



ALESATORI REAMERS

D.01.01

Guida alla selezione dell'utensile
Tool selection guide

798-803

D.01.02

Gamma prodotti
Products range

805-838

D.01.03

Parametri di taglio
Cutting data

839-845



ALESATORI
REAMERS

D.01.01

Guida alla selezione dell'utensile
Tool selection guide

Codice Utensile Tool code	Materiale utensile Tool material	DIN	Forma Form	Tolleranza foro Hole tolerance	Angolo elica Helix angle	Codolo Shank	Rivestimento Coating	Direzione taglio Cutting Direction	Gamma diametri Diameters range	P M K N S H	Pagina utensile Tool page
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▶ ALESATORI A MANO | HAND REAMERS

6301		HSS	206 DIN	A	H7	0°	DIN 10	-	↻	1 ÷ 50	P M K N S H	806
6302		HSS	206 DIN	B	H7	6°	DIN 10	-	↻	0,8 ÷ 50	P M K N S H	806

▶ ALESATORI A MANO | HAND REAMERS

Registrabili espansione max 1% oltre il Ø nominale | Adjustable range of expansion max 1 % over nominal size

6306		HSS	859 DIN	A	-	0°	DIN 10	-	↻	4 ÷ 30	P M K N S H	808
6309		HSS	859 DIN	B	-	6°	DIN 10	-	↻	8 ÷ 30	P M K N S H	808

▶ ALESATORI A MANO | HAND REAMERS

Per spine coniche - conicità 1:50 | Hand taper pin reamers, taper 1 : 50

6315		HSS	9 DIN	A	-	0°	DIN 10	-	↻	1 ÷ 30	P M K N S H	831
6304		HSS	9 DIN	B	-	6°	DIN 10	-	↻	1,5 ÷ 50	P M K N S H	831

▶ ALESATORI A MANO | HAND REAMERS

Per cono morse secondo DIN 228 | Taper socket reamer – finishing for taper sleeves according to DIN 228

6317		HSS	204 DIN	C	-	0°	DIN 10	-	↻	C.M. M.T. 0 ÷ 6	P M K N S H	837
6312		HSS	204 DIN	D	-	6°	DIN 10	-	↻	C.M. M.T. 0 ÷ 6	P M K N S H	837

Codice Utensile Tool code	Materiale utensile Tool material	DIN	Forma Form	Tolleranza foro Hole tolerance	Angolo elica Helix angle	Codolo Shank	Rivestimento Coating	Direzione taglio Cutting Direction	Gamma diametri Diameter range	P	M	K	N	S	H	Pagina utensile Tool page

▶ ALESATORI A MACCHINA | MACHINE CHUCKING REAMERS

Tipo corto per macchine automatiche | Short for automatic machines

6324		HSS-Co	8089 DIN	B	H7	9°		-		1,5 ÷ 20							809
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▶ ALESATORI A MACCHINA | MACHINE CHUCKING REAMERS

6321		HSS-Co	212 DIN	A-C	H7	0°		-		1 ÷ 20							810
6333		HSS-Co	208 DIN	A	H7	0°		-		5 ÷ 32							822
6361		HSS	219 DIN	A	H7	0°		-		25 ÷ 100							827

▶ ALESATORI A MACCHINA | MACHINE CHUCKING REAMERS

Progressione centesimale di 0,01 mm | Progression of 0,01 mm

6326		HSS-Co	212 DIN	B/D	H7	9°		-		1 ÷ 20							810
6326TN		HSS-Co	212 DIN	B/D	H7	9°		TiN		1 ÷ 20							810
6326C		HSS-Co	212 DIN	D	-	9°		-		0,95 ÷ 16,10							817
6337		HSS-Co	208 DIN	B	H7	9°		-		5 ÷ 40							822
6360		HSS	219 DIN	B	H7	9°		-		25 ÷ 100							827

▶ ALESATORI A MACCHINA | MACHINE CHUCKING REAMERS

Elicoidali 45° | 45° Helix

6325		HSS-Co	212 DIN	E	H7	45°		-		1 ÷ 20							810
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**D
01**

Codice Utensile Tool code	Materiale utensile Tool material	DIN	Forma Form	Tolleranza foro Hole tolerance	Angolo elica Helix angle	Codolo Shank	Rivestimento Coating	Direzione taglio Cutting Direction	Gamma diametri Diameters range	P	M	K	N	S	H	Pagina utensile Tool page
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▶ ALESATORI A MACCHINA | MACHINE CHUCKING REAMERS

Elicoidali 45° | 45° Helix

6335		HSS-Co	208 DIN	C	H7	45°		-		5 ÷ 32							822
6362		HSS	219 DIN	C	H7	45°	-	-		25 ÷ 100							827

▶ ALESATORI A MACCHINA | MACHINE CHUCKING REAMERS

Registrabili espansione max 0,01 mm del Ø | Expansion reamers up to max 0,01 mm Ø

6307		HSS-Co	ILIX NORM DIN	-	H7	0°		-		8 ÷ 18							826
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▶ ALESATORI A MACCHINA | MACHINE CHUCKING REAMERS

Per spine coniche - conicità 1:50 | Taper pin reamers - taper 1:50

6313		HSS-Co	2179 DIN	-	-	45°		-		1 ÷ 12							833
6314		HSS	2180 DIN	-	-	45°		-		4 ÷ 20							834

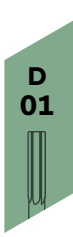
▶ ALESATORI A MACCHINA CONICI | MACHINE TAPER REAMERS

6308		HSS	ILIX NORM DIN	-	-	0°		DIN 10	-		3 ÷ 45						836
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▶ ALESATORI A MACCHINA CONICI | MACHINE TAPER REAMERS

Per preforo NPT/NPTF | Taper pin reamer for NPT/NPTF thread

6310		HSS	ILIX NORM DIN	A	-	0°		DIN 10	-		1/16" ÷ 2"						835
6311		HSS	ILIX NORM DIN	B	-	6°		DIN 10	-		1/16" ÷ 2"						835



Codice Utensile Tool code	Materiale utensile Tool material	DIN	Forma Form	Tolleranza foro Hole tolerance	Angolo elica Helix angle	Codolo Shank	Rivestimento Coating	Direzione taglio Cutting Direction	Gamma diametri Diameter range	P M K N S H	Pagina utensile Tool page
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▶ ALESATORI A MACCHINA CONICI | MACHINE TAPER REAMERS

per spine coniche (NF: Norme Francesi) - conicità 1:50 | Taper pin reamers (nf: French standard) – taper 1 : 50

6319		HSS	E 66-011 NF	NF	-	45°			1 ÷ 4,5		832
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▶ ALESATORI A MACCHINA CONICI | MACHINE TAPER REAMERS

con attacco conico per fori da chiodi | Bridge reamers with morse taper

6355		HSS	311 DIN	-	-	25°			6,4 ÷ 32		838
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▶ ALESATORI A MACCHINA CONICI | MACHINE TAPER REAMERS

per fori di coppiglie | Taper pin reamers

6303		HSS	ILIX NORM DIN	-	-	0°			1,5 ÷ 20		829
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▶ MICRO ALESATORI A MACCHINA CONICI | MACHINE TAPER MICRO REAMERS

per lavorazioni in fori poco profondi | For fast smooth reaming of shallow holes

6318		HSS	ILIX NORM DIN	-	-	12°			1,2 ÷ 1,9		830
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▶ ALESATORI A MACCHINA CONICI | MACHINE TAPER REAMERS

6369		M.D.I. HM	8094 DIN	A	H7	0°			5 ÷ 20		824
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▶ ALESATORI A MACCHINA | MACHINE REAMERS

6372		M.D.I. HM	8093 DIN	B	H7	9°			1 ÷ 20		813
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














6372TN		M.D.I. HM	8093 DIN	B	H7	9°		TiN 	1 ÷ 20		813
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6372C*		M.D.I. HM	8093 DIN	B	-	9°			0,98 ÷ 12,05		818
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 * Progressione centesimale. Tolleranza del \varnothing nominale dell'alesatore +0,003/0
 Centesimal progression. Tolerance of the nominal \varnothing of the reamer +0,003/0


Codice Utensile Tool code	Materiale utensile Tool material	DIN	Forma Form	Tolleranza foro Hole tolerance	Angolo elica Helix angle	Codolo Shank	Rivestimento Coating	Direzione taglio Cutting Direction	Gamma diametri Diameters range	P	M	K	N	S	H	Pagina utensile Tool page

► ALESATORI A MACCHINA | MACHINE REAMERS

6370		M.D.I. HM	-8093 DIN	B	H7	9°		-		4 ÷ 20		-	-	-	-	-	815
6371		M.D.I. HM	-8093 DIN	B	H7	9°		-		4 ÷ 20		-	-	-	-	-	816
6376		M.D.I. HM	-8094 DIN	B	H7	9°		-		5 ÷ 20		-	-	-	-	-	825
6323		CERMET	-212 DIN	-	H7	12°		-		3,5 ÷ 16		-	-	-	-	-	820
6373		PKD	ILIX NORM DIN	-	H7	0°		-		12 ÷ 16		-	-	-	-	-	821



ALESATORI
REAMERS

D.01.02

Gamma prodotti
Products range

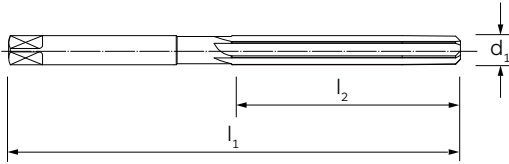
D
01

Alesatori a mano per ottenere fori in tolleranza H7
Hand reamers to produce holes with H7 tolerances

206
DIN

H7

DIN 10



HSS	HSS
0°	6°
A	B
-	-
↻	↻
P	P
M	M
K	K
N	N
S	S
-	-

MATERIALE MATERIAL
ANGOLO ELICA HELIX ANGLE
FORMA FORM
RIVESTIMENTO COATING
DIREZIONE TAGLIO CUTTING DIRECTION

GRUPPO MATERIALI
MATERIAL GROUPS

P Acciai Steels
M Acciai Inossidabili Stainless Steels
K Ghise Cast Irons
N Metalli non ferrosi Non-ferrous metals
S Leghe resistenti al calore e Titanio HRSA and Titanium
H Acciai Temprati Hardened Steels

d ₁ (H7)	l ₁	l ₂	Z	6301	6302
0,8	34	13	3	-	■
1,0*	34	13	3	●	●
1,1*	34	13	3	●	●
1,2*	38	16	3	●	●
1,3*	38	16	3	●	●
1,4	41	20	3	●	●
1,5	41	20	3	●	●
1,6	44	21	3	●	●
1,7	44	21	3	●	●
1,8	47	23	3	●	●
1,9	47	23	3	●	●
2,0	50	25	3	●	●
2,1	50	25	3	●	●
2,2	54	27	3	●	●
2,3	54	27	3	●	●
2,4	58	29	3	●	●
2,5	58	29	5	●	●
2,6	58	29	5	●	●
2,7	62	31	5	●	●
2,8	62	31	5	●	●
2,9	62	31	5	●	●
3,0	62	31	5	●	●
3,1	66	33	5	●	●
3,2	66	33	5	●	●
3,3	66	33	5	●	●
3,4	71	35	5	●	●
3,5	71	35	5	●	●

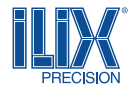
d ₁ (H7)	l ₁	l ₂	Z	6301	6302
3,6	71	35	5	●	●
3,7	71	35	5	●	●
3,8	76	38	5	●	●
3,9	76	38	5	●	●
4,0	76	38	6	●	●
4,1	76	38	6	●	●
4,2	76	38	6	●	●
4,3	81	41	6	●	●
4,4	81	41	6	●	●
4,5	81	41	6	●	●
4,6	81	41	6	●	●
4,7	81	41	6	●	●
4,8	87	44	6	●	●
4,9	87	44	6	●	●
5,0	87	44	6	●	●
5,1	87	44	6	●	●
5,2	87	44	6	●	●
5,3	87	44	6	●	●
5,4	93	47	6	●	●
5,5	93	47	6	●	●
5,6	93	47	6	●	●
5,7	93	47	6	●	●
5,8	93	47	6	●	●
5,9	93	47	6	●	●
6,0	93	47	6	●	●
6,1	100	50	6	●	●
6,2	100	50	6	●	●

* ILIX NORM ■ Fino ad esaurimento scorte | Till stocks last

D
01

DIN 206 (A/B)

Alesatori a mano per ottenere fori in tolleranza H7
Hand reamers to produce holes with H7 tolerances



d ₁ (H7)	l ₁	l ₂	Z	6301	6302
6,3	100	50	6	●	●
6,4	100	50	6	●	●
6,5	100	50	6	●	●
6,6	100	50	6	●	●
6,7	100	50	6	●	●
6,8	107	54	6	●	●
6,9	107	54	6	●	●
7,0	107	54	6	●	●
7,1	107	54	6	●	●
7,2	107	54	6	●	●
7,3	107	54	6	●	●
7,4	107	54	6	●	●
7,5	107	54	6	●	●
7,6	115	58	6	●	●
7,7	115	58	6	●	●
7,8	115	58	6	●	●
7,9	115	58	6	●	●
8,0	115	58	6	●	●
8,1	115	58	6	●	●
8,2	115	58	6	●	●
8,3	115	58	6	●	●
8,4	115	58	6	●	●
8,5	115	58	6	●	●
8,6	124	62	6	●	●
8,7	124	62	6	●	●
8,8	124	62	6	●	●
8,9	124	62	6	●	●
9,0	124	62	6	●	●
9,1	124	62	6	●	●
9,2	124	62	6	●	●
9,3	124	62	6	●	●
9,4	124	62	6	●	●
9,5	124	62	6	●	●
9,6	133	66	6	●	●
9,7	133	66	6	●	●
9,8	133	66	6	●	●
9,9	133	66	6	●	●
10,0	133	66	6	●	●
10,1	133	66	6	●	-
10,2	133	66	6	●	-
10,3	133	66	6	●	-
10,4	133	66	6	●	-
10,5	133	66	6	●	●
10,6	133	66	6	●	-
10,7	142	71	6	●	-
10,8	142	71	6	●	-
10,9	142	71	6	●	-
11,0	142	71	6	●	●
11,1	142	71	6	●	-
11,2	142	71	6	●	-
11,3	142	71	6	●	-
11,4	142	71	6	●	-
11,5	142	71	6	●	●
11,6	142	71	6	●	-
11,7	142	71	6	●	-
11,8	142	71	6	●	-
11,9	152	76	6	●	-

d ₁ (H7)	l ₁	l ₂	Z	6301	6302
12,0	152	76	6	●	●
12,5	152	76	6	●	-
13,0	152	76	8	●	-
13,5	163	81	8	●	-
14,0	163	81	8	●	●
14,5	163	81	8	●	●
15,0	163	81	8	●	●
15,5	175	87	8	●	●
16,0	175	87	8	●	●
16,5	175	87	8	●	●
17,0	175	87	8	●	●
17,5	188	93	8	●	●
18,0	188	93	8	●	●
18,5	188	93	8	●	●
19,0	188	93	8	●	●
19,5	201	100	8	●	●
20,0	201	100	8	●	●
20,5	201	100	8	●	●
21,0	201	100	8	●	●
21,5	201	100	8	●	●
22,0	215	107	8	●	●
22,5	215	107	8	●	●
23,0	215	107	8	●	●
23,5	215	107	8	●	●
24,0	231	115	10	●	●
24,5	231	115	10	-	●
25,0	231	115	10	●	●
25,5	231	115	10	●	●
26,0	231	115	10	●	●
26,5	231	115	10	●	●
27,0	247	124	10	●	●
27,5	247	124	10	-	●
28,0	247	124	10	●	●
28,5	247	124	10	●	●
29,0	247	124	10	●	●
29,5	247	124	10	●	●
30,0	247	124	10	●	■
31,0	265	133	10	●	●
32,0	265	133	10	●	●
33,0	265	133	10	●	●
34,0	284	142	12	●	●
35,0	284	142	12	●	●
36,0	284	142	12	●	●
37,0	284	142	12	●	●
38,0	305	152	12	●	●
39,0	305	152	12	●	●
40,0	305	152	12	●	●
41,0	305	152	12	●	●
42,0	305	152	12	●	●
43,0	326	163	12	●	●
44,0	326	163	12	●	●
45,0	326	163	12	●	●
46,0	326	163	14	●	●
47,0	326	163	14	●	●
48,0	347	174	14	●	●
49,0	347	174	14	●	●
50,0	347	174	14	●	●

02/02

D
01



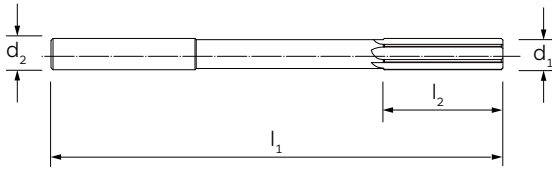
Alesatori a macchina in HSS-Co per ottenere fori in tolleranza H7
HSS-Co machine chucking reamers made to produce holes with H7 tolerance

212
DIN

H7

$\leq \varnothing 2,9$ $\geq \varnothing 3$

P. 840



MATERIALE | MATERIAL

ANGOLO ELICA | HELIX ANGLE

FORMA | FORM

RIVESTIMENTO | COATING

DIREZIONE TAGLIO | CUTTING DIRECTION

GRUPPO MATERIALI
MATERIAL GROUPS

P | Acciai | Steels

M | Acciai Inossidabili | Stainless Steels

K | Ghise | Cast Irons

N | Metalli non ferrosi | Non-ferrous metals

S | Leghe resistenti al calore e Titanio | HRSA and Titanium

H | Acciai Temprati | Hardened Steels



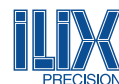
HSS-Co	HSS-Co	HSS-Co	HSS-Co
0°	45°	9°	9°
A/C	E	B/D	B/D
-	-	-	TiN

P	P	P	P
M	M	M	M
K	K	K	K
N	N	N	N
S	S	S	S
-	-	-	-

d_1 (H7)	l_1	l_2	d_2 (h9)	6321	6325	6326	6326TN
1,0*	34	5,5	1,0	●	■	●	●
1,1*	36	6,5	1,1	●	-	●	●
1,2*	38	8	1,2	●	■	●	●
1,3*	38	8	1,2	●	-	●	●
1,4	40	8	1,4	●	-	●	●
1,5	40	8	1,5	●	■	●	●
1/16"	43	9	1,6	-	-	●	●
1,6	43	9	1,6	●	■	●	●
1,7	43	9	1,6	●	■	●	●
1,8	46	10	1,8	●	■	●	●
1,9	46	10	1,8	●	■	●	●
2,0	49	11	2,0	●	●	●	●
2,1	49	11	2,0	●	●	●	●
2,2	53	12	2,2	●	●	●	●
2,3	53	12	2,2	●	●	●	●
3/32"	57	14	2,5	-	-	●	●
2,4	57	14	2,5	●	●	●	●
2,5	57	14	2,5	●	●	●	●
2,6	57	14	2,5	●	●	●	●
2,7	61	15	2,8	●	●	●	●
7/64"	61	15	2,8	-	-	●	●
2,8	61	15	2,8	●	●	●	●
2,9	61	15	3,0	●	●	●	●
3,0	61	15	3,0	●	●	●	●
3,1	65	16	3,2	●	●	●	●
1/8"	65	16	3,2	-	-	●	●
3,2	65	16	3,2	●	●	●	●

DIN 212 A/C - B/D - E

Alesatori a macchina in HSS-Co per ottenere fori in tolleranza H7
HSS-Co machine chucking reamers made to produce holes with H7 tolerance



d ₁ (H7)	l ₁	l ₂	d ₂ (h9)		6321	6325	6326	6326TN
3,3	65	18	3,2		●	●	●	●
3,4	70	18	3,5		●	●	●	●
3,5	70	18	3,5		●	●	●	●
3,6	70	18	3,5		●	●	●	●
3,7	70	18	3,5		●	●	●	●
3,8	75	19	4,0		●	●	●	●
3,9	75	19	4,0		●	●	●	●
4,0	75	19	4,0		●	●	●	●
4,1	75	19	4,0		●	●	●	●
4,2	75	19	4,0		●	●	●	●
4,3	80	21	4,5		●	●	●	●
4,4	80	21	4,5		●	●	●	●
4,5	80	21	4,5		●	●	●	●
4,6	80	21	4,5		●	●	●	●
4,7	80	21	4,5		●	●	●	●
3/16"	86	23	5,0		-	-	●	●
4,8	86	23	5,0		●	●	●	●
4,9	86	23	5,0		●	●	●	●
5,0	86	23	5,0		●	●	●	●
5,1	86	23	5,0		●	●	●	●
5,2	86	23	5,0		●	●	●	●
5,3	86	23	5,0		●	●	●	●
5,4	93	26	5,6		●	●	●	●
5,5	93	26	5,6		●	●	●	●
5,6	93	26	5,6		●	●	●	●
5,7	93	26	5,6		●	●	●	●
5,8	93	26	5,6		●	●	●	●
5,9	93	26	5,6		●	●	●	●
6,0	93	26	5,6		●	●	●	●
6,1	101	28	6,3		●	●	●	●
6,2	101	28	6,3		●	●	●	●
6,3	101	28	6,3		●	●	●	●
1/4"	101	28	6,3		-	-	●	●
6,4	101	28	6,3		●	●	●	●
6,5	101	28	6,3		●	●	●	●
6,6	101	28	6,3		●	●	●	●
6,7	101	28	6,3		●	●	●	●
6,8	109	31	7,1		●	●	●	●
6,9	109	31	7,1		●	●	●	●
7,0	109	31	7,1		●	●	●	●
7,1	109	31	7,1		●	●	●	●
7,2	109	31	7,1		●	●	●	●
7,3	109	31	7,1		●	●	●	●
7,4	109	31	7,1		●	●	●	●
7,5	109	31	7,1		●	●	●	●
7,6	117	33	8,0		●	●	●	●
7,7	117	33	8,0		●	●	●	●
7,8	117	33	8,0		●	●	●	●
7,9	117	33	8,0		●	●	●	●
5/16"	117	33	8,0		-	-	●	●
8,0	117	33	8,0		●	●	●	●
8,1	117	33	8,0		●	●	●	●
8,2	117	33	8,0		●	●	●	●
8,3	117	33	8,0		●	●	●	●
8,4	117	33	8,0		●	●	●	●
8,5	117	33	8,0		●	●	●	●

02/03

D
01



Alesatori a macchina in HSS-Co per ottenere fori in tolleranza H7
HSS-Co machine chucking reamers made to produce holes with H7 tolerance

d ₁ (H7)	l ₁	l ₂	d ₂ (h9)		6321	6325	6326	6326TN
8,6	125	36	9,0		●	●	●	●
8,7	125	36	9,0		●	●	●	●
8,8	125	36	9,0		●	●	●	●
8,9	125	36	9,0		●	●	●	●
9,0	125	36	9,0		●	●	●	●
9,1	125	36	9,0		●	●	●	●
9,2	125	36	9,0		●	●	●	●
9,3	125	36	9,0		●	●	●	●
9,4	125	36	9,0		●	●	●	●
9,5	125	36	9,0		●	●	●	●
3/8"	133	38	10,0	-	-	●	●	●
9,6	133	38	10,0		●	●	●	●
9,7	133	38	10,0		●	●	●	●
9,8	133	38	10,0		●	●	●	●
9,9	133	38	10,0		●	●	●	●
10,0	133	38	10,0		●	●	●	●
10,1	133	38	10,0		●	●	●	●
10,2	133	38	10,0		●	●	●	●
10,3	133	38	10,0		●	●	●	●
10,4	133	38	10,0		●	●	●	●
10,5	133	38	10,0		●	●	●	●
10,6	133	38	10,0		●	●	●	●
10,7	142	41	10,0		●	●	●	●
10,8	142	41	10,0		●	●	●	●
10,9	142	41	10,0		●	●	●	●
11,0	142	41	10,0		●	●	●	●
11,5	142	41	10,0		●	●	●	●
12,0	151	44	10,0		●	●	●	●
12,5	151	44	10,0		●	●	●	●
1/2"	151	44	10,0	-	-	●	●	●
13,0	151	44	10,0		●	●	●	●
13,5	160	47	12,5		●	●	●	●
14,0	160	47	12,5		●	●	●	●
14,5	162	50	12,5		●	●	●	●
15,0	162	50	12,5		●	●	●	●
15,5	170	52	12,5		●	●	●	●
5/8"	170	52	12,5	-	-	●	●	●
16,0	170	52	12,5		●	●	●	●
16,5	175	54	14,0		●	●	●	●
17,0	175	54	14,0		●	●	●	●
17,5	182	56	14,0		●	●	●	●
18,0	182	56	14,0		●	●	●	●
18,5	189	58	16,0		●	●	●	●
19,0	189	58	16,0		●	●	●	●
3/4"	195	60	16,0	-	-	●	●	●
19,5	195	60	16,0		●	●	●	●
20,0	195	60	16,0		●	●	●	●

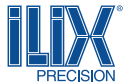
03/03

Gamma diametri Diameter range	6321 Taglienti Flutes	6325 Taglienti Flutes	6326 Taglienti Flutes	6326TN Taglienti Flutes
0,6 mm - 2,4 mm	3	2	3	3
2,5 mm - 3,9 mm	5	3	5	5
4,0 mm - 13,5 mm	6	3	6	6
13,5 mm - 14,5 mm	8	3	8	8
15,0 mm - 20,0 mm	8	4	8	8

D
01

~DIN 8093

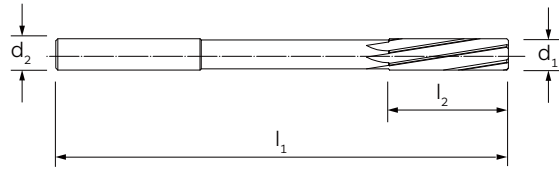
Alesatori a macchina in metallo duro integrale per ottenere fori in tolleranza H7
Solid carbide machine chucking reamers made to produce holes with H7 tolerance



~8093
DIN

H7

P. 844



M.D.I.-HM	M.D.I.-HM
9°	9°
B	B
-	TiN
↻	↻
P	P
M	M
K	K
N	N
-	S
-	-

MATERIALE MATERIAL
ANGOLO ELICA HELIX ANGLE
FORMA FORM
RIVESTIMENTO COATING
DIREZIONE TAGLIO CUTTING DIRECTION
P Acciai Steels
M Acciai Inossidabili Stainless Steels
K Ghise Cast Irons
N Metalli non ferrosi Non-ferrous metals
S Leghe resistenti al calore e Titanio HRSA and Titanium
H Acciai Temprati Hardened Steels

d ₁ (H7)	l ₁	l ₂	d ₂ (h6)	Z	6372	6372TN
1,0	34	6	1	3	●	●
1,1	34	6	1	3	●	●
1,2	34	6	1	3	●	●
1,3	34	6	1	3	●	●
1,4	40	8	2	3	●	●
1,5	40	8	2	3	●	●
1,6	43	9	2	3	●	●
1,7	43	9	2	4	●	●
1,8	46	10	2	4	●	●
1,9	46	10	2	4	●	●
2,0	49	11	2	4	●	●
2,1	49	11	2	4	●	●
2,2	53	12	3	4	●	●
2,3	53	12	3	4	●	●
2,4	57	14	3	4	●	●
2,5	57	14	3	4	●	●
2,6	57	14	3	4	●	●
2,7	61	15	3	4	●	●
2,8	61	15	3	6	●	●
2,9	61	15	3	6	●	●
3,0	61	15	3	6	●	●
3,1	65	16	4	6	●	●
3,2	65	16	4	6	●	●
3,3	65	16	4	6	●	●
3,4	70	18	4	6	●	●
3,5	70	18	4	6	●	●
3,6	70	18	4	6	●	●

d ₁ (H7)	l ₁	l ₂	d ₂ (h6)	Z	6372	6372TN
3,7	70	18	4	6	●	●
3,8	75	19	4	6	●	●
3,9	75	19	4	6	●	●
4,0	75	19	4	6	●	●
4,1	75	19	4	6	●	●
4,2	75	21	4	6	●	●
4,3	80	21	5	6	●	●
4,4	80	21	5	6	●	●
4,5	80	21	5	6	●	●
4,6	80	21	5	6	●	●
4,7	80	21	5	6	●	●
4,8	86	23	5	6	●	●
4,9	86	23	5	6	●	●
5,0	86	23	5	6	●	●
5,1	86	23	5	6	●	●
5,2	86	23	5	6	●	●
5,3	93	26	6	6	●	●
5,4	93	26	6	6	●	●
5,5	93	26	6	6	●	●
5,6	93	26	6	6	●	●
5,7	93	26	6	6	●	●
5,8	93	26	6	6	●	●
5,9	93	26	6	6	●	●
6,0	93	26	6	6	●	●
6,1	101	28	6	6	●	●
6,2	101	28	6	6	●	●
6,3	101	28	6	6	●	●

01/02

Fino al Ø 12 mm in metallo duro integrale, oltre con testa in metallo duro integrale
Up to Ø 12 mm made of solid carbide, onwards with solid carbide head



Alesatori a macchina per ottenere fori in tolleranza H7
Machine chucking reamers made to produce holes with H7 tolerance

d ₁ (H7)	l ₁	l ₂	d ₂ (h6)	Z	6372	6372TN
6,4	101	28	6	6	●	●
6,5	101	28	6	6	●	●
6,6	101	28	6	6	●	●
6,7	109	31	6	6	●	●
6,8	109	31	8	6	●	●
6,9	109	31	8	6	●	●
7,0	109	31	8	6	●	●
7,1	109	31	8	6	●	●
7,2	109	31	8	6	●	●
7,3	109	31	8	6	●	●
7,4	109	31	8	6	●	●
7,5	109	31	8	6	●	●
7,6	117	33	8	6	●	●
7,7	117	33	8	6	●	●
7,8	117	33	8	6	●	●
7,9	117	33	8	6	●	●
8,0	117	33	8	6	●	●
8,1	117	33	8	6	●	●
8,2	117	33	8	6	●	●
8,3	117	33	8	6	●	●
8,4	117	33	8	6	●	●
8,5	117	33	8	6	●	●
8,6	125	36	10	6	●	●
8,7	125	36	10	6	●	●
8,8	125	36	10	6	●	●
8,9	125	36	10	6	●	●
9,0	125	36	10	6	●	●
9,1	125	36	10	6	●	●
9,2	125	36	10	6	●	●
9,3	125	36	10	6	●	●
9,4	125	36	10	6	●	●
9,5	125	36	10	6	●	●
9,6	133	38	10	6	●	●

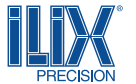
d ₁ (H7)	l ₁	l ₂	d ₂ (h6)	Z	6372	6372TN
9,7	133	38	10	6	●	●
9,8	133	38	10	6	●	●
9,9	133	38	10	6	●	●
10,0	133	38	10	6	●	●
10,1	133	38	10	6	●	●
10,2	133	38	10	6	●	●
10,3	133	38	10	6	●	●
10,4	133	38	10	6	●	●
10,5	133	38	10	6	●	●
10,6	133	38	10	6	●	●
10,7	142	41	10	6	●	●
10,8	142	41	10	6	●	●
10,9	142	41	10	6	●	●
11,0	142	41	10	6	●	●
11,5	142	41	10	6	●	●
12,0	151	44	10	6	●	●
12,5	151	44	10	8	●	●
13,0	151	44	10	8	●	●
13,5	160	47	14	8	●	●
14,0	160	47	14	8	●	●
14,5	162	50	14	8	●	●
15,0	162	50	14	8	●	●
15,5	170	52	14	8	●	●
16,0	170	52	14	8	●	●
16,5	175	54	14	8	●	●
17,0	175	54	14	8	●	●
17,5	182	56	14	8	●	●
18,0	182	56	14	8	●	●
18,5	189	58	16	8	●	●
19,0	189	58	16	8	●	●
19,5	195	60	16	8	●	●
20,0	195	60	16	8	●	●

02/02

Fino al Ø 12 mm in metallo duro integrale, oltre con testa in metallo duro integrale
Up to Ø 12 mm made of solid carbide, onwards with solid carbide head

~DIN 8093

Alesatori a macchina per ottenere fori in tolleranza H7 con lubrificazione assiale
Machine chucking reamers, made to produce holes with H7 tolerance, with axial internal coolant

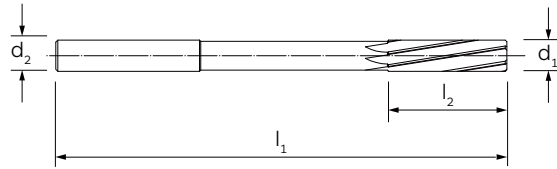


**ILIX
NORM**
DIN

H7

A

P. 844



- MATERIALE | MATERIAL
- ANGOLO ELICA | HELIX ANGLE
- FORMA | FORM
- RIVESTIMENTO | COATING
- DIREZIONE TAGLIO | CUTTING DIRECTION

M.D.I.-HM

9°

B

-

↻

P

M

K

N

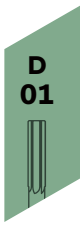
S

-

- GRUPPO MATERIALI**
MATERIAL GROUPS
- P | Acciai | Steels
 - M | Acciai Inossidabili | Stainless Steels
 - K | Ghise | Cast Irons
 - N | Metalli non ferrosi | Non-ferrous metals
 - S | Leghe resistenti al calore e Titanio | HRSA and Titanium
 - H | Acciai Temprati | Hardened Steels

d ₁ (H7)	l ₁	l ₂	d ₂ (h6)	Z	6370
4,0	75	19	4	6	●
4,5	80	21	5	6	●
5,0	86	23	5	6	●
5,5	93	26	6	6	●
6,0	93	26	6	6	●
6,5	101	28	6	6	●
7,0	109	31	8	6	●
7,5	109	31	8	6	●
8,0	117	33	8	6	●
8,5	117	33	8	6	●
9,0	125	36	10	6	●
9,5	125	36	10	6	●
10,0	133	38	10	6	●
11,0	142	41	10	6	●
12,0	151	41	10	6	●
13,0	151	44	10	8	●
14,0	160	47	14	8	●
15,0	162	50	14	8	●
16,0	170	52	14	8	●
17,0	175	54	14	8	●
18,0	182	56	14	8	●
19,0	189	58	16	8	●
20,0	195	60	16	8	●

d ₁ (H7)	l ₁	l ₂	d ₂ (h6)	Z	6370



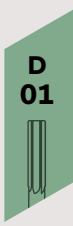
► **SCELTA DEI DIAMETRI DEGLI ALESATORI CENTESIMALI IN FUNZIONE DEL RAPPORTO TRA IL DIAMETRO NOMINALE ED IL CAMPO DI TOLLERANZA RICHIESTO**
TOOL DIAMETER BASED ON NOMINAL DIAMETER AND TOLERANCE

ALESATORI CENTESIMALI | CENTESIMAL REAMERS

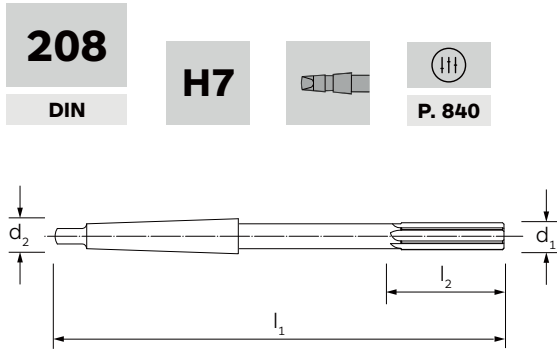
Ø	C8	C9	C10	C11	CD7	D7	D8	D9	D10	D11	D12	E7	E8	E9	EF8	F7	F8	F9	F10	G6	G7	H5
1,0	1,07	1,07	1,08	1,10	1,04	1,02	1,03	-	1,04	1,06	1,08	1,02	1,02	1,03	1,02	1,01	1,01	1,02	-	-	1,01	1,00
2,0	2,07	2,07	2,08	2,10	2,04	2,02	2,03	-	2,04	2,06	2,08	2,02	2,02	2,03	2,02	2,01	2,01	2,02	-	-	2,01	2,00
3,0	3,07	3,07	3,08	3,10	3,04	3,02	3,03	-	3,04	3,06	3,08	3,02	3,02	3,03	3,02	3,01	3,01	3,02	-	-	3,01	3,00
4,0	4,08	4,09	-	-	4,05	4,04	4,04	4,05	4,06	4,08	4,10	-	4,03	4,04	4,03	-	4,02	4,03	4,04	4,01	4,01	4,00
5,0	5,08	5,09	-	-	5,05	5,04	5,04	5,05	5,06	5,08	5,10	-	5,04	5,04	5,03	-	5,02	5,03	5,04	5,01	5,01	5,00
6,0	6,08	6,09	-	-	6,05	6,04	6,04	6,05	6,06	6,08	6,10	-	6,04	6,04	6,03	-	6,02	6,03	6,04	6,01	6,01	6,00
7,0	7,09	7,10	-	-	7,06	7,05	7,05	7,06	7,08	7,10	-	7,03	7,05	7,05	7,03	7,02	7,03	-	7,05	7,01	7,01	7,00
8,0	8,09	8,10	-	-	8,06	8,05	8,05	8,06	8,08	8,10	-	8,03	8,05	8,05	8,03	8,02	8,03	-	8,05	8,01	8,01	8,00
9,0	9,09	9,10	-	-	9,06	9,05	9,05	9,06	9,08	9,10	-	9,03	9,05	9,05	9,03	9,02	9,03	-	9,05	9,01	9,01	9,00
10,0	10,09	10,10	-	-	10,06	10,05	10,05	10,06	10,08	10,10	-	10,03	10,05	10,05	10,03	10,02	10,03	-	10,05	10,01	10,01	10,00
11,0	-	-	-	-	-	11,06	-	11,08	11,10	-	-	11,04	11,06	11,06	-	-	11,03	11,04	11,06	11,01	-	11,00
12,0	-	-	-	-	-	12,06	-	12,08	12,10	-	-	12,04	12,06	12,06	-	-	12,03	12,04	12,06	12,01	-	12,00

Ø	H6	H7	H8	H9	H10	H11	H12	H13	J6	J7	J8	JS7	JS8	JS9	K6	K7	K8	M6	M7	M8	N6	N7
1,0	1,00	-	1,01	-	1,02	1,04	1,06	1,09	1,00	1,00	1,00	1,00	1,00	1,00	-	-	0,99	-	-	0,99	0,99	0,99
2,0	2,00	-	2,01	-	2,02	2,04	2,06	2,09	2,00	2,00	2,00	2,00	2,00	2,00	-	-	1,99	-	-	1,99	1,99	1,99
3,0	3,00	-	3,01	-	3,02	3,04	3,06	3,09	3,00	3,00	3,00	3,00	3,00	3,00	-	-	2,99	-	-	2,99	2,99	2,99
4,0	4,00	-	4,01	4,02	4,03	4,05	4,08	-	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	3,99	-	3,99	3,99	3,99
5,0	5,00	-	5,01	5,02	5,03	5,05	5,08	-	5,00	5,00	5,00	5,00	5,00	5,00	5,00	5,00	5,00	4,99	-	4,99	4,99	4,99
6,0	6,00	-	6,01	6,02	6,03	6,05	6,08	-	6,00	6,00	6,00	6,00	6,00	6,00	6,00	6,00	6,00	5,99	-	5,99	5,99	5,99
7,0	7,00	7,01	7,01	7,02	7,04	7,06	7,10	-	7,00	7,00	7,00	7,00	7,00	-	-	7,00	7,00	6,99	6,99	6,99	-	6,99
8,0	8,00	8,01	8,01	8,02	8,04	8,06	8,10	-	8,00	8,00	8,00	8,00	8,00	-	-	8,00	8,00	7,99	7,99	7,99	-	7,99
9,0	9,00	9,01	9,01	9,02	9,04	9,06	9,10	-	9,00	9,00	9,00	9,00	9,00	-	-	9,00	9,00	8,99	8,99	8,99	-	8,99
10,0	10,00	10,01	10,02	10,02	10,04	10,06	10,10	-	10,00	10,00	10,00	10,00	10,00	-	-	10,00	10,00	9,99	9,99	9,99	-	9,99
11,0	-	11,01	11,02	11,03	11,05	11,07	-	-	11,00	11,00	11,00	11,00	11,00	-	-	11,00	11,00	10,99	10,99	10,99	-	10,99
12,0	-	12,01	12,02	12,03	12,05	12,07	-	-	12,00	12,00	12,00	12,00	12,00	-	-	12,00	12,00	11,99	11,99	11,99	-	11,99

Ø	N8	P6	P7	P8	R6	R7	S6	S7	U6	U7	X7	X8	X9	Z7	Z8	Z9	Z10	ZA7	ZA8	ZA9	ZB8	ZB9
1,0	0,99	0,99	0,99	0,99	-	-	0,98	0,98	0,98	0,98	-	0,97	0,97	0,97	0,97	-	0,96	0,96	-	-	0,95	0,95
2,0	1,99	1,99	1,99	1,99	-	-	1,98	1,98	1,98	1,98	-	1,97	1,97	1,97	1,97	-	1,96	1,96	-	-	1,95	1,95
3,0	2,99	2,99	2,99	2,99	-	-	2,98	2,98	2,98	2,98	-	2,97	2,97	2,97	2,97	-	2,96	2,96	-	-	2,95	2,95
4,0	3,99	-	-	3,98	-	-	3,98	3,98	-	-	3,97	-	3,96	3,96	3,96	3,95	3,95	3,96	-	-	3,94	3,94
5,0	4,99	-	-	4,98	-	-	4,98	4,98	-	-	4,97	-	4,96	4,96	4,96	4,95	4,95	4,96	-	-	4,94	4,94
6,0	5,99	-	-	5,98	-	-	5,98	5,98	-	-	5,97	-	5,96	5,96	5,96	5,95	5,95	5,96	-	-	5,94	5,94
7,0	6,99	-	-	-	6,98	6,98	-	-	6,97	6,97	-	6,96	6,95	6,96	6,95	-	6,94	6,94	6,94	-	-	6,92
8,0	7,99	-	-	-	7,98	7,98	-	-	7,97	7,97	-	7,96	7,95	7,96	7,95	-	7,94	7,94	7,94	-	-	7,92
9,0	8,99	-	-	-	8,98	8,98	-	-	8,97	8,97	-	8,96	8,95	8,96	8,95	-	8,94	8,94	8,94	-	-	8,92
10,0	9,99	-	-	-	9,98	9,98	-	-	9,97	9,97	-	9,96	9,95	9,96	9,95	-	9,94	9,94	9,94	-	-	9,92
11,0	10,99	10,98	10,98	10,97	-	-	10,97	10,97	-	-	10,96	10,95	-	10,95	10,94	-	10,93	-	10,93	-	10,90	10,90
12,0	11,99	11,98	11,98	11,97	-	-	11,97	11,97	-	-	11,96	11,95	-	11,95	11,94	-	11,93	-	11,93	-	11,90	11,90



Alisatori a macchina in HSS-Co per ottenere fori in tolleranza H7
HSS-Co machine chucking reamers made to produce holes with H7 tolerance



HSS-Co	HSS-Co	HSS-Co
0°	9°	45°
A	B	C
-	-	-
↻	↻	↻
P	P	P
M	M	M
K	K	K
N	N	N
S	S	S
-	-	-

MATERIALE MATERIAL
ANGOLO ELICA HELIX ANGLE
FORMA FORM
RIVESTIMENTO COATING
DIREZIONE TAGLIO CUTTING DIRECTION

GRUPPO MATERIALI
MATERIAL GROUPS


P Acciai Steels
M Acciai Inossidabili Stainless Steels
K Ghise Cast Irons
N Metalli non ferrosi Non-ferrous metals
S Leghe resistenti al calore e Titanio HRSA and Titanium
H Acciai Temprati Hardened Steels

d ₁ (H7)	l ₁	l ₂		Z (6333)	Z (6337)	Z (6335)	6333	6337	6335
5,0	133	23	1	6	6	3	●	●	●
5,5	138	26	1	6	6	-	●	●	-
6,0	138	26	1	6	6	3	●	●	●
6,5	144	28	1	6	6	-	●	●	-
7,0	150	31	1	6	6	3	●	●	●
7,5	150	31	1	6	6	-	●	●	-
8,0	156	33	1	6	6	3	●	●	●
8,5	156	33	1	6	6	-	●	●	-
9,0	162	36	1	6	6	3	●	●	●
9,5	162	36	1	6	6	-	●	●	-
10,0	168	38	1	6	6	4	●	●	●
10,5	168	38	1	6	6	-	●	●	-
11,0	175	41	1	6	6	4	●	●	●
11,5	175	41	1	6	6	-	●	●	-
12,0	182	41	1	6	6	4	●	●	●
12,5	182	44	1	8	8	-	●	●	-
13,0	182	44	1	8	8	4	●	●	●
13,5	189	47	1	8	8	-	●	●	-
14,0	189	47	1	8	8	4	●	●	●
14,5	204	50	2	8	8	-	●	●	-
15,0	204	50	2	8	8	4	●	●	●
15,5	210	52	2	8	8	-	●	●	-
16,0	210	52	2	8	8	4	●	●	●
16,5	214	54	2	8	8	-	●	●	-
17,0	214	54	2	8	8	4	●	●	●
17,5	219	56	2	8	8	-	●	●	-
18,0	219	56	2	8	8	4	●	●	●

D
01

DIN 208 (A-B-C)

Alesatori a macchina in HSS-Co per ottenere fori in tolleranza H7
 HSS-Co machine chucking reamers made to produce holes with H7 tolerance

d_1 (H7)	l_1	l_2		Z (6333)	Z (6337)	Z (6335)		6333	6337	6335
18,5	223	58	2	8	8	-		●	●	-
19,0	223	58	2	8	8	4		●	●	●
19,5	228	60	2	8	8	-		●	●	-
20,0	228	60	2	8	8	4		●	●	●
20,5	232	62	2	8	8	-		●	●	-
21,0	232	62	2	8	8	4		●	●	●
21,5	237	64	2	8	8	-		●	●	-
22,0	237	64	2	8	8	4		●	●	●
22,5	241	66	2	8	8	-		●	●	-
23,0	241	66	2	8	8	4		●	●	●
23,5	241	66	2	8	8	-		●	●	-
24,0	268	68	3	10	10	4		●	●	●
24,5	268	68	3	10	10	-		●	●	-
25,0	268	68	3	10	10	4		●	●	●
25,5	273	70	3	10	10	-		●	●	-
26,0	273	70	3	10	10	6		●	●	●
26,5	273	70	3	10	10	-		●	●	-
27,0	277	71	3	10	10	6		●	●	●
27,5	277	71	3	10	10	-		●	●	-
28,0	277	71	3	10	10	6		●	●	●
28,5	281	73	3	10	10	-		●	●	-
29,0	281	73	3	10	10	6		●	●	●
29,5	281	73	3	10	10	-		●	●	-
30,0	281	73	3	10	10	6		●	●	●
30,5	285	75	3	10	10	-		●	●	-
31,0	285	75	3	12	12	6		●	●	●
31,5	285	75	3	12	12	-		-	●	-
32,0	317	77	4	12	12	6		●	●	●
33,0	317	77	4	12	12	-		-	●	-
34,0	321	78	4	12	12	-		-	●	-
35,0	321	78	4	12	12	-		-	●	-
36,0	325	79	4	12	12	-		-	●	-
37,0	325	79	4	12	12	-		-	●	-
38,0	329	81	4	12	12	-		-	●	-
39,0	329	81	4	12	12	-		-	●	-
40,0	329	81	4	12	12	-		-	●	-

02/02

D
01



DIN 219 (A-B-C)

Alesatori a manicotto in HSS, foro attacco conico 1:30, per ottenere fori in tolleranza H7
 HSS shell reamers, taper hole 1:30, to produce holes with H7 tolerance

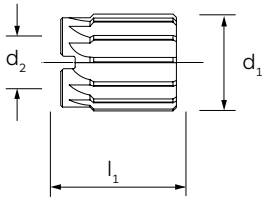
219

H7

P. 840

P. 842

6362

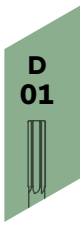


HSS	HSS	HSS
0°	9°	45°
A	B	C
-	-	-
↻	↻	↻

MATERIALE MATERIAL
ANGOLO ELICA HELIX ANGLE
FORMA FORM
RIVESTIMENTO COATING
DIREZIONE TAGLIO CUTTING DIRECTION
P Acciai Steels
M Acciai Inossidabili Stainless Steels
K Ghise Cast Irons
N Metalli non ferrosi Non-ferrous metals
S Leghe resistenti al calore e Titanio HRSA and Titanium
H Acciai Temprati Hardened Steels

P	P	P
M	M	M
K	K	K
N	N	N
S	S	S
-	-	-

d ₁ (H7)	l ₁	d ₂ Foro interno Bore	Z (6361)	Z (6360)	Z (6362)	6361	6360	6362
25	45	13	8	8	6	●	●	●
26	45	13	8	8	6	●	●	●
27	45	13	8	8	6	●	●	●
28	45	13	8	8	6	●	●	●
29	45	13	8	8	6	●	●	●
30	45	13	8	8	6	●	●	●
31	50	16	10	10	6	●	●	●
32	50	16	10	10	6	●	●	●
33	50	16	10	10	6	●	●	●
34	50	16	10	10	6	●	●	●
35	50	16	10	10	6	●	●	●
36	56	19	10	10	6	●	●	●
37	56	19	10	10	6	●	●	●
38	56	19	10	10	6	●	●	●
39	56	19	10	10	6	●	●	●
40	56	19	10	10	6	●	●	●
42	56	19	10	10	6	●	●	●
44	63	22	12	12	6	●	●	●
45	63	22	12	12	6	●	●	●
46	63	22	12	12	6	●	●	●
47	63	22	12	12	8	●	●	●
48	63	22	12	12	8	●	●	●
50	63	22	12	12	8	●	●	●
52	71	27	12	12	8	●	●	●
55	71	27	12	12	8	●	●	●
58	71	27	12	12	8	●	●	●
60	71	27	12	12	8	●	●	●



Alesatori a manicotto in HSS, foro attacco conico 1:30, per ottenere fori in tolleranza H7
HSS shell reamers, taper hole 1:30, to produce holes with H7 tolerance

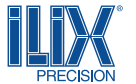
d_1 (h7)	l_1	d_2 Foro interno Bore	Z (6361)	Z (6360)	Z (6362)		6361	6360	6362
62	80	32	14	14	8		●	●	●
65	80	32	14	14	8		●	●	●
68	80	32	14	14	8		●	●	●
70	80	32	14	14	8		●	●	●
72	90	40	14	14	8		●	●	●
75	90	40	14	14	10		●	●	●
78	90	40	14	14	10		●	●	●
80	90	40	14	14	10		●	●	●
82	90	40	14	14	10		●	●	●
85	90	40	14	14	10		●	●	●
88	100	50	16	16	10		●	●	●
90	100	50	16	16	10		●	●	●
92	100	50	16	16	10		●	●	●
95	100	50	16	16	10		●	●	●
98	100	50	16	16	10		●	●	●
100	100	50	16	16	10		●	●	●

02/02



DIN 9 (A-B)

Alesatori IN HSS per spine coniche, conicità 1:50, quadro DIN 10, per ottenere fori per spine coniche DIN 1 HSS taper pin reamers, taper 1:50, square acc. to DIN 10, to produce holes for taper pins DIN 1

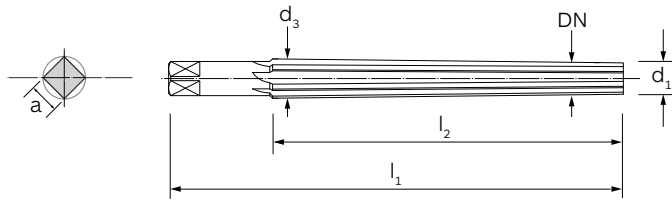


**ILIX
NORM**

DIN



DIN 10



MATERIALE | MATERIAL

ANGOLO ELICA | HELIX ANGLE

FORMA | FORM

RIVESTIMENTO | COATING

DIREZIONE TAGLIO | CUTTING DIRECTION

HSS	HSS
0°	6°
A	B
-	-
↻	↻

GRUPPO MATERIALI
MATERIAL GROUPS

P | Acciai | Steels

M | Acciai Inossidabili | Stainless Steels

K | Ghise | Cast Irons

N | Metalli non ferrosi | Non-ferrous metals

S | Leghe resistenti al calore e Titanio | HRSA and Titanium

H | Acciai Temprati | Hardened Steels

P	P
M	M
K	K
N	N
S	S
-	-

DN	d ₁	l ₁	l ₂	d ₃	a	Z	6315	6304
1,0	0,9	46	28	1,46	2,40	3	●	-
1,2	1,1	50	32	1,74	3,15	3	■	-
1,5	1,4	57	37	2,14	2,40	3	●	●
1,6*	1,5	57	37	2,24	2,40	4	-	●
2,0	1,9	68	48	2,86	2,40	4	●	●
2,5	2,4	68	48	3,36	2,40	4	●	●
3,0	2,9	80	58	4,06	3,00	5	●	●
3,5*	3,4	87	63	4,66	3,40	5	-	●
4,0	3,9	93	68	5,26	3,80	5	●	●
4,5	4,4	95	70	5,80	4,30	5	-	●
5,0	4,9	100	73	6,36	4,90	5	●	●
5,5*	5,4	118	90	7,20	5,50	6	-	●
6,0	5,9	135	105	8,00	6,20	6	●	●
6,5*	6,4	140	110	8,60	6,20	6	-	●
7,0*	6,9	160	125	9,40	7,00	6	-	●
8,0	7,9	180	145	10,80	8,00	6	●	●
9,0*	8,9	195	160	12,10	9,00	6	-	●
10,0	9,9	215	175	13,40	10,00	6	●	●
12,0	11,8	255	210	16,00	11,00	8	●	●
13,0*	12,9	255	210	17,00	12,00	8	-	●
14,0*	13,9	255	210	18,00	12,00	8	-	●
16,0	15,8	280	230	20,40	14,50	8	●	●
20,0	19,8	310	250	24,80	18,00	10	●	●
25,0	24,7	370	300	30,70	22,00	10	●	●
30,0	29,7	400	320	36,10	24,00	12	●	●
40,0	39,7	430	340	46,50	32,00	12	-	●
50,0	49,7	460	360	56,90	39,00	14	-	●

Per spine coniche secondo DIN 1 - 258 - 7977 - 7978 | For taper pin according to DIN 1 - 258 - 7977 - 7978

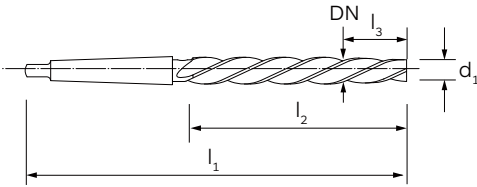
* ILIX NORM ■ Fino ad esaurimento scorte | Till stocks last



Alesatori elicoidali in HSS per fori da chiodi, conicità oltre 1/3 della lunghezza del tagliente
 HSS fluted bridge reamers with morse taper shank, tapered over 1/3 of cutting length

311

DIN



MATERIALE | MATERIAL

ANGOLO ELICA | HELIX ANGLE

FORMA | FORM

RIVESTIMENTO | COATING

DIREZIONE TAGLIO | CUTTING DIRECTION

HSS

25°

-

-



GRUPPO MATERIALI
MATERIAL GROUPS

P | Acciai | Steels

M | Acciai Inossidabili | Stainless Steels

K | Ghise | Cast Irons

N | Metalli non ferrosi | Non-ferrous metals

S | Leghe resistenti al calore e Titanio | HRSA and Titanium

H | Acciai Temprati | Hardened Steels

P

M

K

N

S

-

D	d ₁	l ₁	l ₂	l ₃		Z	6355
6,4	4,5	151	75	19	1	3	●
7,4	5,3	156	80	22	1	3	●
8,4	6,0	161	85	25	1	3	●
9,0	6,3	166	90	27	1	4	●
9,5	6,9	166	90	27	1	4	●
10,0	7,1	171	95	30	1	4	●
11,0	7,8	176	100	33	1	4	●
12,0	8,2	199	105	39	2	5	●
13,0*	9,2	199	105	39	2	5	●
14,0	9,9	209	115	42	2	5	●
15,0	10,6	219	125	45	2	5	●
16,0	11,4	229	135	48	2	5	●
17,0*	12,1	251	135	51	3	5	●
18,0	12,4	261	145	58	3	5	●
19,0	13,4	261	145	58	3	5	●
20,0	14,0	271	155	62	3	5	●
21,0*	15,0	271	155	62	3	5	●
22,0	15,6	281	165	66	3	5	●
23,0	16,6	281	165	66	3	5	●
24,0	17,0	296	180	72	3	5	●
25,0	18,0	296	180	72	3	5	●
26,0	19,0	296	180	72	3	5	●
27,0	19,4	311	195	78	3	5	●
28,0	20,4	311	195	78	3	5	●
29,0	21,4	311	195	78	3	5	●
30,0	22,4	311	195	78	3	5	●
31,0	22,8	326	210	84	3	5	●
32,0	23,8	354	210	84	4	5	●

* ILIX NORM

D
01

ALESATORI
REAMERS

D.01.03

Parametri di taglio
Cutting data

Pagina catalogo Catalogue page	Codice utensile Tool Code		Acciaio debolmente legato Low-Alloyed Steel <800 N/mm ²	Acciaio mediamente legato Medium-Alloyed Steel 700/1000 N/mm ²	Acciaio fortemente legato High-Alloyed Steel 1000/1300 N/mm ²	Acciaio inossidabile Martensitico/Ferritico Stainless steel Martensitic/Ferritic	Acciaio inossidabile Austenitico Stainless steel Austenitic	Ghisa grigia Grey cast iron	Ghisa sferoidale Nodular cast iron
Gruppo Materiali Materials Group			P1	P2	P3	M1	M2	K1	K2

			V _c	f	V _c	f	V _c	f	V _c	f	V _c	f	V _c	f	V _c	f
809	6324		12	1.0	8	0.8	6	0.6	5	0.8	3	0.6	12	1.0	8	1.2
810	6321		12	1.0	8	0.8	6	0.6	5	0.8	3	0.6	12	1.0	8	1.2
822	6333		12	1.0	8	0.8	6	0.6	5	0.8	3	0.6	12	1.0	8	1.2
827	6361		10	1.0	6	0.8	4	0.6	3	0.8	2	0.6	10	1.0	6	1.2
810	6326		12	1.0	8	0.8	6	0.6	5	0.8	3	0.6	12	1.0	8	1.2
810	6326TN		12	1.0	8	0.8	6	0.6	5	0.8	3	0.6	12	1.0	8	1.2
817	6326C		12	1.0	8	0.8	6	0.6	5	0.8	3	0.6	12	1.0	8	1.2
822	6337		12	1.0	8	0.8	6	0.6	5	0.8	3	0.6	12	1.0	8	1.2
827	6360		10	1.0	6	0.8	4	0.6	3	0.8	2	0.6	10	1.0	6	1.2
810	6325		12	1.0	8	0.8	6	0.6	5	0.8	3	0.6	12	1.0	8	1.2
822	6335		12	1.0	8	0.8	6	0.6	5	0.8	3	0.6	12	1.0	8	1.2

V_c: velocità di taglio (m/min) | cutting speed (m/min) f: Tabella avanzamenti (mm/giro) | Feed table (mm/rev)

Avanzamento f_n (mm/g) | Feed f_n (mm/rev)

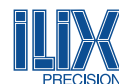
		Ø 1	Ø 1,5	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 8
Coefficiente di avanzamento Coefficient Number	0.6	0,030	0,040	0,050	0,060	0,080	0,090	0,100	0,120
	0.8	0,045	0,060	0,075	0,090	0,110	0,120	0,140	0,160
	1.0	0,060	0,075	0,090	0,120	0,140	0,160	0,180	0,210
	1.2	0,075	0,090	0,110	0,140	0,170	0,190	0,210	0,250
	1.4	0,085	0,110	0,130	0,160	0,190	0,220	0,240	0,290
	1.6	0,098	0,120	0,140	0,190	0,220	0,250	0,270	0,320
	1.8	0,110	0,130	0,160	0,210	0,250	0,280	0,310	0,360
	2.0	0,120	0,150	0,180	0,230	0,280	0,310	0,340	0,410
2.5	0,150	0,180	0,210	0,280	0,330	0,380	0,420	0,500	

Esempio della scelta dei dati di lavoro: 6324 Ø 5 | Gruppo di materiale da lavorare **P1** | V_c = 12 m/min | f_n = **0,160 mm/giro** (coefficiente f=1)
 Cutting data example: 6324 Ø 5 | Working material group **P1** | V_c = 12 m/min | f_n = **0,160 mm/rev** (coefficient f=1)














PARAMETRI DI TAGLIO | CUTTING DATA

Alesatori in HSS e HSS-Co | HSS and HSS-Co reamers



Alluminio e leghe di Alluminio Aluminum and Aluminum alloys	Materiali non ferrosi Non ferrous materials	Titanio e leghe di Titanio Titanium and Titanium alloys	HRSA Leghe resistenti al calore Heat resistant alloys	Acciai temprati Hardened steels 38/48 HRC	Acciai temprati Hardened steels 48/58 HRC	Acciai temprati Hardened steels 58/68 HRC		Codice utensile Tool Code	Pagina catalogo Catalogue page
N1	N2	S1	S2	H1	H2	H3	Gruppo Materiali Materials Group		

V _c	f	V _c	f	V _c	f	V _c	f	V _c	f	V _c	f	V _c	f			
15	1.6	10	1.4	2	0.6	2	0.6	-	-	-	-	-	-		6324	809
15	1.6	10	1.4	2	0.6	2	0.6	-	-	-	-	-	-		6321	810
15	1.6	10	1.4	2	0.6	2	0.6	-	-	-	-	-	-		6333	822
13	1.6	8	1.4	-	-	-	-	-	-	-	-	-	-		6361	827
15	1.6	10	1.4	2	0.6	2	0.6	-	-	-	-	-	-		6326	810
15	1.6	10	1.4	2	0.6	2	0.6	-	-	-	-	-	-		6326TN	810
15	1.6	10	1.4	2	0.6	2	0.6	-	-	-	-	-	-		6326C	817
15	1.6	10	1.4	2	0.6	2	0.6	-	-	-	-	-	-		6337	822
13	1.6	8	1.4	-	-	-	-	-	-	-	-	-	-		6360	827
15	1.6	10	1.4	2	0.6	2	0.6	-	-	-	-	-	-		6325	810
15	1.6	10	1.4	2	0.6	2	0.6	-	-	-	-	-	-		6335	822

Ø 10	Ø 12	Ø 15	Ø 20	Ø 25	Ø 30	Ø 40	Ø 50		Numero avanzamento Feed Number
0,140	0,150	0,160	0,200	0,230	0,260	0,300	0,350	0.6	
0,180	0,220	0,240	0,270	0,320	0,350	0,420	0,480	0.8	
0,240	0,270	0,300	0,350	0,400	0,450	0,520	0,600	1.0	
0,280	0,330	0,360	0,430	0,480	0,550	0,650	0,720	1.2	
0,340	0,380	0,410	0,500	0,550	0,640	0,750	0,820	1.4	
0,380	0,420	0,480	0,560	0,650	0,710	0,850	0,950	1.6	
0,420	0,480	0,530	0,620	0,720	0,800	0,950	1,100	1.8	
0,480	0,530	0,600	0,700	0,800	0,900	1,200	1,400	2.0	
0,580	0,650	0,730	0,880	1,000	1,200	1,400	1,600	2.5	

► I parametri di taglio indicati in tabella sono da considerarsi validi in condizioni macchina/pezzo ottimali
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions



Pagina catalogo Catalogue page	Codice utensile Tool Code		Acciaio debolmente legato Low-Alloyed Steel <800 N/mm ²	Acciaio mediamente legato Medium-Alloyed Steel 700/1000 N/mm ²	Acciaio fortemente legato High-Alloyed Steel 1000/1300 N/mm ²	Acciaio inossidabile Martensitico/Ferritico Stainless steel Martensitic/Ferritic	Acciaio inossidabile Austenitico Stainless steel Austenitic	Ghisa grigia Grey cast iron	Ghisa sferoidale Nodular cast iron
Gruppo Materiali Materials Group			P1	P2	P3	M1	M2	K1	K2

			V _c	f	V _c	f	V _c	f	V _c	f	V _c	f	V _c	f	V _c	f
827	6362		10	1.0	6	0.8	4	0.6	3	0.8	2	0.6	10	1.0	6	1.2
826	6307		10	1.0	6	0.8	4	0.6	3	0.8	2	0.6	10	1.0	6	1.2
833	6313		10	1.0	6	0.8	4	0.6	3	0.8	2	0.6	10	1.0	6	1.2
834	6314		10	1.0	6	0.8	4	0.6	3	0.8	2	0.6	10	1.0	6	1.2
836	6308		10	1.0	6	0.8	4	0.6	3	0.8	2	0.6	10	1.0	6	1.2
835	6310		10	1.0	6	0.8	4	0.6	3	0.8	2	0.6	10	1.0	6	1.2
835	6311		10	1.0	6	0.8	4	0.6	3	0.8	2	0.6	10	1.0	6	1.2
832	6319		10	1.0	6	0.8	4	0.6	3	0.8	2	0.6	10	1.0	6	1.2
838	6355		10	1.0	6	0.8	4	0.6	3	0.8	2	0.6	10	1.0	6	1.2
829	6303		10	1.0	6	0.8	4	0.6	3	0.8	2	0.6	10	1.0	6	1.2
830	6318		10	1.0	6	0.8	4	0.6	3	0.8	2	0.6	10	1.0	6	1.2

V_c: velocità di taglio (m/min) | cutting speed (m/min) f: Tabella avanzamenti (mm/giro) | Feed table (mm/rev)

Avanzamento f_n (mm/g) | Feed f_n (mm/rev)

		Ø 1	Ø 1,5	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 8
Coefficiente di avanzamento Coefficient Number	0.6	0,030	0,040	0,050	0,060	0,080	0,090	0,100	0,120
	0.8	0,045	0,060	0,075	0,090	0,110	0,120	0,140	0,160
	1.0	0,060	0,075	0,090	0,120	0,140	0,160	0,180	0,210
	1.2	0,075	0,090	0,110	0,140	0,170	0,190	0,210	0,250
	1.4	0,085	0,110	0,130	0,160	0,190	0,220	0,240	0,290
	1.6	0,098	0,120	0,140	0,190	0,220	0,250	0,270	0,320
	1.8	0,110	0,130	0,160	0,210	0,250	0,280	0,310	0,360
	2.0	0,120	0,150	0,180	0,230	0,280	0,310	0,340	0,410
	2.5	0,150	0,180	0,210	0,280	0,330	0,380	0,420	0,500












Esempio della scelta dei dati di lavoro: 6362 Ø 5 | Gruppo di materiale da lavorare P1 | V_c = 10 m/min | f_n = 0,160 mm/giro (coefficiente f=1.0)
Cutting data example: 6362 Ø 5 | Working material group P1 | V_c = 10 m/min | f_n = 0,160 mm/rev (coefficient f=1.0)



PARAMETRI DI TAGLIO | CUTTING DATA

Alesatori in HSS e HSS-Co | HSS and HSS-Co reamers

Alluminio e leghe di Alluminio Aluminum and Aluminum alloys	Materiali non ferrosi Non ferrous materials	Titanio e leghe di Titanio Titanium and Titanium alloys	HRSA Leghe resistenti al calore Heat resistant alloys	Acciai temprati Hardened steels 38/48 HRC	Acciai temprati Hardened steels 48/58 HRC	Acciai temprati Hardened steels 58/68 HRC		Codice utensile Tool Code	Pagina catalogo Catalogue page
N1	N2	S1	S2	H1	H2	H3	Gruppo Materiali Materials Group		

V _c	f	V _c	f	V _c	f	V _c	f	V _c	f	V _c	f	V _c	f			
13	1.6	8	1.4	-	-	-	-	-	-	-	-	-	-		6362	827
13	1.6	8	1.4	-	-	-	-	-	-	-	-	-	-		6307	826
13	1.6	8	1.4	-	-	-	-	-	-	-	-	-	-		6313	833
13	1.6	8	1.4	-	-	-	-	-	-	-	-	-	-		6314	834
13	1.6	8	1.4	-	-	-	-	-	-	-	-	-	-		6308	836
13	1.6	8	1.4	-	-	-	-	-	-	-	-	-	-		6310	835
13	1.6	8	1.4	-	-	-	-	-	-	-	-	-	-		6311	835
13	1.6	8	1.4	-	-	-	-	-	-	-	-	-	-		6319	832
13	1.6	8	1.4	-	-	-	-	-	-	-	-	-	-		6355	838
13	1.6	8	1.4	-	-	-	-	-	-	-	-	-	-		6303	829
13	1.6	8	1.4	-	-	-	-	-	-	-	-	-	-		6318	830

Ø 10	Ø 12	Ø 15	Ø 20	Ø 25	Ø 30	Ø 40	Ø 50		Numero avanzamento Feed Number
0,140	0,150	0,160	0,200	0,230	0,260	0,300	0,350	0.6	
0,180	0,220	0,240	0,270	0,320	0,350	0,420	0,480	0.8	
0,240	0,270	0,300	0,350	0,400	0,450	0,520	0,600	1.0	
0,280	0,330	0,360	0,430	0,480	0,550	0,650	0,720	1.2	
0,340	0,380	0,410	0,500	0,550	0,640	0,750	0,820	1.4	
0,380	0,420	0,480	0,560	0,650	0,710	0,850	0,950	1.6	
0,420	0,480	0,530	0,620	0,720	0,800	0,950	1,100	1.8	
0,480	0,530	0,600	0,700	0,800	0,900	1,200	1,400	2.0	
0,580	0,650	0,730	0,880	1,000	1,200	1,400	1,600	2.5	

► I parametri di taglio indicati in tabella sono da considerarsi validi in condizioni macchina/pezzo ottimali
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions



Pagina catalogo Catalogue page	Codice utensile Tool Code		Acciaio debolmente legato Low-Alloyed Steel <800 N/mm ²	Acciaio mediamente legato Medium-Alloyed Steel 700/1000 N/mm ²	Acciaio fortemente legato High-Alloyed Steel 1000/1300 N/mm ²	Acciaio inossidabile Martensitico/Ferritico Stainless steel Martensitic/Ferritic	Acciaio inossidabile Austenitico Stainless steel Austenitic	Ghisa grigia Grey cast iron	Ghisa sferoidale Nodular cast iron
Gruppo Materiali Materials Group			P1	P2	P3	M1	M2	K1	K2

			V _c	f	V _c	f	V _c	f	V _c	f	V _c	f	V _c	f	V _c	f
824	6369		20	1.2	15	1.0	10	0.8	10	1.0	7	0.8	20	1.4	15	1.2
813	6372		20	1.2	15	1.0	10	0.8	10	1.0	7	0.8	20	1.4	15	1.2
813	6372TN		20	1.2	15	1.0	10	0.8	10	1.0	7	0.8	20	1.4	15	1.2
818	6372C		20	1.2	15	1.0	10	0.8	10	1.0	7	0.8	20	1.4	15	1.2
815	6370		20	1.2	15	1.0	10	0.8	10	1.0	7	0.8	20	1.4	15	1.2
816	6371		20	1.2	15	1.0	10	0.8	10	1.0	7	0.8	20	1.4	15	1.2
825	6376		20	1.2	15	1.0	10	0.8	10	1.0	7	0.8	20	1.4	15	1.2
820	6323		50	1.2	40	1.0	30	0.8	20	1.0	15	0.8	80	1.4	40	1.2
821	6373		-	-	-	-	-	-	-	-	-	-	-	-	-	-

V_c: velocità di taglio (m/min) | cutting speed (m/min) f: Tabella avanzamenti (mm/giro) | Feed table (mm/rev)

Avanzamento f_n (mm/g) | Feed f_n (mm/rev)

		Ø 1	Ø 1,5	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 8
Coefficiente di avanzamento Coefficient Number	0.6	0,030	0,040	0,050	0,060	0,080	0,090	0,100	0,120
	0.8	0,045	0,060	0,075	0,090	0,110	0,120	0,140	0,160
	1.0	0,060	0,075	0,090	0,120	0,140	0,160	0,180	0,210
	1.2	0,075	0,090	0,110	0,140	0,170	0,190	0,210	0,250
	1.4	0,085	0,110	0,130	0,160	0,190	0,220	0,240	0,290
	1.6	0,098	0,120	0,140	0,190	0,220	0,250	0,270	0,320
	1.8	0,110	0,130	0,160	0,210	0,250	0,280	0,310	0,360
	2.0	0,120	0,150	0,180	0,230	0,280	0,310	0,340	0,410
	2.5	0,150	0,180	0,210	0,280	0,330	0,380	0,420	0,500

Esempio della scelta dei dati di lavoro: 6369 Ø 5 | Gruppo di materiale da lavorare **P1** | V_c = 20 m/min | f_n = **0,190 mm/giro** (coefficiente f=1.2)
 Cutting data example: 6369 Ø 5 | Working material group **P1** | V_c = 20 m/min | f_n = **0,190 mm/rev** (coefficient f=1.2)



PARAMETRI DI TAGLIO | CUTTING DATA

Alesatori in Metallo Duro Integrale, Cermet e PKD | Solid Carbide, Cermet and PKD reamers



Alluminio e leghe di Alluminio Aluminum and Aluminum alloys	Materiali non ferrosi Non ferrous materials	Titanio e leghe di Titanio Titanium and Titanium alloys	HRSA Leghe resistenti al calore Heat resistant alloys	Acciai temprati Hardened steels 38/48 HRC	Acciai temprati Hardened steels 48/58 HRC	Acciai temprati Hardened steels 58/68 HRC		Codice utensile Tool Code	Pagina catalogo Catalogue page
N1	N2	S1	S2	H1	H2	H3	Gruppo Materiali Materials Group		

V _c	f	V _c	f	V _c	f	V _c	f	V _c	f	V _c	f	V _c	f			
30	1.8	25	1.6	5	0.8	5	0.8	-	-	-	-	-	-		6369	824
30	1.8	25	1.6	5	0.8	5	0.8	-	-	-	-	-	-		6372	813
30	1.8	25	1.6	5	0.8	5	0.8	-	-	-	-	-	-		6372TN	813
30	1.8	25	1.6	5	0.8	5	0.8	-	-	-	-	-	-		6372C	818
30	1.8	25	1.6	5	0.8	5	0.8	-	-	-	-	-	-		6370	815
30	1.8	25	1.6	5	0.8	5	0.8	-	-	-	-	-	-		6371	816
30	1.8	25	1.6	5	0.8	5	0.8	-	-	-	-	-	-		6376	825
150	1.8	100	1.6	-	-	-	-	-	-	-	-	-	-		6323	820
200	2.0	150	1.8	-	-	-	-	-	-	-	-	-	-		6373	821

Ø 10	Ø 12	Ø 15	Ø 20	Ø 25	Ø 30	Ø 40	Ø 50		Numero avanzamento Feed Number
0,140	0,150	0,160	0,200	0,230	0,260	0,300	0,350	0.6	
0,180	0,220	0,240	0,270	0,320	0,350	0,420	0,480	0.8	
0,240	0,270	0,300	0,350	0,400	0,450	0,520	0,600	1.0	
0,280	0,330	0,360	0,430	0,480	0,550	0,650	0,720	1.2	
0,340	0,380	0,410	0,500	0,550	0,640	0,750	0,820	1.4	
0,380	0,420	0,480	0,560	0,650	0,710	0,850	0,950	1.6	
0,420	0,480	0,530	0,620	0,720	0,800	0,950	1,100	1.8	
0,480	0,530	0,600	0,700	0,800	0,900	1,200	1,400	2.0	
0,580	0,650	0,730	0,880	1,000	1,200	1,400	1,600	2.5	

► I parametri di taglio indicati in tabella sono da considerarsi validi in condizioni macchina/pezzo ottimali
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

