

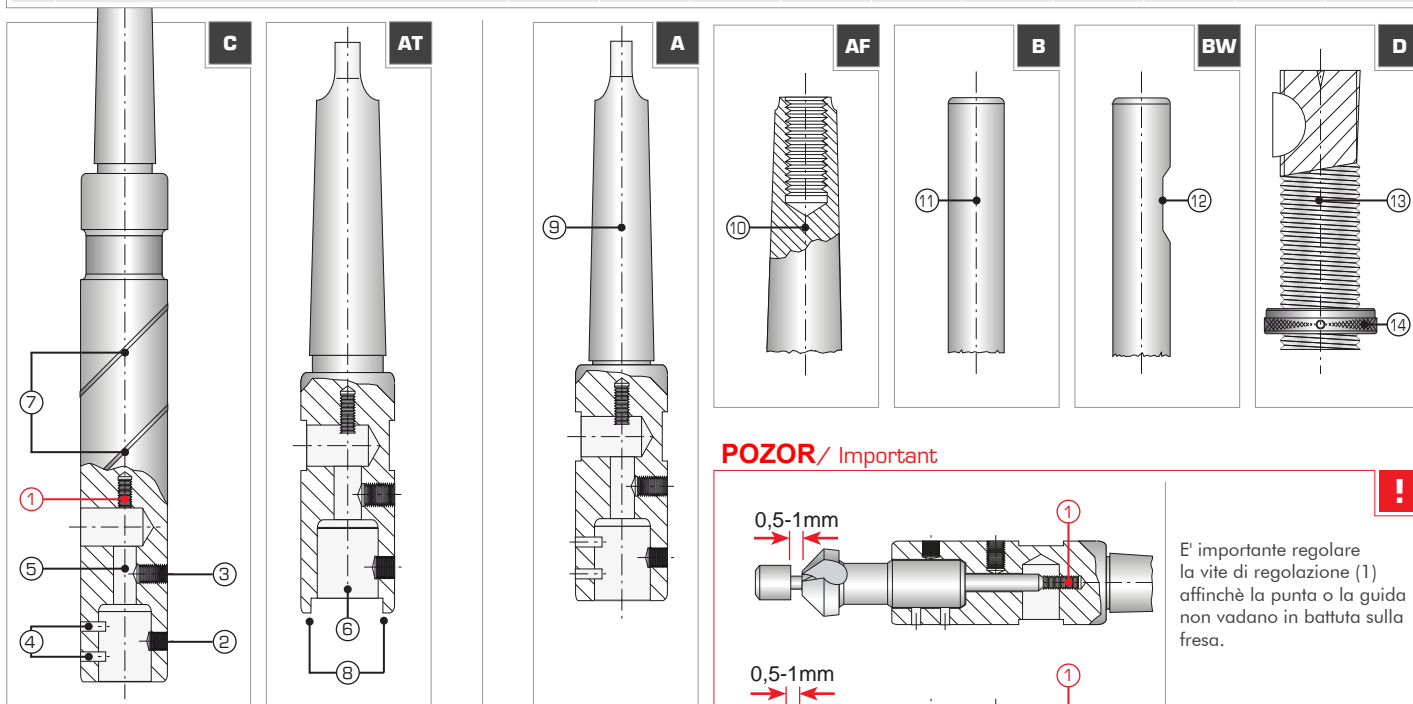
ZÁHLBOVANIE

VYMENITEĽNÝMI ČELNÝMI ZÁHLBNÍKMI





LEGENDA / legend		A	AF	AT	ATF	B	BW	BWT	C	D	DT
#	Gruppi disponibili / Available group	0-1-2	1-2	1-2	1-2	0-1-2	0-1-2	2	0-1-2	0-1-2	1-2
1	Vite di regolazione fermo-punta <i>Adjustment screw for drillrest</i>	•	•	•	•	•	•	•	•	•	•
2	Vite di bloccaggio utensile <i>Locking screw for tool</i>	•	•	•	•	•	•	•	•	•	•
3	Vite di bloccaggio punta o guida <i>Locking screw for pilot or drill</i>	•	•	•	•	•	•	•	•	•	•
4	Spine di trascinamento utensile <i>Connection pins for tools</i>	•	•			•	•		•	•	
5	Foro di passaggio punta o guida <i>Accommodation hole for pilot or drill shank</i>	•	•	•	•	•	•	•	•	•	•
6	Sede gambo utensile <i>Accommodation for tool shank</i>	•	•	•	•	•	•	•	•	•	•
7	Canale di lubrificazione <i>Lubrication channel</i>								•		
8	Cava di trascinamento utensile <i>Frontal connection slot</i>			•	•			•			•
9	Attacco Cono Morse con penola fissa <i>Morse taper shank with thread</i>	•		•					•		
10	Attacco Cono Morse con foro filettato <i>Morse taper shank with threaded hole</i>		•		•						
11	Attacco Cilindrico <i>Straight shank</i>					•					
12	Attacco Weldon <i>Weldon shank</i>						•	•			
13	Gambo filettato DIN 6327 <i>Threaded shank DIN 6237</i>									•	•
14	Ghiera di regolazione <i>Adjustment ring nut</i>									•	•



POZOR/ Important

0,5-1mm

0,5-1mm

1

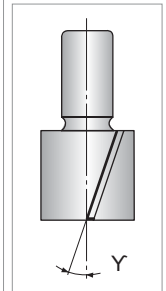
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E' importante regolare la vite di regolazione (1) affinché la punta o la guida non vadano in battuta sulla fresa.

It is important to regulate the adjustment screw (1) for the tip or guide don't go to bat on cutter.

ODPORŮČANÉ TYPY / Recommended choice

	Y 40°	Y 25°	Y 5°	Y 7°	
MATERIÁL / Materials	N	W	H	HI	S
	Toll k7	Toll k7	Toll k7		Toll k7
P Acciaio / Steel	●	●		●	●
M Acciaio Inossidabile / Stainless Steel	●	●		●	●
K Ghisa / Cast iron			●	●	
Alluminio / Aluminium	●	●		●	●
Fusioni di Alluminio / Cast Aluminium				●	
N Rame / Copper	●	●			●
Bronzo / Bronze			●	●	
Ottone / Brass			●	●	
H HARDOX				●	
X Plastiche Morbide / Soft Plastics	●				●
Plastiche Dure / Hard Plastics			●		



REZNÉ PARAMETRE / Cutting data

	z=4	z=2	z=3	z=2	z=3	
Materiale / Material	HSS		MD/Carbide		HSS	
	Speed Vc m/min	Feed F mm/rev	Speed Vc m/min	Feed F mm/rev	Speed Vc m/min	Feed F mm/rev
P Acciaio / Steel < 450 N/mm ²	20 - 40	0.10 - 0.5	60 - 130	0.1 - 0.6	75 - 130	0.1 - 0.6
Acciaio / Steel < 600 N/mm ²	15 - 30	0.10 - 0.4	50 - 110	0.1 - 0.5	65 - 120	0.1 - 0.5
Acciaio / Steel < 1000 N/mm ²	10 - 25	0.05 - 0.3	40 - 110	0.1 - 0.3	55 - 100	0.1 - 0.4
Acciaio / Steel > 1000 N/mm ²	5 - 20	0.05 - 0.3	30 - 90	0.1 - 0.2	45 - 90	0.1 - 0.4
Acciaio Fuso / Cast Steel < 800 N/mm ²	10 - 25	0.05 - 0.3	30 - 90	0.1 - 0.3	45 - 90	0.1 - 0.4
M Acciaio Inossidabile / Stainless Steel	10 - 20	0.10 - 0.3	20 - 60	0.1 - 0.4	30 - 60	0.1 - 0.3
K Ghisa / Cast iron < 180 HB	20 - 40	0.20 - 0.5	60 - 120	0.2 - 0.5	80 - 120	0.2 - 0.5
Ghisa / Cast iron < 200 HB	20 - 35	0.20 - 0.4	50 - 100	0.2 - 0.4	80 - 120	0.2 - 0.5
Ghisa / Cast iron < 220 HB	10 - 30	0.10 - 0.4	40 - 100	0.2 - 0.4	70 - 110	0.1 - 0.4
Ghisa Malleabile / Malleable Iron < 180 HB	20 - 40	0.10 - 0.4	60 - 120	0.2 - 0.5	80 - 120	0.1 - 0.5
Ghisa Malleabile / Malleable Iron < 200 HB	15 - 35	0.10 - 0.4	50 - 110	0.2 - 0.5	75 - 110	0.1 - 0.5
Ghisa Malleabile / Malleable Iron < 220 HB	10 - 30	0.10 - 0.4	40 - 100	0.2 - 0.5	60 - 110	0.1 - 0.4
Alluminio Morbido / Soft Aluminium	70 - 150	0.05 - 0.5	100 - 350	0.1 - 0.8	80 - 150	0.2 - 1.0
Alluminio Duro / Hard Aluminium	70 - 120	0.05 - 0.5	100 - 350	0.1 - 0.8	100 - 200	0.2 - 1.0
Fusioni di Alluminio / Cast Aluminium	70 - 120	0.10 - 0.5	200 - 350	0.1 - 0.5	100 - 200	0.2 - 1.0
N Bronzo / Bronze	30 - 60	0.10 - 0.5	50 - 150	0.1 - 0.8	80 - 150	0.1 - 0.5
Ottone / Brass	40 - 80	0.10 - 0.5	50 - 150	0.1 - 0.4	80 - 200	0.2 - 0.6
Rame / Copper	30 - 60	0.10 - 0.4	50 - 150	0.1 - 0.4	50 - 120	0.2 - 0.4
H HARDOX		0.10 - 0.4			30 - 60	0.1 - 0.2
X Plastiche Morbide / Soft Plastics	50-100					40 - 80
Plastiche Dure / Hard Plastics		0.10 - 0.5	70 - 200	0.1 - 0.5	90 - 200	0.2 - 0.5

VZORCE / Formulas

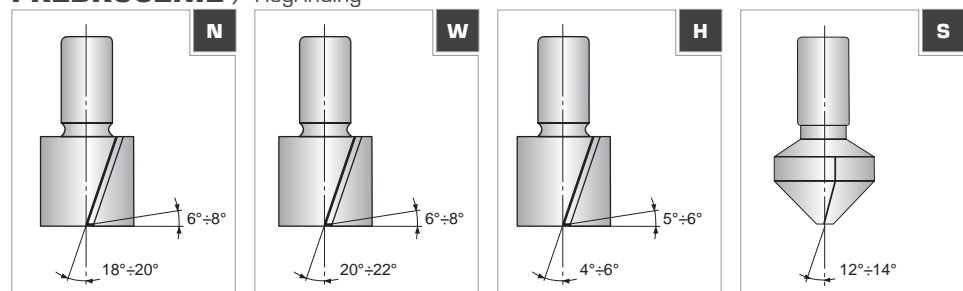
n = giri al minuto - Rev/min.

$$n = \frac{V_c \times 1000}{\pi \times \varnothing}$$

V_f = avanz. /feed (mm/min.)

$$V_f = n \times F \times z$$

PREBRÚSENIE / Regrinding



0

1

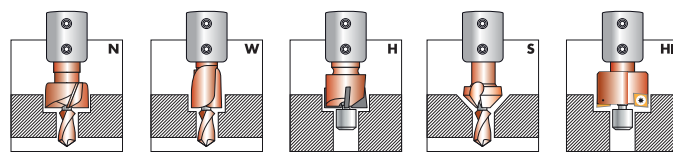
2



VYMENTELNÝ SYSTÉM POLLEDRI



Interchangeable System



DRŽIAK MORSE TAPER

Morse Taper Tool holder

VALCOVÉ DRŽIAKY

Cylindrical Tool holder

DIN 6237

NC Machine



Skupina	A	AF	C	B	BW	D
0	MT 1 MT 2		MT 1 L=100 MT 1 L=150 MT 1 L=200	CYL 8 CYL 10	WEL 16	TR. 16 TR. 20 TR. 28
1	MT 1 MT 2* MT 3*	MT 2* MT 3*	MT 2 L=100 MT 2 L=150 MT 2 L=225	CYL 10 CYL 12	WEL 20	TR. 20 TR. 28*
2	MT 2 MT 3* MT 4*	MT 3* MT 4*	MT 3 L=175 MT 3 L=250	CYL 20	WEL 25 WEL 32**	TR. 20 TR. 28*

* = K DISPOZÍCII VEĽKOSŤ AJ S PREDNÝM PRIPOJOVACÍM ZDROJOM / SIZE ALSO AVAILABLE WITH FRONTAL CONNECTION SLOT

** = VEĽKOSŤ DOSTUPNÁ LEN S PREDNÝM PRIPOJOVACÍM ZDROJOM / SIZE ONLY AVAILABLE WITH FRONTAL CONNECTION SLOT

ZÁHLBNÍKY

Counterbores and Countersinks (k7)

VRTÁKY

Drills (h8)

VOĐÍTKA

Pilots (e8)



Skupina	N	W	H	HI	S	C	L	F	R
0	7.0 ÷ 24.0	7.0 ÷ 16.5	10.0 ÷ 24.0	18.0 ÷ 23.0	8.3 ÷ 16.5	4.2 ÷ 7.0	4.2 ÷ 7.0	4.0 ÷ 8.5	9.0 ÷ 14.0
1	10.0 ÷ 29.5 30* ÷ 40*	10.0 ÷ 25.0	12.0 ÷ 29.5 30* ÷ 40*	24.0 ÷ 29.0 30* ÷ 33*	12.4 ÷ 31.0	6.5 ÷ 12.0	6.5 ÷ 12.0	6.0 ÷ 11.0	11.5 ÷ 23.0
2	16.0 ÷ 49.0 50* ÷ 85*	16.0 ÷ 40.0	18.0 ÷ 49.0 50* ÷ 85*	34.0 ÷ 48.0 50* ÷ 60*	20.5 ÷ 40.0 50* ÷ 100*	11.0 ÷ 25.0	11.0 ÷ 25.0	10.0 ÷ 15.5	16.0 ÷ 52.0

* = TIETO PRIEMERY MUSIA BYŤ POUŽÍVANÉ S VHDNÝM DRŽIAKOM NÁSTROJA S PREDNOU PRIPOJOVACOU DRÁŽKOU

* = THESE DIAMETERS MUST BE USED WITH THE APPROPRIATE TOOLHOLDER WITH FRONTAL CONNECTION SLOT

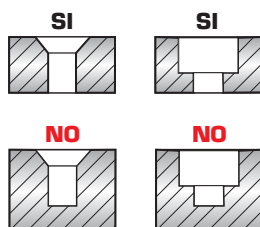


ISO PLÁTKY

ISO Correspondence

ISO CODE	POLLEDRI CODE
MCMT 06.02.02	11.19.065
MCMT 09.T3.04	12.19.095
MCMT 12.04.08	12.19.127

POZOR / Important



Na každý záhlbník je možné namontovať vodičko alebo vrták, v tomto druhom prípade môže nástroj pracovať iba cez priechodze otvory a nie slepé otvory. Dĺžka špičky vrtáku musí byť taká, aby vyšla z otvoru skôr, ako začne pracovať záhlbník.

On each counterbore it is possible to mount a pilot or a drill, in this second case, the tool can only work through holes and not blind holes. The length of the tip propeller must be such that it comes out of the hole before the counterbore starts working.



Technická tolerancia

Engineering tolerance

ZÁHLBNÍKY N-W-S-H

Counterbores

Diametro Toll. k7	Scostamento mm
6 ÷ 10	+0.016/+0.001
10 ÷ 18	+0.019/+0.001
18 ÷ 30	+0.023/+0.002
30 ÷ 50	+0.027/+0.002
50 ÷ 80	+0.032/+0.002
80 ÷ 120	+0.038/+0.003

VODÍTKA F-R

Pilots

Diametro Toll. e8	Scostamento mm
3 ÷ 6	-0.020/-0.038
6 ÷ 10	-0.025/-0.047
10 ÷ 18	-0.032/-0.059
18 ÷ 30	-0.040/-0.073
30 ÷ 50	-0.050/-0.089
50 ÷ 80	-0.060/-0.106

VRTÁKY C-L

Drills

Diametro Toll. h8	Scostamento mm
3 ÷ 6	0/-0.018
6 ÷ 10	0/-0.022
10 ÷ 18	0/-0.027
18 ÷ 30	0/-0.033

DRŽIAK NÁRADIA

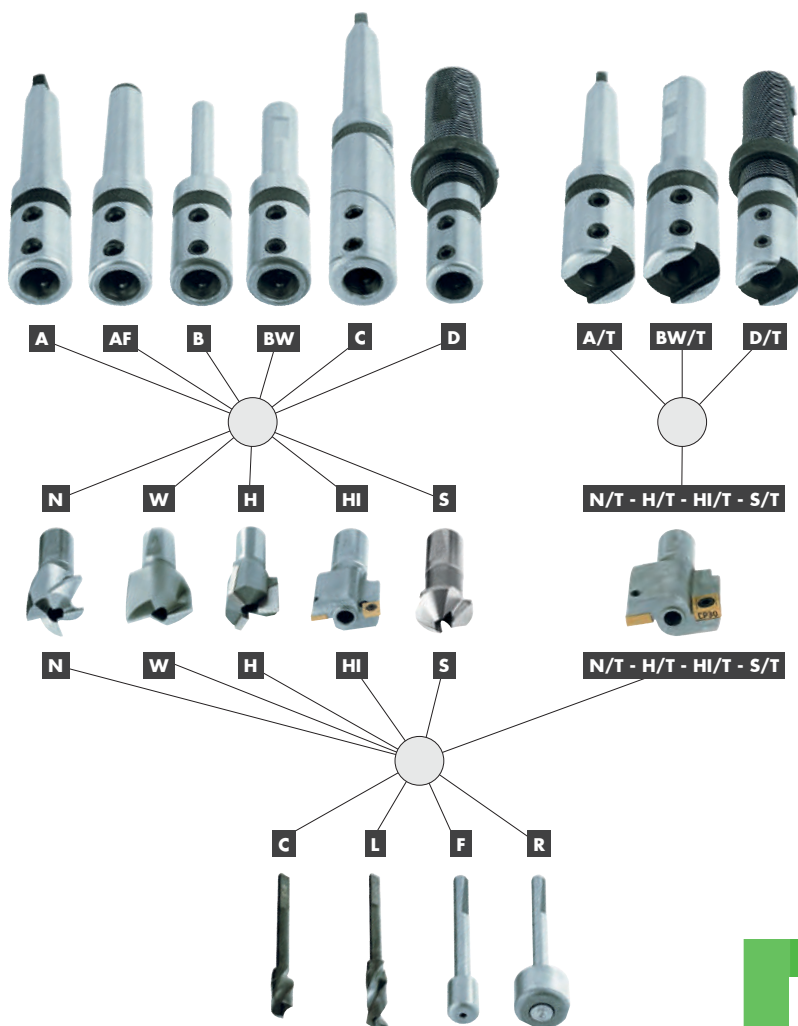
Tool holder slot

Diametro Toll. H7	Scostamento mm
10 ÷ 18	+0.018/0
18 ÷ 30	+0.021/0

VONKAJŠÍ DRŽIAK NÁRADIA

Tool holder external

Diametro Toll. h7	Scostamento mm
10 ÷ 18	0/-0.018
18 ÷ 30	0/-0.021
30 ÷ 50	0/-0.025



STRANA
Pages

Systém výmenných zahíbení GR.0
Interchangeables Counterbores System GR.0

08-09

Systém výmenných zahíbení GR.1
Interchangeables Counterbores System GR.1

10-11


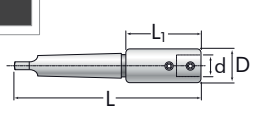
Systém výmenných zahíbení GR.2
Interchangeables Counterbores System GR.2

12-13

Sady
Sets

14-15

DRŽIAKY / Tool holders

Gambo	CODICE	PREZZO €
M.T. 1	10.02.001	111,90
M.T. 2	10.02.002	111,90

Gambo	L	L1	d(H7)	D(h7)
G.M.1	110	42	10	18
G.M.2	125			

OC Cono Morse Serie Lunga



Gambo	Lunghezza Guida	CODICE	PREZZO €
M.T. 1	100 mm	10.06.100	206,95
	150 mm	10.06.150	239,05
	200 mm	10.06.200	271,35

OB Cilindrico




Gambo	CODICE	PREZZO €
Ø 8	10.05.008	109,65
Ø 10	10.05.010	109,65

Gambo	L	L1	d(H7)	D(h7)
Ø 8	92	42	10	18
Ø 10				


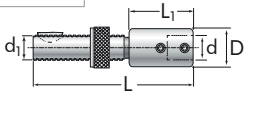
OBW Weldon




Gambo	CODICE	PREZZO €
Ø 16	10.05.016	109,65

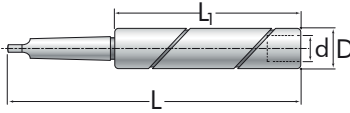
Gambo	L	L1	d(H7)	D(h7)
Weldon Ø 16	94	42	10	18

OD Registrabile

Gambo	CODICE	PREZZO €
TR-16	10.07.016	368,50
TR-20	10.07.020	330,85
TR-28	10.07.028	300,55



Gambo	L	L1	d	D
TR-16	127			
TR-20	130	42	10	18
TR-28	137			



Tipo	L	L1	d(H7)	D(h7)
O/C 100 mm	168	100		
O/C 150 mm	218	150	10	20
O/C 200 mm	268	200		



VRTÁKY / Drills

O/C Corte



Ø h8	CODICE	PREZZO €
* 4.2	10.14.042	28,50
* 4.3	10.14.043	28,50
* 4.5	10.14.045	28,50
* 4.8	10.14.048	28,50
* 5.0	10.14.050	28,50
* 5.1	10.14.051	28,50
* 5.3	10.14.053	28,50
* 5.5	10.14.055	28,50
* 5.8	10.14.058	28,50
* 6.0	10.14.060	32,70
6.4	10.14.064	32,70
6.5	10.14.065	32,70
6.6	10.14.066	32,70
6.8	10.14.068	32,70
7.0	10.14.070	32,70

O/L Lunghe

Ø h8	CODICE	PREZZO €
* 4.2	10.15.042	31,90
* 4.3	10.15.043	31,90
* 4.5	10.15.045	31,90
* 4.8	10.15.048	31,90
* 5.0	10.15.050	31,90
* 5.1	10.15.051	31,90
* 5.3	10.15.053	31,90
* 5.5	10.15.055	31,90
* 5.8	10.15.058	31,90
* 6.0	10.15.060	38,95
6.4	10.15.064	38,95
6.5	10.15.065	38,95
6.6	10.15.066	38,95
6.8	10.15.068	38,95
7.0	10.15.070	38,95

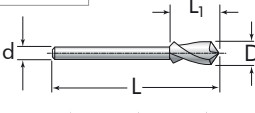
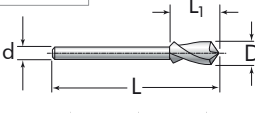
O/F Fisse

Ø e8	CODICE	PREZZO €
* 4.0	10.16.040	17,50
* 4.3	10.16.043	17,50
* 4.5	10.16.045	17,50
* 4.8	10.16.048	23,65
* 5.0	10.16.050	17,50
* 5.3	10.16.053	17,50
* 5.5	10.16.055	17,50
* 5.8	10.16.058	23,65
* 6.0	10.16.060	17,50
6.4	10.16.064	17,50
6.5	10.16.065	17,50
6.6	10.16.066	17,50
6.8	10.16.068	17,50
7.0	10.16.070	17,50
7.4	10.16.074	23,65
7.5	10.16.075	17,50
7.6	10.16.076	23,65
8.0	10.16.080	17,50
8.4	10.16.084	17,50
8.5	10.16.085	17,50

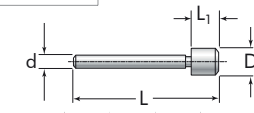
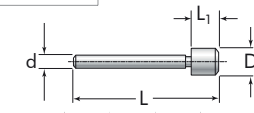
* =Nepoužívať s H.M. fréza
* =Not to be used with H.M. cutters

OC OL

Tipo	L	L1	d
O/C	72	15	4
O/L	84	27	4

OF OR

Tipo	L	L1	d	D(e8)
O/F	59	9	4	4 ÷ 8,5
O/R	59	9	4	9 ÷ 14

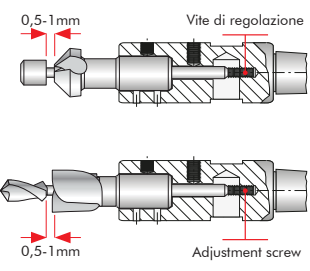
* = Nepoužívať s H.M. fréza
* = Not to be used with H.M. cutters

O/R Rotanti




Ø e8	CODICE	PREZZO €
9.0	10.16.090	28,65
9.5	10.16.095	28,65
10.0	10.16.100	28,65
10.5	10.16.105	28,65
11.0	10.16.110	28,65
11.5	10.16.115	31,35
12.0	10.16.120	31,35
12.5	10.16.125	38,30
13.0	10.16.130	32,25
13.5	10.16.135	41,60
14.0	10.16.140	34,60

POZOR / Important



Vite di regolazione
Adjustment screw



ZÁHLBNÍKY / Counterbores and Countersinks

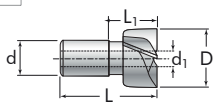
ON



HSS
Z4
180°

Ø k7	CODICE	PREZZO €
7.0 ●	10.09.070	45,10
7.5 ●	10.09.075	49,20
8.0 ●	10.09.080	45,10
8.5 ●	10.09.085	49,20
9.0 ●	10.09.090	45,10
9.5 ●	10.09.095	49,20
10.0 ●	10.09.100	45,10
10.5 ●	10.09.105	49,20
11.0 ●	10.09.110	45,10
11.5 ●	10.09.115	50,10
12.0 ●	10.09.120	46,00
12.5 ●	10.09.125	51,85
13.0 ●	10.09.130	49,20
13.5 ●	10.09.135	57,50
14.0 ●	10.09.140	50,00
14.5 ●	10.09.145	57,50
15.0 ●	10.09.150	50,75
15.5 ○	10.09.155	71,60
16.0 ●	10.09.160	53,30
16.5 ○	10.09.165	71,60
17.0 ●	10.09.170	53,30
17.5 ○	10.09.175	74,80
18.0 ●	10.09.180	56,55
18.5 ○	10.09.185	80,40
19.0 ●	10.09.190	62,15
19.5 ○	10.09.195	80,40
20.0 ●	10.09.200	62,15
20.5 ○	10.09.205	88,70
21.0 ●	10.09.210	70,50
21.5 ○	10.09.215	88,70
22.0 ●	10.09.220	70,50
22.5 ○	10.09.225	96,00
23.0 ●	10.09.230	77,75
23.5 ○	10.09.235	96,80
24.0 ●	10.09.240	78,55

ON



D (k7)	L1	L	d	d1
7 ÷ 24	21	40	10	4

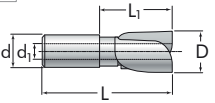
OW



HSS
Z2
180°

Ø k7	CODICE	PREZZO €
7.0 ●	10.10.070	50,75
7.5 ○	10.10.075	69,00
8.0 ●	10.10.080	50,75
8.5 ○	10.10.085	69,00
9.0 ●	10.10.090	50,75
9.5 ○	10.10.095	69,00
10.0 ●	10.10.100	50,75
10.5 ○	10.10.105	69,00
11.0 ●	10.10.110	50,75
11.5 ○	10.10.115	70,00
12.0 ●	10.10.120	51,80
12.5 ○	10.10.125	70,70
13.0 ●	10.10.130	52,45
13.5 ○	10.10.135	74,00
14.0 ●	10.10.140	55,80
14.5 ○	10.10.145	74,80
15.0 ●	10.10.150	56,55
15.5 ○	10.10.155	75,70
16.0 ●	10.10.160	57,45
16.5 ●	10.10.165	68,95

OW



D (k7)	L1	L	d	d1
7 ÷ 16,5	21	40	10	4


OS 90°



HSS
Z3
90°

Min. Guida	Ø k7	CODICE	PREZZO €
4.5	8.3	10.12.083	59,05
4.5	9.4	10.12.094	59,05
4.5	10.4	10.12.104	59,05
4.5	12.4	10.12.124	61,20
4.5	15.0	10.12.150	66,90
4.5	16.5	10.12.165	70,00

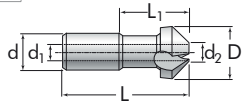
OS 60°



HSS
Z3
60°

Min. Guida	Ø k7	CODICE	PREZZO €
4.5	8.3	10.13.083	61,70
4.5	12.4	10.13.124	64,30
4.5	15.0	10.13.150	71,70
4.5	16.5	10.13.165	74,10

OS



D (k7)	L1	L	d	d1	d2
8,3 ÷ 16,5	21	40	10	4	min 4,5

OH

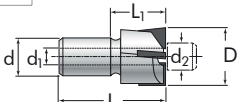


K30
Z3
180°

Ø k7	CODICE	PREZZO €
10.0 ●	10.11.100	124,00
10.5 ○	10.11.105	145,35
11.0 ●	10.11.110	127,15
11.5 ○	10.11.115	147,95
12.0 ●	10.11.120	129,75
12.5 ○	10.11.125	150,30
13.0 ●	10.11.130	132,10
13.5 ○	10.11.135	151,75
14.0 ●	10.11.140	133,50
14.5 ○	10.11.145	155,10
15.0 ●	10.11.150	136,85
15.5 ○	10.11.155	157,40
16.0 ●	10.11.160	139,15
16.5 ○	10.11.165	159,70
17.0 ●	10.11.170	141,45
17.5 ○	10.11.175	163,85
18.0 ●	10.11.180	145,60
18.5 ○	10.11.185	168,70
19.0 ●	10.11.190	150,35
19.5 ○	10.11.195	168,70
20.0 ●	10.11.200	150,35
20.5 ○	10.11.205	180,60
21.0 ●	10.11.210	162,35
21.5 ○	10.11.215	185,05
22.0 ●	10.11.220	166,85
22.5 ○	10.11.225	185,05
23.0 ●	10.11.230	166,85
23.5 ○	10.11.235	185,05
24.0 ●	10.11.240	166,85

POZOR / Important GUIDA
Minima / Min. Pilot
Ø 6,4

OH



D (k7)	L1	L	d	d1	d2
10 ÷ 24	21	40	10	4	min 6,4

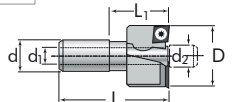
OHI



CP30
Z2
180°

Min. Guida	Ø	CODICE	PREZZO €
7.0	18.0	10.17.180	240,85
8.0	19.0	10.17.190	265,50
9.0	20.0	10.17.200	265,50
10.0	21.0	10.17.210	301,80
11.0	22.0	10.17.220	301,80
12.0	23.0	10.17.230	301,80

OHI



D (k7)	L1	L	d	d1	d2
18 ÷ 23	21	40	10	4	Ø min Guida


PLÁTKY / Inserts



ISO MCMT
TIN CP30

Ø Fresa	CODICE	PREZZO €
18 ÷ 23	11.19.065	13,95

SKRUTKY / Screws



TORX

Ø Fresa	CODICE	PREZZO €
18 ÷ 23	11.20.065	6,35

SKRUTKOVAČE / Screwdrivers



TORX

Torx	CODICE	PREZZO €
T7	11.21.065	12,70

SYSTEM VÝMENNÝCH ZÁHLBNÍKOV OD Ø 10 DO Ø 40 GRUPPO 1

DRŽIAKY / Tool holders

1A Cono Morse



Gambo	CODICE	PREZZO €
M.T. 1	11.02.001	121,00
M.T. 2	11.02.002	121,00
M.T. 3	11.02.003	121,00

1AF Senza Penola



Gambo	CODICE	PREZZO €
M.T. 2	11.01.002	242,55
M.T. 3	11.01.003	242,55

1A/T Cono Morse




Gambo	CODICE	PREZZO €
M.T. 2	11.04.002	218,25
M.T. 3	11.04.003	218,25

1AF/T Senza Penola



Gambo	CODICE	PREZZO €
M.T. 2	11.03.002	337,35
M.T. 3	11.03.003	337,35

1C C.M. Serie Lunga



Gambo	Lunghezza Guida	CODICE	PREZZO €
M.T. 2	100 mm	11.06.100	206,95
M.T. 2	150 mm	11.06.150	239,20
M.T. 2	225 mm	11.06.225	280,50

1B Cilindrico



Gambo	CODICE	PREZZO €
Ø 10	11.05.010	121,00
Ø 12	11.05.012	121,00

1BW Weldon



Gambo	CODICE	PREZZO €
Ø 20	11.05.020	121,00

1D Registrabile



Gambo	CODICE	PREZZO €
TR-20	11.07.020	322,60
TR-28	11.07.028	257,90
TR-36 ▲	11.07.036	308,95


1D/T DIN 6237



Gambo	CODICE	PREZZO €
TR-28	11.08.028	361,00
TR-36 ▲	11.08.036	384,25


Penole / Threaded tang

C.M.	Filetto	CODICE	PREZZO €
M.T. 2	M.10	90.03.010	26,75
M.T. 3	M.12	14.03.012	31,35



VRTÁKY / Drills

1/C Corte



Ø h8	CODICE	PREZZO €
* 6.5	11.14.065	37,35
* 6.6	11.14.066	37,35
* 6.8	11.14.068	37,35
* 7.0	11.14.070	37,35
* 7.6	11.14.076	37,35
* 7.9	11.14.079	37,35
* 8.0	11.14.080	39,00
8.4	11.14.084	39,00
8.5	11.14.085	39,00
8.8	11.14.088	39,00
9.0	11.14.090	39,00
9.3	11.14.093	39,00
9.5	11.14.095	39,00
10.0	11.14.100	45,90
10.2	11.14.102	45,90
10.5	11.14.105	45,90
10.7	11.14.107	45,90
11.0	11.14.110	45,90
11.5	11.14.115	45,90
12.0	11.14.120	53,75

1/L Lunghe



Ø h8	CODICE	PREZZO €
* 6.5	11.15.065	40,85
* 6.6	11.15.066	40,85
* 6.8	11.15.068	40,85
* 7.0	11.15.070	40,85
* 7.6	11.15.076	40,85
* 7.9	11.15.079	40,85
* 8.0	11.15.080	43,40
8.4	11.15.084	43,40
8.5	11.15.085	43,40
8.8	11.15.088	43,40
9.0	11.15.090	43,40
9.3	11.15.093	43,40
9.5	11.15.095	43,40
10.0	11.15.100	50,25
10.2	11.15.102	50,25
10.5	11.15.105	50,25
10.7	11.15.107	50,25
11.0	11.15.110	50,25
11.5	11.15.115	50,25
12.0	11.15.120	62,50

VODÍTKA / Pilot

1/F Fisse




Ø e8	CODICE	PREZZO €
* 6.0	11.16.060	17,70
* 6.4	11.16.064	17,70
* 6.5	11.16.065	17,70
* 6.8	11.16.068	23,65
* 7.0	11.16.070	17,70
* 7.4	11.16.074	23,65
* 7.5	11.16.075	23,65
* 8.0	11.16.080	17,70
8.4	11.16.084	17,70
8.5	11.16.085	17,70
9.0	11.16.090	17,70
9.5	11.16.095	17,70
10.0	11.16.100	17,70
10.5	11.16.105	18,60
11.0	11.16.110	18,60

* =Nepoužívat s H.M. frézy
* =Not to be used with H.M. cutters

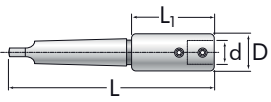
* =Nepoužívat s H.M. frézy
* =Not to be used with H.M. cutters

1/R Rotanti



Ø e8	CODICE	PREZZO €
11.5	11.16.115	36,15
12.0	11.16.120	36,15
12.5	11.16.125	36,15
13.0	11.16.130	36,15
13.5	11.16.135	36,15
14.0	11.16.140	36,15
14.5	11.16.145	37,85
15.0	11.16.150	37,85
15.5	11.16.155	37,85
16.0	11.16.160	37,85
16.5	11.16.165	39,50
17.0	11.16.170	39,50
17.5	11.16.175	39,50
18.0	11.16.180	41,40
18.5	11.16.185	55,15
19.0	11.16.190	43,00
19.5	11.16.195	55,15
20.0	11.16.200	43,00
20.5	11.16.205	55,15
21.0	11.16.210	43,00
21.5	11.16.215	56,90
22.0	11.16.220	44,75
22.5	11.16.225	56,90
23.0	11.16.230	44,75

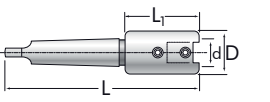
1A 1AF



Gambo	L	L1	d(H7)	D(h7)
C.M.1	124			
C.M.2	139	56	14	24
C.M.3	158			

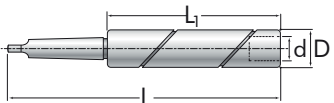
1A/T

Per Frese ≥ Ø 30
Counterbores ≥ Ø 30



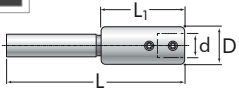
Gambo	L	L1	d(H7)	D(h7)
C.M.2	146	63	14	30
C.M.3	165			

1C



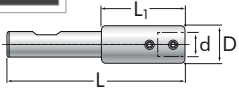
Tipo	L	L1	d(H7)	D(h7)
1C 100 mm	183	100		
1C 150 mm	233	150	14	26
1C 225 mm	307	225		

1B



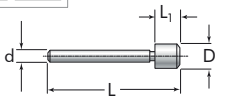
Gambo	L	L1	d(H7)	D(h7)
Cil. Ø 10	120	55	14	24
Cil. Ø 12				

1BW



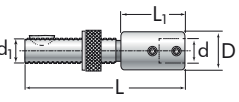
Gambo	L	L1	d(H7)	D(h7)
Weldon Ø 20	110	55	14	24

1F 1R



Tipo	L	L1	d	D(e8)
1/F	78	15	6	6÷11
1/R	78	15	6	11,5÷23

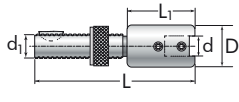
1D CN



Gambo	L	L1	d(H7)	D(h7)
TR-20	144			
TR-28	151	56	14	24
TR-36	174			

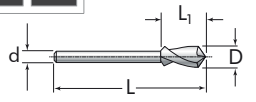
1D/T

Per Frese => Ø 30
Counterbores => Ø 30



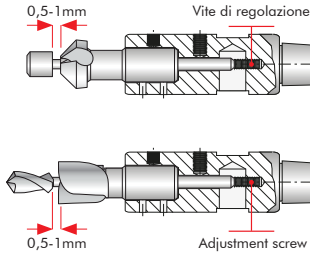
Gambo	L	L1	d(H7)	D(h7)
TR-28	158	63	14	30
TR-36	181			

1C 1L



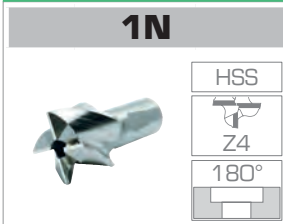
Tipo	L	L1	d
1/C	95	25	6
1/L	110	40	

POZOR / Important



0,5-1mm Vite di regolazione
0,5-1mm Adjustment screw

ZÁHLBNÍKY / Counterbores and Countersinks



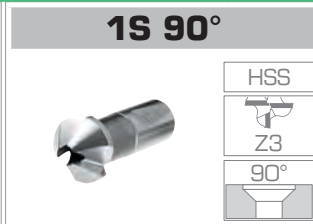
HSS
Z4
180°

Ø k7	CODICE	PREZZO €
10.0 ●	11.09.100	50,00
10.5 ●	11.09.105	56,70
11.0 ●	11.09.110	50,00
11.5 ○	11.09.115	68,25
12.0 ●	11.09.120	50,00
12.5 ●	11.09.125	56,10
13.0 ●	11.09.130	50,00
13.5 ○	11.09.135	68,25
14.0 ●	11.09.140	50,00
14.5 ●	11.09.145	56,10
15.0 ●	11.09.150	50,00
15.5 ●	11.09.155	59,45
16.0 ●	11.09.160	53,30
16.5 ●	11.09.165	63,95
17.0 ●	11.09.170	55,05
17.5 ●	11.09.175	68,40
18.0 ●	11.09.180	58,20
18.5 ●	11.09.185	74,60
19.0 ●	11.09.190	63,05
19.5 ○	11.09.195	81,35
20.0 ●	11.09.200	63,05
20.5 ●	11.09.205	76,20
21.0 ●	11.09.210	64,65
21.5 ○	11.09.215	84,70
22.0 ●	11.09.220	66,45
22.5 ○	11.09.225	94,45
23.0 ●	11.09.230	76,25
23.5 ○	11.09.235	94,45
24.0 ●	11.09.240	76,25
24.5 ●	11.09.245	86,90
25.0 ●	11.09.250	76,25
25.5 ●	11.09.255	90,25
26.0 ●	11.09.260	81,90
26.5 ○	11.09.265	101,75
27.0 ●	11.09.270	83,45
27.5 ○	11.09.275	102,60
28.0 ●	11.09.280	84,35
28.5 ○	11.09.285	106,00
29.0 ●	11.09.290	87,70
29.5 ●	11.09.295	100,80



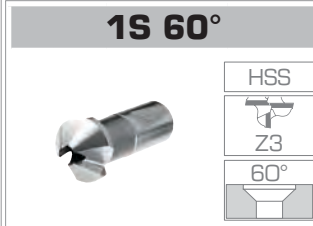
HSS
Z2
180°

Ø k7	CODICE	PREZZO €
10.0 ●	11.10.100	54,20
10.5 ○	11.10.105	72,45
11.0 ●	11.10.110	54,20
11.5 ○	11.10.115	72,45
12.0 ●	11.10.120	54,20
12.5 ○	11.10.125	72,45
13.0 ●	11.10.130	54,20
13.5 ○	11.10.135	74,00
14.0 ●	11.10.140	55,80
14.5 ○	11.10.145	74,80
15.0 ●	11.10.150	56,55
15.5 ○	11.10.155	74,80
16.0 ●	11.10.160	56,55
16.5 ○	11.10.165	76,45
17.0 ●	11.10.170	58,20
17.5 ○	11.10.175	78,90
18.0 ●	11.10.180	60,70
18.5 ○	11.10.185	81,35
19.0 ●	11.10.190	63,05
19.5 ○	11.10.195	81,35
20.0 ●	11.10.200	63,05
20.5 ○	11.10.205	84,70
21.0 ●	11.10.210	66,45
21.5 ○	11.10.215	86,45
22.0 ●	11.10.220	68,25
22.5 ○	11.10.225	97,65
23.0 ●	11.10.230	79,35
23.5 ○	11.10.235	97,65
24.0 ●	11.10.240	79,35
24.5 ○	11.10.245	98,65
25.0 ●	11.10.250	80,40



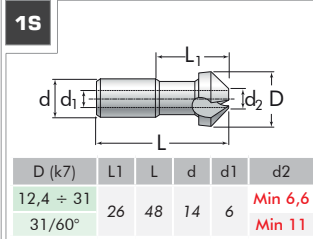
HSS
Z3
90°

Min. Guida	Ø k7	CODICE	PREZZO €
6.6	12.4	11.12.124	60,65
6.6	15.0	11.12.150	61,20
6.6	16.5	11.12.165	64,60
6.6	20.5	11.12.205	69,30
6.6	25.0	11.12.250	75,65
6.6	28.0	11.12.280	89,90
6.6	31.0	11.12.310	90,70



HSS
Z3
60°

Min. Guida	Ø k7	CODICE	PREZZO €
6.6	12.4	11.13.124	62,95
6.6	16.5	11.13.165	65,30
6.6	25.0	11.13.250	75,65
11	31.0	11.13.310	90,70



POZOR / Important

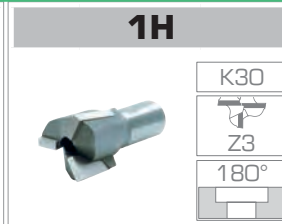
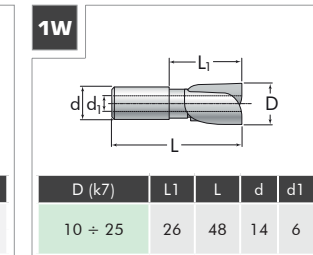
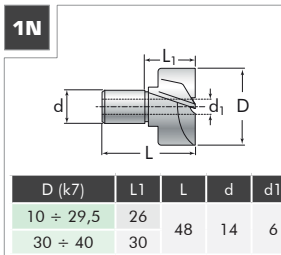
Záhlbníky typu 1N/T, 1H/T a 1HI/T Ø 30,0 a väčšie, všetky sú vyrobené s unášacím britom. Tieto veľkosti by sa mali používať vo vhodných prípadoch držiak nástroja typ 1A/T, 1AF/T, 1D/T

Counterbores type 1N/T, 1H/T and 1HI/T Ø 30,0 and larger, are all made with a driving lip. These sizes should be used in the appropriate tool holder type 1A/T, 1AF/T, 1D/T



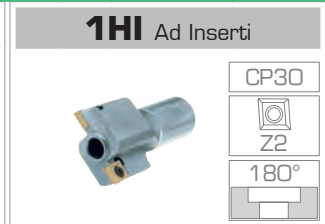
POZOR/ Important
GUIDA Minima / Min. Pilot
Ø 8,4

Ø k7	CODICE	PREZZO €
30.0 ●	11.09.300	108,05
30.5 ○	11.09.305	137,35
31.0 ●	11.09.310	113,05
32.0 ●	11.09.320	119,65
33.0 ●	11.09.330	121,95
34.0 ●	11.09.340	128,40
35.0 ●	11.09.350	132,60
36.0 ●	11.09.360	135,90
37.0 ○	11.09.370	174,20
38.0 ●	11.09.380	149,90
40.0 ●	11.09.400	168,70



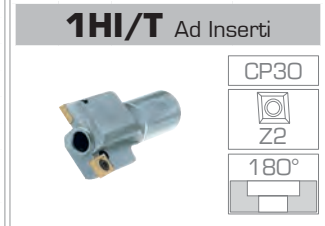
K30
Z3
180°

Ø k7	CODICE	PREZZO €
12.0 ●	11.11.120	129,75
12.5 ○	11.11.125	147,95
13.0 ●	11.11.130	129,75
13.5 ○	11.11.135	147,95
14.0 ●	11.11.140	129,75
14.5 ○	11.11.145	147,95
15.0 ●	11.11.150	129,75
15.5 ○	11.11.155	151,20
16.0 ●	11.11.160	132,90
16.5 ○	11.11.165	151,20
17.0 ●	11.11.170	132,90
17.5 ○	11.11.175	152,60
18.0 ●	11.11.180	134,40
18.5 ○	11.11.185	154,15
19.0 ●	11.11.190	135,90
19.5 ○	11.11.195	158,00
20.0 ●	11.11.200	139,75
20.5 ○	11.11.205	162,70
21.0 ●	11.11.210	144,40
21.5 ○	11.11.215	164,30
22.0 ●	11.11.220	146,05
22.5 ○	11.11.225	171,60
23.0 ●	11.11.230	153,40
23.5 ○	11.11.235	171,60
24.0 ●	11.11.240	153,40
24.5 ○	11.11.245	175,85
25.0 ●	11.11.250	157,65
25.5 ○	11.11.255	175,85
26.0 ●	11.11.260	157,65
26.5 ○	11.11.265	181,65
27.0 ●	11.11.270	163,40
27.5 ○	11.11.275	180,25
28.0 ●	11.11.280	162,00
28.5 ○	11.11.285	181,65
29.0 ●	11.11.290	163,40
29.5 ●	11.11.295	186,20



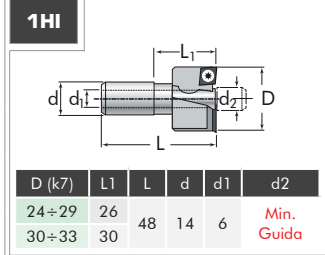
CP30
Z2
180°

Min. Guida	Ø	CODICE	PREZZO €
13.0	24.0	11.17.240	250,45
14.0	25.0	11.17.250	250,45
15.0	26.0	11.17.260	285,80
10.0	27.0	11.17.270	317,85
11.0	28.0	11.17.280	285,80
12.0	29.0	11.17.290	317,85



CP30
Z2
180°

Min. Guida	Ø	CODICE	PREZZO €
13.0	30.0	11.17.300	285,80
14.0	31.0	11.17.310	317,85
15.0	32.0	11.17.320	285,80
16.0	33.0	11.17.330	317,85



PLÁTKY / Inserts

ISO MCMT
TIN CP30

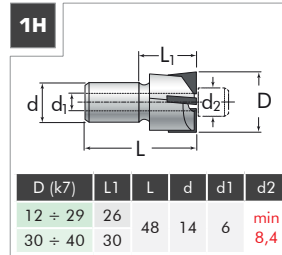
Ø Fresa	CODICE	PREZZO €
24 ÷ 26	11.19.065	13,95
27 ÷ 33	12.19.095	15,75

SKRUTKY / Screws

TORX

Ø Fresa	CODICE	PREZZO €
24 ÷ 26	11.20.065	6,35
27 ÷ 33	12.20.095	7,80

Ø k7	CODICE	PREZZO €
30.0 ●	11.11.300	190,80
30.5 ○	11.11.305	218,75
31.0 ●	11.11.310	194,45
32.0 ●	11.11.320	190,80
33.0 ●	11.11.330	190,80
34.0 ●	11.11.340	196,65
35.0 ●	11.11.350	200,95
36.0 ●	11.11.360	212,50
37.0 ○	11.11.370	248,45
38.0 ●	11.11.380	224,15
40.0 ●	11.11.400	231,40



SKRUTKOVÁČE / Screwdrivers

TORX

Torx	CODICE	PREZZO €
T7	11.21.065	12,70
T15	12.21.095	14,00

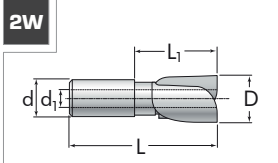
ZÁHLBNÍKY / Counterbores and Countersinks



Ø k7	CODICE	PREZZO €
16.0	12.09.160	83,45
16.5	12.09.165	107,80
17.0	12.09.170	83,45
17.5	12.09.175	107,80
18.0	12.09.180	83,45
18.5	12.09.185	109,55
19.0	12.09.190	85,25
19.5	12.09.195	109,55
20.0	12.09.200	85,25
20.5	12.09.205	109,55
21.0	12.09.210	85,25
21.5	12.09.215	110,25
22.0	12.09.220	85,90
22.5	12.09.225	114,50
23.0	12.09.230	90,15
23.5	12.09.235	115,15
24.0	12.09.240	90,85
24.5	12.09.245	123,35
25.0	12.09.250	99,05
25.5	12.09.255	124,25
26.0	12.09.260	99,85
26.5	12.09.265	127,60
27.0	12.09.270	103,20
27.5	12.09.275	130,75
28.0	12.09.280	106,50
28.5	12.09.285	134,90
29.0	12.09.290	110,60
29.5	12.09.295	135,60
30.0	12.09.300	111,30
30.5	12.09.305	142,15
31.0	12.09.310	117,80
32.0	12.09.320	121,15
33.0	12.09.330	121,95
34.0	12.09.340	125,05
35.0	12.09.350	130,00
36.0	12.09.360	133,50
37.0	12.09.370	145,70
38.0	12.09.380	146,45
39.0	12.09.390	153,40
40.0	12.09.400	154,75
41.0	12.09.410	161,05
42.0	12.09.420	164,00
43.0	12.09.430	182,50
44.0	12.09.440	184,10
45.0	12.09.450	185,50
46.0	12.09.460	190,00
47.0	12.09.470	202,30
48.0	12.09.480	205,40
49.0	12.09.490	215,70



Ø k7	CODICE	PREZZO €
16.0	12.10.160	94,80
17.0	12.10.170	119,10
18.0	12.10.180	94,80
19.0	12.10.190	120,75
20.0	12.10.200	96,45
21.0	12.10.210	124,85
22.0	12.10.220	100,50
23.0	12.10.230	125,65
24.0	12.10.240	101,35
25.0	12.10.250	133,85
26.0	12.10.260	109,55
27.0	12.10.270	149,15
28.0	12.10.280	124,85
29.0	12.10.290	152,95
30.0	12.10.300	128,65
31.0	12.10.310	157,30
32.0	12.10.320	132,95
33.0	12.10.330	166,20
34.0	12.10.340	141,90
35.0	12.10.350	173,45
36.0	12.10.360	149,15
37.0	12.10.370	177,70
38.0	12.10.380	153,40
40.0	12.10.400	157,85



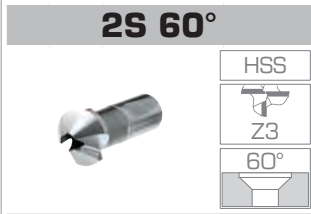
D (k7)	L1	L	d	d1
16 ÷ 30	31			
31 ÷ 40	34	61	22	10

D (k7)	L1	L	d	d1
16 ÷ 30	31			
31 ÷ 49	34	61	22	10
50 ÷ 85	35			



Min. Guida	Ø k7	CODICE	PREZZO €
11.0	20.5	12.12.205	96,50
11.0	25.0	12.12.250	101,10
11.0	28.0	12.12.280	115,80
11.0	31.0	12.12.310	119,65
11.0	34.0	12.12.340	125,75
11.0	37.0	12.12.370	136,50
11.0	40.0	12.12.400	144,65

Min. Guida	Ø k7	CODICE	PREZZO €
11.0	50.0	12.12.500	235,75
22.0	63.0	12.12.630	271,45
34.0	75.0	12.12.750	365,85
59.0	100	12.12.100	686,85



Min. Guida	Ø k7	CODICE	PREZZO €
11.0	25.0	12.13.250	101,15
11.0	31.0	12.13.310	115,80
18.0	37.0	12.13.370	130,30

Min. Guida	Ø k7	CODICE	PREZZO €
25.5	50.0	12.13.500	245,85
51	75.0	12.13.750	365,75

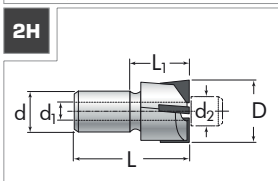
D (k7)	L1	L	d	d1	d2
20,5 ÷ 31	31				
31 ÷ 34	34	61	22	10	min Guida
50 ÷ 100	35				



Ø k7	CODICE	PREZZO €
18.0	12.11.180	189,85
19.0	12.11.190	165,55
20.0	12.11.200	171,55
21.0	12.11.210	195,75
22.0	12.11.220	171,45
23.0	12.11.230	195,75
24.0	12.11.240	171,45
25.0	12.11.250	177,75
26.0	12.11.260	182,25
27.0	12.11.270	206,55
28.0	12.11.280	182,25
29.0	12.11.290	218,70
30.0	12.11.300	194,40
31.0	12.11.310	224,70
32.0	12.11.320	200,40
33.0	12.11.330	200,40
34.0	12.11.340	206,50
35.0	12.11.350	210,95
36.0	12.11.360	215,70
37.0	12.11.370	255,10
38.0	12.11.380	230,80
39.0	12.11.390	259,75
40.0	12.11.400	235,35
41.0	12.11.410	274,90
42.0	12.11.420	250,55
43.0	12.11.430	300,70
44.0	12.11.440	276,45
45.0	12.11.450	276,45
46.0	12.11.460	283,90
47.0	12.11.470	318,90
48.0	12.11.480	294,55
49.0	12.11.490	335,85

POZOR / Important
GUIDA Minima / Min. Pilot
Ø 12,0

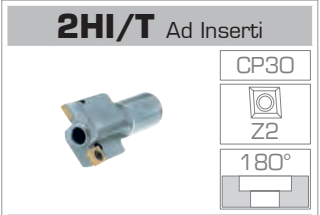
Ø k7	2H/T	PREZZO €
50.0	12.11.500	368,95
51.0	12.11.510	408,45
52.0	12.11.520	378,10
53.0	12.11.530	426,65
54.0	12.11.540	396,25
55.0	12.11.550	504,60
56.0	12.11.560	457,05
57.0	12.11.570	461,55
58.0	12.11.580	431,15
60.0	12.11.600	496,50
62.0	12.11.620	466,10
64.0	12.11.640	577,40
65.0	12.11.650	664,30
66.0	12.11.660	633,95
68.0	12.11.680	528,30
70.0	12.11.700	627,05
72.0	12.11.720	596,65
74.0	12.11.740	656,85
75.0	12.11.750	626,40
76.0	12.11.760	674,05
78.0	12.11.780	643,65
80.0	12.11.800	760,40
82.0	12.11.820	730,00
84.0	12.11.840	854,55
85.0	12.11.850	824,20



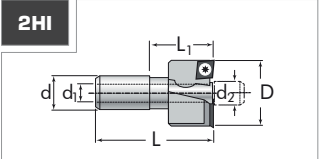
D (k7)	L1	L	d	d1	d2
18 ÷ 30	31				
31 ÷ 49	34	61	22	10	min 12
50 ÷ 85	35				



Min. Guida	Ø	CODICE	PREZZO €
17.0	34.0	12.17.340	337,10
18.0	35.0	12.17.350	337,10
19.0	36.0	12.17.360	337,10
21.0	38.0	12.17.380	337,10
23.0	40.0	12.17.400	337,10
19.0	42.0	12.17.420	358,55
20.0	43.0	12.17.430	401,40
21.0	44.0	12.17.440	401,40
22.0	45.0	12.17.450	358,55
23.0	46.0	12.17.460	365,00
25.0	48.0	12.17.480	367,05



Min. Guida	Ø	CODICE	PREZZO €
27.0	50.0	12.17.500	390,60
29.0	52.0	12.17.520	500,85
30.0	53.0	12.17.530	455,95
31.0	54.0	12.17.540	500,85
32.0	55.0	12.17.550	500,85
34.0	57.0	12.17.570	455,95
37.0	60.0	12.17.600	455,95



D (k7)	L1	L	d	d1	d2
34 ÷ 48	34	61	22	10	min Guida
50 ÷ 60	35				

Ø Fresa	CODICE	PREZZO €
34 ÷ 40	12.19.095	15,75
42 ÷ 60	12.19.127	22,50

Ø Fresa	CODICE	PREZZO €
34 ÷ 40	12.20.095	7,80
42 ÷ 60	12.20.127	8,85

Torx	CODICE	PREZZO €
T15	12.21.095	14,00
T20	12.21.127	15,25

POZOR / Important

Záhlbníky typu 2N/T, 2H/T, 2S/T a 2HI/T Ø 50,0 a väčšie sú všetky vyrobené s unášacím britom. Tieto veľkosti by sa mali používať vo vhodných prípadoch držiak nástroja typ 2A/T, 2AF/T, 2D/T

Counterbores type 2N/T, 2H/T, 2S/T and 2HI/T Ø 50,0 and larger, are all made with a driving lip. These sizes should be used in the appropriate tool holder type 2A/T, 2AF/T, 2D/T



• Misura Standard / Standard Size
○ Misura Semi-Standard (A Richiesta) / Size on demand