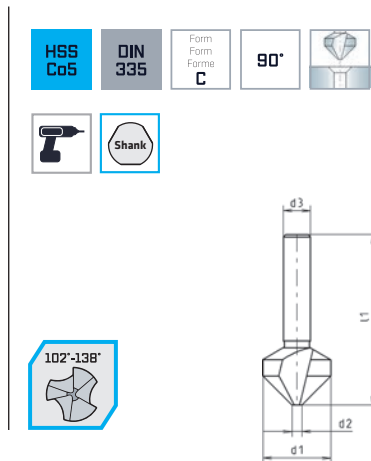
Für alle E- und NE-Metalle, Kunststoffe hart und weich. Universell einsetzbares Entgrat- und Senkwerkzeug für Bohrungen aller Art. Sehr gute Schneideigenschaften durch ungleichgeteilte Schneiden. Verringerung der Vorschubkraft und Ratterbildung an der Senkoberfläche durch reduzierte Axial- und Radialkraft.



**E HSS Cobalt countersinks**  
**3-surface shank,**  
**different partition**  
 DIN 335 C, 90°

**Range of application:**

For ferrous and non-ferrous metals, synthetic materials soft and hard. Universal deburring and sink tool for all kind of borings. Excellent cutting features guarantee a smooth surface by unequally divided cutting edges. Reduction of feed force and chatter marks on the countersinking surface due to reduced axial and radial force.



**I Svasatori HSS Cobalt**  
**Codolo a 3 superfici,**  
**disuguale tagliente**  
 DIN 335 C, 90°

**Impiego:**

Adatti per tutti i materiali ferrosi, non ferrosi, plastiche dure e dolci, per sbavature e svasature di tutti i tipi di fori. Perfette proprietà di taglio, a causa di disuguale tagliente. Riduzione della forza di alimentazione e vibrazioni sulla superficie di affondamento grazie alla ridotta forza assiale e radiale.



ALLUNIT®

	d1 mm		d2 mm	d3 <sub>H9</sub> mm	l1 mm	Z	Code 2380 Art.-Nr.	€	Code 2387 Art.-Nr.	€
New	4,30	M2	1,30	4,00	40	3	0 2380004301 00	9,37	0 2387004301 00	12,52
New	6,00	M3	1,50	5,00	45	3	0 2380006001 00	9,37	0 2387006001 00	12,52
	6,30	M3	1,50	5,00	45	3	0 2380006301 00	9,37	0 2387006301 00	12,52
New	8,00	M4	2,00	6,00	50	3	0 2380008001 00	9,73	0 2387008001 00	13,40
	8,30	M4	2,00	6,00	50	3	0 2380008301 00	9,73	0 2387008301 00	13,40
New	10,00	M5	2,50	6,00	50	3	0 2380010001 00	10,05	0 2387010001 00	14,29
	10,40	M5	2,50	6,00	50	3	0 2380010401 00	10,05	0 2387010401 00	14,29
New	11,50	M6	2,80	8,00	56	3	0 2380011501 00	11,29	0 2387011501 00	15,22
	12,40	M6	2,80	8,00	56	3	0 2380012401 00	11,36	0 2387012401 00	16,15
New	15,00	M8	3,20	10,00	60	3	0 2380015001 00	13,09	0 2387015001 00	19,66
	16,50	M8	3,20	10,00	60	3	0 2380016501 00	13,66	0 2387016501 00	20,97
New	19,00	M10	3,50	10,00	63	3	0 2380019001 00	16,77	0 2387019001 00	25,65
	20,50	M10	3,50	10,00	63	3	0 2380020501 00	17,18	0 2387020501 00	27,09
New	23,00	M12	3,80	10,00	67	3	0 2380023001 00	19,03	0 2387023001 00	29,45
	25,00	M12	3,80	10,00	67	3	0 2380025001 00	21,08	0 2387025001 00	31,00
	31,00	M16	4,20	12,00	71	3	0 2380031001 00	27,81	0 2387031001 00	47,64



Standard Kegelsenker  
 Standard countersink  
 Svasatori Standard

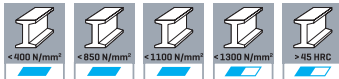


mit ungleicher Teilung  
 with different partition  
 con divisione variabile

**D HSS Cobalt Kegelsenker lang, ungleiche Teilung**  
DIN 335 C, 90°

**Einsatzbereich:**

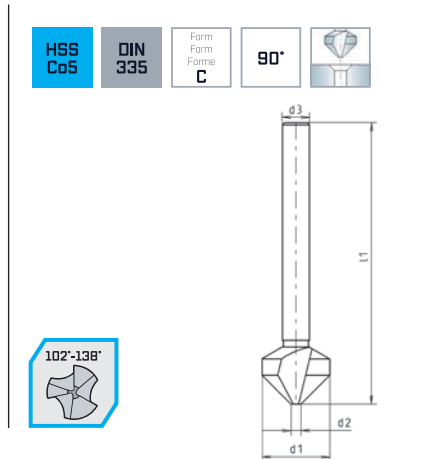
Für alle E- und NE-Metalle, Kunststoffe hart und weich. Universell einsetzbares Entgrat- und Senkwerkzeug für Bohrungen aller Art. Sehr gute Schneideigenschaften durch ungleichgeteilte Schneiden. Verringerung der Vorschubkraft und Ratterbildung an der Senkoberfläche durch reduzierte Axial- und Radialkraft.



**E HSS Cobalt countersinks long series, different partition**  
DIN 335 C, 90°

**Range of application:**

For ferrous and non-ferrous metals, synthetic materials soft and hard. Universal deburring and sink tool for all kind of borings. Excellent cutting features guarantee a smooth surface by unequaly divided cutting edges. Reduction of feed force and chatter marks on the countersinking surface due to reduced axial and radial force.



**I Svasatori HSS Cobalt serie lunga, disuguale tagliente**  
DIN 335 C, 90°

**Impiego:**

Adatti per tutti i materiali ferrosi, non ferrosi, plastiche dure e dolci, per sbavature e svasature di tutti i tipi di fori. Perfette proprietà di taglio, a causa di disuguale tagliente. Riduzione della forza di alimentazione e vibrazioni sulla superficie di affondamento grazie alla ridotta forza assiale e radiale.



d1 mm	d2 mm	d3 <sub>H9</sub> mm	l1 mm	Z	Code 2340 Art.-Nr.	€	Code 2347 Art.-Nr.	€
6,30	M3	1,50	5,00	104	0 2340006301 00	11,22	0 2347006301 00	14,98
8,30	M4	2,00	6,00	105	0 2340008301 00	11,59	0 2347008301 00	15,70
10,40	M5	2,50	6,00	107	0 2340010401 00	12,03	0 2347010401 00	17,10
12,40	M6	2,80	8,00	108	0 2340012401 00	13,59	0 2347012401 00	19,33
16,50	M8	3,20	10,00	111	0 2340016501 00	16,35	0 2347016501 00	24,90
20,50	M10	3,50	10,00	114	0 2340020501 00	20,92	0 2347020501 00	28,19
25,00	M12	3,80	10,00	118	0 2340025001 00	27,05	0 2347025001 00	36,40
31,00	M16	4,20	12,00	140	0 2340031001 00	43,38	0 2347031001 00	61,99



Standard Kegelsenker  
Standard countersink  
Svasatori Standard

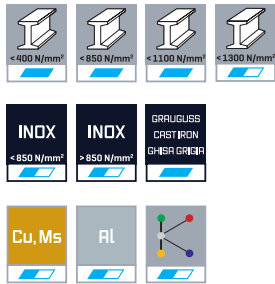


mit ungleicher Teilung  
with different partition  
con divisione variabile

**D** Kegelsenker mit MK-Schaft  
DIN 335 D, 90°

**Einsatzbereich:**

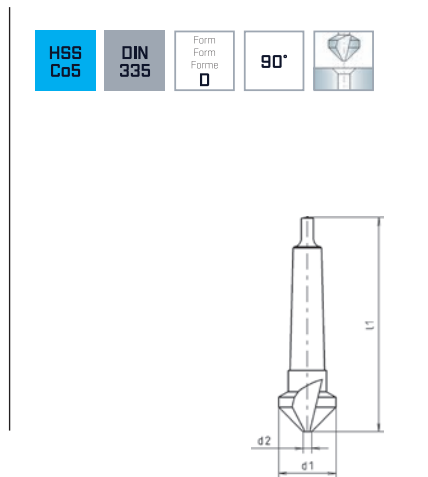
Für alle E- und NE-Metalle, Kunststoffe hart und weich. Universell einsetzbares Entgrat- und Senkwerkzeug für Bohrungen aller Art. Sehr gute Schneideigenschaften, durch radialen Hinterschliff leicht nachschärfbar an der Spanfläche.



**E** Countersinks with MT-Shank  
DIN 335 D, 90°

**Range of application:**

For ferrous and non-ferrous metals, synthetic materials soft and hard. Universal deburring and sink tool for all kind of borings. Excellent cutting features guarantee a smooth surface; profile relief facilitates an easy regrind.



**I** Svasatori cono morse  
DIN 335 D, 90°

**Impiego:**

Adatti per tutti i materiali ferrosi, non ferrosi, plastiche dure e dolci, per sbavature e svasature di tutti i tipi di fori. Ottime proprietà di taglio, mentre la spoglia radiale permette una facile riaffilatura.



d1 mm	d2 mm	l1 mm	Z	Code 2330 Art.-Nr.	€
25,00	3,80	106	2 3	0 2330025001 00	29,12
31,00	4,20	112	2 3	0 2330031001 00	33,81
34,00	4,50	118	2 3	0 2330034001 00	36,65
37,00	4,80	118	2 3	0 2330037001 00	40,89
40,00	10,00	140	3 3	0 2330040001 00	46,04
50,00	14,00	150	3 3	0 2330050001 00	57,79

**D** Flachsenker für auswechselbare Führungszapfen, MK-Schaft, DIN 375

**Einsatzbereich:**

Für alle E- und NE-Metalle, Kunststoffe hart und weich. Zur Verwendung in Durchgangslöchern nach DIN 273 bei Einzel- und Serienfertigung.

**E** Counterbores for detachable pilots, MT-shank, DIN 375

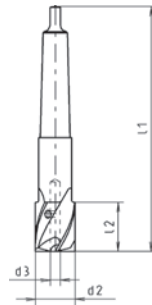
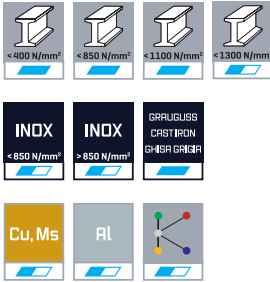
**Range of application:**

For ferrous and non-ferrous metals, synthetic materials soft and hard, for working in through holes according to DIN 273. Suitable in individual and mass production.

**I** Allargatori con guida intercambiabile, Cono morse, DIN 375

**Impiego:**

Adatti per tutti i materiali ferrosi, non ferrosi plastiche dure e dolci, per fori passanti secondo DIN 273, sia per lavorazioni singole che di serie.



	d2 <sub>z9</sub> mm	d3 mm	l1 mm	l2 mm		Z	Code 2160 Art.-Nr.	€
<b>M10</b>	18,00	5,00	140	25	2	3	0 2160018001 00	<b>33,60</b>
<b>M12</b>	20,00	5,00	140	25	2	3	0 2160020001 00	<b>35,60</b>
<b>M14</b>	24,00	6,00	150	30	2	3	0 2160024001 00	<b>39,64</b>
<b>M16</b>	26,00	8,00	180	35	3	3	0 2160026001 00	<b>45,05</b>
<b>M18</b>	30,00	8,00	180	35	3	3	0 2160030001 00	<b>55,85</b>
<b>M20</b>	33,00	10,00	190	40	3	3	0 2160033001 00	<b>62,15</b>
<b>M24</b>	40,00	10,00	190	40	3	3	0 2160040001 00	<b>81,97</b>

**D Führungszapfen**

DIN 1868

**Einsatzbereich:**

Für Flachsenker DIN 375 und Kegelsenker  
DIN 1867 für Durchgangslöcher nach DIN 69.

**E Pilots**

DIN 1868

**Range of application:**

For counterbores DIN 375 and countersinks  
DIN 1867 for body holes according to DIN 69.

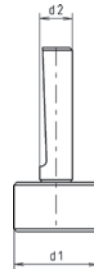
**I Guide**

DIN 1868

**Impiego:**

Per allargatori DIN 375 e svasatori DIN 1867. Adatte  
per fori passanti secondo DIN 69.

HSS DIN 1868



für Durchgangslöcher „fein“ / for body holes „fine“ / per fori passanti „fine“

	d1 e8 mm	d2 f7 mm	Code 2180 Art.-Nr.	€
M10	10,50	5,00	0 2180010501 00	10,13
M12	13,00	5,00	0 2180013001 00	10,13
M14	15,00	6,00	0 2180015001 00	11,51
M16	17,00	8,00	0 2180017001 00	12,24
M18	19,00	8,00	0 2180019001 00	12,24
M20	21,00	10,00	0 2180021001 00	14,85
M24	25,00	10,00	0 2180025001 00	14,85

**D Führungszapfen**

DIN 1868

**Einsatzbereich:**

Für Flachsenker DIN 375 und Kegelsenker  
DIN 1867 für Durchgangslöcher nach DIN 69.

**E Pilots**

DIN 1868

**Range of application:**

For counterbores DIN 375 and countersinks  
DIN 1867 for body holes according to DIN 69.

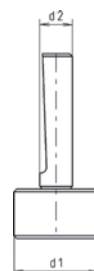
**I Guide**

DIN 1868

**Impiego:**

Per allargatori DIN 375 e svasatori DIN 1867. Adatte  
per fori passanti secondo DIN 69.

HSS DIN 1868



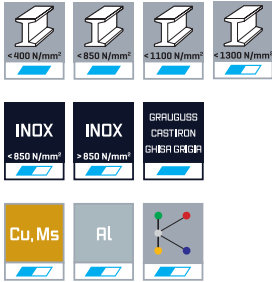
für Durchgangslöcher „mittel“ / for body holes „medium“ / per fori passanti „media“

	d1 e8 mm	d2 f7 mm	Code 2190 Art.-Nr.	€
M10	11,00	5,00	0 2190011001 00	10,13
M12	13,50	5,00	0 2190013501 00	10,13
M14	15,50	6,00	0 2190015501 00	11,51
M16	17,50	8,00	0 2190017501 00	12,24
M18	20,00	8,00	0 2190020001 00	12,24
M20	22,00	10,00	0 2190022001 00	14,85
M24	26,00	10,00	0 2190026001 00	14,85

**D Flachsenker**  
DIN 373, fein

**Einsatzbereich:**

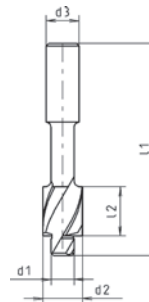
Für alle E- und NE-Metalle, Kunststoffe hart und weich. Zur Verwendung in Durchgangslöcher nach DIN 273 Gütegrad „fein“ bei Einzel- und Serienfertigung. Zum Versenken von Innensechskantschrauben DIN 912, 6912, 7984 und Zylinderschrauben ISO 1207 (DIN 84).



**E Counterbores**  
DIN 373, fine

**Range of application:**

For ferrous and non-ferrous metals, synthetic materials soft and hard, for working in through holes according to DIN 273 Quality level "fine". Suitable in individual and mass production. For countersinking Allen screws DIN 912, 6912, 7984 and cheese-head screws ISO 1207 (DIN 84).



**I Allargatori per sedi viti**  
DIN 373, fine

**Impiego:**

Adatti per tutti i materiali ferrosi, non ferrosi, plastiche dure e dolci, per fori passanti secondo DIN 273 Grado di precisione "fino", sia per lavorazioni singole che di serie. Per accicare le viti ad esagono cavo DIN 912, 6912, 7984 e le viti a testa cilindrica ISO 1207 (DIN 84).

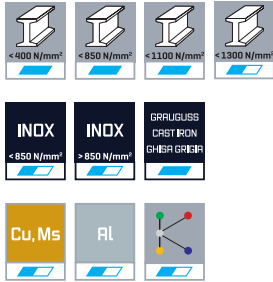


	d1 <sub>e8</sub> mm	d2 <sub>z9</sub> mm	d3 <sub>h9</sub> mm	l1 mm	l2 mm	Z	Code 2140 Art.-Nr.	€
<b>M 3</b>	3,20	6,00	5,00	71	14	3	0 2140006001 00	<b>9,61</b>
<b>M 4</b>	4,30	8,00	5,00	71	14	3	0 2140008001 00	<b>8,89</b>
<b>M 5</b>	5,30	10,00	8,00	80	18	3	0 2140010001 00	<b>9,79</b>
<b>M 6</b>	6,40	11,00	8,00	80	18	3	0 2140011001 00	<b>10,26</b>
<b>M 8</b>	8,40	15,00	12,50	100	22	3	0 2140015001 00	<b>16,93</b>
<b>M10</b>	10,50	18,00	12,50	100	22	3	0 2140018001 00	<b>21,17</b>
<b>M12</b>	13,00	20,00	12,50	100	22	3	0 2140020001 00	<b>22,14</b>

**D** Flachsenker  
DIN 373, mittel

**Einsatzbereich:**

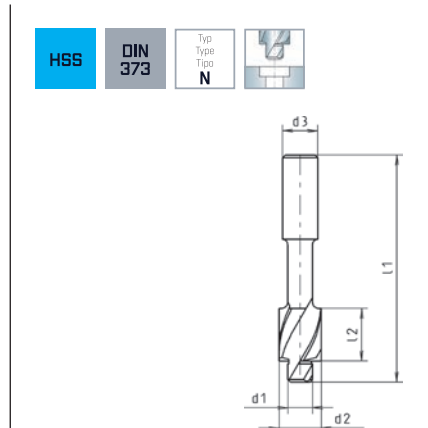
Für alle E- und NE-Metalle, Kunststoffe hart und weich. Zur Verwendung in Durchgangslöcher nach DIN 273 Gütegrad „mittel“ bei Einzel- und Serienfertigung. Zum Versenken von Innen-sechskantschrauben DIN 912, 6912, 7984 und Zylinderschrauben ISO 1207 (DIN 84).



**E** Counterbores  
DIN 373, medium

**Range of application:**

For ferrous and non-ferrous metals, synthetic materials soft and hard, for working in through holes according to DIN 273 Quality level "medium". Suitable in individual and mass production. For countersinking Allen screws DIN 912, 6912, 7984 and cheese-head screws ISO 1207 (DIN 84).



**I** Allargatori per sedi viti  
DIN 373, media

**Impiego:**

Adatti per tutti i materiali ferrosi, non ferrosi, plastiche dure e dolci, per fori passanti secondo DIN 273 Grado di precisione "medio", sia per lavorazioni singole che di serie. Per acceccare le viti ad esagono cavo DIN 912, 6912, 7984 e le viti a testa cilindrica ISO 1207 (DIN 84).



	d1 <sub>e8</sub> mm	d2 <sub>z9</sub> mm	d3 <sub>h9</sub> mm	l1 mm	l2 mm	Z	Code 2150 Art.-Nr.	€
<b>M 4</b>	4,50	8,00	5,00	71	14	3	0 2150008001 00	<b>8,89</b>
<b>M 5</b>	5,50	10,00	8,00	80	18	3	0 2150010001 00	<b>9,79</b>
<b>M 6</b>	6,60	11,00	8,00	80	18	3	0 2150011001 00	<b>10,26</b>
<b>M 8</b>	9,00	15,00	12,50	100	22	3	0 2150015001 00	<b>16,93</b>
<b>M10</b>	11,00	18,00	12,50	100	22	3	0 2150018001 00	<b>21,17</b>
<b>M12</b>	13,50	20,00	12,50	100	22	3	0 2150020001 00	<b>22,14</b>



**D Viertelrund-Profilfräser**  
DIN 6518 B

**E Quarter circle cutters**  
DIN 6518 B

**I Frese a quarto di cerchio**  
DIN 6518 B

**Einsatzbereich:**

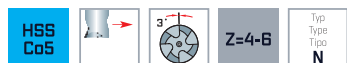
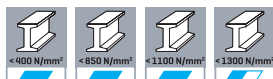
Empfohlen zum Fräsen von Bau-, Einsatz- und Vergütungsstählen mit normaler Festigkeit bis 1.100 N/mm<sup>2</sup> sowie für kurzspanende NE-Metalle.

**Range of application:**

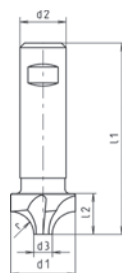
Recommended for milling in construction steels, tempered steels and cementation steels with standard tensile strength up to 1.100 N/mm<sup>2</sup> and short-chipping of non-ferrous metals.

**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.



DIN 6518B

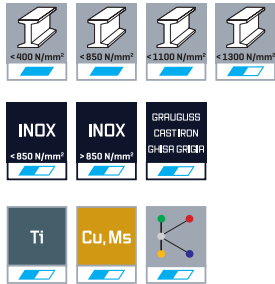


$r_{H11}$ mm	d1 mm	d2 <sub>h6</sub> mm	d3 mm	l1 mm	l2 mm	Z	Code 1464 Art.-Nr.	€
1,00	8	10	6	60	10	4	01464001001.00	26,64
1,25	8,5	10	6	60	10	4	01464001201.00	27,05
Δ 1,50	9	10	6	60	10	4	01464001501.00	27,39
1,60	9,2	10	6	60	10	4	01464001601.00	27,62
2,00	10	10	6	60	15	4	01464002001.00	28,32
2,50	11	10	6	60	15	4	01464002501.00	29,29
3,00	12	12	6	60	11	4	01464003001.00	30,33
Δ 3,50	13	12	6	60	11	4	01464003501.00	31,36
4,00	14	12	6	60	11	4	01464004001.00	32,44
Δ 4,50	15	12	6	60	11	4	01464004501.00	33,53
5,00	16	12	6	60	11	4	01464005001.00	34,58
Δ 5,50	19	16	8	67	14	4	01464005501.00	32,78
6,00	20	16	8	67	14	4	01464006001.00	39,87
6,30	20,6	16	8	71	18	4	01464006301.00	40,92
Δ 6,50	21	16	8	71	18	4	01464006501.00	41,53
Δ 7,00	22	16	8	71	18	4	01464007001.00	43,34
Δ 7,50	23	16	8	71	18	4	01464007501.00	45,78
8,00	24	16	8	71	18	4	01464008001.00	48,93
10,00	28	25	8	85	22	4	01464010001.00	61,19
12,00	34	25	10	90	27	4	01464012001.00	85,10
12,50	41	25	16	100	32	6	01464012501.00	119,70
Δ 15,00	46	25	16	100	32	6	01464015001.00	153,22
16,00	48	25	16	100	32	6	01464016001.00	170,22
20,00	56	32	16	112	40	6	01464020001.00	255,27

Δ Zwischenradien / Intermediate radii / raggi intermedi

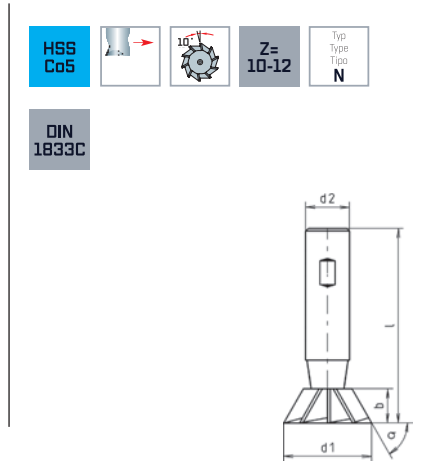
**D** Winkelfräser  
DIN 1833 C

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



**E** Dovetail cutters  
DIN 1833 C

**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.



**I** Frese ad angolo divergente  
DIN 1833 C

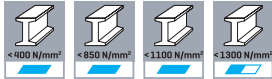
**Impiego:**  
Fresatura di acciai da costruzione, acciai da cementazione, acciai bonificati con R fino a 1.100 N/mm<sup>2</sup> e di materiali non ferrosi a truciolo corto.



σ	d1 <sub>js16</sub> mm	b mm	d2 <sub>h6</sub> mm	l mm	Z	Code 1394 Art.-Nr.	€
45°	16	4,0	12	60	10	0 1394016401 00	29,05
45°	20	5,0	12	63	10	0 1394020401 00	36,38
45°	25	6,3	12	67	10	0 1394025401 00	45,03
45°	32	8,0	16	71	12	0 1394032401 00	57,87
60°	16	6,3	12	60	10	0 1394016601 00	29,05
60°	20	8,0	12	63	10	0 1394020601 00	36,38
60°	25	10,0	12	67	10	0 1394025601 00	45,03
60°	32	12,5	16	71	12	0 1394032601 00	57,87

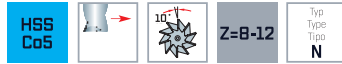
**D** **Winkelfräser**  
DIN 1833 D

**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.

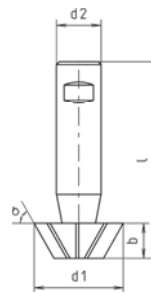


**E** **Dovetail cutters**  
DIN 1833 D

**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.



DIN 1833D



**I** **Frese ad angolo convergente**  
DIN 1833 D

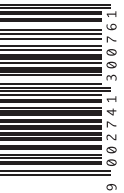
**Impiego:**  
Fresatura di acciai da costruzione, acciai da cementazione, acciai bonificati con R fino a 1.100 N/mm<sup>2</sup> e di materiali non ferrosi a truciolo corto.



DIN 1833-B

σ	d1 <sub>js16</sub> mm	b mm	d2 <sub>h6</sub> mm	l mm	Z	Code 1424 Art.-Nr.	€
45°	16	4,0	12	60	8	0 1424016401 00	29,05
45°	20	5,0	12	63	8	0 1424020401 00	36,38
45°	25	6,3	12	67	10	0 1424025401 00	45,03
45°	32	8,0	16	71	12	0 1424032401 00	57,87
60°	16	6,3	12	60	8	0 1424016601 00	29,05
60°	20	8,0	12	63	8	0 1424020601 00	36,38
60°	25	10,0	12	67	10	0 1424025601 00	45,03
60°	32	12,5	16	71	12	0 1424032601 00	57,87

Überreicht durch | With the compliments of | Utensileria:



Artikel-Nr.: 0099900030100  
9 0 0 2 7 4 1 3 0 0 7 6 1

#### ÖSTERREICH

##### ALPEN-MAYKESTAG GmbH

Urstein Nord 67 | A-5412 Puch / Salzburg  
Tel: +43 [0] 662 449 01-0  
Fax: +43 [0] 662 449 01-110  
Fax Export: +43 [0] 662 449 01-130  
verkauf@a-mk.com  
export@a-mk.com

#### DEUTSCHLAND

##### ALPEN-MAYKESTAG GmbH

Hansaallee 201 | D-40549 Düsseldorf  
Tel: +49 [0] 211 53 75 50-0  
Fax: +49 [0] 211 59 35 73  
verkauf@a-mk.com

#### ITALIA

##### ALPEN-MAYKESTAG s.r.l.

Via Volontari Del Sangue 54 | I-20093 Cologno Monzese [MI]  
Tel: +39 [02] 48 84 30 38  
Fax: +39 [02] 45 70 14 19  
info@a-mk.it

#### ČESKÁ REPUBLIKA

##### ALPEN-MAYKESTAG s.r.o.

U Koruny 414 | CZ-50002 Hradec Králové  
Tel. +420 495 58 23 22  
Fax +420 495 58 23 25  
info@a-mk.cz

#### MAGYARORSZÁG

##### ALPEN-MAYKESTAG Kft.

Gyár utca 5 | H-8500 Pápa  
Tel. +36 [0] 89 51 15 15  
Fax +36 [0] 89 51 15 16  
info@a-mk.hu