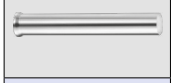
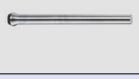
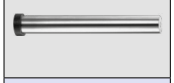
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PUNZONI
Punches

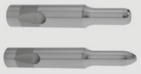


Punzoni

Punches

320 321 322 322D 323	324	325	328 331	329 332	376 377 378 379	01467
						
Punzoni a testa svasata *Punch with countersunk head*	Punzone collo di bottiglia *Bottle-neck punch*	*Svasatori per punzoni a collo di bottiglia* *Countersinks for bottle-neck punches*	Punzoni testa cilindrica *Cylindrical head punches*	Punzoni testa cilindrica forma C *Punches type C*	Matrici di tranciatura *Buttons*	Punzoni Prestole per viti autofilettanti *Punches prestole for sefl-tapping screws*
pag. 3.4	pag. 3.5	pag. 3.5	pag. 3.6	pag. 3.6	pag. 3.7	pag. 3.8

M73820021	CF/CC	CF/CC-P	CF/RC	CF/RC-P	CH_	CE_
						
Punzoni speciali di tranciatura filettati *Special threaded punches*	Ritenute punzoni a ribassati tondi *Retainers*	Ritenute punzoni a ribassati sagoma *Retainers*	Ritenute punzoni a ribassati tondi *Retainers*	Ritenute punzoni a ribassati sagoma *Retainers*	Punzoni innesto rapido applicazioni pesanti *Ball lock punches heavy duty - solid*	Punzoni innesto rapido applicazioni pesanti con eiettore *Ball lock punches heavy duty - Ejector*
pag. 3.8	pag. 3.9	pag. 3.9	pag. 3.10	pag. 3.10	pag. 3.11	pag. 3.12

CHT CHP	CHA	CHB	CEB	CN_	CW_	CL_
						
Piloti innesto rapido applicazioni pesanti *Ball lock pilot heavy duty*	Piloti innesto rapido applicazioni pesanti *Ball lock pilot heavy duty*	Punzoni innesto rapido sbozzati applicazioni pesanti *Ball lock punches blanks heavy duty*	Punzoni innesto rapido sbozzati applicazioni pesanti *Ball lock punches blanks heavy duty*	Punzoni innesto rapido applicazioni pesanti con tranciante maggiorato *Nose large punches heavy duty*	Punzoni con tranciante maggiorato applicazioni pesanti *Nose large punches heavy duty*	Punzoni innesto rapido applicazioni leggere *Ball lock punches light duty*
pag. 3.13	pag. 3.13	pag. 3.14	pag. 3.14	pag. 3.15	pag. 3.15	pag. 3.16

CJ_	CLT	CLP	CLA	CLB	CJB	CO_
						
Punzoni innesto rapido applicazioni leggere con eiettore *Ball lock punches light duty-ejector*	Piloti innesto rapido *Ball lock pilots*	Piloti innesto rapido *Ball lock pilots*	Piloti innesto rapido *Ball lock pilots*	Punzoni innesto rapido sbozzati *Ball lock punches blanks*	Punzoni innesto rapido sbozzati *Ball lock punches blanks*	Punzoni innesto rapido per applicazioni leggere con tranciante maggiorato *Ball lock nose large light duty*
pag. 3.17	pag. 3.18	pag. 3.18	pag. 3.18	pag. 3.18	pag. 3.18	pag. 3.19

CV_	CS_	CC_	CST	CSP	CSA	CQS
						
Punzoni innesto rapido per applicazioni leggere con tranciante maggiorato *Ball lock nose large light duty*	Punzoni testa cilindrica *Shoulder punches - Solid*	Punzoni testa cilindrica con eiettore *Shoulder punches ejector*	Piloti testa cilindrica piloti *Shoulder pilots*	Piloti testa cilindrica *Shoulder pilots*	Piloti testa cilindrica *Shoulder pilots*	Punzoni "tipo quill" *Quill punches*
pag. 3.19	pag. 3.20	pag. 3.21	pag. 3.22	pag. 3.22	pag. 3.23	pag. 3.23

CQB	CSW	CSV	CSB	CCB	CSX	CCX
						
Punzoni "tipo quill" *Quill punches*	Pilota / Compatto / A punta *Pilot / Compact / Pointed*	Pilota / Compatto / Diritto *Pilot / Compact / Straight*	Punzoni testa cilindrica sbozzati *Shoulder punches blanks*	Punzoni testa cilindrica sbozzati *Shoulder punches blanks*	Punzoni gambo ridotto *Reduced shank punches*	Punzoni gambo ridotto *Reduced shank punches*
pag. 3.23	pag. 3.24	pag. 3.24	pag. 3.25	pag. 3.25	pag. 3.26	pag. 3.26

XCS_	XCC_	XCSB	XCCB	CD_	CU_	CK_
Punzoni testa cilindrica rinforzata *Reinforced-head punches*	Punzoni testa cilindrica rinforzata con eiettore *Reinforced-head punches - ejector*	Punzoni testa cilindrica rinforzata sbozzati *Reinforced-head punches - blanks*	Punzoni testa cilindrica rinforzata sbozzati *Reinforced-head punches - blanks*	Matrici lisce scarico cilindrico *Press-fit buttons counter bore relief*	Matrici lisce scarico conico *Press-fit buttons taper relief*	Matrici lisce a norma VDI *Slip-fit buttons VDI*
pag. 3.27	pag. 3.28	pag. 3.29	pag. 3.29	pag. 3.30	pag. 3.31	pag. 3.32

CI_	CM_	CB_	CBB	CFB	CUB	CMB
Matrici con collare scarico cilindrico *Shoulder buttons bore relief*	Matrici con collare scarico conico *Shoulder buttons taper relief*	Matrici a innesto rapido scarico cilindrico *Ball lock buttons counter bore relief*	Matrici sbozzate innesto rapido *Ball look buttons blanks*	Matrici sbozzate innesto rapido *Ball look buttons blanks*	Matrici sbozzate con preforo *Buttons blanks with stright thru hole*	Matrici sbozzate con preforo *Buttons blanks with stright thru hole*
pag. 3.33	pag. 3.33	pag. 3.34	pag. 3.34	pag. 3.34	pag. 3.35	pag. 3.35

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Punzoni

Punches

CDB	CIB	U...	CR_	CFORT	CFORTS	CRH_A
						
Matrici sbozzate a scarico cilindrico *Buttons blanks with counter bore relief*	Matrici sbozzate a scarico cilindrico *Buttons blanks with counter bore relief*	Sagome classificate *Universal shapes*	Portapunzoni innesto rapido serie Standard *Ball lock retainers Standard series*	Portapunzoni per punzoni testa cilindrica tondi *Retainers for shoulder round punches*	Portapunzoni per punzoni testa cilindrica con sagoma *Retainers for shoulder shaped punches*	Portapunzoni innesto rapido *Ball lock retainers*
pag. 3.35	pag. 3.35	pag. 3.36/37	pag. 3.38	pag. 3.38	pag. 3.39	pag. 3.39

CRN	CRO	XCRN	XCRO	MR_	MRR	MRK
						
Portapunzoni per punzoni testa cilindrica tondi *Retainers for shoulder round punches*	Portapunzoni per punzoni testa cilindrica con sagoma *Reatainers for shoulder shaped punches*	Portapunzoni per punzoni testa rinforzata tondi *Retainers for shoulder round punches head 8 mm*	Portapunzoni per punzoni testa rinforzata con sagoma *Reatainers for shoulder shaped punches head 8 mm*	Portapunzoni innesto rapido serie Standard *Ball lock retainers True Set Standard*	Portapunzoni tondi innesto rapido serie Economy *Economy retainers round true set heavy duty*	Portapunzoni innesto rapido serie Economy *Economy ball lock insert retainers*
pag. 3.40	pag. 3.40	pag. 3.41	pag. 3.41	pag. 3.42	pag. 3.42	pag. 3.43

MRH_A	MRN	MRO	MRP	MRQ	XMRN	XMRO
						
Portapunzoni per punzoni innesto rapido serie Advanced *Reatainers for shoulder True Set-Advanced*	Portapunzoni per punzoni testa cilindrica tondi *Retainers for shoulder round punches*	Portapunzoni per punzoni testa cilindrica con sagoma *Reatainers for shoulder shaped punches*	Portapunzoni per punzoni testa cilindrica tondi con terzo foro spina simmetrico *Retainers for shoulder round punches with symmetrical 3rd dowel*	Portapunzoni per punzoni testa cilindrica con sagoma con terzo foro simmetrico *Retainers for shoulder shaped punches with symmetrical 3rd dowel*	Portapunzoni per punzoni testa rinforzata tondi *Retainers for shoulder round punches head 8mm*	Portapunzoni per punzoni testa rinforzata con sagoma *Retainers for shoulder shaped punches head 8mm*
pag. 3.43	pag. 3.44	pag. 3.44	pag. 3.45	pag. 3.45	pag. 3.46	pag. 3.46

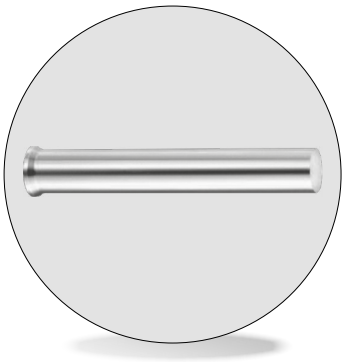
MRA	MRC / MRB			MT_		
		ACCESSORI	ALTERAZIONI			
Portapunzoni retrattili a doppia posizione per punzoni ball lock a cambio rapido *Retractable retainers heavy duty ball look*	Portapunzoni retrattili per punzoni testa cilindrica *Retractable retainers shoulder style*	Accessori *Accessories*	Alterazioni standard *Standard alteration*	Estrattore meccanico per portapunzoni *True strip for retainer*	Argomenti tecnici e rivestimenti *Technical topics and coatings*	
pag. 3.47	pag. 3.48	pag. 3.49 ÷ 50	pag. 3.51 ÷ 55	pag. 3.56 ÷ 58	pag. 3.59	

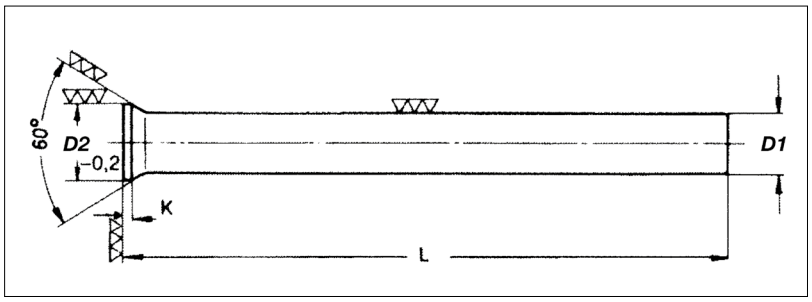
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Punzoni a testa svasata

Punch with countersunk head





* Su richiesta lunghezza L = 125 mm/*Length L = 125 on request*

Codice/*Code*	Tipo/*Type*	Materiale/*Material*	Durezza/Hardness	Durezza testa/*Head hardness*
Cod. **320** Acciaio Wolframio	DIN 9861/DA	1.251 WS	HRC $62^{\pm2}$	HRC $45^{\pm5}$
Cod. **321** Acciaio cromo		1.2080 HWS	HRC $62^{\pm2}$	HRC $50^{\pm5}$
Cod. **322** Acciaio HSS		1.3343 HSS	HRC $64^{\pm2}$	HRC $50^{\pm5}$
** Cod. **322D** Acciaio HSS lucido	DIN 9861/D	1.3343 HSS	HRC $64^{\pm2}$	HRC $50^{\pm5}$
** Cod. **323** Acciaio sinterizzato		Vanadis 23 sinterizzato	HRC $64^{\pm2}$	HRC $50^{\pm5}$

D1 h6 (progressione / *progression* 0,1)	$D2^{+0}_{-0,2}$	$K^{+0,2}_{-0}$	$L^{+0,5\ *}_{-0}$		
			71	80	100
0,3	0,6	0,2	•	•	
0,4	0,7	0,2	•	•	
0,5	0,9	0,2	•	•	•
0,6	1,1	0,2	•	•	•
0,65	1,2	0,2	•	•	•
0,7-0,75	1,3	0,2	•	•	•
0,8-0,85	1,4	0,4	•	•	•
0,9-0,95	1,6	0,4	•	•	•
1-1,1	1,8	0,5	•	•	•
1,2-1,3	2	0,5	•	•	•
1,4-1,5	2,2	0,5	•	•	•
1,6-1,7	2,5	0,5	•	•	•
1,75-1,9	2,8	0,5	•	•	•
2	3	0,5	•	•	•
2,1-2,2	3,2	0,5	•	•	•
2,3-2,5	3,5	0,5	•	•	•
2,6-2,9	4	0,5	•	•	•
3-3,4	4,5	0,5	•	•	•
3,5-3,9	5	0,5	•	•	•
4-4,4	5,5	0,5	•	•	•
4,5-4,9	6	0,5	•	•	•
5-5,4	6,5	0,5	•	•	•
5,5-5,9	7	0,5	•	•	•
6-6,4	8	0,5	•	•	•
6,5-7,4	9	1	•	•	•
7,5-8,4	10	1	•	•	•
8,5-9,4	11	1	•	•	•
9,5-10,4	12	1	•	•	•
10,5-11,4	13	1	•	•	•
11,5-12,4	14	1	•	•	•
12,5-13,4	15	1	•	•	•
13,5-14,4	16	1,5	•	•	•
14,5-15	17	1,5	•	•	•
15,1-16	18	1,5	•	•	•
16,1-16,9	19	1,5	•	•	•
17-17,9	20	1,5	•	•	•
18-18,9	21	1,5	•	•	•
19-20	22	1,5	•	•	•

Esempio di ordinazione/*Order example*:
321 - 6,2x100 (codice/*code* + D1 x L)

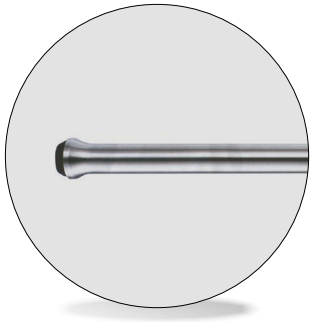
** Punzoni DIN 9861/D fornibili a richiesta/Punches DIN 9861/D available on request
A richiesta trattamento Balinit-TIN su codice 322-322D-323/*Balinit-TIN coating on request for code 322-322D-323*

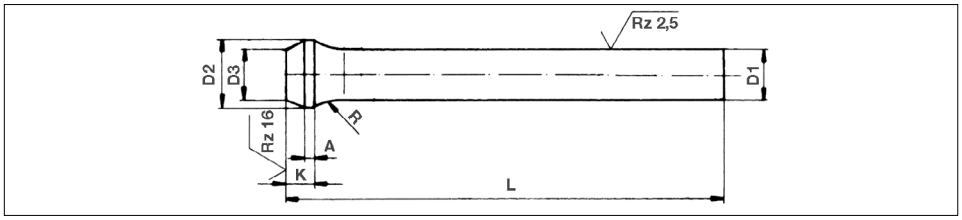
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Punzoni
Punches

Punzone collo di bottiglia *Bottle-neck punch*





Codice/*Code*	Tipo	Materiale/*Material*	Durezza/Hardness	Durezza testa/*Head hardness*
Cod. **324**	D	HSS (1.3343)	HRC 64 ±2	HRC 50 ±5

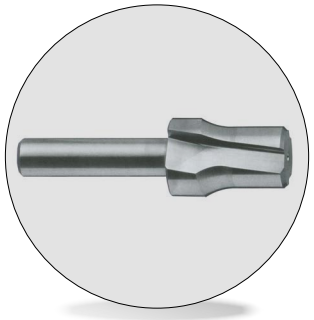
D1 h6	Progressione *Progression* D1	L +0,5 0	D2 0 -0,2	K +0,2	A	D3	R 0 -0,2
2,0	0,1	71/80/100/125	3,0	3,0	1,0	D1 ± 0,1	3,5
≥ 2,1			3,2				
≥ 2,3			3,5				5,0
≥ 2,6			4,0				6,5
≥ 3,0			4,5				
≥ 3,5			5,0				8,0
≥ 4,0			5,5	4,0	1,5		
≥ 4,5			6,0				
≥ 5,0			7,0				10,0
≥ 5,5			8,0				
6,0	0,5		9,0				12,0
≥ 6,5			10,0				
≥ 7,5			11,0				15,0
≥ 8,5			13,0				
9,5			14,0				

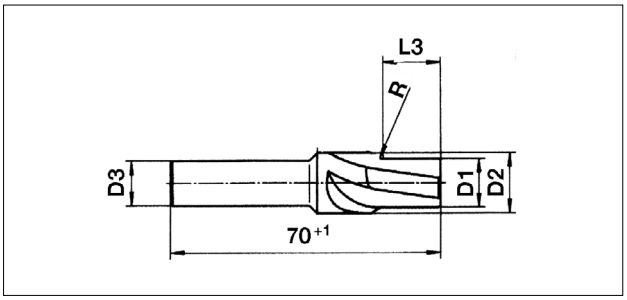
D1 h6	Progressione *Progression* D1	L +0,5 0	D2 0 -0,2	K +0,2	A	D3	R 0 -0,2
10,0	0,5	71/80/100/125	14,0	4,0	1,5	D1 ± 0,1	15,0
10,5			15,0				
11,0							
11,5			16,0				
12,0							
13,0	1,0		17,0				
14,0			18,0				
15,0			19,0				
16,0			20,0				
17,0			21,0				
18,0			22,0				
19,0			23,0				
20,0			25,0				
22,0			27,0				
25,0			30,0				

Esempio di ordinazione/*Order example*: 324 - 2x100 (codice/*code* + D1 x L1)

Su richiesta forniamo tutti i diametri decimali sopra il Ø 5,5.
On request we supply all decimal diameters above Ø 5,5.

Svasatori per punzoni a collo di bottiglia *Countersinks for bottle-neck punches*





Codice *Code*	Materiale *Material*
Cod. **325**	HSS

D1 f7	D2 h8	D3 h11	R +0,2	L3
2,0	3,3	= D2	3,5	5,0
≥ 2,1	3,5			
≥ 2,3	3,8		5,0	
≥ 2,6	4,3		6,5	7,0
≥ 3,0	4,9			
≥ 3,5	5,4		8,0	8,0
≥ 4,0	5,9			
≥ 4,5	6,4			
≥ 5,0	7,4		10,0	10,0
≥ 5,5	8,5			
≥ 6,0	9,5			
≥ 6,5	10,5		12,0	12,0
≥ 7,5	11,5	10		

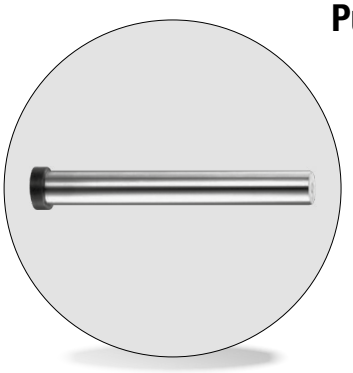
D1 f7	D2 h8	D3 h11	R +0,2	L3
≥ 8,5	13,5	= 10	15,0	12,0
≥ 9,5	14,5			
≥ 10,5	15,5			15,0
≥ 11,5	16,5			
≥ 12,5	17,5			
≥ 13,5	18,5			
≥ 14,5	19,5			
≥ 15,5	20,5			
≥ 16,5	21,5	16		
≥ 17,5	22,5			
≥ 18,5	23,5			
≥ 19,5...20,0	25,5			

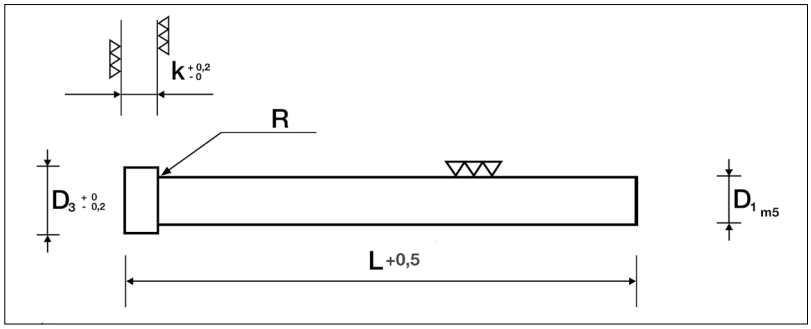
Esempio di ordinazione/*Order example*: 325 - 2 (codice/*code* + D1)

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Punzoni testa cilindrica *Cylindrical head punches*



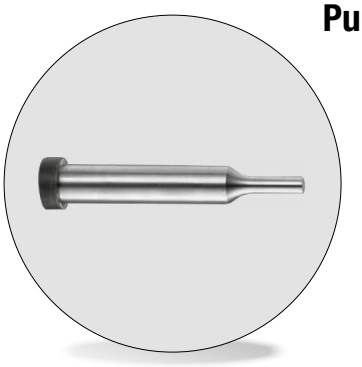


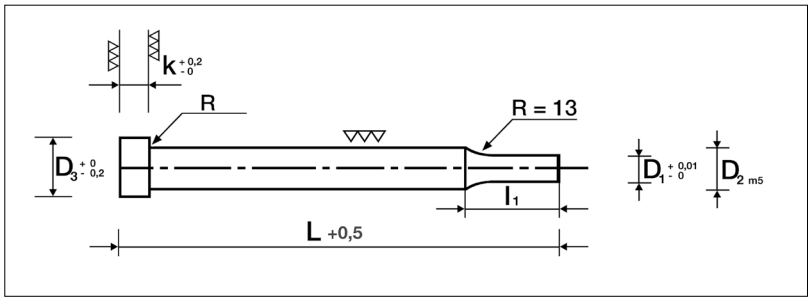
Codice/*Code*	Materiale/*Material*
Cod. **328** Acciaio/*Steel* Cromo	1.2080 HWS HRC 61÷63
Cod. **331** Acciaio/*Steel* HSS	1.3343 HSS HRC 62÷64

D1	D3	K	L	
			71	100
2	4	3	•	•
3	5	3	•	•
4	6	3	•	•
5	8	5	•	•
6	9	5	•	•
8	11	5	•	•
10	13	5	•	•
13	16	5	•	•
16	19	5	•	•
20	23/24	5	•	•
25	28/29	5	•	•

Esempio di ordinazione/*Order example*: 328 - 10x100 (codice/*code*+D1xL)

Punzoni testa cilindrica forma C *Punches type C*





Codice/*Code*	Materiale/*Material*
Cod. **329** Acciaio/*Steel* Cromo	1.2080 HWS HRC 61÷63
Cod. **332** Acciaio/*Steel* HSS	1.3343 HSS HRC 62÷64

MATERIALE FORNITO SOLO SU RICHIESTA
ONLY ON REQUEST

D2	D3	K	D1	I1	L	
					71	100
2	4	3	0,5-1,9	8	•	•
3	5	3	1,6-2,9	9	•	•
4	6	3	2-3,9	10	•	•
5	8	5	2-4,9	12	•	•
6	9	5	3-5,9	13	•	•
8	11	5	3-7,9	14	•	•
10	13	5	4,5-9,9	16	•	•
13	16	5	6,5-12,9	21	•	•
16	19	5	9,5-15,9	24	•	•
20	23/24	5	12,5-19,9	27	•	•
25	28/29	5	16,5-24,9	32	•	•

A richiesta trattamento Balinit-TIN su codice 332
Balinit-TIN coating on request for code 332

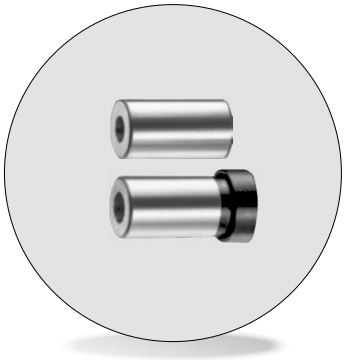
Esempio di ordinazione/*Order example*: 329 - 10x100 rib. 6,8 (codice/*code*+ D2 x L x D1)

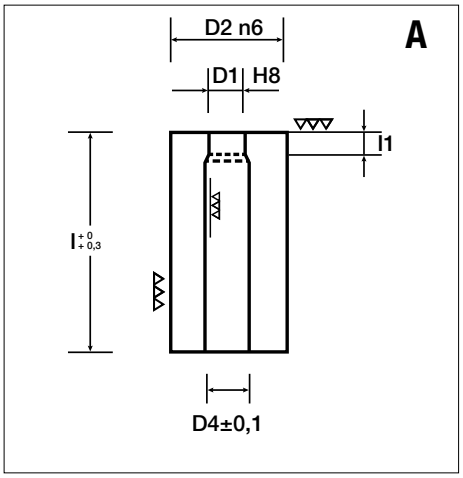
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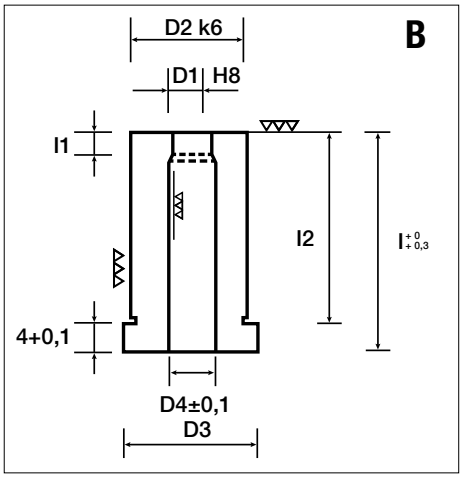
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Matrici di tranciatura

Buttons







Codice/*Code*	Tipo/*Type*	Materiale/*Material*	Durezza/*Hardness*
Cod. **376** Matrici lisce corte/*Headless die buttons short* (A) l=20 Cod. **377** Matrici lisce lunghe/*Headless die buttons long* (A) l=28 Cod. **378** Matrici c/collare corte/*Headed die buttons short* (B) l=20 Cod. **379** Matrici c/collare lunghe/*Headed die buttons long* (B) l=28	DIN 9845	1.2080 HWS 1.3343 HSS*	HCR 60 ±2 HRC 64 ±2

* Su richiesta, specificare in fase di ordine. *Only on request, specify when ordering*

D1	D2	D3	D4	l1	l	l2	A		B	
							HWS	HSS	HWS	HSS
0,8 - 1,0	5	7	D1+0,3	3	20	16		*		*
1,1 - 2,0	6	8	D1+0,3	3	20	16		*		*
					28	24		*		*
2,0 - 3,3	7	9	D1+0,5	3	20	16	•	*	•	*
					28	24	•	*	•	*
3,4 - 4,0 A richiesta/on reques 3,1/ 3,2 / 3,3	8	10	D1+0,5	3	20	16	•	*	•	*
					28	24	•	*	•	*
4,1 - 5,0	10	12	D1+0,7	4	20	16	•	*	•	*
					28	24	•	*	•	*
5,1 - 6,0	12	14	D1+0,7	4	20	16	•	*	•	*
					28	24	•	*	•	*
6,1 - 8,0	15	17	D1+0,7	4	20	16	•	*	•	*
					28	24	•	*	•	*
8,1 - 10,0	18	20	D1+1	4	20	16	•	*	•	*
					28	24	•	*	•	*
10,1 - 12	22	24	D1+1	5	20	16	•	*	•	*
					28	24	•	*	•	*
12,1 - 15	26	28	D1+1	5	20	16	•	*	•	*
					28	24	•	*	•	*
15,5 - 18	30	32	D1+1	5	28	24	*	*	*	*
18,5 - 22	35	37	D1+1	5	28	24	*	*	*	*
22,5 - 26,0	42	44	D1+1	5	28	24	*	*	*	*
26,5 - 30	48	50	D1+2	5	28	24	*	*	*	*

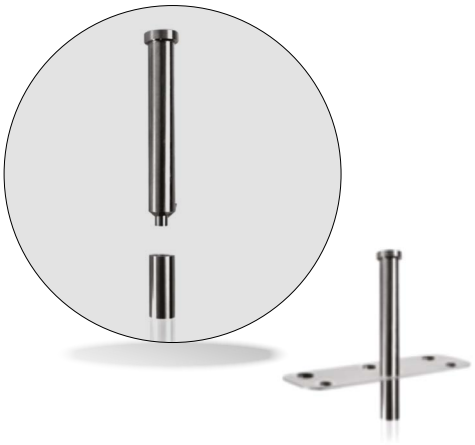
Esempio di ordinazione/*Order example*: 376 - 3,4 codice/*code* + D1)

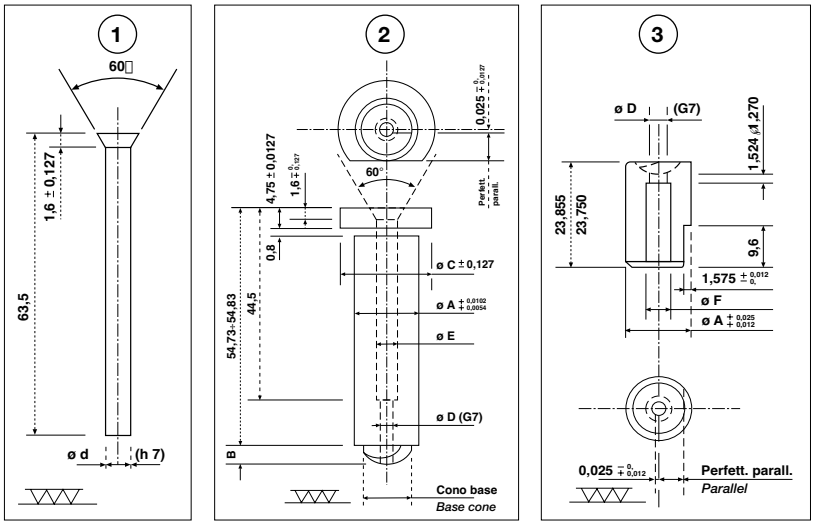
Progressione: 0,1 fino al Ø 15 - 0,5 dal Ø 15,5 al Ø 30
Progression: 0,1 up to Ø 15 - 0,5 up to Ø 30

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Punzoni Prestole per viti autofilettanti *Punches prestole for self-tapping screws*





Codice/*Code*	Disegno/*Drawing*	Riferimento/*Reference*
Cod. **01467**	01467	61144.1

CODICE/*CODE*	Tipo vite/*Screw type*	A	B	C	D	E	F	d
01467/140	3,5	9,525	2	14,22	2,5 +0,02 +0,01	2,8	3,5	2,5 -0,01 -0,02
01467/120	4,2	12,70	2,65	17,27	2,9 +0,02 +0,01	3,2	3,9	2,9 -0,01 -0,02
01467/125	4,8	12,70	2,65	17,27	3,3 +0,02 +0,01	3,6	4,3	3,3 -0,01 -0,02
01467/130	5,5	15,87	3,3	22,09	3,9 +0,02 +0,01	4,2	4,9	3,9 -0,01 -0,02
01467/135	6,3	15,87	3,3	22,09	4,5 +0,02 +0,01	4,8	5,5	4,5 -0,01 -0,02
01467/150	8	20,00	4,2	25	5,8 +0,02 +0,01	6,1	7,1	5,8 -0,01 -0,02

Esempio di ordinazione/*Order example* = 01467/140 (codice/*code*)

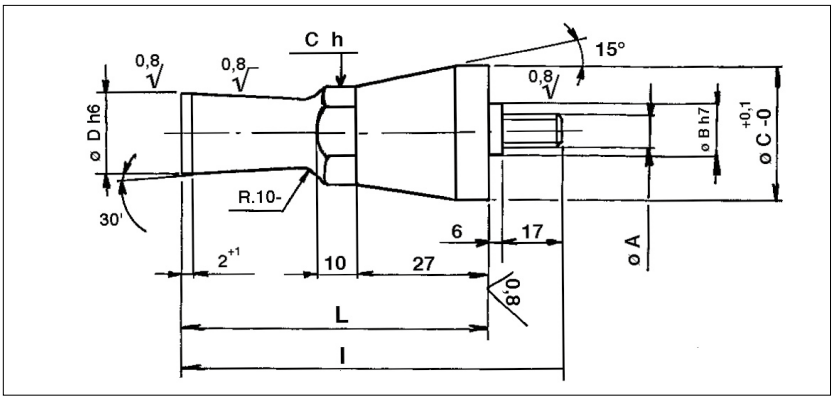
Con il codice di ordinazione si forniscono i particolari n. 1 / 2 / 3
With ordering code supplied parts n. 1 / 2 / 3

Punzoni speciali di tranciatura filettati *Special threaded punches*



FORNITO SOLO SU RICHIESTA
ONLY ON REQUEST

Codice/*Code*
Cod. **M73820021**



Ø A	Ø B	Ø C	Ø D	L	l	ch	N° pz.

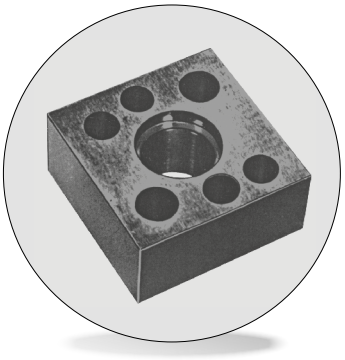
Esempio di ordinazione/*Order example* = M73820021 + dimensioni tabella/*table dimensions*

Note: Costruiamo anche le matrici di tranciatura codice M73820022
Note: We also build buttons code M73820022

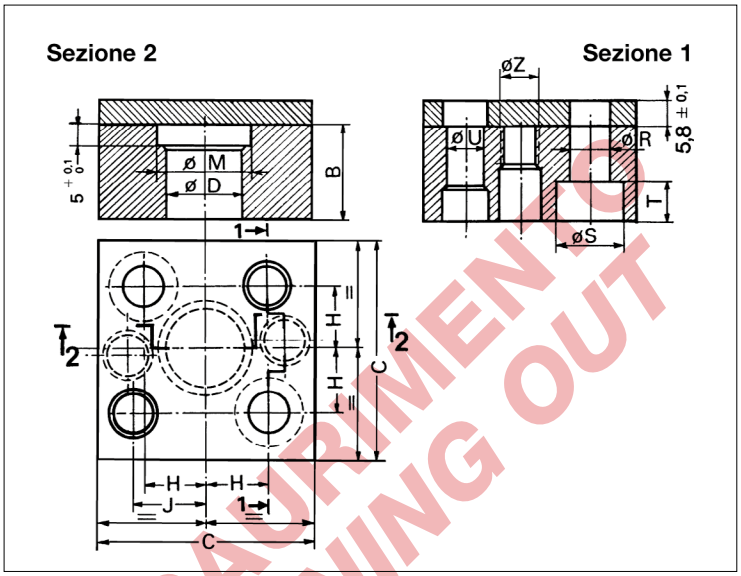
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Portapunzoni per ribassati tondi

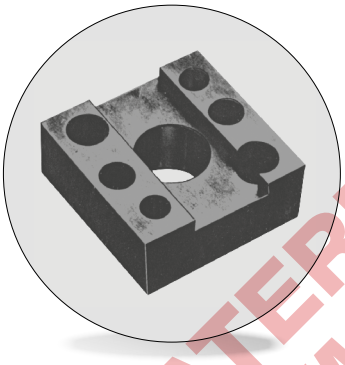


Codice/*Code*
Cod. **CF/CC**

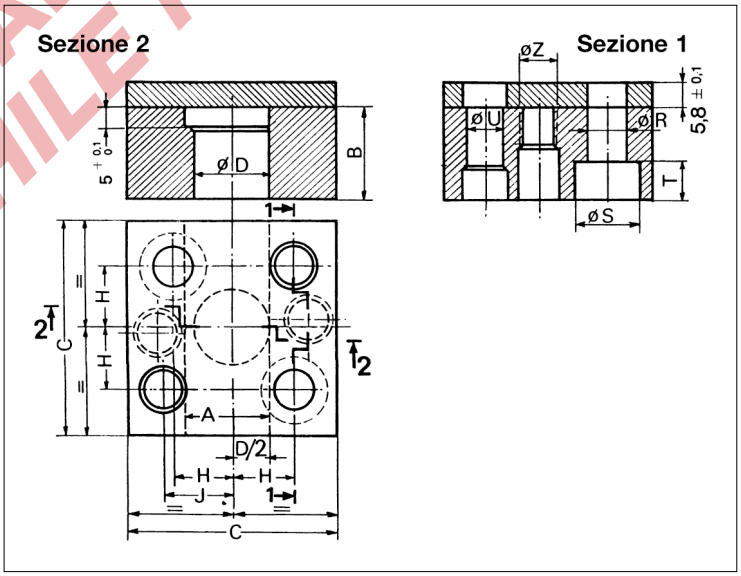


Esempio di ordinazione/*Order example* = CF/CC - 20 (codice/*code* + D)

Portapunzoni per ribassati sagoma



Codice/*Code*
Cod. **CF/CC-P**



Esempio di ordinazione/*Order example* = CF/CC-P - 20 (codice/*code* + D)

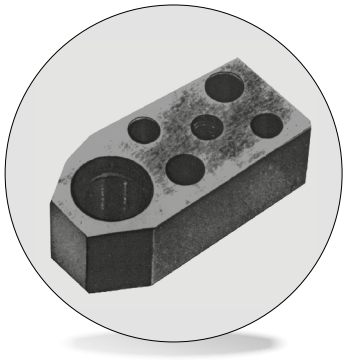
DH7	M ±0,25	C ±0,25	A ±0,25	B ±0,1	H ±0,1	J ±0,1	R H13	S H13	T ±0,25	U G6	Z 6H
8	12	45	11	25	13	15,5	9	16	9	8	M8
10	14		12								
13	17		17								
16	20		18,5								
20	25	56	23		16	19	11	18	11	10	M10
25	30	63	28,5		20	22,5	14	22	13		M12
32	37	75	35	32	25	28	14	22	20		M12

MATERIALE AD ESAURIMENTO
ITEMS WHILE RUNNING OUT

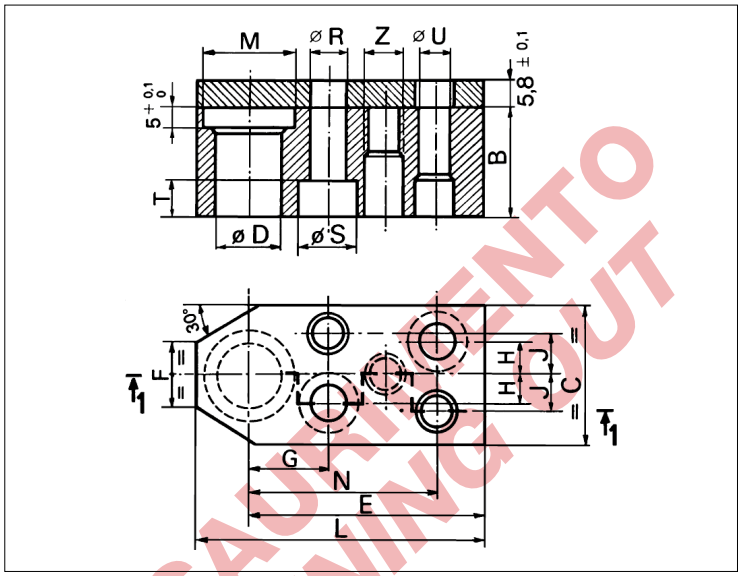
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Portapunzoni per ribassati tondi

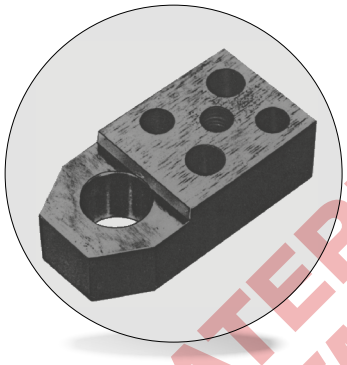


Codice/*Code*
Cod. **CF/RC**

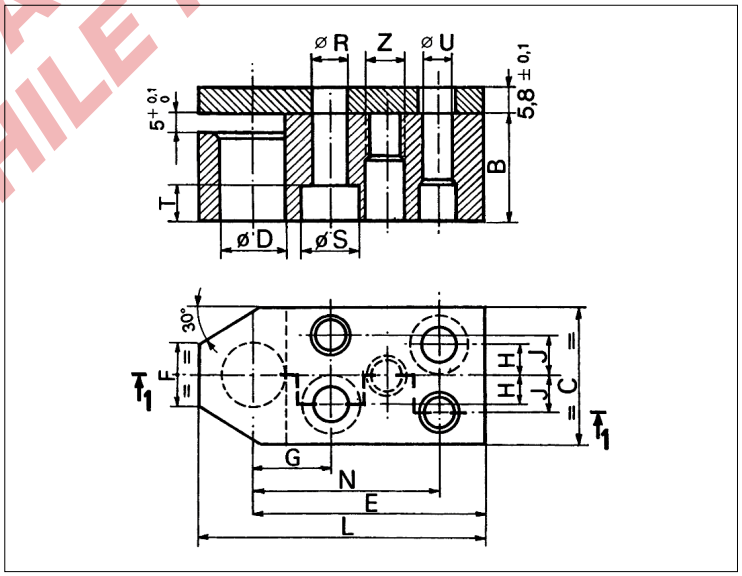


Esempio di ordinazione/*Order example* = CF/RC - 20 (codice/*code* + D)

Portapunzoni per ribassati sagoma



Codice/*Code*
Cod. **CF/RC-P**



Esempio di ordinazione/*Order example* = CF/RC-P - 16 (codice/*code* + D)

DH7	M ±0,25	L ±0,25	B +01 0	C ±0,25	E ±0,2	F ±0,25	G ±0,1	H ±0,1	J ±0,1	N ±0,1	R H13	S H13	T ±0,25	U G6	Z 6H
8	12	60	25	32	50	11	15	7	9	40	9	16	9	8	M8
10	14														
13	17	67			53	16	18			43					
16	20														
20	25	80		40	60	22	25	9	11	50	11	18	11	10	M10
25	30														
32	37	95	32	50	70	30	28	13	15	58	14	22	20		M12

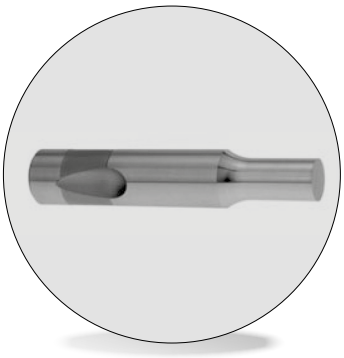
MATERIALE AD ESAURIMENTO
ITEMS WHILE RUNNING OUT

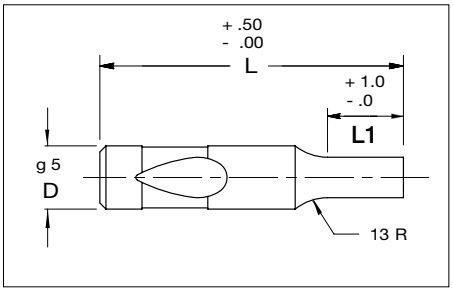
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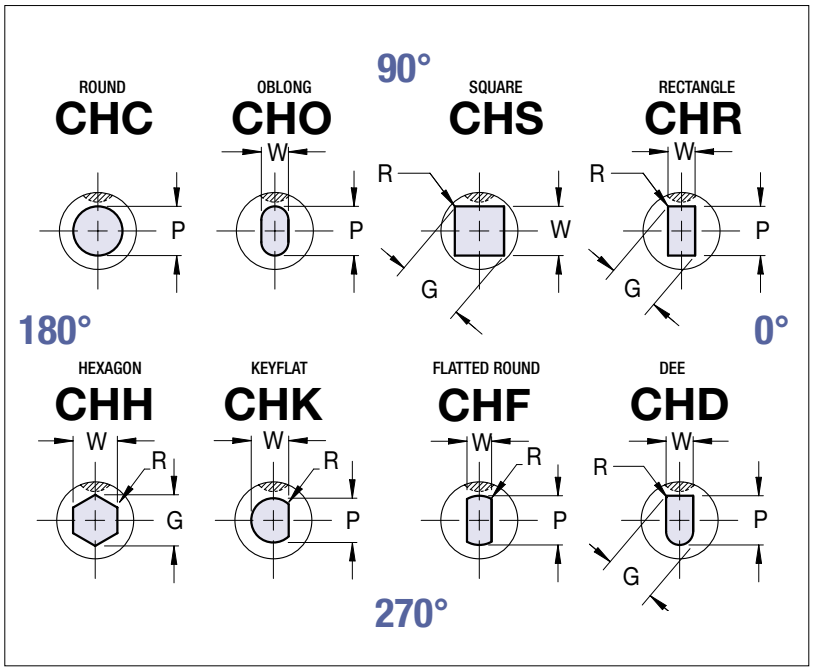
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Punzoni innesto rapido applicazioni pesanti

Ball lock punches heavy duty - Solid







Per le alterazioni standard vedi pagg. 3.51 ÷ 3.55
For product alterations see pages 3.51 ÷ 3.55

I disegni rappresentano i punzoni visti dalla parte del corpo ma disegnate con linea piena per chiarezza.
Views are shown looking through the shank but drawn with solid lines for clarity.

Codice/*Code*	Materiale/*Material*	Tolleranze standard/ *Standard Point Tolerance*		
Cod. **CH_**	Acciaio/*Steel:* M2, HRC 60-63 ALTERNATIVA/*ALTERNATIVE* *PS POWDER METAL HIGH SPEED STEEL, HRC 62-65	Tondo/*Round*	$P^{+.01}_{-.00}$	◎ 0.01 P - D
		Sagoma/*Shape*	P,W ± .01	◎ 0.02 P - D

CODICE *CODE*	D	TONDO *ROUND*	SAGOMA *SHAPE*		L					
		P	MIN W	MAX G/P	71	80	90	100	110	125
CH_ 10	10	2.50 - 9.98	2.50	10.00	•	•	•	•	•	•
CH_ 13	13	5.00 - 12.98	4.50	13.00	•	•	•	•	•	•
CH_ 16	16	8.00 - 15.98	6.00	16.00	•	•	•	•	•	•
CH_ 20	20	12.00 - 19.98	8.00	20.00	•	•	•	•	•	•
CH_ 25	25	16.00 - 24.98	10.00	25.00		•	•	•	•	•
CH_ 32	32	24.00 - 31.98	12.00	32.00		•	•	•	•	•
CH_ 40	40	30.00 - 39.98	14.00	40.00		•	•	•	•	•

CODICE *CODE*	D	L1		
		STD	B	C
CH_ 10	10	19	10	__
CH_ 13	13	19	13	25
CH_ 16	16	19	13	25
CH_ 20	20	19	13	25
CH_ 25	25	19	13	25
CH_ 32	32	19	13	25
CH_ 40	40	25	19	30

STD = standard
L = 71 L1 MAX = 19

* Specificare M2 o PS in fase d'ordine
** Must specify M2 or PS when ordering*

Esempio di ordinazione/*Order example*:

TIPO	"D"	"L"	Lung. L1	P (o P&W) dimensioni	MATERIALE
CHC	13	90	C	8,0	C2
CHO	16	80	STD	14,0x7,0	PS

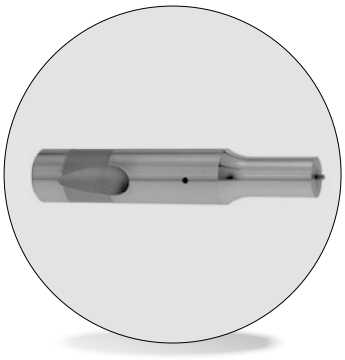
La posizione standard della sede sfera è a 90°. Tutte le altre posizioni devono essere specificate in fase d'ordine (es. BS@45°)
Standard ball seat location is at 90° as shown. For other positions, specify when ordering (ex. BS@45°)

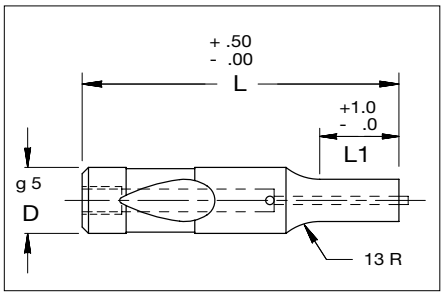
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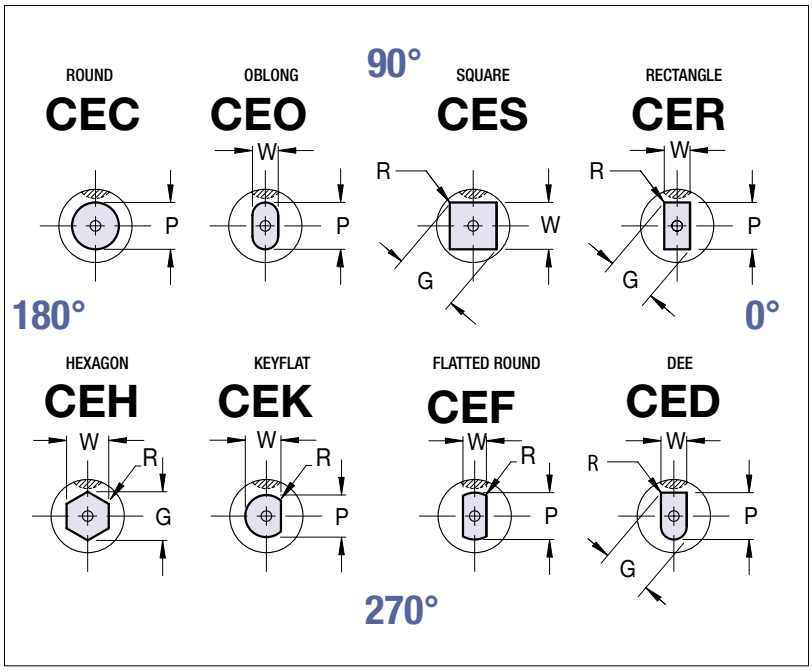
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Punzoni innesto rapido applicazioni pesanti con eiettore

Ball lock punches heavy duty - Ejector







Per le alterazioni standard vedi pagg. 3.51 ÷ 3.55
For product alterations see pages 3.51 ÷ 3.55

I disegni rappresentano i punzoni visti dalla parte del corpo ma disegnate con linea piena per chiarezza.
Views are shown looking through the shank but drawn with solid lines for clarity.

Codice/*Code*	Materiale/*Material*	Tolleranze standard/*Standard Point Tolerance*
Cod. **CE_**	Acciaio/*Steel:* M2, HRC 60-63 ALTERNATIVA/*ALTERNATIVE* ***PS** POWDER METAL HIGH SPEED STEEL, HRC 62-65	Tondo/*Round* P +.01 -.00 ◎ 0.01 P - D Sagoma/*Shape* P,W ± .01 ◎ 0.02 P - D Quando P=D si usa la tolleranza del corpo (D) / *When P = D Shank Tolerances apply (D)*

CODICE *CODE*	D	TONDO/*ROUND*	SAGOMA/*SHAPE*		L						
		P	MIN W	MAX G/P	63	71	80	90	100	110	125
CE_ 10	10	2.50 - 9.98	2.50	10.00	●	●	●	●	●	●	
CE_ 13	13	5.00 - 12.98	4.50	13.00	●	●	●	●	●	●	●
CE_ 16	16	8.00 - 15.98	6.00	16.00	●	●	●	●	●	●	●
CE_ 20	20	12.00 - 19.98	8.00	20.00	●	●	●	●	●	●	●
CE_ 25	25	16.00 - 24.98	10.00	25.00			●	●	●	●	●
CE_ 32	32	24.00 - 31.98	12.00	32.00			●	●	●	●	●
CE_ 40	40	30.00 - 39.98	14.00	40.00			●	●	●	●	●

CODICE *CODE*	D	L1		
		STD	B	C
CE_ 10	10	19	10	__
CE_ 13	13	19	13	25
CE_ 16	16	19	13	25
CE_ 20	20	19	13	25
CE_ 25	25	19	13	25
CE_ 32	32	19	13	25
CE_ 40	40	25	19	30

Specificare M2 o PS in fase d'ordine
Must specify M2 or PS when ordering

Esempio di ordinazione/*Order example*:

TIPO	"D"	"L"	Lung. L1	P (o P&W) dimensioni	MATERIALE
CEC	10	90	B	5,0	M2
CEO	16	80	STD	14,0x8,0	PS

STD = standard
L = 63 L1 MAX = 19
L = 71 L1 MAX = 19
La posizione standard della sede sfera è a 90°. Tutte le altre posizioni devono essere specificate in fase d'ordine (es. BS 45°)
Standard ball seat location is at 90° as shown. For other positions, specify when ordering (ex. BS@45°)

CF Torino - È vietata la riproduzione, anche parziale, del presente catalogo.

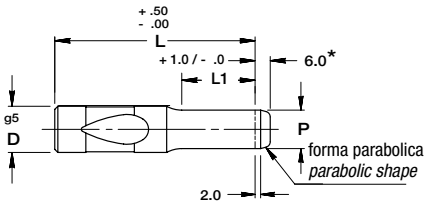
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Piloti innesto rapido applicazioni pesanti

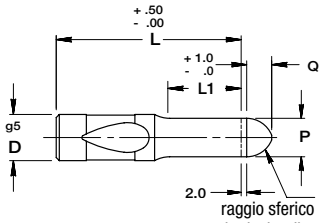
Ball lock pilot heavy duty



Cod. **CHT** TIPO STANDARD/*STANDARD STYLE*



Cod. **CHP** TIPO SFERICO/*BULLET NOSE STYLE*



* LEGGERMENTE INFERIORE PER Ø AL DI SOTTO DI 5,6 MM/*SLIGHTLY LESS FOR DIA'S UNDER 5.6*

Per le alterazioni standard vedi pagg. 3.51 ÷ 3.55/*For product alterations see pages 3.51 ÷ 3.55*

Codice/*Code*	Materiale/*Material*	Tolleranze standard/*Standard Point Tolerance*
Cod. **CHT** / **CHP**	Acciaio/*Steel:* M2, HRC 60-63 ALTERNATIVA/*ALTERNATIVE* *PS POWDER METAL HIGH SPEED STEEL, HRC 62-65	Tondo/*Round* P +.01 -.00 ◎ 0.01 P - D Quando P=D si usa la tolleranza del corpo (D) *When P = D Shank Tolerances apply (D)*

Quota P/*P dim.*	Q
1.50-9.50	4
>9.51	10

CODICE *CODE*	D	P	L					
			71	80	90	100	110	125
CH_ 10	10	2.50 - 10.00	•	•	•	•	•	•
CH_ 13	13	5.00 - 13.00	•	•	•	•	•	•
CH_ 16	16	8.00 - 16.00	•	•	•	•	•	•
CH_ 20	20	12.00 - 20.00	•	•	•	•	•	•
CH_ 25	25	16.00 - 25.00		•	•	•	•	•
CH_ 32	32	24.00 - 32.00		•	•	•	•	•
CH_ 40	40	30.00 - 40.00		•	•	•	•	•

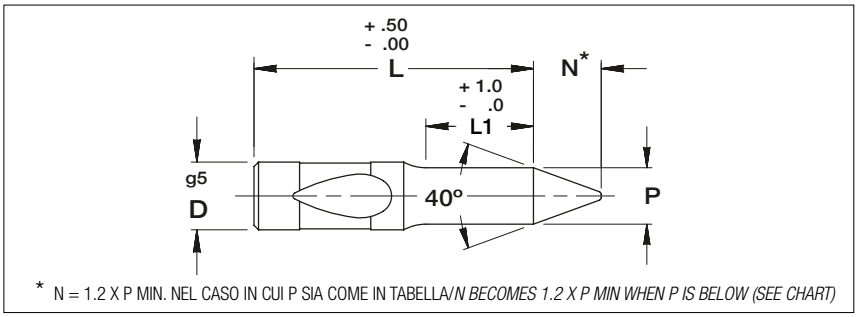
CODICE *CODE*	D	L1		
		STD	alterazioni/*alternates* B	C
CH_ 10	10	19	10	__
CH_ 13	13	19	13	25
CH_ 16	16	19	13	25
CH_ 20	20	19	13	25
CH_ 25	25	19	13	25
CH_ 32	32	19	13	25
CH_ 40	40	25	19	30

*Specificare M2 o PS in fase d'ordine/**Must specify M2 or PS when ordering*

Esempio di ordinazione/*Order example*: CHT 020.071 STD P=9,00 (codice/*code*+D+L+L1+P)

STD = standard
L = 71 L1 MAX = 19





* N = 1.2 X P MIN. NEL CASO IN CUI P SIA COME IN TABELLA/*N BECOMES 1.2 X P MIN WHEN P IS BELOW (SEE CHART)*

Per le alterazioni standard vedi pagg. 3.51 ÷ 3.55/*For product alterations see pages 3.51 ÷ 3.55*

Codice/*Code*	Materiale/*Material*	Tolleranze standard/*Standard Point Tolerance*
Cod. **CHA**	Acciaio/*Steel:* M2, HRC 60-63 ALTERNATIVA/*ALTERNATIVE* *PS POWDER METAL HIGH SPEED STEEL, HRC 62-65	Tondo/*Round* P +.01 -.00 ◎ 0.01 P - D Quando P=D si usa la tolleranza del corpo (D) *When P = D Shank Tolerances apply (D)*

NB: lunghezza minima del corpo 38mm.
Note: must maintain minimum shank length of 38 mm.

CODICE *CODE*	D	TONDO/ *ROUND* P	N	P min.	L						
					80	90	100	110	125	140	150
CHA 10	10	5.90 - 10.00	8	5.64	•	•	•	•	•		
CHA 13	13	9.90 - 13.00	10	7.11	•	•	•	•	•	•	
CHA 16	16	12.90 - 16.00	15	10.74	•	•	•	•	•	•	•
CHA 20	20	15.90 - 20.00	20	14.38	•	•	•	•	•	•	•
CHA 25	25	19.90 - 25.00	25	18.00	•	•	•	•	•	•	•
CHA 32	32	24.90 - 32.00	30	21.67	•	•	•	•	•	•	•
CHA 40	40	31.90 - 40.00	40	28.96	•	•	•	•	•	•	•

CODICE *CODE*	D	L1	
		STD	B
CHA 10	10	19	32
CHA 13	13	19	32
CHA 16	16	25	38
CHA 20	20	25	38
CHA 25	25	25	38
CHA 32	32	25	38
CHA 40	40	30	45

*Specificare M2 o PS in fase d'ordine/**Must specify M2 or PS when ordering*

Esempio di ordinazione/*Order example*: CHA 25-100 B P=20,0 (codice/*code* + D+L+L1+P)

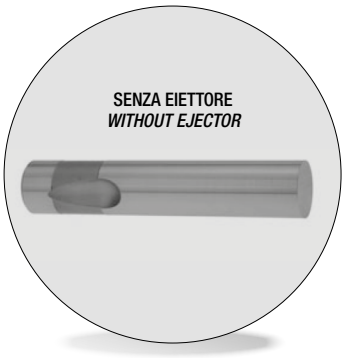
STD = standard

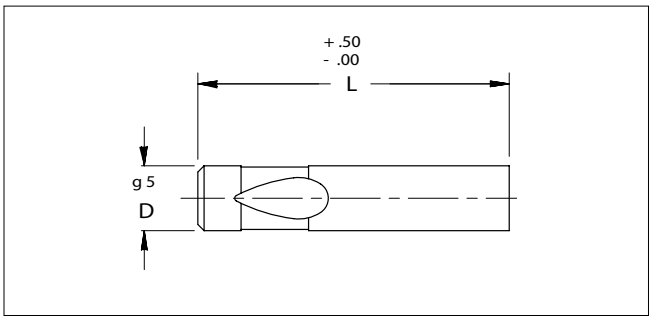
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Punzoni innesto rapido sbozzati applicazioni pesanti

Ball lock punches blanks heavy duty





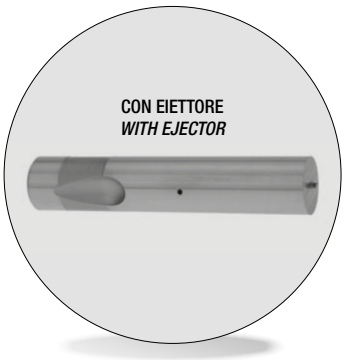
Codice/*Code*	Materiale/*Material*
Cod. **CHB**	Acciaio/ *Steel* M2, HRC 60-63 ALTERNATIVA/*ALTERNATIVE* *Acciaio/*Steel* PS POWDER METAL HIGH SPEED STEEL

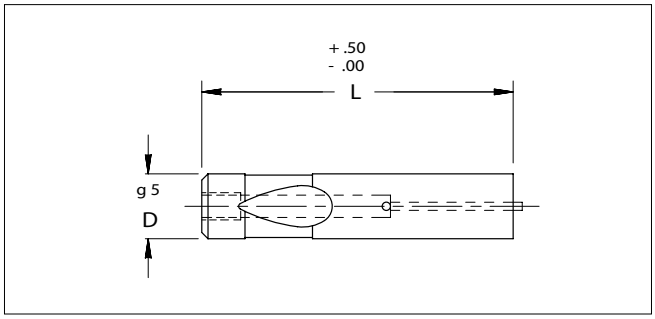
Per le alterazioni standard vedi pagg. 3.51 ÷ 3.55
For product alterations see pages 3.51 ÷ 3.55

CODICE *CODE*	D	L											
		71	80	90	100	110	125	150	165	170	175	180	190
CHB 10	10	●	●	●	●	●	●	●					
CHB 13	13	●	●	●	●	●	●	●					
CHB 16	16	●	●	●	●	●	●	●	●				
CHB 20	20	●	●	●	●	●	●	●		●			
CHB 25	25		●	●	●	●	●	●			●		
CHB 32	32		●	●	●	●	●	●				●	
CHB 40	40		●	●	●	●	●	●					●

Esempio di ordinazione/*Order example*: CHB 20-110 (codice/*code* + D+L)

*Specificare M2 o PS in fase d'ordine
Must specify M2 or PS when ordering





Codice/*Code*	Materiale/*Material*
Cod. **CEB**	Acciaio/ *Steel* M2, HRC 60-63 ALTERNATIVA/*ALTERNATIVE* *Acciaio/ *Steel* PS POWDER METAL HIGH SPEED STEEL

Per le alterazioni standard vedi pagg. 3.51 ÷ 3.55
For product alterations see pages 3.51 ÷ 3.55

CODICE *CODE*	D	L						
		63	71	80	90	100	110	125
CEB 10	10	●	●	●	●	●	●	
CEB 13	13	●	●	●	●	●	●	●
CEB 16	16	●	●	●	●	●	●	●
CEB 20	20	●	●	●	●	●	●	●
CEB 25	25			●	●	●	●	●
CEB 32	32			●	●	●	●	●
CEB 40	40			●	●	●	●	●

Esempio di ordinazione/*Order example*: CEB 16-100 (codice/*code* +D+L)

*Specificare M2 o PS in fase d'ordine
Must specify M2 or PS when ordering

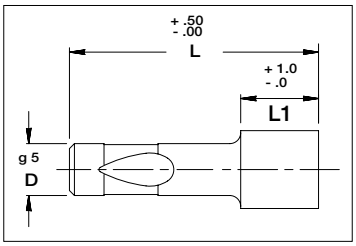
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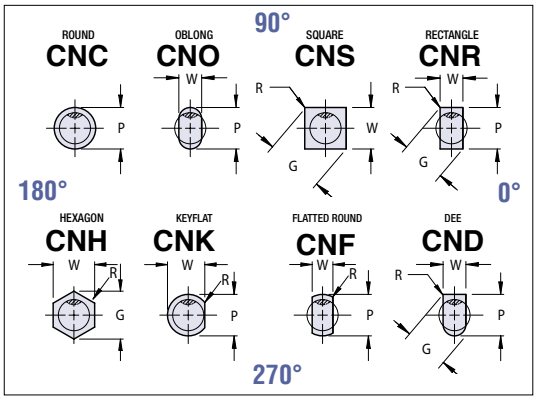
Punzoni innesto rapido applicazioni pesanti con tranciante maggiorato

Nose large punches heavy duty





I disegni rappresentano i punzoni visti dalla parte del corpo ma disegnate con linea piena per chiarezza.
Views are shown looking through the shank but drawn with solid lines for clarity.



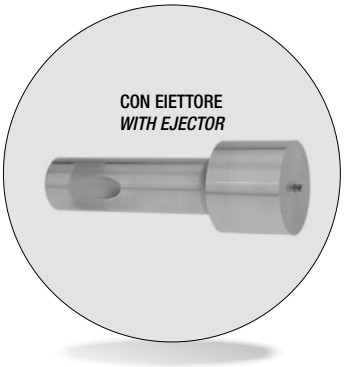
Codice/*Code*	Materiale/*Material*	Tolleranze standard/*Standard Point Tolerance*
Cod. **CN_**	Acciaio/*Steel* M2, HRC 60-63	Tondo/*Round* P +.01 -.00 ◎ 0.01 P - D Sagoma/*Shape* P,W ± .01 ◎ 0.02 P - D

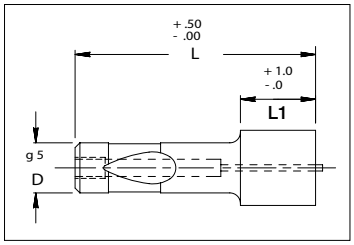
La posizione standard della sede sfera è a 90°. Tutte le altre posizioni devono essere specificate in fase d'ordine (es. BS@45°)
Standard ball seat location is at 90° as shown. For other positions, specify when ordering (ex. BS@45°)

CODICE/*CODE*	D	L1	TONDO/*ROUND*	SAGOMA/*SHAPE*		L		
			P	MIN W	MAX G/P	80	90	100
CN_ 10	10	16	10.10 - 25.00	3.00	25.00	●	●	●
CN_ 13	13	20	13.10 - 32.00	5.00	32.00	●	●	●
CN_ 16	16	25	16.10 - 38.00	6.00	38.00	●	●	●
CN_ 20	20	25	20.10 - 40.00	8.00	40.00	●	●	●
CN_ 25	25	25	25.10 - 47.00	10.00	47.00	●	●	●
CN_ 32	32	32	32.10 - 63.00	11.50	63.00	●	●	●
CN_ 40	40	32	40.10 - 63.00	14.00	63.00	●	●	●

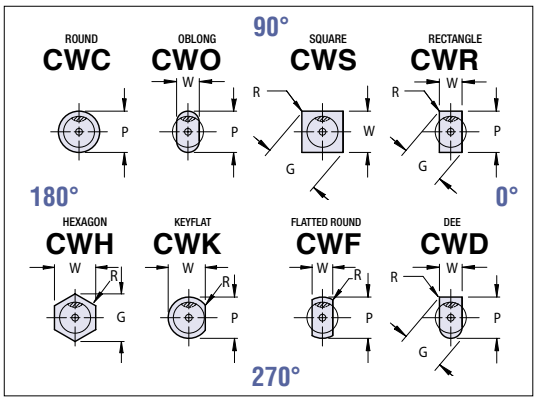
Esempio di ordinazione/*Order example*: CNR 20-90 P=22 W=12 (Codice/*code* + D + L + P o P/W)

Per le alterazioni standard vedi pagg. 3.51 ÷ 3.55
For product alterations see pages 3.51 ÷ 3.55





I disegni rappresentano i punzoni visti dalla parte del corpo ma disegnate con linea piena per chiarezza.
Views are shown looking through the shank but drawn with solid lines for clarity.



Codice/*Code*	Materiale/*Material*	Tolleranze standard/*Standard Point Tolerance*
Cod. **CW_**	Acciaio/*Steel* M2, HRC 60-63	Tondo/*Round* P +.01 -.00 ◎ 0.01 P - D Sagoma/*Shape* P,W ± .01 ◎ 0.02 P - D

La posizione standard della sede sfera è a 90°. Tutte le altre posizioni devono essere specificate in fase d'ordine (es. BS@45°)
Standard ball seat location is at 90° as shown. For other positions, specify when ordering (ex. BS@45°)

CODICE/*CODE*	D	L1	TONDO/*ROUND*	SAGOMA/*SHAPE*		L		
			P	MIN W	MAX G/P	80	90	100
CW_ 10	10	16	10.10 - 25.00	3.00	25.00	●	●	●
CW_ 13	13	20	13.10 - 32.00	5.00	32.00	●	●	●
CW_ 16	16	25	16.10 - 38.00	6.00	38.00	●	●	●
CW_ 20	20	25	20.10 - 40.00	8.00	40.00	●	●	●
CW_ 25	25	25	25.10 - 47.00	10.00	47.00	●	●	●
CW_ 32	32	32	32.10 - 63.00	11.50	63.00	●	●	●
CW_ 40	40	32	40.10 - 63.00	14.00	63.00	●	●	●

Esempio di ordinazione/*Order example*: CWO 16 90 P=19 W=13 (codice/*code* + D+L+P o P/W)

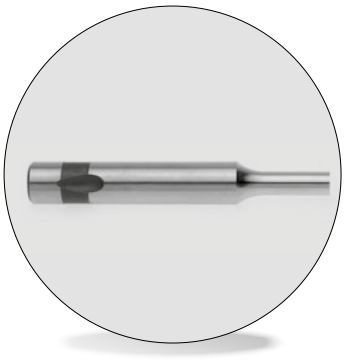
Per le alterazioni standard vedi pagg. 3.51 ÷ 3.55
For product alterations see pages 3.51 ÷ 3.55

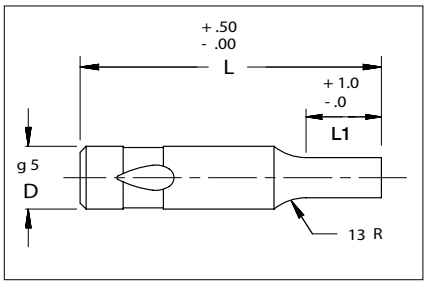
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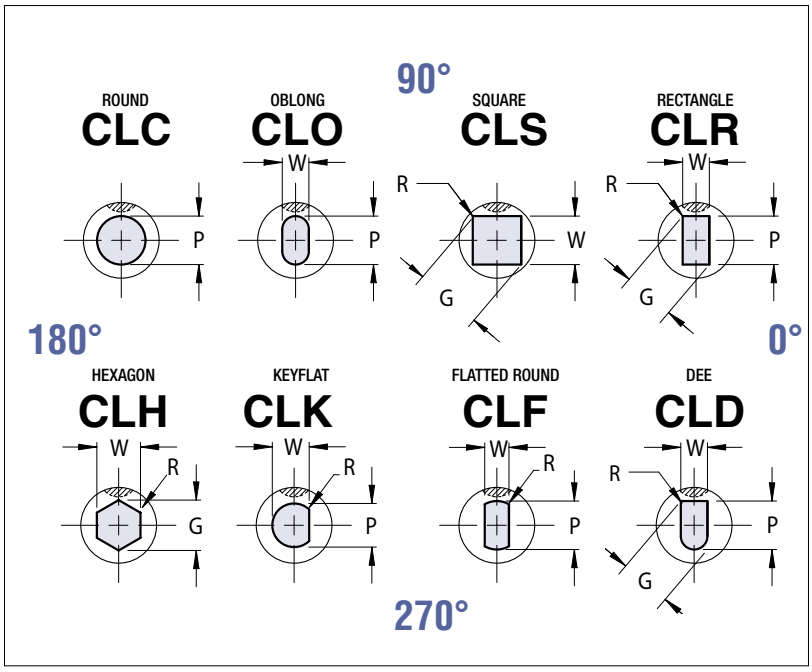
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Punzoni innesto rapido applicazioni leggere

Ball lock punches light duty







Per le alterazioni standard vedi pagg. 3.51 ÷ 3.55
For product alterations see pages 3.51 ÷ 3.55

I disegni rappresentano i punzoni visti dalla parte del corpo ma disegnate con linea piena per chiarezza.
Views are shown looking through the shank but drawn with solid lines for clarity.

Codice/*Code*	Materiale/*Material*	Tolleranze standard/ *Standard Point Tolerance*
Cod. **CL_**	Acciaio/*Steel* M2, HRC 60-63	Tondo/*Round* P +.01 -.00 ◎ 0.01 P - D Sagoma/Shape P,W ± .01 ◎ 0.02 P - D

CODICE *CODE*	D	TONDO/*ROUND*	SAGOMA/*SHAPE*		L				
		P	MIN W	MAX G/P	63	71	80	90	100
CL_ 06	6	2.20 - 5.98	2.20	6.00	•	•	•	•	•
CL_ 10	10	2.50 - 9.98	2.50	10.00	•	•	•	•	•
CL_ 13	13	5.00 - 12.98	4.50	13.00	•	•	•	•	•
CL_ 16	16	8.00 - 15.98	6.00	16.00	•	•	•	•	•
CL_ 20	20	12.00 - 19.98	8.00	20.00	•	•	•	•	•
CL_ 25	25	16.00 - 24.98	10.00	25.00	•	•	•	•	•

CODICE *CODE*	D	L1		
		STD	B	C
CL_ 06	6	13	10	__
CL_ 10	10	19	10	__
CL_ 13	13	19	13	25
CL_ 16	16	19	13	25
CL_ 20	20	19	13	25
CL_ 25	25	19	13	25

STD = standard
L = 63 L1 MAX = 19

Esempio di ordinazione/*Order example*:

TIPO	"D"	"L"	Lung. L1	P (o P&W) dimensioni
CLO	16	80	B	14,0x7,0
CLC	10	90	STD	8,0

La posizione standard della sede sfera è a 90°.
Tutte le altre posizioni devono essere specificate in fase d'ordine (es. BS@45°)
Standard ball seat location is at 90° as shown.
For other positions, specify when ordering (ex. BS@45°)

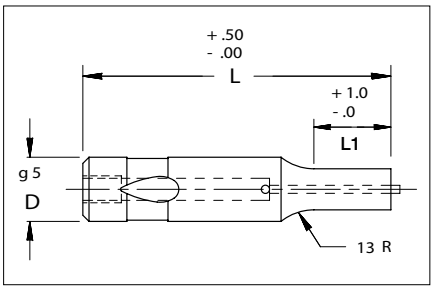
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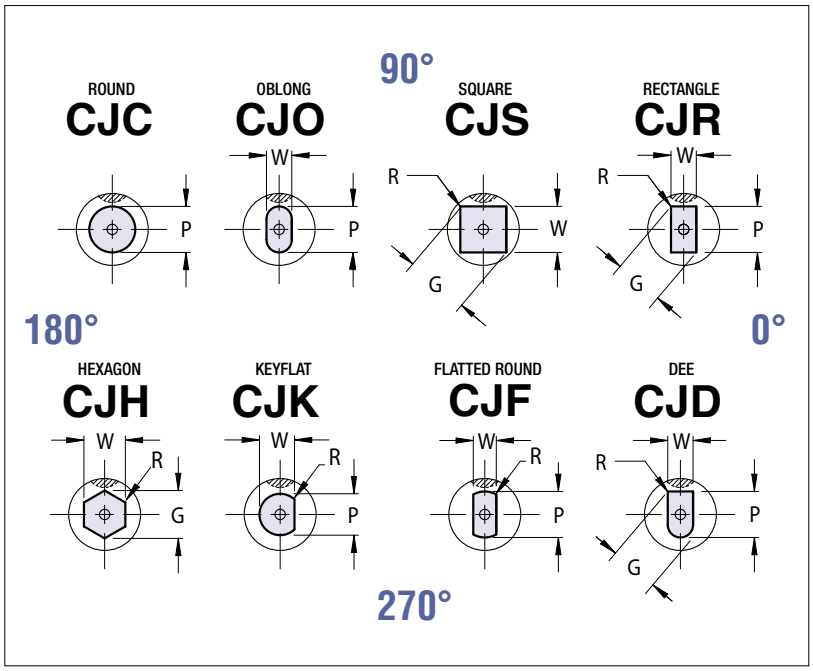
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Punzoni innesto rapido applicazioni leggere con eiettore

Ball lock punches light duty-ejector







Per le alterazioni standard vedi pagg. 3.51 ÷ 3.55
For product alterations see pages 3.51 ÷ 3.55

I disegni rappresentano i punzoni visti dalla parte del corpo ma disegnate con linea piena per chiarezza.
Views are shown looking through the shank but drawn with solid lines for clarity.

Codice/*Code*	Materiale/*Material*	Tolleranze standard/ *Standard Point Tolerance*
Cod. **CJ_**	Acciaio/*Steel* M2, HRC 60-63	Tondo/*Round* P +.01 -.00 ◎ 0.01 P - D Sagoma/Shape P,W ± .01 ◎ 0.02 P - D

CODICE *CODE*	D	TONDO/*ROUND*	SAGOMA/*SHAPE*		L				
		P	MIN W	MAX G/P	63	71	80	90	100
CJ_ 06	6	2.20 - 5.98	2.20	6.00	•	•	•	•	•
CJ_ 10	10	2.50 - 9.98	2.50	10.00	•	•	•	•	•
CJ_ 13	13	5.00 - 12.98	4.50	13.00	•	•	•	•	•
CJ_ 16	16	8.00 - 15.98	6.00	16.00	•	•	•	•	•
CJ_ 20	20	12.00 - 19.98	8.00	20.00	•	•	•	•	•
CJ_ 25	25	16.00 - 24.98	10.00	25.00	•	•	•	•	•

CODICE *CODE*	D	L1		
		STD	B	C
CJ_ 06	6	13	10	__
CJ_ 10	10	19	10	__
CJ_ 13	13	19	13	25
CJ_ 16	16	19	13	25
CJ_ 20	20	19	13	25
CJ_ 25	25	19	13	25

STD = standard
L = 63 L1 MAX = 19
L = 71 L1 MAX = 19

Esempio di ordinazione/*Order example*:

TIPO	"D"	"L"	Lung. L1	P (o P&W) dimensioni
CJC	16	90	STD	10,0
CJO	13	80	B	10,0x7,0

La posizione standard della sede sfera è a 90°. Tutte le altre posizioni devono essere specificate in fase d'ordine (es. BS@45°)
Standard ball seat location is at 90° as shown. For other positions, specify when ordering (ex. BS@45°)

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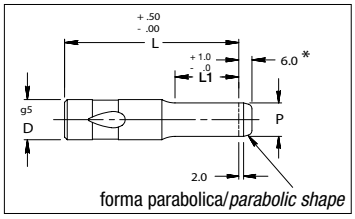
Punzoni innesto rapido applicazioni leggere

Ball lock light duty

Piloti innesto rapido *Ball lock pilots*



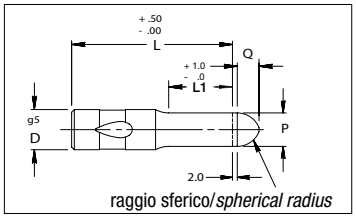
Cod. **CLT**



*LEGGERMENTE INFERIORE PER Ø AL DI SOTTO DI 5,6 mm
*SLIGHTLY LESS FOR DIA'S UNDER 5.6

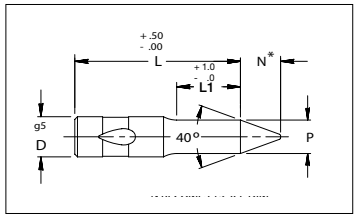


Cod. **CLP**





Cod. **CLA**



* N = 1.2 X P MIN. NEL CASO IN CUI P SIA COME IN TABELLA
* *N BECOMES 1.2 X P DIM WHEN P IS BELOW MIN (SEE CHART)*

Codice/*Code*	Materiale/*Material*	Tolleranze standard/ *Standard Point Tolerance*
Cod. **CLT** / **CLP** **CLA**	Acciaio/*Steel* M2, HRC 60-63	Tondo/Round P $^{+.01}_{-.00}$ ◎ 0.01 P - D Quando P=D si usa la tolleranza del corpo (D) *When P = D Shank Tolerances apply (D)*

Codice/*Code*	Quota P / *P dim.*	Q
Cod. **CLP**	1.50-9.50	4
	>9.51	10

CODICE/*CODE*	D	P	N	P MIN. *	L				
					63	71	80	90	100
CL_ 06	6	2.20 - 6.00	—	—	●	●	●	●	●
CL_ 10	10	2.50 - 10.00	8	5.64	●	●	●	●	●
CL_ 13	13	5.00 - 13.00	10	7.11	●	●	●	●	●
CL_ 16	16	8.00 - 16.00	15	10.74	●	●	●	●	●
CL_ 20	20	12.00 - 20.00	20	14.38	●	●	●	●	●
CL_ 25	25	16.00 - 25.00	25	18.00	●	●	●	●	●

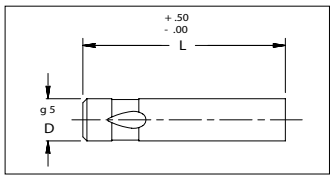
CODICE/*CODE*	D	L1		
		STD	B	C
CL_ 06	6	13	10	__
CL_ 10	10	19	10	__
CL_ 13	13	19	13	25
CL_ 16	16	19	13	25
CL_ 20	20	19	13	25
CL_ 25	25	19	13	25

Esempio di ordinazione/*Order example*: CLT 10 80 B P=7.00 (codice/*code* + D+L+L1+P)

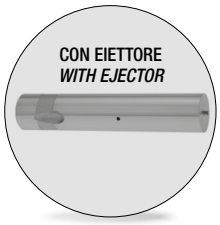
STD = standard
L = 63 L1 MAX = 19

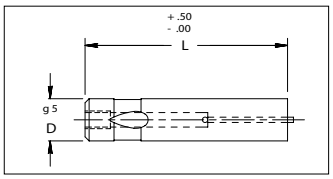
Punzoni innesto rapido sbozzati *Ball lock punches blanks*





Cod. **CLB**





Cod. **CJB**

Codice/*Code*	Materiale/*Material*
Cod. **CLB** / **CJB**	Acciaio/*Steel* M2, HRC 60-63

Per le alterazioni standard vedi pagg. 3.51 ÷ 3.55
For product alterations see pages 3.51 ÷ 3.55

CODICE/*CODE*	D	L					
		63	71	80	90	100	125
CLB_ 06	6	●	●	●	●	●	●
CLB_ 10	10	●	●	●	●	●	●
CLB_ 13	13	●	●	●	●	●	●
CLB_ 16	16	●	●	●	●	●	●
CLB_ 20	20	●	●	●	●	●	●
CLB_ 25	25	●	●	●	●	●	●

Esempio di ordinazione/*Order example*:
CLB 20 90 (codce/*code*+D+L)

CODICE/*CODE*	D	L				
		63	71	80	90	100
CJB_ 06	6	●	●	●	●	●
CJB_ 10	10	●	●	●	●	●
CJB_ 13	13	●	●	●	●	●
CJB_ 16	16	●	●	●	●	●
CJB_ 20	20	●	●	●	●	●
CJB_ 25	25	●	●	●	●	●

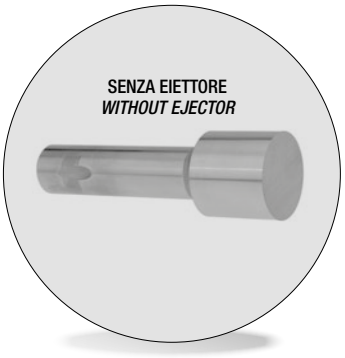
Esempio di ordinazione/*Order example*:
CJB 16 90 (codce/*code*+D+L)

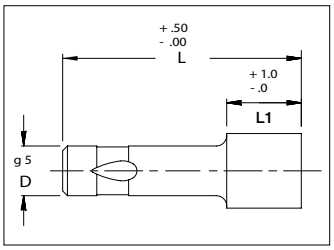
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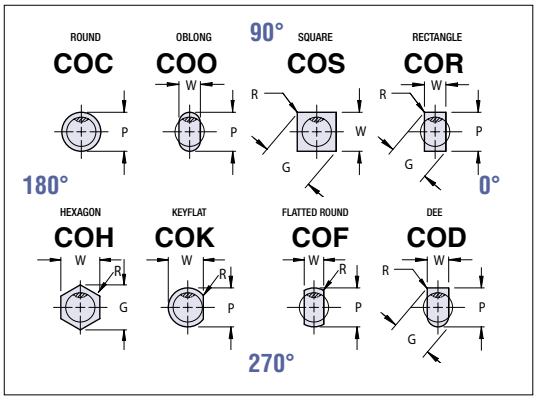
Punzoni innesto rapido per applicazioni leggere con tranciante maggiorato

Ball lock nose large light duty





I disegni rappresentano i punzoni visti dalla parte del corpo ma disegnate con linea piena per chiarezza.
Views are shown looking through the shank but drawn with solid lines for clarity.



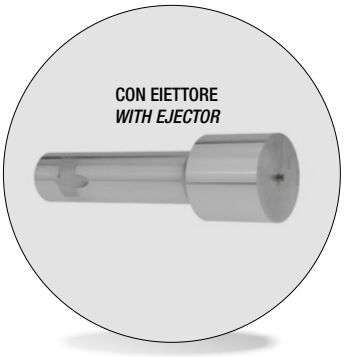
Per le alterazioni standard vedi pagg. 3.51 ÷ 3.55
For product alterations see pages 3.51 ÷ 3.55

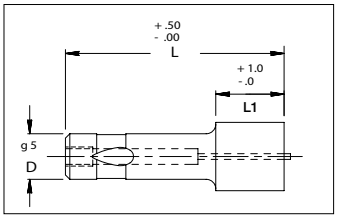
Codice/*Code*	Materiale/*Material*	Tolleranze standard/ *Standard Point Tolerance*
Cod. **CO_**	Acciaio/*Steel* M2, HRC 60-63	Tondo/*Round* P +.01 -.00 ◎ 0.01 P - D Sagoma/Shape P,W ± .01 ◎ 0.02 P - D

La posizione standard della sede sfera è a 90°. Tutte le altre posizioni devono essere specificate in fase d'ordine (es. BS@45°)
Standard ball seat location is at 90° as shown. For other positions, specify when ordering (ex. BS@45°)

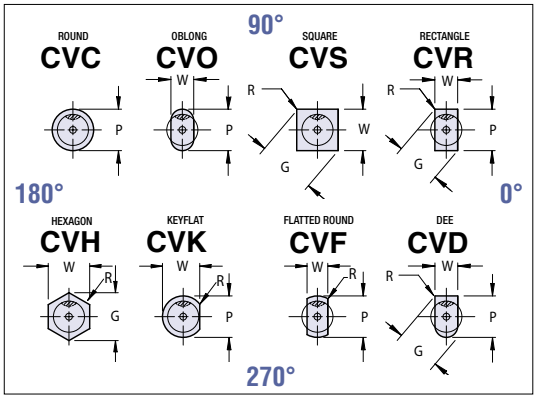
CODICE/*CODE*	D	L1	TONDO/*ROUND*	SAGOMA/*SHAPE*		L		
			P	MIN W	MAX G/P	80	90	100
CO_ 10	10	16	10.10 - 25.00	3.00	25.00	●	●	●
CO_ 13	13	20	13.10 - 32.00	5.00	32.00	●	●	●
CO_ 16	16	25	16.10 - 38.00	6.00	38.00	●	●	●
CO_ 20	20	25	20.10 - 40.00	8.00	40.00	●	●	●
CO_ 25	25	25	25.10 - 47.00	10.00	45.00	●	●	●
CO_ 32	32	32	32.10 - 63.00	11.50	63.00	●	●	●

Esempio di ordinazione/*Order example*: MOO 16 90 P = 22,0 W = 11,0 (codice/*code*+D+L+P o P/W)





I disegni rappresentano i punzoni visti dalla parte del corpo ma disegnate con linea piena per chiarezza.
Views are shown looking through the shank but drawn with solid lines for clarity.



Per le alterazioni standard vedi pagg. 3.51 ÷ 3.55/*For product alterations see pages 3.51 ÷ 3.55*

Codice/*Code*	Materiale/*Material*	Tolleranze standard/ *Standard Point Tolerance*
Cod. **CV_**	Acciaio/*Steel* M2, HRC 60-63	Tondo/*Round* P +.01 -.00 ◎ 0.01 P - D Sagoma/Shape P,W ± .01 ◎ 0.02 P - D

La posizione standard della sede sfera è a 90°. Tutte le altre posizioni devono essere specificate in fase d'ordine (es. BS@45°)
Standard ball seat location is at 90° as shown. For other positions, specify when ordering (ex. BS@45°)

CODICE/*CODE*	D	L1	TONDO/*ROUND*	SAGOMA/*SHAPE*		L		
			P	MIN W	MAX G/P	80	90	100
CV_ 10	10	16	10.10 - 25.00	3.00	25.00	●	●	●
CV_ 13	13	20	13.10 - 32.00	5.00	32.00	●	●	●
CV_ 16	16	25	16.10 - 38.00	6.00	38.00	●	●	●
CV_ 20	20	25	20.10 - 40.00	8.00	40.00	●	●	●
CV_ 25	25	25	25.10 - 47.00	10.00	45.00	●	●	●
CV_ 32	32	32	32.10 - 63.00	11.50	63.00	●	●	●

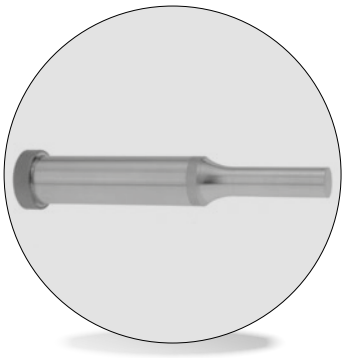
Esempio di ordinazione/*Order example*: CVR 16 90 P=21 W=7 (codice/*code* + D+L+P o P/W)

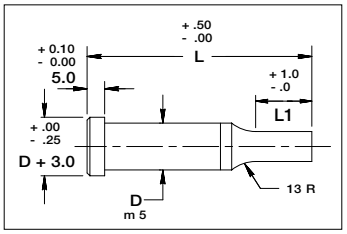
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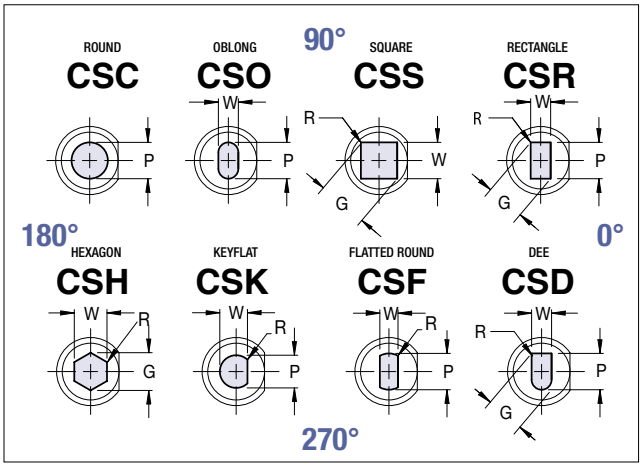
Punzoni testa cilindrica

Shoulder punches - Solid





Per le alterazioni standard vedi pagg. 3.51 ÷ 3.55
For product alterations see pages 3.51 ÷ 3.55



I disegni rappresentano i punzoni visti dalla parte del corpo ma disegnate con linea piena per chiarezza/*Views are shown looking through the shank but drawn with solid lines for clarity.*



Per alterazione spina di centraggio CD vedi pag. 3.53/*For center dowel alteration, see page 3.53.*

Codice/*Code*	Materiale/*Materiale*	Tolleranze standard/ *Standard Point Tolerance*	*Tolleranza alternativa/*Alt. point tol.*	T2
Cod. **CS_**	Acciaio/*Steel:* M2, HRC 60-63 Testa/*Head* - HRC 45-55 ALTERNATIVA/*ALTERNATIVE* **PS POWDER METAL HIGH SPEED STEEL, HRC 62-65 Testa/*Head* - HRC 45-55	Tondo/*Round* P +.01 -.00 ◎ 0.01 P - D Sagoma/*Shape* P,W ± .01 ◎ 0.02 P - D Quando P=D si usa la tolleranza del corpo (D) *When P = D Shank Tolerances apply (D)*	P,W +.005 -.000 P - D ◎ 0.008 * a richiesta e non eseguibile oltre il Ø 45 * *on request, not available beyond Ø 45*	

CODICE *CODE*	D	TONDO/*ROUND*	SAGOMA/*SHAPE*		L													
		P	MIN W	MAX G/P	40	50	56	60	63	70	71	80	90	100	110	120	125	150
CS_ 04	4	1.60 - 3.99	1.60	4.00	●	●	●	●	●	●	●	●	●	●		●	●	
CS_ 05	5	1.60 - 4.99	1.60	5.00	●	●	●	●	●	●	●	●	●	●		●	●	
CS_ 06	6	1.60 - 5.99	1.60	6.00		●	●	●	●	●	●	●	●	●		●	●	
CS_ 08	8	2.50 - 7.99	2.50	8.00		●	●	●	●	●	●	●	●	●	●	●	●	
CS_ 10	10	3.20 - 9.99	3.20	10.00		●	●	●	●	●	●	●	●	●	●	●	●	●
CS_ 13	13	5.00 - 12.99	4.50	13.00		●	●	●	●	●	●	●	●	●	●	●	●	●
CS_ 16	16	8.00 - 15.99	6.00	16.00		●	●	●	●	●	●	●	●	●	●	●	●	●
CS_ 20	20	10.00 - 19.99	8.00	20.00			●	●	●	●	●	●	●	●	●	●	●	●
CS_ 25	25	12.00 - 24.99	9.00	25.00			●	●	●	●	●	●	●	●	●	●	●	●
CS_ 32	32	16.00 - 31.99	10.00	32.00					●	●	●	●	●	●	●	●	●	●
CS_ 40	40	30.00 - 39.99	14.00	40.00								●	●	●	●	●	●	●
CS_ 45	45	25.00 - 44.99	10.00	45.00								●	●	●	●	●	●	●
CS_ 50	50	30.00 - 49.99	12.00	50.00								●	●	●	●	●	●	●
CS_ 56	56	35.00 - 55.99	13.00	56.00								●	●	●	●	●	●	●
CS_ 63	63	40.00 - 62.99	14.00	63.00								●	●	●	●		●	●

CODICE *CODE*	D	L1		
		STD	B	C
CS_ 04	4	8	10	—
CS_ 05	5	13	10	—
CS_ 06	6	13	10	—
CS_ 08	8	19	13	—
CS_ 10	10	19	13	25
CS_ 13	13	19	13	25
CS_ 16	16	19	13	25
CS_ 20	20	19	13	25

CODICE *CODE*	D	L1		
		STD	B	C
CS_ 25	25	19	13	25
CS_ 32	32	25	19	30
CS_ 40	40	25	19	30
CS_ 45	45	25	19	30
CS_ 50	50	25	19	30
CS_ 56	56	25	19	30
CS_ 63	63	25	19	30

L=50 L1 MAX=13 L=60 L1 MAX=19
L=56 L1 MAX=19 L=63 L1 MAX=25

**Specificare M2 o PS in fase d'ordine
***Must specify M2 or PS when ordering*

Esempio di ordinazione/*Order example*:

TIPO	"D"	"L"	Lung. L1	P (o P/W) dimensioni	ALT. STD.	MATERIALE
CSC	13	90	13	10,0	F1	M2
CSO	16	80	STD	14,0x8,0	F1	PS

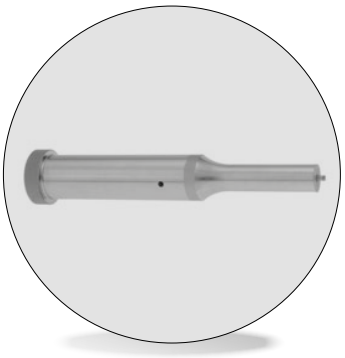
Il taglio della chiavetta è in posizione standard a 0°. Tutte le altre posizioni devono essere specificate in fase d'ordine (es. 90°).
Standard flat location is at 0° as shown. For other positions, specify when ordering (ex. 90°)

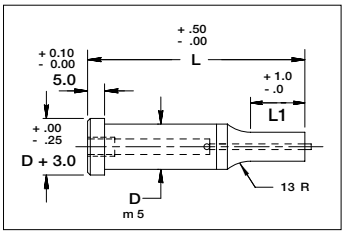
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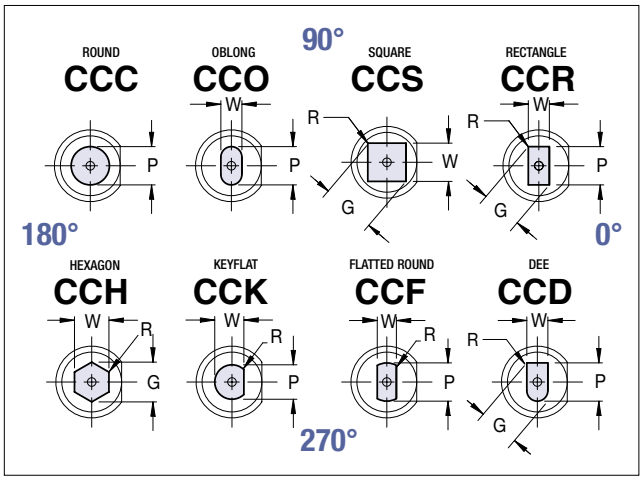
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Punzoni testa cilindrica con eiettore

Shoulder punches ejector







Per le alterazioni standard vedi pagg. 3.51 ÷ 3.55
For product alterations see pages 3.51 ÷ 3.55

I disegni rappresentano i punzoni visti dalla parte del corpo ma disegnate con linea piena per chiarezza/*Views are shown looking through the shank but drawn with solid lines for clarity.*



Per alterazione spina di centraggio CD vedi pag. 3.53/*For center dowel alteration, see page 3.53.*

Codice/*Code*	Materiale/*Materiale*	Tolleranze standard/ *Standard Point Tolerance*	*Tolleranza alternativa/*Alt. point tol.*	T2
Cod. **CC_**	Acciaio/*Steel:* M2, HRC 60-63 Testa/*Head* - HRC 45-55 ALTERNATIVA/*ALTERNATIVE* **PS POWDER METAL HIGH SPEED STEEL, HRC 62-65 Testa/*Head* - HRC 45-55	Tondo/*Round* P +.01 -.00 ◎ 0.01 P - D Sagoma/*Shape* P,W ± .01 ◎ 0.02 P - D Quando P=D si usa la tolleranza del corpo (D) *When P = D Shank Tolerances apply (D)*	P,W +.005 -.000 P - D ◎ 0.008 * a richiesta e non eseguibile oltre il Ø 45 * *on request, not available beyond Ø 45*	

CODICE *CODE*	D	TONDO/*ROUND*	SAGOMA/*SHAPE*		L										
		P	MIN W	MAX G/P	50	56	60	63	70	71	80	90	100	110	125
CC_ 05	5	1.60 - 4.99	1.60	5.00	●	●	●	●	●	●	●	●	●		
CC_ 06	6	2.50 - 5.99	2.50	6.00	●	●	●	●	●	●	●	●	●		
CC_ 08	8	3.20 - 7.99	3.20	8.00	●	●	●	●	●	●	●	●	●	●	●
CC_ 10	10	4.50 - 9.99	4.50	10.00	●	●	●	●	●	●	●	●	●	●	●
CC_ 13	13	6.00 - 12.99	6.00	13.00	●	●	●	●	●	●	●	●	●	●	●
CC_ 16	16	8.00 - 15.99	7.50	16.00	●	●	●	●	●	●	●	●	●	●	●
CC_ 20	20	10.00 - 19.99	8.00	20.00		●	●	●	●	●	●	●	●	●	●
CC_ 25	25	12.00 - 24.99	9.00	25.00		●	●	●	●	●	●	●	●	●	●
CC_ 32	32	16.00 - 31.99	10.00	32.00				●	●	●	●	●	●	●	●
CC_ 40	40	30.00 - 39.99	14.00	40.00							●	●	●	●	●
CC_ 45	45	25.00 - 44.99	10.00	45.00							●	●	●	●	●
CC_ 50	50	30.00 - 49.99	12.00	50.00							●	●	●	●	●
CC_ 56	56	35.00 - 55.99	13.00	56.00							●	●	●	●	●
CC_ 63	63	40.00 - 62.99	14.00	63.00							●	●	●	●	●

CODICE *CODE*	D	L1		
		STD	B	C
CC_ 05	5	13	10	__
CC_ 06	6	13	10	__
CC_ 08	8	19	13	__
CC_ 10	10	19	13	25
CC_ 13	13	19	13	25
CC_ 16	16	19	13	25
CC_ 20	20	19	13	25

CODICE *CODE*	D	L1		
		STD	B	C
CC_ 25	25	19	13	25
CC_ 32	32	25	19	30
CC_ 40	40	25	19	30
CC_ 45	45	25	19	30
CC_ 50	50	25	19	30
CC_ 56	56	25	19	30
CC_ 63	63	25	19	30

**Specificare M2 o PS in fase d'ordine
***Must specify M2 or PS when ordering*

L=50 L1 MAX=13
L=56 L1 MAX=19
L=60 L1 MAX=19
L=63 L1 MAX=25

Esempio di ordinazione/*Order example*:

TIPO	"D"	"L"	Lung. L1	P (o P/W) dimensioni	ALT. STD.	MATERIALE
CCC	13	90	STD	10,0	F1	M2
CCO	16	80	B	13,0x9,0	F1	PS

Il taglio della chiavetta è in posizione standard a 0°. Tutte le altre posizioni devono essere specificate in fase d'ordine.
Standard flat location is at 0° as shown. For other positions, specify when ordering (ex. 90°)

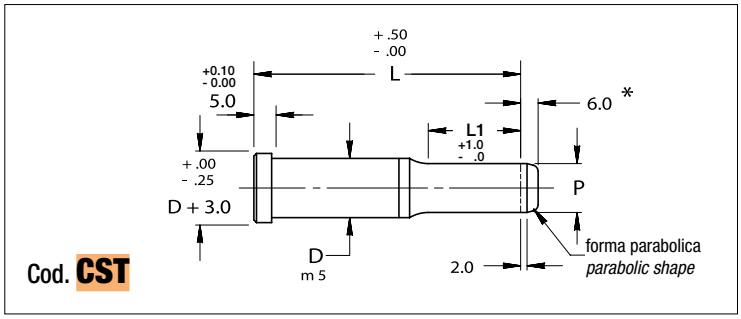
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Piloti testa cilindrica

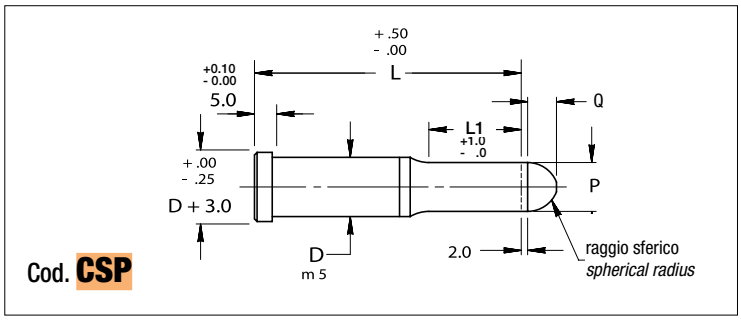
Shoulder pilots





* LEGGERMENTE INFERIORE PER Ø AL DI SOTTO DI 5,6 MM/*SLIGHTLY LESS FOR DIA'S UNDER 5.6*





Per le alterazioni standard vedi pagg. 3.51 ÷ 3.55
For product alterations see pages 3.51 ÷ 3.55

Codice/*Code*	Quota P /P dim.	Q
Cod. CSP	1.50-9.50 >9.51	4 10

Codice/*Code*	Materiale/*Materiale*	Tolleranze standard/*Standard Point Tolerance*	*Toller. alternativa/*Alt. point tol.*	T2
Cod. CST Cod. CSP	Acciaio/*Steel:* M2, HRC 60-63 Testa/*Head* - HRC 45-55 ALTERNATIVA/*ALTERNATIVE* **PS POWDER METAL HIGH SPEED STEEL, HRC 62-65 Testa/*Head* - HRC 45-55	Tondo/*Round* P +.01 -.00 ◎ 0.01 P - D Quando P=D si usa la tolleranzala tolleranza del corpo (D). *When P=D shank tolerances apply.*	P,W +.005 -.000 P - D ◎ 0.008 * a richiesta/*on request*	

CODICE *CODE*	D	P	L									
			40	50	56	60	63	70	71	80	90	100
CS_ 04	4	1.55 - 4.00	●	●	●	●	●	●	●	●	●	●
CS_ 05	5	1.55 - 5.00	●	●	●	●	●	●	●	●	●	●
CS_ 06	6	1.55 - 6.00		●	●	●	●	●	●	●	●	●
CS_ 08	8	2.45 - 8.00		●	●	●	●	●	●	●	●	●
CS_ 10	10	3.15 - 10.00		●	●	●	●	●	●	●	●	●
CS_ 13	13	4.95 - 13.00		●	●	●	●	●	●	●	●	●
CS_ 16	16	7.95 - 16.00		●	●	●	●	●	●	●	●	●
CS_ 20	20	9.95 - 20.00			●	●	●	●	●	●	●	●
CS_ 25	25	11.95 - 25.00			●	●	●	●	●	●	●	●
CS_ 32	32	15.95 - 32.00					●	●	●	●	●	●

CODICE *CODE*	D	L1		
		STD	B	C
CS_ 04	4	8	10	__
CS_ 05	5	13	10	__
CS_ 06	6	13	10	__
CS_ 08	8	19	13	__
CS_ 10	10	19	13	25

CODICE *CODE*	D	L1		
		STD	B	C
CS_ 13	13	19	13	25
CS_ 16	16	19	13	25
CS_ 20	20	19	13	25
CS_ 25	25	19	13	25
CS_ 32	32	25	19	30

STD = standard L = 50 L1 MAX = 13 L = 60 L1 MAX = 19
L = 56 L1 MAX = 19 L = 63 L1 MAX = 25

Esempio di ordinazione/*Order example*: CST13 71 STD P=10,00 (codice/*code* + D+L+L1+P)

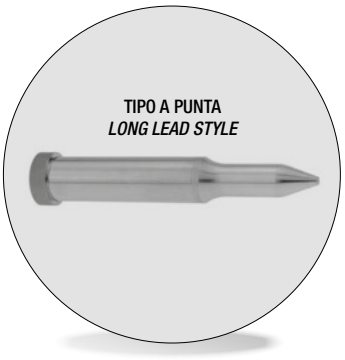
**Specificare M2 o PS in fase d'ordine
***Must specify M2 or PS when ordering*

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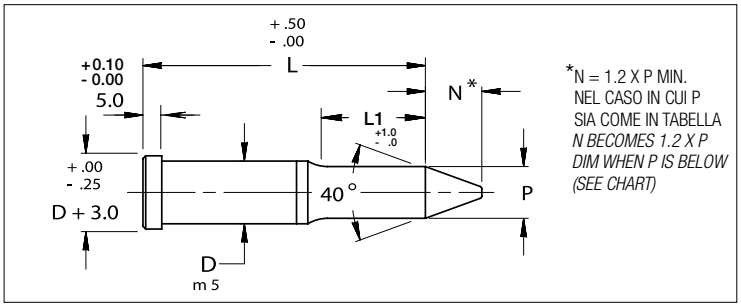
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Piloti testa cilindrica

Shoulder pilots



Per le alterazioni standard vedi pagg. 3.51 ÷ 3.55
For product alterations see pages 3.51 ÷ 3.55



*N = 1.2 X P MIN. NEL CASO IN CUI P SIA COME IN TABELLA
N BECOMES 1.2 X P DIM WHEN P IS BELOW (SEE CHART)



Per alterazione spina di centraggio CD vedi pag. 3.53/*For center dowel alteration, see page 3.53.*

Codice/*Code*	Materiale/*Materiale*	Tolleranze standard/ *Standard Point Tolerance*	*Toller. alternt./*Alt. point tol.*	T2
Cod. **CSA**	Acciaio/*Steel:* M2, HRC 60-63 Testa/*Head* - HRC 45-55 ALTERNATIVA/*ALTERNATIVE* **PS POWDER METAL HIGH SPEED STEEL, HRC 62-65 Testa/*Head* - HRC 45-55	Tondo/*Round* P +.01 -.00 ◎ 0.01 P - D Quando P=D si usa la tolleranzala tolleranza del corpo (D). *When P=D shank tolerances apply.*	P,W +.005 -.000 P - D ◎ 0.008 * a richiesta/*on request*	

CODICE/*CODE*	D	P	N	P MIN. *	L								
					63	70	71	80	90	100	110	125	140
CSA 10	10	4.85 - 10.00	8	5.64	●	●	●	●	●	●	●		
CSA 13	13	6.30 - 13.00	10	7.11	●	●	●	●	●	●	●	●	●
CSA 16	16	9.95 - 16.00	15	10.74		●	●	●	●	●	●	●	●
CSA 20	20	13.60 - 20.00	20	14.38		●	●	●	●	●	●	●	●
CSA 25	25	17.25 - 25.00	25	18.00		●	●	●	●	●	●	●	●
CSA 32	32	20.85 - 32.00	30	21.67			●	●	●	●	●	●	●

CODICE/*CODE*	D	L1	
		STD	B
CSA 10	10	19	25
CSA 13	13	19	25
CSA 16	16	19	25

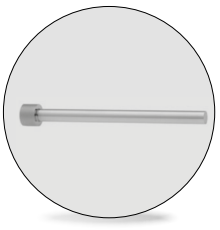
CODICE/*CODE*	D	L1	
		STD	B
CSA 20	20	19	25
CSA 25	25	19	25
CSA 32	32	25	30

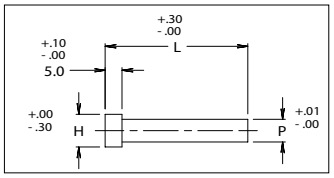
STD = standard

Esempio di ordinazione/*Order example*: CSA 20 90 STD P=17,0 (codice/*code* + D+L+L1+P)

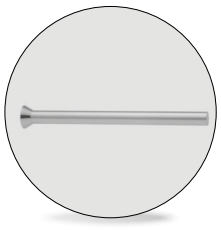
**Specificare M2 o PSin fase d'ordine
***Must specify M2 or PS when ordering*

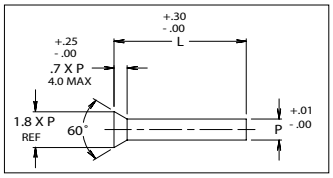
Punzoni "tipo quill" *Quill punches*





Cod. **CQS**





Cod. **CQB**

Per le alterazioni standard vedi pagg. 3.51 ÷ 3.55
For product alterations see pages 3.51 ÷ 3.55

Codice/*Code*	Materiale/*Materiale*
Cod. **CQS** / **CQB**	Acciaio/*Steel* M2, HRC 60-63

La quota "P" ha incrementi di centesimo in centesimo (2.01 - 2.02 - 2.03, ecc). Prezzo a richiesta per tutte le altre dimensioni.
"P" Dimension must be ordered in .01 increments. Other three place sizes are P.O.R.

CODICE/*CODE*	H	P	L				
			50	63	40	45	56
CQS 01	3	0.80 - 1.60	●	●	●	●	●
CQS 02	4	1.61 - 2.00	●	●	●	●	●
CQS 03	5	2.01 - 3.00	●	●	●	●	●
CQS 04	6	3.01 - 4.00	●	●	●	●	●
CQS 05	7	4.01 - 5.00	●	●	●	●	●
CQS 06	8	5.01 - 6.00	●	●	●	●	●
CQS 07	9	6.01 - 7.00	●	●	●	●	●

CODICE/*CODE*	P	L				
		50	63	40	45	56
CQB 01	0.80 - 1.60	●	●	●	●	●
CQB 02	1.61 - 2.00	●	●	●	●	●
CQB 03	2.01 - 3.00	●	●	●	●	●
CQB 04	3.01 - 4.00	●	●	●	●	●
CQB 05	4.01 - 5.00	●	●	●	●	●
CQB 06	5.01 - 6.00	●	●	●	●	●
CQB 07	6.01 - 7.00	●	●	●	●	●

Esempio di ordinazione/*Order example*: CQS 04 40 P=3,5 (codice/*code* + D+L+P)

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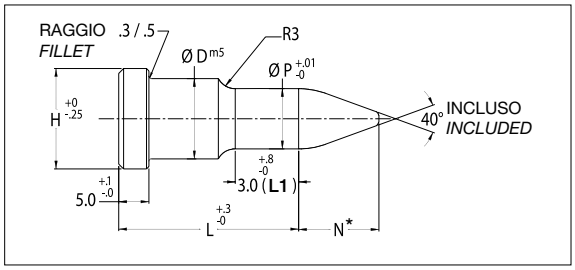
Piloti testa cilindrica

Shoulder pilots

Pilota / Compatto / A punta *Pilot / Compact / Pointed*



*N diventa 1.2 x Ø P quando P è inferiore (vedi tabella).
N becomes 1.2 x P dim when P is below (see chart).



Codice/*Code*	Materiale/*Material*	Tolleranze standard/ *Standard Point Tolerance*	*Tolleranza alternativa/*Alt. point tol.*	T2
Cod. **CSW**	Acciaio/*Steel* M2 HRC 60-63	Tondo/*Round* P +.01 -.00 ◎ .01 P - D Quando P=D si usa la tolleranzala tolleranza del corpo (D). *When P=D shank tolerances apply.*	P +.005 -.000 P-D ◎ .01 P - D	* a richiesta *on request*

CODICE *CODE*	D	P	N	P<	H	L						
						16	20	22	25	28	32	35
CSW 04	4	1.95 - 3.99	4	4.00	7.0	•	•	•	•	•	•	•
CSW 05	5	2.65 - 4.99	5	4.19	8.0	•	•	•	•	•	•	•
CSW 06	6	3.30 - 5.99	6	4.19	9.0	•	•	•	•	•	•	•
CSW 08	8	4.10 - 7.99	7	4.19	11.0	•	•	•	•	•	•	•
CSW 10	10	4.80 - 9.99	8	5.64	13.0	•	•	•	•	•	•	•
CSW 13	13	6.25 - 12.99	10	7.11	16.0	•	•	•	•	•	•	•
CSW 16	16	9.85 - 15.99	15	10.74	19.0	•	•	•	•	•	•	•
CSW 20	20	13.50 - 19.99	20	14.38	23.0		•	•	•	•	•	•
CSW 25	25	17.20 - 24.99	25	18.00	28.0		•	•	•	•	•	•
CSW 32	32	20.80 - 31.99	30	21.67	35.0		•	•	•	•	•	•

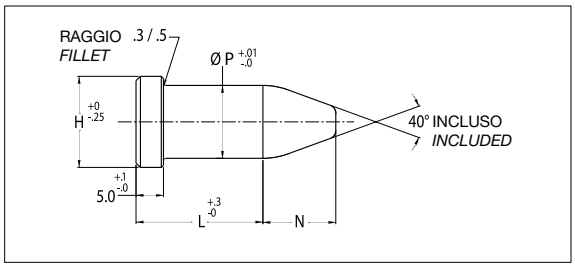
Esempio di ordinazione/*Order example*:

TIPO	"D"	"L"	"P"	ALT
CSW	13	25	10,0	STD

Per le alterazioni standard vedi pagg. 3.51 ÷ 3.55
For product alterations see pages 3.51 ÷ 3.55

Pilota / Compatto / Diritto *Pilot / Compact / Straight*





Codice/*Code*	Materiale/*Material*	Tolleranze standard/ *Standard Point Tolerance*	*Toller. alternativa/*Alt. point tol.*	T2
Cod. **CSV**	Acciaio/*Steel:* M2 HRC 60-63	Tondo/*Round* P +.01 -.00 ◎ .01 P - D	P +.005 -.000	* a richiesta/*on request*

CODICE *CODE*	P	N	H	L						
				16	20	22	25	28	32	35
CSV 04	3.01 - 4.00	4	7.0	•	•	•	•	•	•	•
CSV 05	4.01 - 5.00	5	8.0	•	•	•	•	•	•	•
CSV 06	5.01 - 6.00	6	9.0	•	•	•	•	•	•	•
CSV 08	6.01 - 8.00	7	11.0	•	•	•	•	•	•	•

CODICE *CODE*	P	N	H	L						
				16	20	22	25	28	32	35
CSV 10	8.01 - 10.00	8	13.0	•	•	•	•	•	•	•
CSV 13	10.01 - 13.00	10	16.0	•	•	•	•	•	•	•
CSV 16	13.01 - 16.00	15	19.0	•	•	•	•	•	•	•
CSV 20	16.01 - 20.00	20	23.0		•	•	•	•	•	•

Esempio di ordinazione/*Order example*: CSV 10 30 P=9.0 (codce/*code* + L+P)

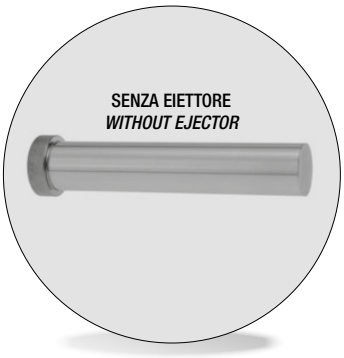
Per le alterazioni standard vedi pagg. 3.51 ÷ 3.55
For product alterations see pages 3.51 ÷ 3.55

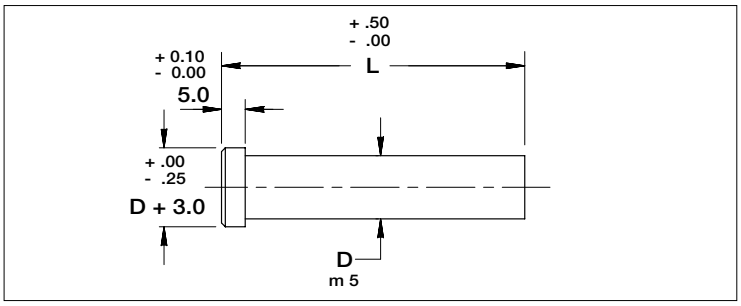
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Punzoni testa cilindrica sbozzati

Shoulder punches blanks





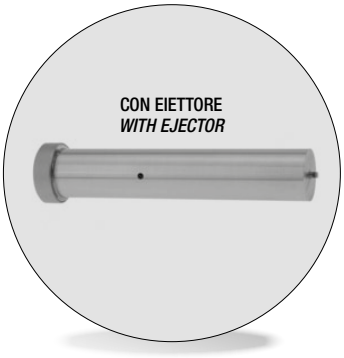
Codice/*Code*	Materiale/*Material*
Cod. **CSB**	Acciaio/*Steel* M2, HRC 60-63, Testa/*Head* - HRC 45-55 ALTERNATIVA/*ALTERNATIVE* ***Acciaio/*Steel* PS** POUNTER METAL HIGHT SPEED STEEL, HRC 62-65

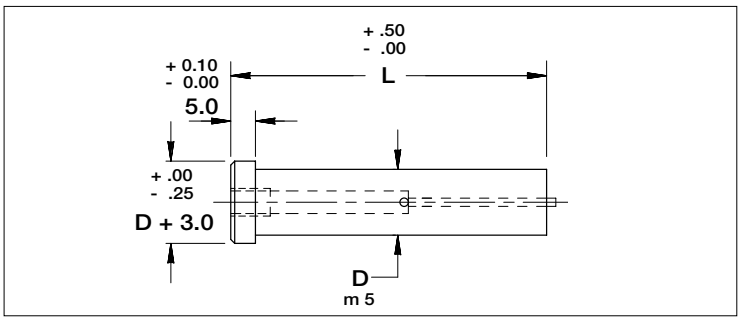
Per le alterazioni standard vedi pagg. 3.51 ÷ 3.55
For product alterations see pages 3.51 ÷ 3.55

CODICE/CODE	D	L																
		40	50	56	60	63	70	71	80	90	100	120	125	150	155	160	165	170
CSB 04	4	●	●	●	●	●	●	●	●	●	●	●	●					
CSB 05	5	●	●	●	●	●	●	●	●	●	●	●	●					
CSB 06	6		●	●	●	●	●	●	●	●	●	●	●					
CSB 08	8		●	●	●	●	●	●	●	●	●	●	●					
CSB 10	10		●	●	●	●	●	●	●	●	●	●	●	●				
CSB 13	13		●	●	●	●	●	●	●	●	●	●	●	●				
CSB 16	16		●	●	●	●	●	●	●	●	●	●	●	●	●			
CSB 20	20			●	●	●	●	●	●	●	●	●	●	●		●		
CSB 25	25			●	●	●	●	●	●	●	●	●	●	●			●	
CSB 32	32					●	●	●	●	●	●	●	●	●				●
CSB 40	40								●	●	●		●	●				

Esempio di ordinazione/*Order example*: CSB.8.100 (codice/*code* + D+L)

*Specificare M2 o PS in fase d'ordine
**Must specify M2 or PS when ordering*





Codice/*Code*	Materiale/*Material*
Cod. **CCB**	Acciaio/*Steel* M2, HRC 60-63, Testa/*Head* - HRC 45-55 ALTERNATIVA/*ALTERNATIVE* ***Acciaio/*Steel* PS** POUNTER METAL HIGHT SPEED STEEL, HRC 62-65

Per le alterazioni standard vedi pagg. 3.51 ÷ 3.55
For product alterations see pages 3.51 ÷ 3.55

CODICE/CODE	D	L									
		50	56	60	63	70	71	80	90	100	110	125
CCB 05	5	●	●	●	●	●	●	●	●	●		
CCB 06	6	●	●	●	●	●	●	●	●	●		
CCB 08	8	●	●	●	●	●	●	●	●	●		
CCB 10	10	●	●	●	●	●	●	●	●	●	●	●
CCB 13	13	●	●	●	●	●	●	●	●	●	●	●
CCB 16	16	●	●	●	●	●	●	●	●	●	●	●
CCB 20	20		●	●	●	●	●	●	●	●	●	●
CCB 25	25		●	●	●	●	●	●	●	●	●	●
CCB 32	32				●	●	●	●	●	●	●	●
CCB 40	40							●	●	●	●	●

Esempio di ordinazione/*Order example*: CCB.16.125 (codice/*code* + D+L)

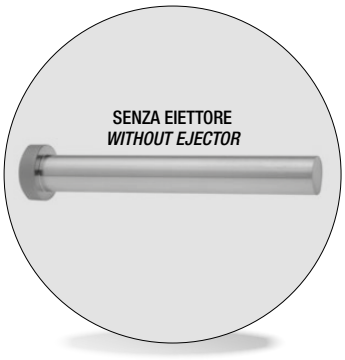
*Specificare M2 o PS in fase d'ordine
**Must specify M2 or PS when ordering*

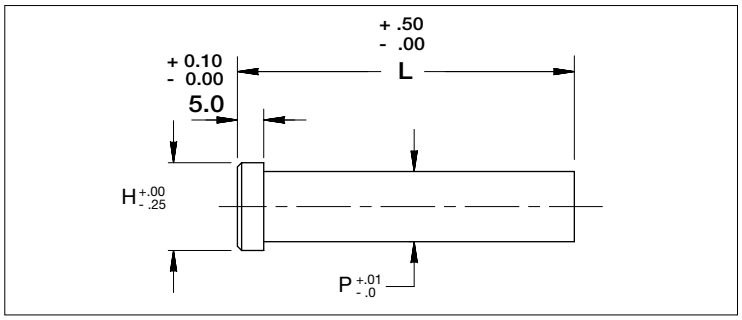
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Punzoni gambo ridotto

Reduced shank punches





Per le alterazioni standard vedi pagg. 3.51 ÷ 3.55
For product alterations see pages 3.51 ÷ 3.55

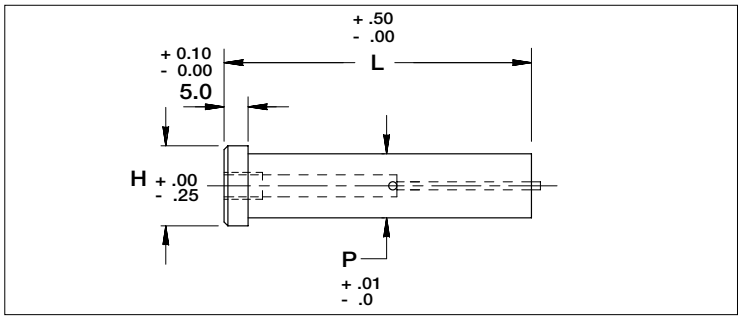
Codice/*Code*	Materiale/*Material*
Cod. **CSX**	Acciaio/*Steel:* M2, HRC 60-63 Testa/*Head* - HRC 45-55 ALTERNATIVA/*ALTERNATIVE* *PS POWDER METAL HIGH SPEED STEEL, HRC 62-65 Testa/*Head* - HRC 45-55

*Specificare M2 o PS in fase d'ordine
Must specify M2 or PS when ordering

CODICE *CODE*	P	H	L									
			50	56	60	63	70	71	80	90	100	120	125
CSX 04	3.01 - 4.00	7	●	●	●	●	●	●	●	●	●	●	●
CSX 05	4.01 - 5.00	8	●	●	●	●	●	●	●	●	●	●	●
CSX 06	5.01 - 6.00	9	●	●	●	●	●	●	●	●	●	●	●
CSX 08	6.01 - 8.00	11	●	●	●	●	●	●	●	●	●	●	●
CSX 10	8.01 - 10.00	13	●	●	●	●	●	●	●	●	●	●	●
CSX 13	10.01 - 13.00	16	●	●	●	●	●	●	●	●	●	●	●
CSX 16	13.01 - 16.00	19	●	●	●	●	●	●	●	●	●	●	●

Esempio di ordinazione/*Order example*: CSX 10 80 P=8,50 (codice/*code*+L+P)





Per le alterazioni standard vedi pagg. 3.51 ÷ 3.55
For product alterations see pages 3.51 ÷ 3.55

Codice/*Code*	Materiale/*Material*
Cod. **CCX**	Acciaio/*Steel:* M2, HRC 60-63 Testa/*Head* - HRC 45-55 ALTERNATIVA/*ALTERNATIVE* *PS POWDER METAL HIGH SPEED STEEL, HRC 62-65 Testa/*Head* - HRC 45-55

*Specificare M2 o PS in fase d'ordine
Must specify M2 or PS when ordering

CODICE *CODE*	P	H	L								
			50	56	60	63	70	71	80	90	100
CCX 05	4.01 - 5.00	8	●	●	●	●	●	●	●	●	●
CCX 06	5.01 - 6.00	9	●	●	●	●	●	●	●	●	●
CCX 08	6.01 - 8.00	11	●	●	●	●	●	●	●	●	●
CCX 10	8.01 - 10.00	13	●	●	●	●	●	●	●	●	●
CCX 13	10.01 - 13.00	16	●	●	●	●	●	●	●	●	●
CCX 16	13.01 - 16.00	19	●	●	●	●	●	●	●	●	●

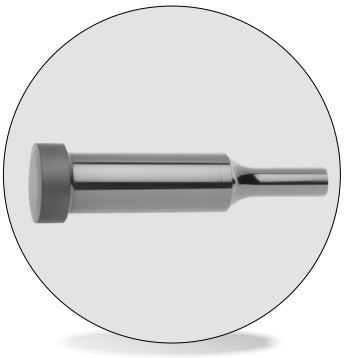
Esempio di ordinazione/*Order example*: CCX 16 70 P=14,00 (codice/*code*+L+P)

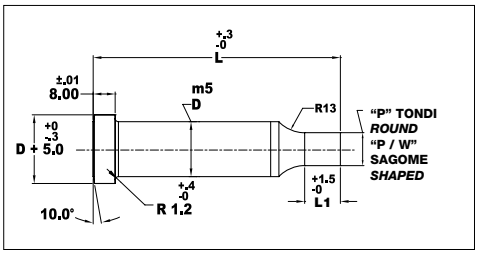
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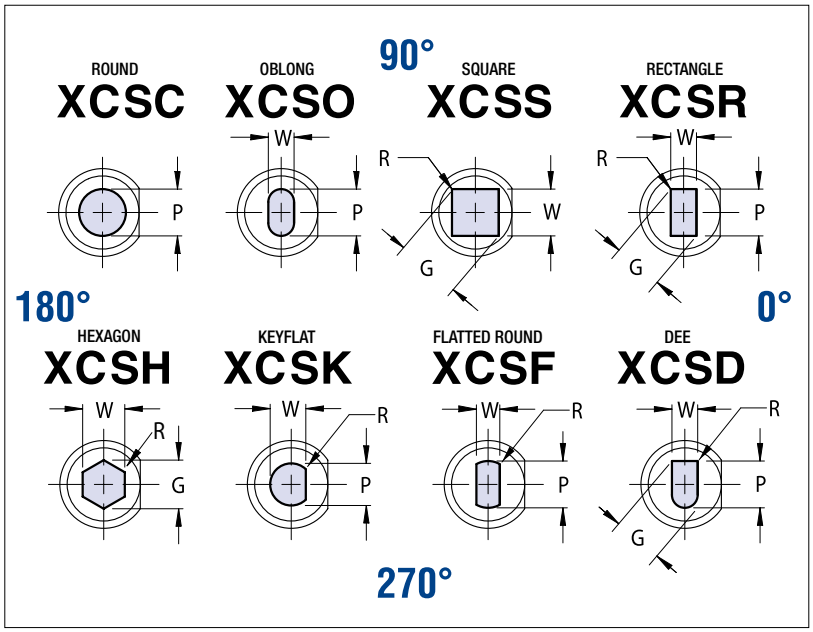
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Punzoni testa cilindrica rinforzata

Reinforced-head punches







I disegni rappresentano i punzoni visti dalla parte del corpo ma disegnate con linea piena per chiarezza.
Views are shown looking through the shank but drawn with solid lines for clarity.



Per alterazione spina di centraggio CD vedi pag. 3.53/*For center dowel alteration, see page 3.53.*

Per le alterazioni standard vedi pagg. 3.51 ÷ 3.55/ *For product alterations see pages 3.51 ÷ 3.55*

Codice/*Code*	**Materiale/*Material***	**Tolleranze standard/*Standard Point Tolerance***
Cod. **XCS_**	Acciaio/*Steel:* M2, HRC 60-63 *PS POWDER METAL HIGH SPEED STEEL, HRC 62-65 Testa/*Head* - HRC 40-55	Tondo/*Round* P +.01 -.00 ◎ 0.01 P - D Sagoma/*Shape* P,W ± .01 ◎ 0.025 P - D

CODICE *CODE*	D	TONDO/*ROUND*	SAGOMA/*SHAPE*		L						
		P	MIN W	MAX G/P	70	80	90	100	110	125	150
XCS_ 08	8	3.10 - 7.99	3.10	8.00	•	•	•	•	•	•	•
XCS_ 10	10	3.20 - 9.99	3.20	10.00	•	•	•	•	•	•	•
XCS_ 13	13	5.00 - 12.99	4.50	13.00	•	•	•	•	•	•	•
XCS_ 16	16	8.00 - 15.99	6.00	16.00	•	•	•	•	•	•	•
XCS_ 20	20	10.00 - 19.99	8.00	20.00	•	•	•	•	•	•	•
XCS_ 25	25	12.00 - 24.99	9.00	25.00	•	•	•	•	•	•	•
XCS_ 32	32	16.00 - 31.99	10.00	32.00	•	•	•	•	•	•	•

CODICE *CODE*	D	L1	
		STD	alternativa/*alternates* B
XCS_ 08	8	13	19
XCS_ 10	10	13	19
XCS_ 13	13	13	19
XCS_ 16	16	19	25
XCS_ 20	20	19	25
XCS_ 25	25	19	25
XCS_ 32	32	19	25

*Specificare M2 o PS in fase d'ordine
**Must specify M2 or PS when ordering*

Esempio di ordinazione/*Order example*:

TIPO	"D"	"L"	Lung. L1	P (o P/W) dimensioni	ALT STD
XCSC	13	90	13	10,0	F1
XCSO	16	80	STD	14,0x8,0	F1@90

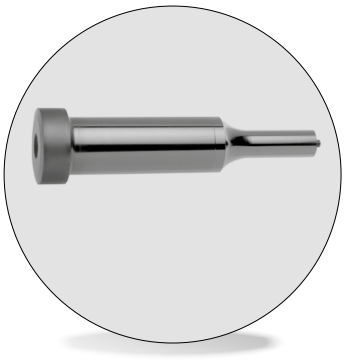
Il taglio della chiavetta è in posizione standard a 0°. T
utte le altre posizioni devono essere specificate in fase d'ordine (es. 90°).
Standard flat location is at 0° as shown.
For other positions, specify when ordering (ex. 90°)

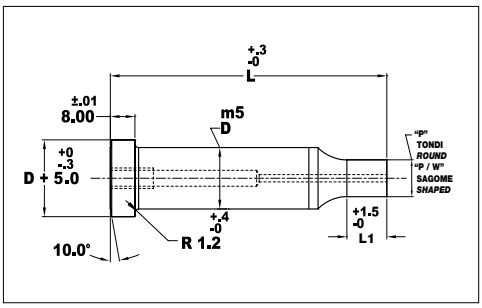
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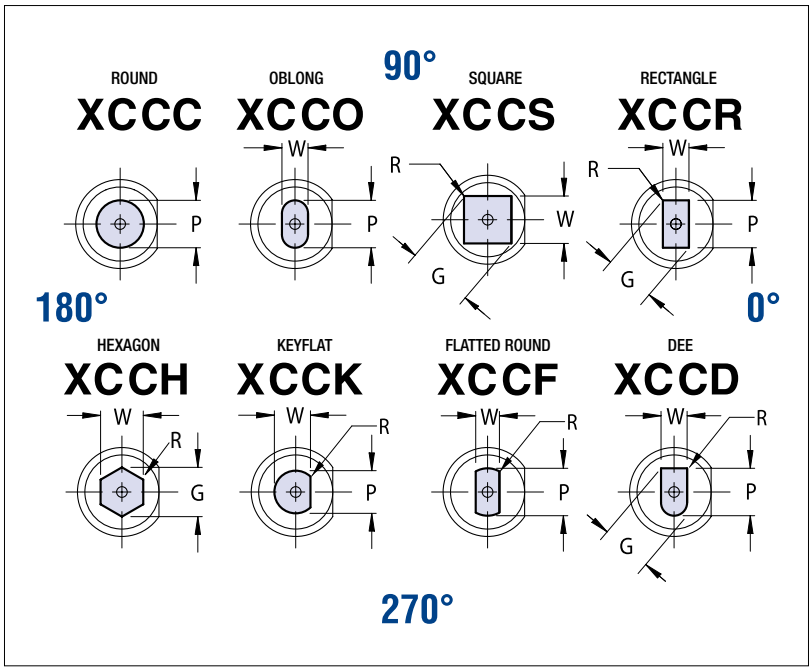
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Punzoni testa cilindrica rinforzata con eiettore

Reinforced-head punches - ejector







I disegni rappresentano i punzoni visti dalla parte del corpo ma disegnate con linea piena per chiarezza.
Views are shown looking through the shank but drawn with solid lines for clarity.



Per alterazione spina di centraggio CD vedi pag. 3.53/*For center dowel alteration, see page 3.53.*

Per le alterazioni standard vedi pagg. 3.51 ÷ 3.55/ *For product alterations see pages 3.51 ÷ 3.55*

Codice/*Code*	Materiale/*Material*	Tolleranze standard/*Standard Point Tolerance*			
Cod. XCC_	Acciaio/*Steel:* M2, HRC 60-63 *PS POWDER METAL HIGH SPEED STEEL, HRC 62-65 Testa/*Head* - HRC 45-55	Tondo/*Round*	P	+.01 -.00	◎ 0.01 P - D
		Sagoma/*Shape*	P,W	± .01	◎ 0.025 P - D

CODICE *CODE*	D	TONDO/*ROUND*	SAGOMA/*SHAPE*		L					
		P	MIN W	MAX G/P	70	80	90	100	110	125
XCC_ 08	8	4.00 - 7.99	4.00	8.00	•	•	•	•	•	•
XCC_ 10	10	4.50 - 9.99	4.50	10.00	•	•	•	•	•	•
XCC_ 13	13	6.00 - 12.99	6.00	13.00	•	•	•	•	•	•
XCC_ 16	16	8.00 - 15.99	7.50	16.00	•	•	•	•	•	•
XCC_ 20	20	10.00 - 19.99	8.00	20.00	•	•	•	•	•	•
XCC_ 25	25	12.00 - 24.99	9.00	25.00	•	•	•	•	•	•
XCC_ 32	32	16.00 - 31.99	10.00	32.00	•	•	•	•	•	•

CODICE *CODE*	D	L1	
		STD	alternativa/*alternates* B
XCC_ 08	8	13	19
XCC_ 10	10	13	19
XCC_ 13	13	13	19
XCC_ 16	16	19	25
XCC_ 20	20	19	25
XCC_ 25	25	19	25
XCC_ 32	32	19	25

*Specificare M2 o PS in fase d'ordine
**Must specify M2 or PS when ordering*

Esempio di ordinazione/*Order example*:

TIPO	"D"	"L"	Lung. L1	P (o P/W) dimensioni	ALT STD
XCSC	13	90	B	10,0	F1
XCSO	16	80	STD	14,0x8,0	F1@90

Il taglio della chiavetta è in posizione standard a 0°. T
utte le altre posizioni devono essere specificate in fase d'ordine (es. 90°).
Standard flat location is at 0° as shown.
For other positions, specify when ordering (ex. 90°)

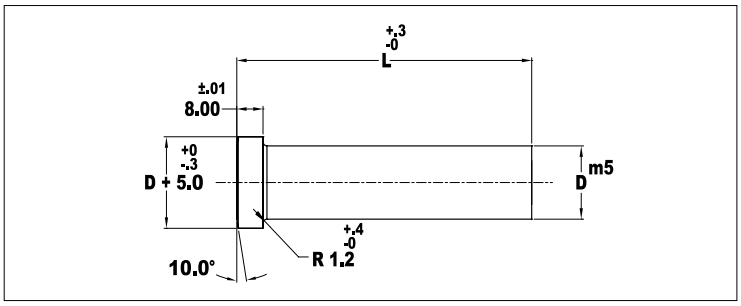
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Punzoni testa cilindrica rinforzata sbozzati

Reinforced-head punches - blanks





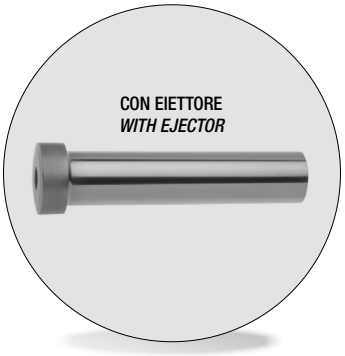
Per le alterazioni standard vedi pagg. 3.51 ÷ 3.55
For product alterations see pages 3.51 ÷ 3.55

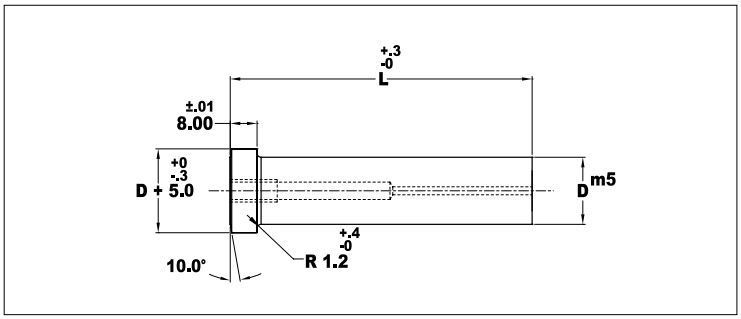
Codice/*Code*	Materiale/*Material*
Cod. **XCSB**	Acciaio/*Steel:* M2, HRC 60-63 *PS POWDER METAL HIGH SPEED STEEL, HRC 62-65 Testa/*Head* - HRC 40-55

CODICE *CODE*	D	L						
		70	80	90	100	110	125	150
XCSB 08	08	•	•	•	•	•	•	•
XCSB 10	10	•	•	•	•	•	•	•
XCSB 13	13	•	•	•	•	•	•	•
XCSB 16	16	•	•	•	•	•	•	•
XCSB 20	20	•	•	•	•	•	•	•
XCSB 25	25	•	•	•	•	•	•	•
XCSB 32	32	•	•	•	•	•	•	•

Esempio di ordinazione/*Order example*: XCSB 16 100 (codice/*code* + D+L)

*Specificare M2 o PS in fase d'ordine
**Must specify M2 or PS when ordering*





Per le alterazioni standard vedi pagg. 3.51 ÷ 3.55
For product alterations see pages 3.51 ÷ 3.55

Codice/*Code*	Materiale/*Material*
Cod. **XCCB**	Acciaio/*Steel:* M2, HRC 60-63 *PS POWDER METAL HIGH SPEED STEEL, HRC 62-65 Testa/*Head* - HRC 40-55

CODICE *CODE*	D	L					
		70	80	90	100	110	125
XCCB 08	08	•	•	•	•	•	•
XCCB 10	10	•	•	•	•	•	•
XCCB 13	13	•	•	•	•	•	•
XCCB 16	16	•	•	•	•	•	•
XCCB 20	20	•	•	•	•	•	•
XCCB 25	25	•	•	•	•	•	•
XCCB 32	32	•	•	•	•	•	•

Esempio di ordinazione/*Order example*: XCCB 20 90 (codice/*code* + D+L)

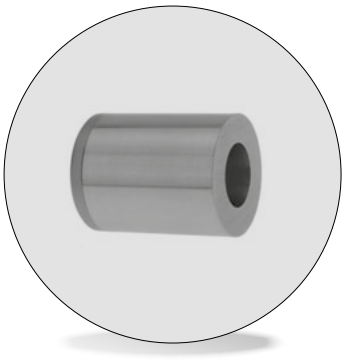
*Specificare M2 o PS in fase d'ordine
**Must specify M2 or PS when ordering*

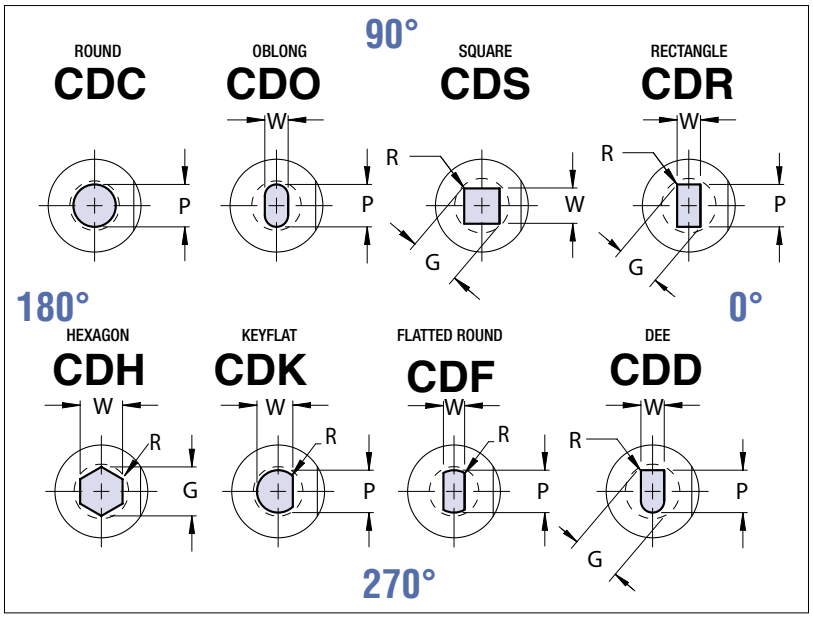
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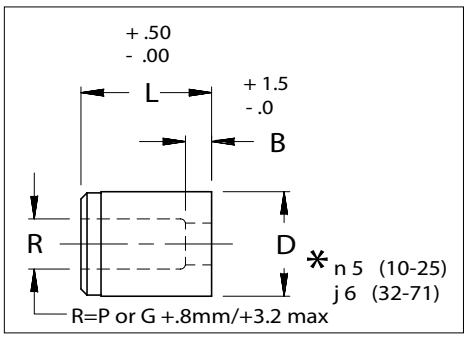
Matrici lisce scarico cilindrico

Press-fit buttons counter bore relief





I disegni rappresentano le matrici viste dalla parte di trancia.
Views are shown looking at top face of button.



Codice/*Code*	Materiale/*Material*	Tolleranze standard/*Standard Point Tolerance*
Cod. **CD_**	Acciaio/*Steel:* A2, HRC 58-60 ALTERNATIVA/*ALTERNATIVE* *M2, HRC 60-63	Tondo/*Round* P +.01 -.00 ◎ 0.01 P - D Sagoma/*Shape* P,W +.02 -.00 ◎ 0.02 P - D

Per le alterazioni standard vedi pagg. 3.51 ÷ 3.55
For product alterations see pages 3.51 ÷ 3.55

CODICE *CODE*	D	B			R	TONDO/*ROUND*	SAGOMA/*SHAPE*		L						
		STD	alterazioni *alternates*			P	MIN W	MAX G/P	20	22	25	28	30	32	35
			A	B											
CD_ 08	8	4.0	8	-	4.0	1.50 - 3.20	1.50	3.20	●	●	●	●	●	●	●
CD_ 10	10	4.0	8	-	6.0	1.60 - 5.00	1.60	5.00	●	●	●	●	●	●	●
CD_ 13	13	5.0	8	-	8.0	1.80 - 7.20	1.80	7.20	●	●	●	●	●	●	●
CD_ 16	16	5.0	8	-	9.5	5.00 - 8.80	2.50	8.80	●	●	●	●	●	●	●
CD_ 20	20	5.0	12	-	12.0	5.50 - 11.0	3.20	11.0	●	●	●	●	●	●	●
CD_ 22	22	6.0	12	-	15.0	7.50 - 14.0	4.00	14.0	●	●	●	●	●	●	●
CD_ 25	25	6.0	12	-	17.5	9.50 - 16.50	4.80	16.50	●	●	●	●	●	●	●
CD_ 32	32	6.0	12	-	21.0	13.0 - 20.00	5.50	20.00	●	●	●	●	●	●	●
CD_ 38	38	8.0	12	-	27.0	16.00 - 26.00	6.40	26.00	●	●	●	●	●	●	●
CD_ 40	40	8.0	12	-	27.0	16.00 - 26.00	6.40	26.00	●	●	●	●	●	●	●
CD_ 45	45	8.0	12	20	36.0	17.50 - 35.00	7.50	35.00		●	●	●	●	●	●
CD_ 50	50	8.0	12	20	41.0	20.00 - 40.00	8.00	40.00		●	●	●	●	●	●
CD_ 56	56	8.0	12	20	46.0	22.50 - 45.00	9.00	45.00		●	●	●	●	●	●
CD_ 63	63	8.0	12	20	51.0	25.00 - 50.00	10.00	50.00		●	●	●	●	●	●
CD_ 71	71	8.0	12	20	57.0	27.50 - 56.00	11.00	56.00		●	●	●	●	●	●

Esempio di ordinazione/*Order example*:

TIPO	"D"	"L"	Altezza quota "B"	P (o P/W) dimensioni	Alterazione standard	Materiale
CDC	20	30	A	9,0	F2	A2
CDO	13	20	STD	6. 0x3.0	F2	M2

*Specificare A2 o M2 in fase d'ordine
**Must specify A2 or M2 when ordering*

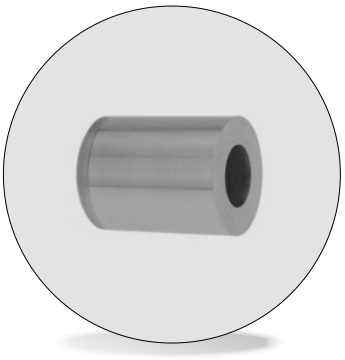
Il taglio della chiavetta è in posizione standard a 0°. Tutte le altre posizioni devono essere specificate in fase d'ordine (es. 90°).
Standard flat location is at 0° as shown. For other positions, specify when ordering (ex. 90°)

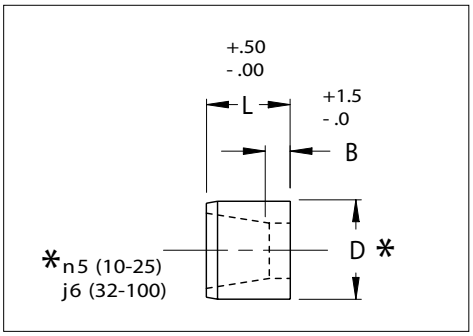
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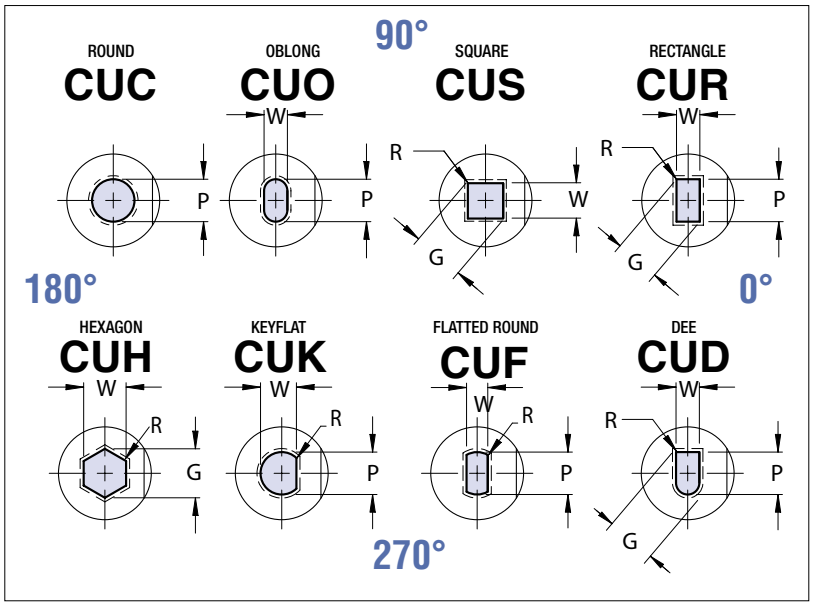
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Matrici lisce scarico conico

Press-fit buttons taper relief







Per le alterazioni standard vedi pagg. 3.51 ÷ 3.55
Standard alterations see pages 3.51 ÷ 3.55

I disegni rappresentano le matrici viste dalla parte di trancia.
Views are shown looking at top face of button.

Codice *Code*	**Materiale** *Material*	**Tolleranze standard** *Standard Point Tolerance*	*** Tolleranza alternativa** *Alternate Point Tolerance*	**T2**
Cod. **CU_**	Acciaio/*Steel* A2 HRC 58-60 **ALTERNATIVA/*ALTERNATIVE* M2, HRC 60-63	Tondo/*Round* P +.01 -.00 ◎ 0.01 P - D Sagoma/ *Shape* P,W +.02 -.00 ◎ 0.02 P - D	P,W +.005 -.000 P - D ◎ 0.008 *a richiesta dal diametro 45 **on request from diameter 45*	

**Specificare A2 o M2 in fase d'ordine/*Must specify A2 or M2 when ordering*

CODICE *CODE*	D	B				TONDO/*ROUND*	SAGOMA/*SHAPE*		L							
		STD	alterazioni/*alternates*			P	MIN W	MAX G/P	20	22	25	28	30	32	35	40
			A	B	C											
CU_ 8	8	4.0	8.0		3.0	1.50 - 3.20	1.50	3.20	•	•	•	•	•	•	•	
CU_ 10	10	4.0	8.0		3.0	1.60 - 5.00	1.60	5.00	•	•	•	•	•	•	•	•
CU_ 13	13	5.0	8.0		3.0	3.00 - 7.20	1.80	7.20	•	•	•	•	•	•	•	•
CU_ 16	16	5.0	8.0		3.0	5.00 - 8.80	2.50	8.80	•	•	•	•	•	•	•	•
CU_ 20	20	5.0	12.0	20.0	3.0	5.50 - 11.0	3.20	11.0	•	•	•	•	•	•	•	•
CU_ 22	22	6.0	12.0	20.0	3.0	7.50 - 14.0	4.00	14.0	•	•	•	•	•	•	•	•
CU_ 25	25	6.0	12.0	20.0	3.0	9.50 - 16.50	4.80	16.50	•	•	•	•	•	•	•	•
CU_ 32	32	6.0	12.0	20.0	3.0	13.0 - 20.00	5.50	20.00	•	•	•	•	•	•	•	•
CU_ 38	38	8.0	12.0	20.0	3.0	16.00 - 26.00	6.40	26.00	•	•	•	•	•	•	•	
CU_ 40	40	8.0	12.0	20.0	3.0	16.00 - 26.00	6.40	26.00	•	•	•	•	•	•	•	
CU_ 45	45	8.0	12.0	20.0	3.0	22.00 - 31.00	7.50	31.00			•	•	•	•	•	
CU_ 50	50	8.0	12.0	20.0	3.0	24.00 - 34.00	8.00	34.00			•	•	•	•	•	
CU_ 56	56	8.0	12.0	20.0	3.0	26.00 - 38.00	8.50	38.00			•	•	•	•	•	
CU_ 63	63	8.0	12.0	20.0	3.0	30.00 - 43.00	9.00	43.00			•	•	•	•	•	
CU_ 71	71	8.0	12.0	20.0	3.0	34.00 - 48.00	9.50	48.00			•	•	•	•	•	
CU_ 76	76	8.0	12.0	20.0	3.0	36.00 - 52.00	10.00	52.00							•	
CU_ 85	85	8.0	12.0	20.0	3.0	40.00 - 58.00	11.00	58.00							•	
CU_ 90	90	8.0	12.0	20.0	3.0	43.00 - 61.00	12.00	61.00							•	
CU_ 100	100	8.0	12.0	20.0	3.0	48.00 - 68.00	13.00	68.00							•	

Esempio di ordinazione/*Order example*:

TIPO	"D"	"L"	Lunghezza quota "B"	P (o P/W) dimensioni	Alterazione standard	Materiale
CUC	25	30	A	15,0	F2	A2
CUH	20	30	STD	10,0x5,0	F2	M2

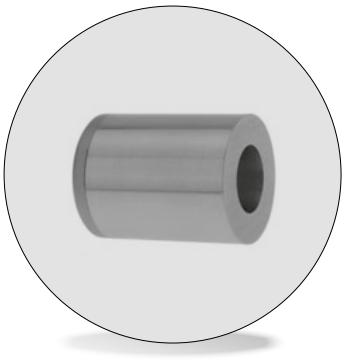
Il taglio della chiavetta è in posizione standard a 0°.
Tutte le altre posizioni devono essere specificate in fase d'ordine (es. 90°).
Standard flat location is at 0° as shown.
For other positions, specify when ordering (ex. 90°)

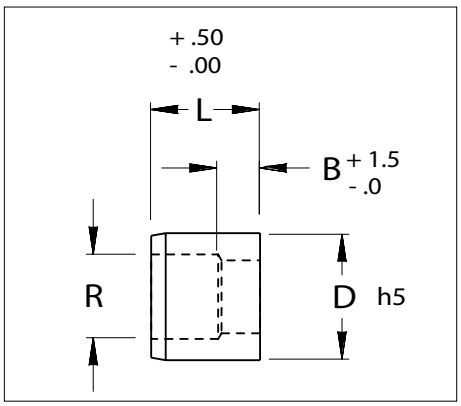
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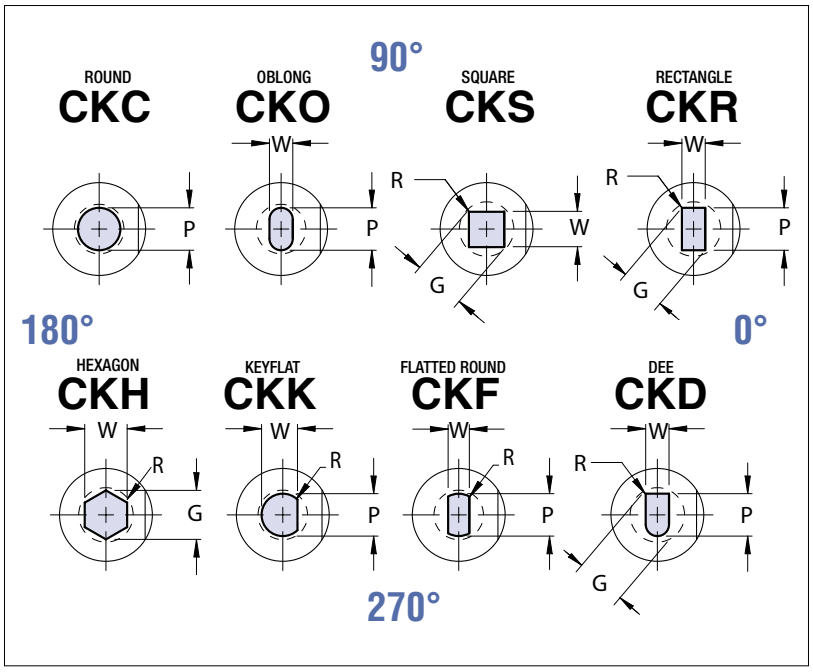
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Matrici lisce a norma VDI

Slip-fit buttons - VDI







Per le alterazioni standard vedi pagg. 3.51 ÷ 3.55
Standard alterations see pages 3.51 ÷ 3.55

I disegni rappresentano le matrici viste dalla parte di trancia.
Views are shown looking at top face of button.

Codice/*Code*	Materiale/*Material*	Tolleranze standard/*Standard Point Tolerance*	Alterazione VDI/*VDI alteration*
Cod. **CK_**	Acciaio/Steel A2 HRC 58-60 *ALTERNATIVA/*ALTERNATIVE* M2, HRC 60-63	Tondo P +.01 -.00 ◎ 0.01 P - D Sagoma P,W +.02 -.00 ◎ 0.02 P - D	**Per scarichi secondo normativa VDI +.2/.3 oltre quota "P" o "G" aggiungere VDI al fondo della descrizione.** ***For vdi style relief +.2/.3 over "p" or "g" add vdi at end of description.***

*Acciaio M2 a richiesta/*M2 steel on request*

CODICE *CODE*	D	B		TONDO/*ROUND*	SAGOMA/*SHAPE*		R	L	
		STD	alterazioni/*alternates* A	P	MIN W	MAX G/P		25	32
CK_ 13	13	5.0	8	1.80 - 3.00	1.80	3.00	5.2	•	
		5.0	8	3.01 - 6.20	1.80	6.20	7.0	•	
CK_ 16	16	5.0	9	5.00 - 6.20	2.50	6.20	7.2	•	
		5.0	9	6.21 - 8.00	2.50	8.00	8.7	•	
CK_ 20	20	5.0	9	5.40 - 8.30	3.20	8.30	9.1	•	
		5.0	9	8.31 - 11.00	3.20	11.0	11.9	•	
CK_ 25	25	5.0	12	9.40 - 13.00	4.80	13.00	13.9	•	•
		5.0	12	13.01 - 16.00	4.80	16.00	16.7	•	•
CK_ 32	32	5.0	12	13.00 - 16.50	5.50	16.50	17.5	•	•
		5.0	12	16.51 - 20.00	5.50	20.00	21.5	•	•
CK_ 40	40	5.0	15	15.80 - 21.40	6.40	21.40	22.2	•	•
		5.0	15	21.41 - 26.00	6.40	26.00	27.0	•	•
CK_ 50	50	5.0	20	20.00 - 26.00	9.00	26.00	27.0		•
		5.0	20	26.01 - 37.00	9.00	37.00	38.0		•
CK_ 56	56	5.0	20	25.00 - 35.00	10.00	35.00	36.0		•
		5.0	20	35.01 - 44.00	10.00	44.00	45.0		•
CK_ 63	63	5.0	20	28.00 - 40.00	11.00	40.00	41.0		•
		5.0	20	40.01 - 50.00	11.00	50.00	51.0		•

Esempio di ordinazione/*Order example*:

TIPO	"D"	"L"	Lunghezza quota "B"	P (o P/W) dimensioni	Alterazione standard	Materiale
CKC	25	32	A	15,0	F2	A2
CKO	20	25	STD	10,0x5,0	F2	M2

Il taglio della chiavetta è in posizione standard a 0°.
Tutte le altre posizioni devono essere specificate in fase d'ordine (es. 90°).
Standard flat location is at 0° as shown.
For other positions, specify when ordering (ex. 90°)

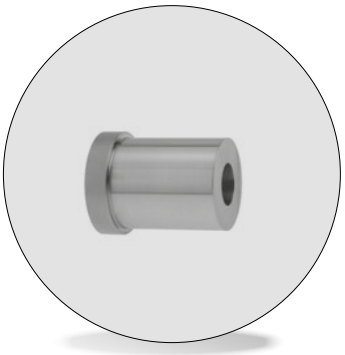
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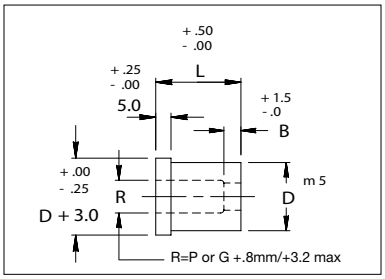
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Matrici con collare

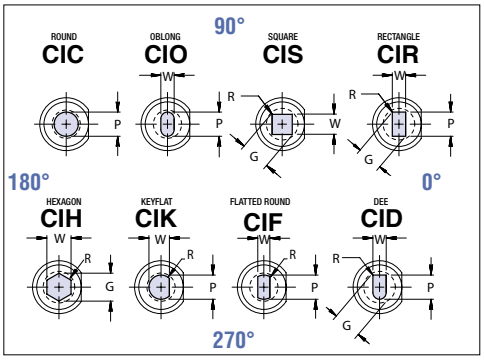
Shoulder buttons

Matrici con collare scarico cilindrico *Shoulder buttons bore relief*





I disegni rappresentano le matrici viste dalla parte di trancia./*Views are shown looking at top face of button.*



Codice/*Code*	Materiale/*Material*	Tolleranze standard/*Standard Point Tolerance*				
Cod. **CI_**	Acciaio/*Steel* A2 HRC 58-60 *ALTERNATIVA/*ALTERNATIVE* M2, HRC 60-63	Tondo/*Round*	P	+.01 - .00	◎ 0.01	P - D
		Sagoma/*Shape*	P,W	+.02 - .00	◎ 0.02	P - D

Per le alterazioni standard vedi pagg. 3.51 ÷ 3.55
Standard alterations see pages 3.51 ÷ 3.55

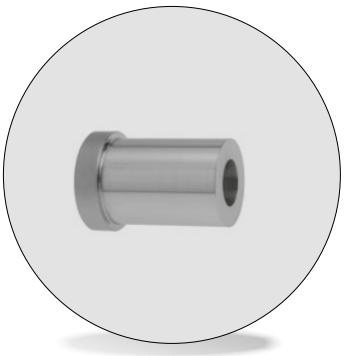
Il taglio della chiavetta è in posizione standard a 0°. Tutte le altre posizioni devono essere specificate in fase d'ordine (es. 90°)/*Standard flat location is at 0° as shown. For other positions, specify when ordering (ex. 90°)*

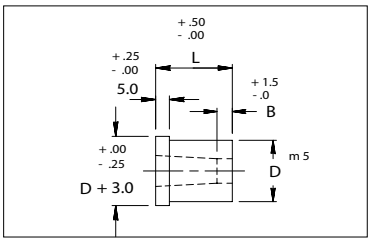
CODICE *CODE*	D	B		R	TONDO/*ROUND*	SAGOMA/*SHAPE*		L						
		STD	alterazioni A		P	MIN W	MAX G/P	20	22	25	28	30	32	35
CI_ 8	8	4.0	8	4.0	1.50 - 3.20	1.50	3.20	•	•	•	•	•	•	•
CI_ 10	10	4.0	8	6.0	1.60 - 5.00	1.60	5.00	•	•	•	•	•	•	•
CI_ 13	13	5.0	8	8.0	1.80 - 7.20	1.80	7.20	•	•	•	•	•	•	•
CI_ 16	16	5.0	8	9.5	5.00 - 8.80	2.50	8.80	•	•	•	•	•	•	•
CI_ 20	20	5.0	12	12.0	5.50 - 11.0	3.20	11.0	•	•	•	•	•	•	•
CI_ 22	22	6.0	12	15.0	7.50 - 14.0	4.00	14.0	•	•	•	•	•	•	•
CI_ 25	25	6.0	12	17.5	9.50 - 16.50	4.80	16.50	•	•	•	•	•	•	•
CI_ 32	32	6.0	12	21.0	13.0 - 20.00	5.50	20.00	•	•	•	•	•	•	•
CI_ 38	38	8.0	12	27.0	16.00 - 26.00	6.40	26.00	•	•	•	•	•	•	•
CI_ 40	40	8.0	12	27.0	16.00 - 26.00	6.50	26.00	•	•	•	•	•	•	•

Esempio di ordinazione/*Order example*: CIO 020-025 STD P=10,0 W=6,00 (codice/*code* +D+L+P/W)

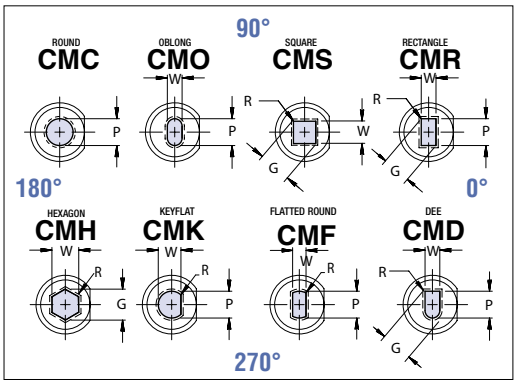
*Specificare A2 o M2 in fase d'ordine/*Must specify A2 or M2 when ordering*

Matrici con collare scarico conico *Shoulder buttons taper relief*





I disegni rappresentano le matrici viste dalla parte di trancia./*Views are shown looking at top face of button.*
Per le alterazioni standard vedi pagg. 3.51 ÷ 3.55/ *Standard alterations see pages 3.51 ÷ 3.55*



Codice/*Code*	Materiale/*Material*	Tolleranze standard/*Standard Point Tolerance*					Toll. altern./*Altern. Hole Toler.*	T2
Cod. **CM_**	Acciaio/*Steel* A2 HRC 58-60 *M2 - HRC 60-63	Tondo/*Round*	P	+.01 - .00	◎ 0.01	P - D	P,W +.005 - .000 P - D ◎ 0.008	
		Sagoma/*Shape*	P,W	+.02 - .00	◎ 0.02	P - D		

CODICE *CODE*	D	B				TONDO/*ROUND*	SAGOMA/*SHAPE*		L						
		STD	alterazioni A	B	C	P	MIN W	MAX G/P	20	22	25	28	30	32	35
CC_ 8	8	4.0	8.0		3.0	1.50 - 3.20	1.50	3.20	•	•	•	•	•	•	•
CC_ 10	10	4.0	8.0		3.0	1.60 - 5.00	1.60	5.00	•	•	•	•	•	•	•
CC_ 13	13	5.0	8.0		3.0	1.80 - 7.20	1.80	7.20	•	•	•	•	•	•	•
CC_ 16	16	5.0	12.0		3.0	5.00 - 8.80	2.50	8.80	•	•	•	•	•	•	•
CC_ 20	20	5.0	12.0	20.0	3.0	5.50 - 11.0	3.20	11.0	•	•	•	•	•	•	•
CC_ 22	22	6.0	12.0	20.0	3.0	7.50 - 14.0	4.00	14.0	•	•	•	•	•	•	•
CC_ 25	25	6.0	12.0	20.0	3.0	9.50 - 16.50	4.80	16.50	•	•	•	•	•	•	•
CC_ 32	32	6.0	12.0	20.0	3.0	13.0 - 20.00	5.50	20.00	•	•	•	•	•	•	•
CC_ 38	38	8.0	12.0	20.0	3.0	16.00 - 26.00	6.40	26.00	•	•	•	•	•	•	•
CC_ 40	40	8.0	12.0	20.0	3.0	16.00 - 26.00	6.50	26.00	•	•	•	•	•	•	•
CC_ 45	45	8.0	12.0	20.0	3.0	22.00 - 31.00	7.50	31.00		•	•	•	•	•	•

Il taglio della chiavetta è in posizione standard a 0°. Tutte le altre posizioni devono essere specificate in fase d'ordine (es. 90°)/*Standard flat location is at 0° as shown. For other positions, specify when ordering (ex. 90°)*

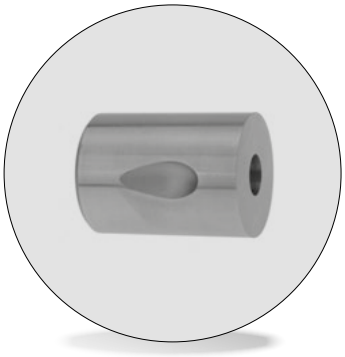
Esempio di ordinazione/*Order example*: CMR 016-028 C P=7,00 W=5, 00 (codice/*code* +D+L+P/W)

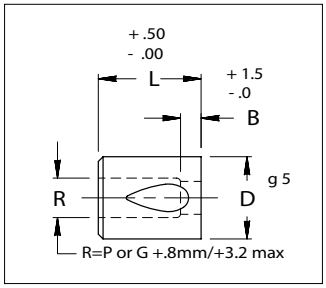
*Specificare A2 o M2 in fase d'ordine/*Must specify A2 or M2 when ordering*

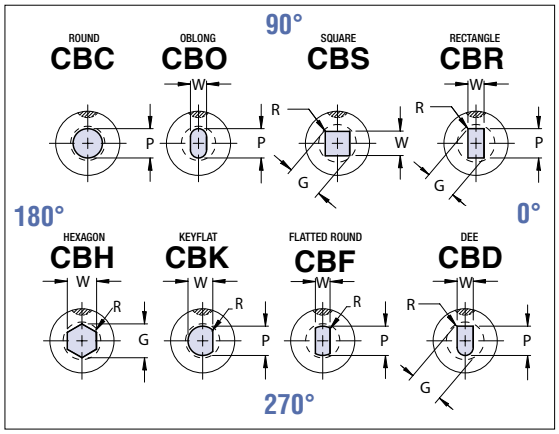
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Matrici a innesto rapido scarico cilindrico *Ball lock buttons counter bore relief*







Per le alterazioni standard vedi pagg. 3.51 ÷ 3.55
Standard alterations see pages 3.51 ÷ 3.55

I disegni rappresentano le matrici viste dalla parte di trancia.
Views are shown looking at top face of button.

Codice/*Code*	Materiale/*Material*	Tolleranze standard/*Standard Point Tolerance*			
Cod. **CB_**	Acciaio/*Steel* A2, HRC 58-60	Tondo/Round	P +.01 -.00	◎ 0.01	P - D
		Sagoma/*Shape*	P,W +.02 -.00	◎ 0.02	P - D

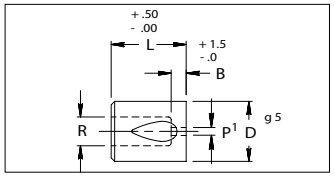
La posizione standard della sede sfera è a 90°. Tutte le altre posizioni devono essere specificate in fase d'ordine (es. BS@45°)
Standard ball seat location is at 90° as shown. For other positions, specify when ordering (ex. BS@45°)

CODICE *CODE*	D	B	R	TONDO/*ROUND*	SAGOMA/*SHAPE*		L
				P	MIN W	MAX G/P	32
CB_ 13	13	4.0	6.0	1.60 - 5.00	1.60	5.00	•
CB_ 16	16	5.0	8.0	3.20 - 7.20	2.00	7.20	•
CB_ 20	20	5.0	12.0	4.00 - 11.0	2.50	11.0	•
CB_ 25	25	6.0	16.0	8.00 - 15.00	4.00	15.00	•
CB_ 32	32	6.0	20.0	11.0 - 19.00	5.50	19.00	•

Esempio di ordinazione/*Order example*: CBC 16-32 P=5.00 (codice/*code* + D+L+P o P/W)

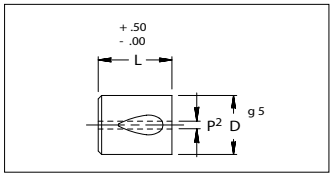
Matrici sbozzate innesto rapido *Ball lock buttons blanks*





Cod. **CBB**





Cod. **CFB**

Per le alterazioni standard vedi pagg. 3.51 ÷ 3.55
Standard alterations see pages 3.51 ÷ 3.55

Codice/*Code*	Materiale/*Material*
Cod. **CBB**	Acciaio/*Steel* A2 - HRC 58-60

Codice/*Code*	Materiale/*Material*
Cod. **CFB**	Acciaio/*Steel* M2 - HRC 60-63

CODICE *CODE*	D	B	R	P¹	P²	L
						32
C_B 13	13	4.0	5.8	1.2	1.2	•
C_B 16	16	5.0	8.0	1.6	1.6	•
C_B 20	20	5.0	11.9	2.0	2.0	•
C_B 25	25	6.0	16.0	3.6	2.4	•
C_B 32	32	6.0	20.0	4.4	4.4	•

Esempio di ordinazione/*Order example*: CBB 13-32 (codice/*code* + D+L)

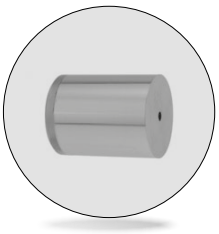
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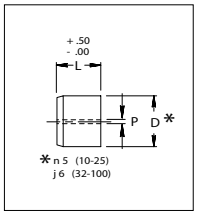
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Matrici sbozzate

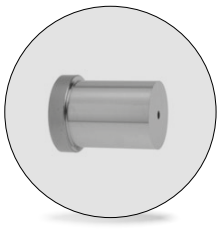
Button blanks

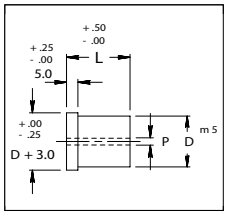
Matrici sbozzate con preforo *Buttons blanks with straight thru hole*





Cod. **CUB**





Cod. **CMB**

Codice/*Code*	Materiale/*Material*
Cod. **CUB** / **CMB**	Acciaio/*Steel* A2 - HRC 58-60; *M2 - HRC 60-63

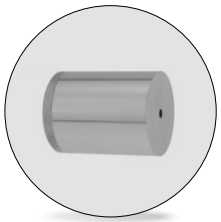
Per le alterazioni standard vedi pagg. 3.51 ÷ 3.55
Standard alterations see pages 3.51 ÷ 3.55

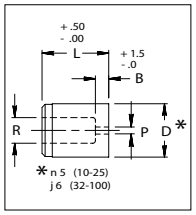
CODICE *CODE*	D	P	L						
			20	22	25	28	30	32	35
C_B 8	8	1.2	●	●	●	●	●	●	●
C_B 10	10	1.2	●	●	●	●	●	●	●
C_B 13	13	1.4	●	●	●	●	●	●	●
C_B 16	16	2.0	●	●	●	●	●	●	●
C_B 20	20	2.4	●	●	●	●	●	●	●
C_B 22	22	2.4	●	●	●	●	●	●	●
C_B 25	25	2.4	●	●	●	●	●	●	●
C_B 32	32	2.4	●	●	●	●	●	●	●
C_B 38	38	2.4	●	●	●	●	●	●	●
C_B 40	40	2.4	●	●	●	●	●	●	●
C_B 45	45	2.4			●	●	●	●	●
CUB 50**	50	2.4			●	●	●		●
CUB 56**	56	2.4			●	●	●		●
CUB 63**	63	2.4			●	●	●		●
CUB 71**	71	2.4			●	●	●		●
CUB 76**	76	2.4			●	●	●		●
CUB 85**	85	2.4			●	●	●		●
CUB 90**	90	2.4			●	●	●		●
CUB 100**	100	2.4			●	●	●		●

**Disponibile solo in CUB/Available only in CUB

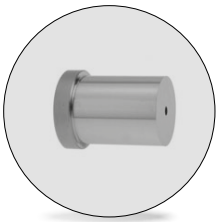
Esempio di ordinazione/*Order example*: CUB 40 30 (codice/*code* +D+L) *Specificare A2 o M2 in fase d'ordine/*Must specify A2 or M2 when ordering*

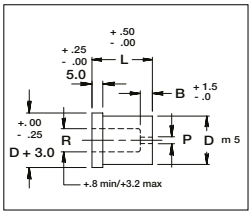
Matrici sbozzate a scarico cilidrico *Buttons blanks with counter bore relief*





Cod. **CDB**





Cod. **CIB**

Codice/*Code*	Materiale/*Material*
Cod. **CDB** / **CIB**	Acciaio/*Steel* A2 - HRC 58-60; *M2 - HRC 60-63

Per le alterazioni standard vedi pagg. 3.51 ÷ 3.55
Standard alterations see pages 3.51 ÷ 3.55

CODICE *CODE*	D	B	R	P	L						
					20	22	25	28	30	32	35
C_B 8	8	4.0	4.0	1.2	●	●	●	●	●	●	●
C_B 10	10	4.0	6.0	1.2	●	●	●	●	●	●	●
C_B 13	13	5.0	8.0	1.4	●	●	●	●	●	●	●
C_B 16	16	5.0	9.5	2.0	●	●	●	●	●	●	●
C_B 20	20	5.0	12.0	2.8	●	●	●	●	●	●	●
C_B 22	22	6.0	15.0	2.8	●	●	●	●	●	●	●
C_B 25	25	6.0	17.0	4.4	●	●	●	●	●	●	●
C_B 32	32	6.0	21.0	5.2	●	●	●	●	●	●	●
C_B 38	38	8.0	27.0	5.6		●	●	●	●	●	●
C_B 40	40	8.0	27.0	5.6		●	●	●	●	●	●

Esempio di ordinazione/*Order example*: CIB 25 30 (codice/*code* +D+L)

*Specificare A2 o M2 in fase d'ordine
Must specify A2 or M2 when ordering

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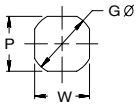
Sagome classificate

Universal shapes

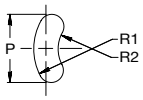
90°

Sagome miste/*Miscellaneous*

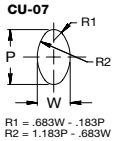
CU-05



CU-06

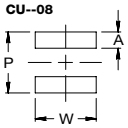


CU-07

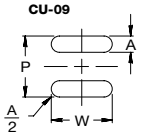


R1 = .683W - .183P
R2 = 1.183P - .683W

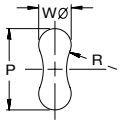
CU--08



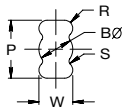
CU-09



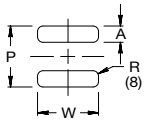
CU-10



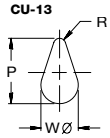
CU-11



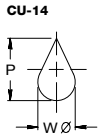
CU-12



CU-13

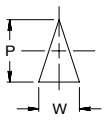


CU-14

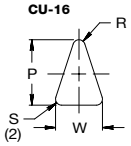


Triangoli e trapezi/*Triangles/trapezoids*

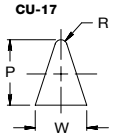
CU-15



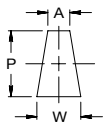
CU-16



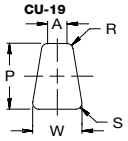
CU-17



CU-18

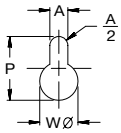


CU-19

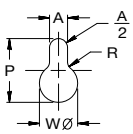


Mono lobo/*Mono lobes*

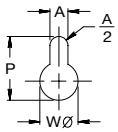
CU-20



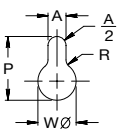
CU-21



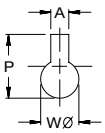
CU-22



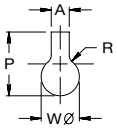
CU-23



CU-24

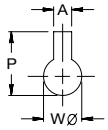


CU-25

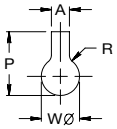


180°

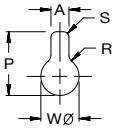
CU-26



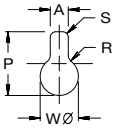
CU-27



CU-28



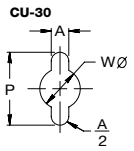
CU-29



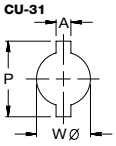
0°

Multi lobo/*Multi lobes*

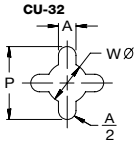
CU-30



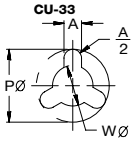
CU-31



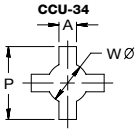
CU-32



CU-33

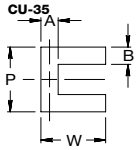


CCU-34

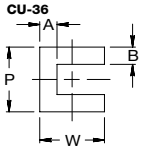


Sagome a "U"/*U's*

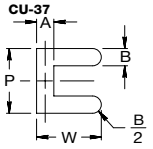
CU-35



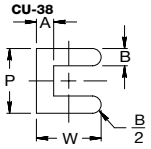
CU-36



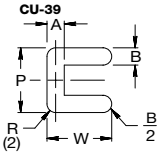
CU-37



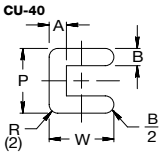
CU-38



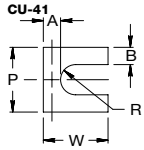
CU-39



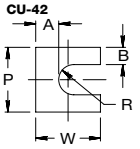
CU-40



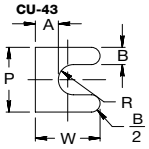
CU-41



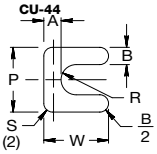
CU-42



CU-43



CU-44



CU-45

CU-46

CU-47

CU-48

CU-49

270°

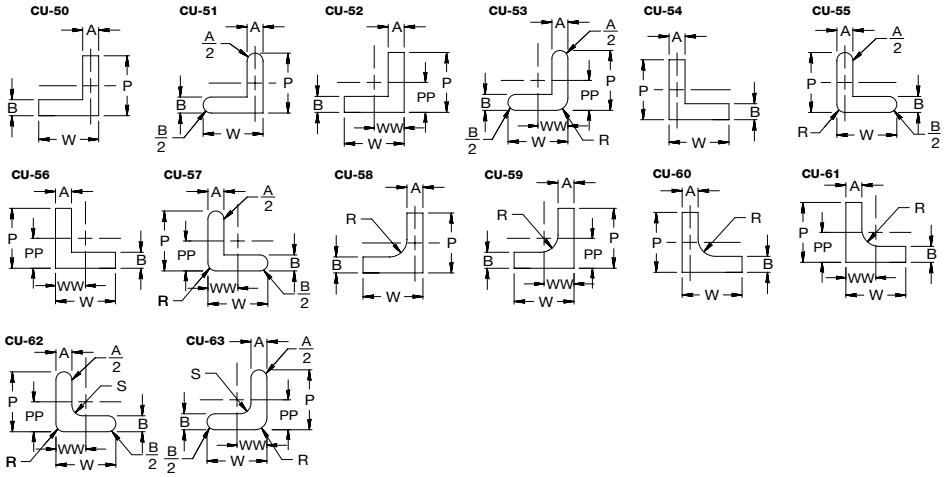
Esempio di ordinazione/*Order example*: CHU 32-90 P=24,5 W=16.6 B=5,5 A=5.5 , CU-38

CF Torino - È vietata la riproduzione, anche parziale, del presente catalogo.

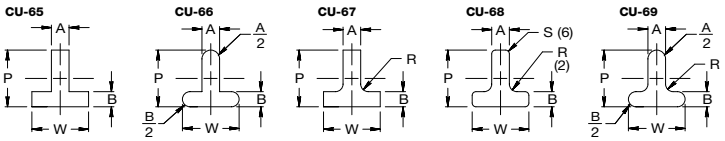
Via Alba, 25 - 10024 Moncalieri (TO) - Italy
Tel. +39 011641121 - Fax +39 0116829188
cftorino@cftorino.it www.cftorino.it

90°

Sagome a "L"/*L's*

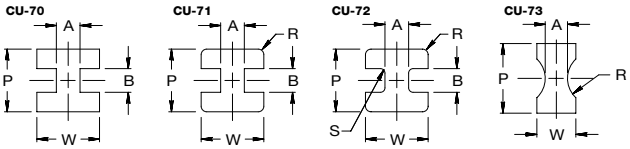


Sagome a "T"/*T's*



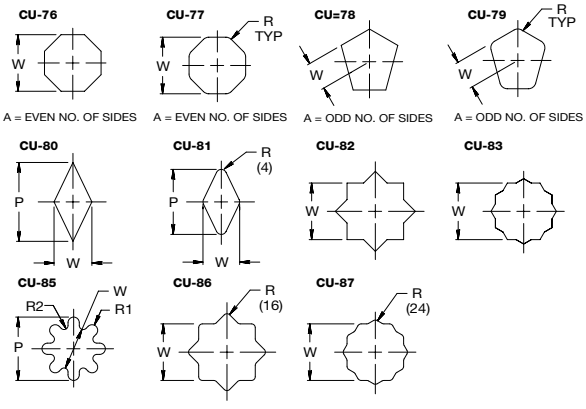
180°

Sagome a doppia "T"/*Duo tees*

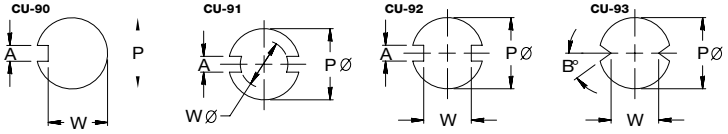


0°

Poligoni/*Polygons*



Sedi chiavetta/*Keys*



270°

Esempio di ordinazione/*Order example*: CHU 25-100 P=23,5 W=16 R=1.5, CU-81

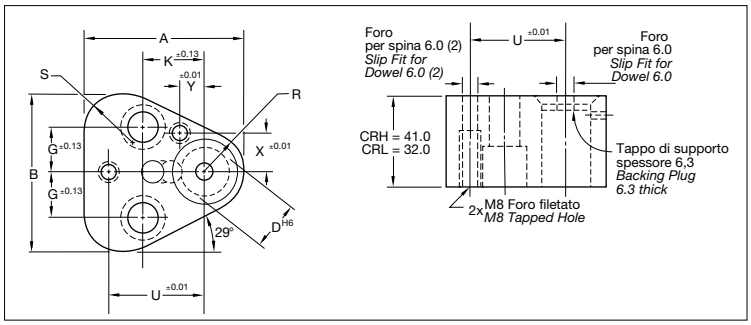
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Portapunzoni innesto rapido serie Standard *Ball lock retainers - Standard series*



Codice/*Code*
Cod. **CR_**



PER APPLICAZIONI PESANTI / *HEAVY DUTY*											
CODICE *CODE*	**D**	**A**	**B**	**G**	**K**	**R**	**S**	**U**	**X**	**Y**	**VITI *SIZE***
CRH 10	10.0	44.5	43.7	11.1	19.0	9.5	12.0	26.925	9.0	7.5	M8
CRH 13	13.0	50.8	50.0	14.3	19.0	12.7	15.2	29.970	12.0	6.5	M8
CRH 16	16.0	54.0	53.2	15.9	19.0	14.3	16.8	31.750	13.5	6.0	M8
CRH 20	20.0	60.3	59.5	17.5	19.0	17.5	20.0	33.530	16.5	5.0	M10
CRH 25	25.0	69.9	69.1	19.8	23.8	22.2	24.7	40.640	22.0	7.0	M12
CRH 32	32.0	69.1	69.1	19.8	23.8	22.2	24.7	40.640	22.0	7.0	M12
CRH 40	40.0	77.4	76.6	24.0	27.0	26.0	28.5	43.993	26.0	10.0	M12

PER APPLICAZIONI LEGGERE / Light duty											
CODICE *CODE*	**D**	**A**	**B**	**G**	**K**	**R**	**S**	**U**	**X**	**Y**	**VITI *SIZE***
CRL 10	10.0	44.5	43.7	11.1	19.0	9.5	12.0	26.925	9.0	7.5	M8
CRL 13	13.0	50.8	50.0	14.3	19.0	12.7	15.2	29.970	12.0	6.5	M8
CRL 16	16.0	54.0	53.2	15.9	19.0	14.3	16.8	31.750	13.5	6.0	M8
CRL 20	20.0	60.3	59.5	17.5	19.0	17.5	20.0	33.530	16.5	5.0	M10
CRL 25	25.0	69.9	69.1	19.8	23.8	22.2	24.7	40.640	22.0	7.0	M12
CRL 32	32.0	69.1	69.1	19.8	23.8	22.2	24.7	40.640	22.0	7.0	M12
CRL 38	38.0	77.4	76.6	24.0	27.0	26.0	28.5	43.993	26.0	10.0	M12

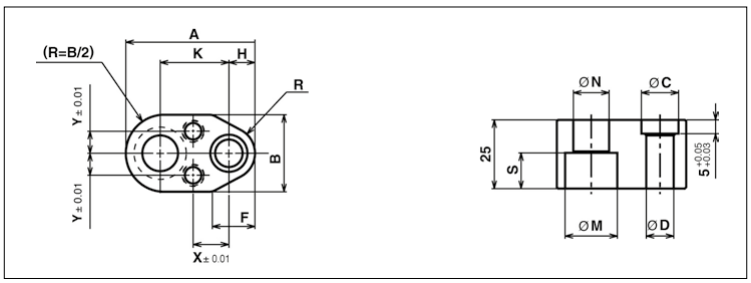
Esempio di ordinazione/*Order example*: CRH 10 (codice/*code*)

Per accessori e piastrine di spessoramento vedi pagg. 3.49-3.50
For accessories and backing plates see pages 3.49-3.50

Portapunzoni per punzoni testa cilindrica tondi *Retainers for shoulder round punches*



Codice/*Code*
Cod. **CFORT**



CODICE *CODE*	**D**	**A**	**B**	**H**	**F**	**K**	**C**	**M**	**N**	**S**	**R**	**X**	**Y**	**VITI *SIZE***
CFORT 10	10.014/10.005	47	28	9.5	15.5	25.0	13.5	19.0	13.0	13.0	9.5	13.0	8.0	M12x40
CFORT 13	13.017/13.006	50	28	12.5	12.5	25.0	16.5	19.0	13.0	13.0	12.5	13.0	8.0	
CFORT 16	16.017/16.006	52	32	14.0	14.0	25.0	19.5	19.0	13.0	13.0	14.0	13.0	8.0	
CFORT 20	20.020/20.007	55	35	17.5	–	25.0	23.5	19.0	13.0	13.0	17.5	14.0	11.0	
CFORT 25	25.020/20.007	73	44	22.0	–	35.0	28.5	25.0	17.0	10.0	22.0	20.0	15.0	M16x45
CFORT 32	32.025/32.009	73	50	22.0	22.0	35.0	35.5	25.0	17.0	10.0	22.0	20.0	15.0	

Esempio di ordinazione/*Order example*: CFORT 10 (codice/*code*)

Per accessori e piastrine di spessoramento vedi pagg. 3.49-3.50
For accessories and backing plates see pages 3.49-3.50

CF Torino - È vietata la riproduzione, anche parziale, del presente catalogo.

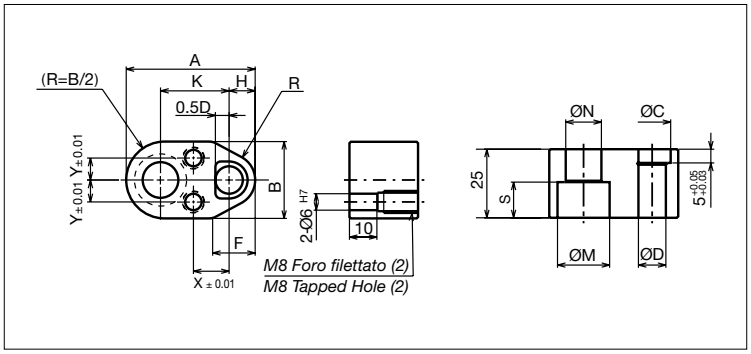
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Portapunzoni per punzoni testa cilindrica con sagoma

Retainers for shoulder shaped punches



Codice/*Code*
Cod. **CFORTS**



CODICE *CODE*	D	A	B	H	F	K	C	M	N	S	R	X	Y	VITI *SIZE*
ORT 10	10.014/10.005	47	28	9.5	15.5	25.0	13.5	19.0	13.0	13.0	9.5	13.0	8.0	M12x40
ORT 13	13.017/13.006	50	28	12.5	12.5	25.0	16.5	19.0	13.0	13.0	12.5	13.0	8.0	
ORT 16	16.017/16.006	52	32	14.0	14.0	25.0	19.5	19.0	13.0	13.0	14.0	13.0	8.0	
ORT 20	20.020/20.007	55	35	17.5	–	25.0	23.5	19.0	13.0	13.0	17.5	14.0	11.0	
ORT 25	25.020/20.007	73	44	22.0	–	35.0	28.5	25.0	17.0	10.0	22.0	20.0	15.0	M16x45
ORT 32	32.025/32.009	73	50	22.0	22.0	35.0	35.5	25.0	17.0	10.0	22.0	20.0	15.0	

Esempio di ordinazione/*Order example*: CFORTS 10 (codice/*code*)

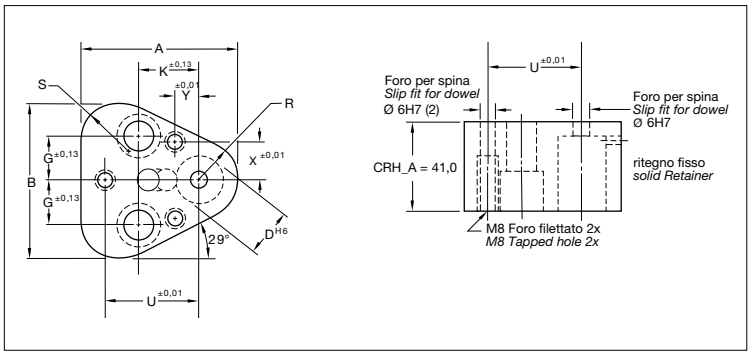
Per accessori e piastrine di spessoramento vedi pagg. 3.49-3.50
For accessories and backing plates see pages 3.49-3.50

Portapunzoni innesto rapido

Ball lock retainers



Codice/*Code*
Cod. **CRH_A**



PER APPLICAZIONI PESANTI / *HEAVY DUTY*											
CODICE *CODE*	D	A	B	G	K	R	S	U	X	Y	VITI *SIZE*
CRH_A 10	10.0	44.5	43.7	11.1	19.0	9.5	12.0	26.925	9.0	7.5	M8
CRH_A 13	13.0	50.8	50.0	14.3	19.0	12.7	15.2	29.970	12.0	6.5	M8
CRH_A 16	16.0	54.0	53.2	15.9	19.0	14.3	16.8	31.750	13.5	6.0	M8
CRH_A 20	20.0	60.3	59.5	17.5	19.0	17.5	20.0	33.530	16.5	5.0	M10
CRH_A 25	25.0	69.9	69.1	19.8	23.8	22.2	24.7	40.640	22.0	7.0	M12
CRH_A 32	32.0	69.9	69.9	19.8	23.8	22.2	24.7	40.640	22.0	7.0	M12
CRH_A 40	40.0	77.4	76.6	24.0	27.0	26.0	28.5	43.993	26.0	10.0	M12

Esempio di ordinazione/*Order example*: CRH_A 10 (codice/*code*)

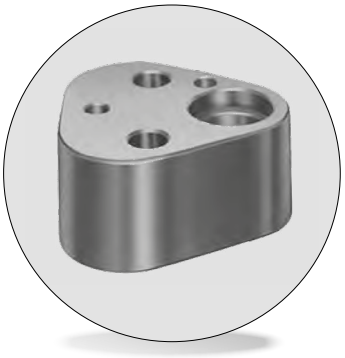
Per accessori e piastrine di spessoramento vedi pagg. 3.49-3.50
For accessories and backing plates see pages 3.49-3.50

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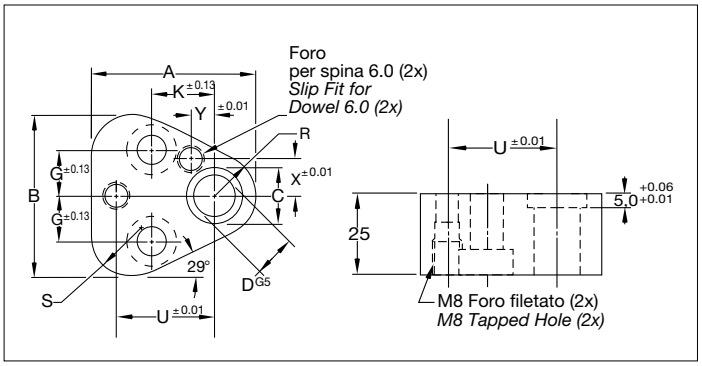
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cftorino@cftorino.it www.cftorino.it

Portapunzoni per punzoni testa cilindrica tondi

Retainers for shoulder round punches



Codice/*Code*
Cod. **CRN**



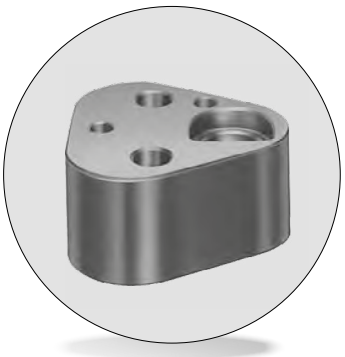
CODICE *CODE*	D	A	B	C	G	K	R	S	U	X	Y	VITI *SIZE*
CRN 10	10.00	44.5	43.7	14.0	11.1	19.0	9.5	12.0	26.925	9.0	7.5	M8
CRN 13	13.00	50.8	50.0	17.0	14.3	19.0	12.7	15.2	29.970	12.0	6.5	M8
CRN 16	16.00	54.0	53.2	20.0	15.9	19.0	14.3	16.8	31.750	13.5	6.0	M8
CRN 20	20.00	60.3	59.5	24.0	17.5	19.0	17.5	20.0	33.530	16.5	5.0	M10
CRN 25	25.00	69.9	69.1	29.0	19.8	23.8	22.2	24.7	40.640	22.0	7.0	M12
CRN 32	32.00	69.9	69.1	36.0	19.8	23.8	22.2	24.7	40.640	22.0	7.0	M12

Esempio di ordinazione/*Order example*: CRN 10 (codice/*code*)

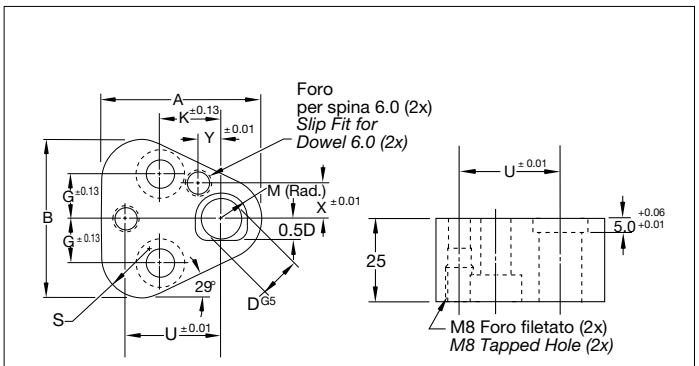
Per accessori e piastrine di spessoramento vedi pagg. 3.49-3.50
For accessories and backing plates see pages 3.49-3.50

Portapunzoni per punzoni testa cilindrica con sagoma

Reatainers for shoulder shaped punches



Codice/*Code*
Cod. **CRO**



CODICE *CODE*	D	A	B	G	K	M	R	S	U	X	Y	VITI *SIZE*
CRO 10	10.00	44.5	43.7	11.1	19.0	7.0	9.5	12.0	26.925	9.0	7.5	M8
CRO 13	13.00	50.8	50.0	14.3	19.0	8.5	12.7	15.2	29.970	12.0	6.5	M8
CRO 16	16.00	54.0	53.2	15.9	19.0	10.0	14.3	16.8	31.750	13.5	6.0	M8
CRO 20	20.00	60.3	59.5	17.5	19.0	12.0	17.5	20.0	33.530	16.5	5.0	M10
CRO 25	25.00	69.9	69.1	19.8	23.8	14.5	22.2	24.7	40.640	22.0	7.0	M12
CRO 32	32.00	69.9	69.1	19.8	23.8	18.0	22.2	24.7	40.640	22.0	7.0	M12

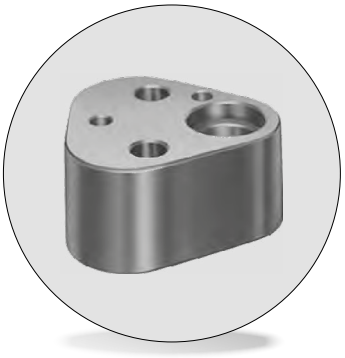
Esempio di ordinazione/*Order example*: CRO 10 (codice/*code*)

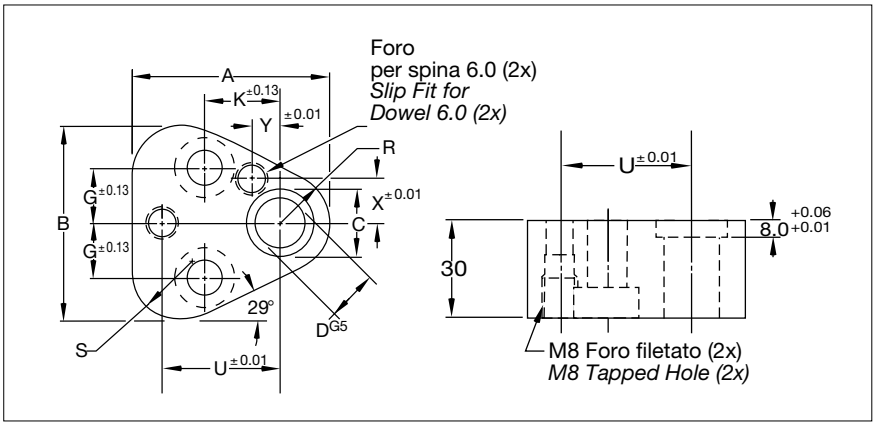
Per accessori e piastrine di spessoramento vedi pagg. 3.49-3.50
For accessories and backing plates see pages 3.49-3.50

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Portapunzoni per punzoni testa rinforzata tondi *Retainers for shoulder round punches head 8 mm*





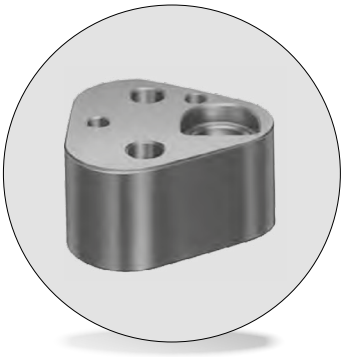
Codice/*Code*
Cod. **XCRN**

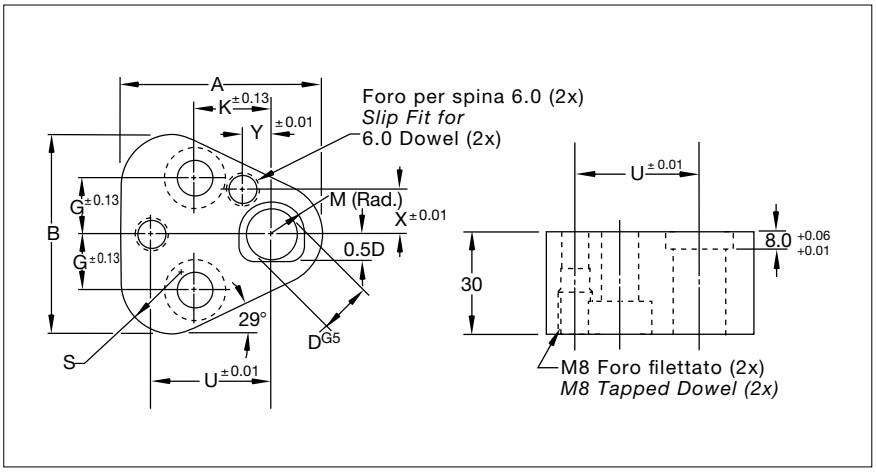
Per accessori e piastrine di spessoramento vedi pagg. 3.49-3.50
For accessories and backing plates see pages 3.49-3.50

CODICE *CODE*	D	A	B	C	G	K	R	S	U	X	Y	VITI *SIZE*
XCRN 10	10.00	44.5	43.7	15.5	11.1	19.0	9.5	12.0	26.925	9.0	7.5	M8
XCRN 13	13.00	50.8	50.0	18.5	14.3	19.0	12.7	15.2	29.970	12.0	6.5	M8
XCRN 16	16.00	54.0	53.2	21.5	15.9	19.0	14.3	16.8	31.750	13.5	6.0	M8
XCRN 29	20.00	60.3	59.5	25.5	17.5	19.0	17.5	20.0	33.530	16.5	5.0	M10
XCRN 25	25.00	69.9	69.1	30.5	19.8	23.8	22.2	24.7	40.640	22.0	7.0	M12

Portapunzoni per punzoni testa rinforzata con sagoma

Reatainers for shoulder shaped punches head 8 mm





Codice/*Code*
Cod. **XCRO**

CODICE *CODE*	D	A	B	G	K	M	R	S	U	X	Y	VITI *SIZE*
XCRO 10	10,00	44,5	43,7	11,1	19,0	7,75	9,5	12,0	26,925	9,0	7,5	M8
XCRO 13	13,00	50,8	50,0	14,3	19,0	9,25	12,7	15,2	29,970	12,0	6,5	M8
XCRO 16	16,00	54,0	53,2	15,9	19,0	10,75	14,3	16,8	31,750	13,5	6,0	M8
XCRO 20	20,00	60,3	59,5	17,5	19,0	12,75	17,5	20,0	33,530	16,5	5,0	M10
XCRO 25	25,00	69,9	69,1	19,8	23,8	15,25	22,2	24,7	40,640	22,0	7,0	M12

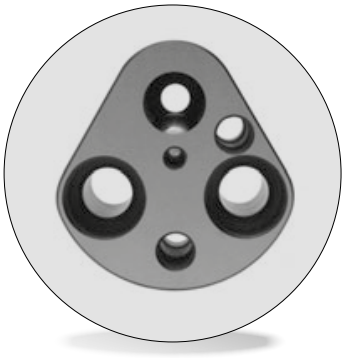
Esempio di ordinazione/*Order example*: XCRN 10 (codice/*code*)

Per accessori e piastrine di spessoramento vedi pagg. 3.49-3.50
For accessories and backing plates see pages 3.49-3.50

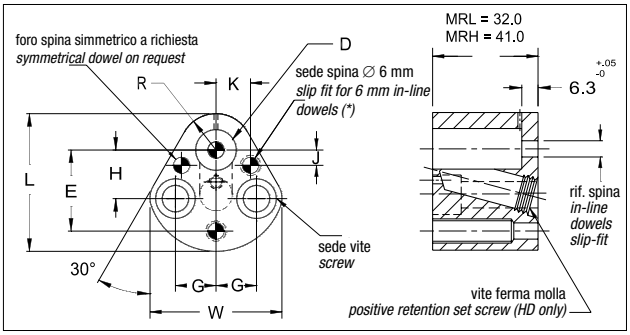
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Portapunzoni innesto rapido serie Standard *Ball lock retainers True Set Standard*



Codice/*Code*
Cod. **MR_**



Per accessori e piastrine di spessoramento vedi pagg. 3.49-3.50
For accessories and backing plates see pages 3.49-3.50

PER APPLICAZIONI PESANTI / Heavy duty											
CODICE/*CODE*	D	E ± .01	G	L	W	R	H	J ± .01	K ± .01	Ø SPINA/*DOWEL*	VITE/*SCREW*
MRH-10	10	26.924	11.12	44.5	39.9	9.5	19.05	7.50	9.00	6	M8
MRH-13	13	29.972	14.27	50.8	48.3	12.7	19.05	6.50	12.00	6	M8
MRH-16	16	31.750	15.87	54.0	51.6	14.3	19.05	6.00	13.50	6	M8
MRH-20	20	33.528	17.47	60.3	58.2	17.5	19.05	5.00	16.50	6	M10
MRH-25	25	40.640	19.84	69.9	66.5	22.2	23.82	7.00	22.00	6	M12
MRH-32	32	40.640	19.84	69.9	66.5	22.2	23.82	7.00	22.00	6	M12
MRH-40	40	43.993	24.00	77.4	77.8	26.0	27.00	10.00	26.00	6	M12

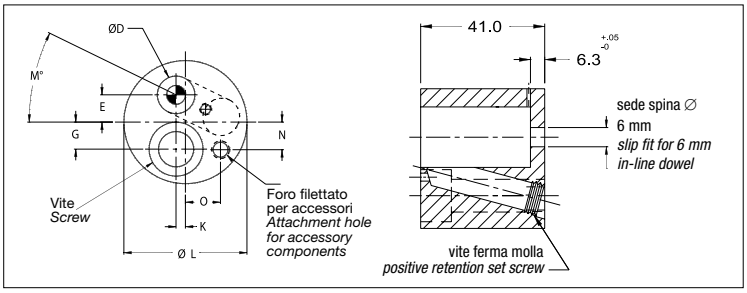
PER APPLICAZIONI LEGGERE / Light duty											
CODICE/*CODE*	D	E ± .01	G	L	W	R	H	J ± .01	K ± .01	Ø SPINA/*DOWEL*	VITE/*SCREW*
MRL-06	6	23.000	11.10	41.3	37.8	8.0	19.00	9.0	8.00	*3	M6
MRL-10	10	26.924	11.12	44.5	39.9	9.5	19.05	7.50	9.00	6	M8
MRL-13	13	29.972	14.27	50.8	48.3	12.7	19.05	6.50	12.00	6	M8
MRL-16	16	31.750	15.87	54.0	51.6	14.3	19.05	6.00	13.50	6	M8
MRL-20	20	33.528	17.47	60.3	58.2	17.5	19.05	5.00	16.50	6	M10
MRL-25	25	40.640	19.84	69.9	66.5	22.2	23.82	7.00	22.00	6	M12
MRL-32	32	40.640	19.84	69.9	66.5	22.2	23.82	7.00	22.00	6	M12
MRL-38	38	43.993	24.00	77.4	77.8	26.0	27.00	10.00	26.00	6	M12

Esempio di ordinazione/*Order example*: MRH-10 (codice/*code*)

Portapunzoni tondi innesto rapido serie Economy *Economy retainers round true set heavy duty*



Codice/*Code*
Cod. **MRR**



Per accessori e piastrine di spessoramento vedi pagg. 3.49-3.50
For accessories and backing plates see pages 3.49-3.50

PER APPLICAZIONI PESANTI / Heavy duty											
CODICE/*CODE*	Ø D	Ø L	E	G	K	M	N	O	VITE/*SCREW*	Ø SPINA/*DOWEL*	FORO/*HOLE*
MRR-10	10	38.1	9.86	7.10	2.65	20.5°	4.47	12.72	M12	6	M6x1.0
MRR-13	13	41.3	9.25	9.17	3.18	26°	9.35	11.88	M12	6	M6x1.0
MRR-16	16	44.5	9.10	11.07	1.93	33.5°	10.21	13.16	M12	6	M6x1.0
MRR-20	20	57.2	12.20	14.30	0	30°	9.35	19.40	M16	6	M8x1.25
MRR-25	25	63.5	12.51	17.50	0	30°	14.27	20.17	M16	6	M8x1.25
MRR-32	32	76.2	15.67	20.83	0	30°	15.46	26.12	M20	6	M8x1.25
MRR-40	40	82.6	15.39	23.55	0	30°	15.46	26.12	M20	6	M8x1.25

Esempio di ordinazione/*Order example*: MRR-20 (codice/*code*)

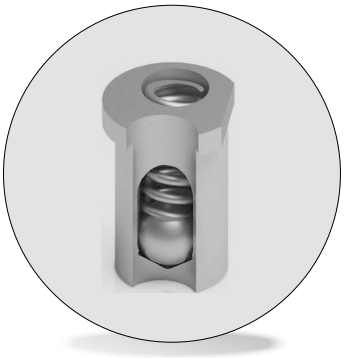
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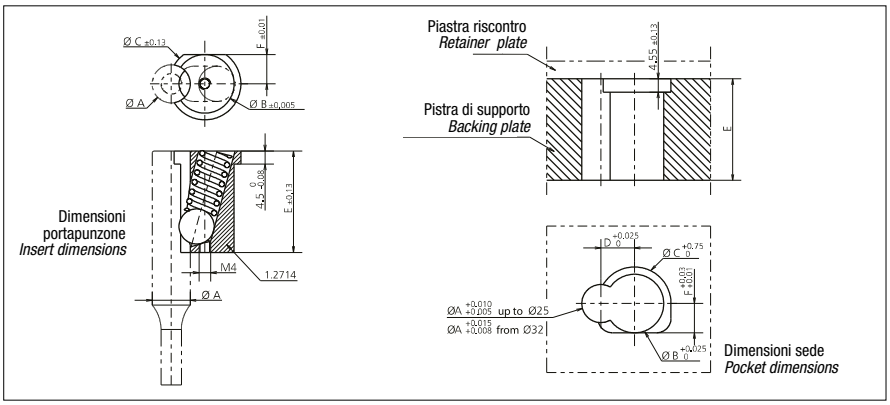
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cftorino@cftorino.it www.cftorino.it

Portapunzoni

Retainers

Portapunzoni innesto rapido serie Economy *Economy ball lock insert retainers*





Codice/*Code*
Cod. **MRK**

Per piastra di contrasto solo applicazioni pesanti/*Backing plate style only heay duty*

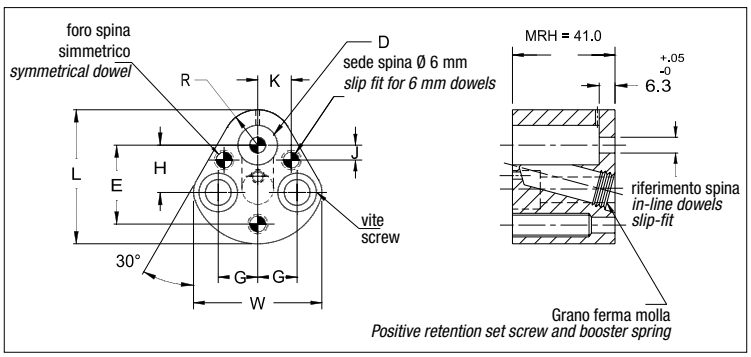
CODICE *CODE*	Ø A	Ø B	Ø C	D	E	F
MRK010	10	16	19.6	10	34.7	8
MRK013	13	20	24.6	11.5	34.7	10
MRK016	16	20	24.6	13	34.7	10
MRK020	20	20	24.6	15	34.7	10
MRK025	25	20	24.6	17.5	34.7	10
MRK032	32	20	24.6	21	34.7	10
MRK040	40	20	24.6	25	34.7	10

Esempio di ordinazione/*Order example*: MRK010 (codice/*code*)

Portapunzoni per punzoni innesto rapido serie Advanced *Reatainers for shoulder True Set-Advanced*



Codice/*Code*
Cod. **MRH_A**



PER APPLICAZIONI PESANTI / *HEAVY DUTY*											
CODICE *CODE*	D DIA.	E ±.01	G	L	W	R	H	J ±.01	K ±.01	In-line dowel	Screw size
MRH10A	10	26.924	11.12	44.5	39.9	9.5	19.05	7.50	9.00	6	M8
MRH13A	13	29.972	14.27	50.8	48.3	12.7	19.05	6.50	12.00	6	M8
MRH16A	16	31.750	15.87	54.0	51.6	14.3	19.05	6.00	13.50	6	M8
MRH20A	20	33.528	17.47	60.3	58.2	17.5	19.05	5.00	16.50	6	M10
MRH25A	25	40.640	19.84	69.9	66.5	22.2	23.82	7.00	22.00	6	M12
MRH32A	32	40.640	19.84	69.9	66.5	22.2	23.82	7.00	22.00	6	M12
MRH40A	40	43.993	24.00	77.4	77.8	26.0	27.00	10.00	26.00	6	M12

Esempio di ordinazione/*Order example*: MRH10A (codice/*code*)

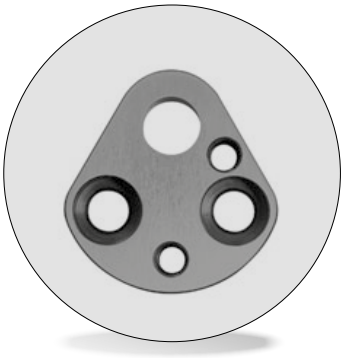
Per accessori e piastrine di spessoramento vedi pagg. 3.49-3.50
For accessories and backing plates see pages 3.49-3.50

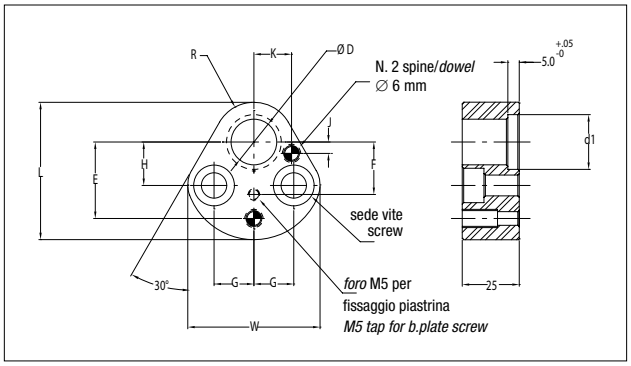
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Portapunzoni per punzoni testa cilindrica tondi

Retainers for shoulder round punches





Codice/*Code*
Cod. **MRN**

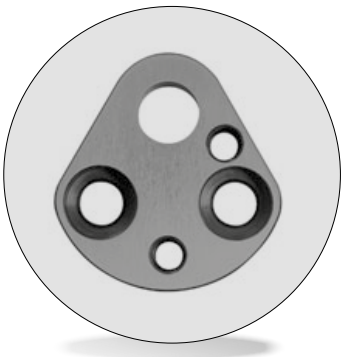
CODICE *CODE*	D	d1	L	W	R	H	J ± .01	K ± .01	G	E ± .01	F	VITE *SCREW*
MRN 10	10	14.0	44.5	39.9	9.5	19.05	7.50	9.00	11.12	26.924	16.00	M8
MRN 13	13	17.0	50.8	48.3	12.7	19.05	6.50	12.00	14.27	29.972	16.00	M8
MRN 16	16	20.0	54.0	51.6	14.3	19.05	6.00	13.50	15.87	31.750	16.00	M8
MRN 20	20	24.0	60.3	58.2	17.5	19.05	5.00	16.50	17.47	33.528	23.00	M10
MRN 25	25	29.0	69.9	66.5	22.2	23.82	7.00	22.00	19.84	40.640	30.00	M12
MRN 32	32	36.0	69.9	66.5	22.2	23.82	7.00	22.00	19.84	40.640	30.00	M12

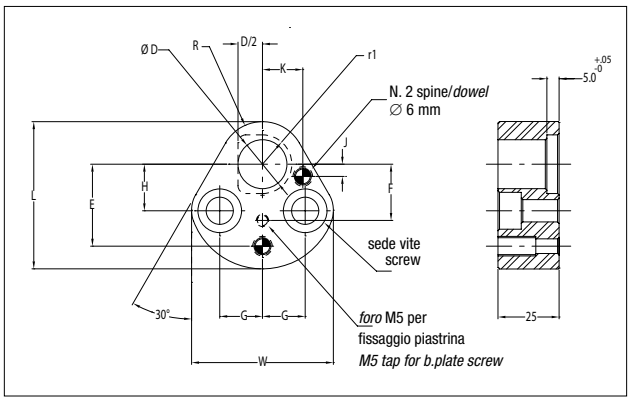
Esempio di ordinazione/*Order example*: MRN 32 (codice/*code*)

Per accessori e piastrine di spessoramento vedi pagg. 3.49-3.50
For accessories and backing plates see pages 3.49-3.50

Portapunzoni per punzoni testa cilindrica con sagoma

Reatainers for shoulder shaped punches





Codice/*Code*
Cod. **MRO**

CODICE *CODE*	D	r1	L	W	R	H	J ± .01	K ± .01	G	E ± .01	F	VITE *SCREW*
MRO 10	10	7.0	44.5	39.9	9.5	19.05	7.50	9.00	11.12	26.924	16.00	M8
MRO 13	13	8.5	50.8	48.3	12.7	19.05	6.50	12.00	14.27	29.972	16.00	M8
MRO 16	16	10.0	54.0	51.6	14.3	19.05	6.00	13.50	15.87	31.750	16.00	M8
MRO 20	20	12.0	60.3	58.2	17.5	19.05	5.00	16.50	17.47	33.528	23.00	M10
MRO 25	25	14.5	69.9	66.5	22.2	23.82	7.00	22.00	19.84	40.640	30.00	M12
MRO 32	32	18.0	69.9	66.5	22.2	23.82	7.00	22.00	19.84	40.640	30.00	M12

Esempio di ordinazione/*Order example*: MRO 25 (codice/*code*)

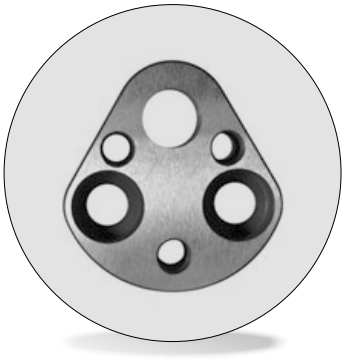
Per accessori e piastrine di spessoramento vedi pagg. 3.49-3.50
For accessories and backing plates see pages 3.49-3.50

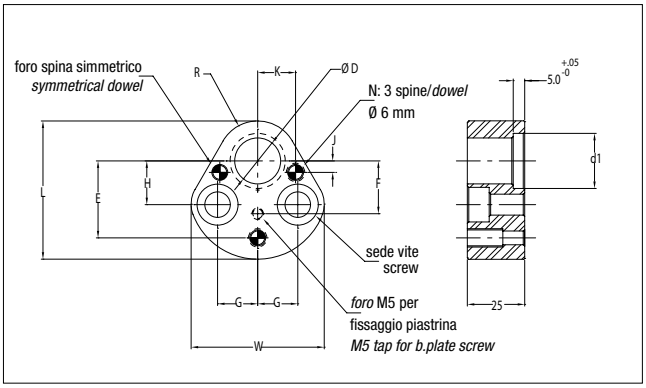
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Portapunzoni per punzoni testa cilindrica tondi con terzo foro spina simmetrico

Retainers for shoulder round punches with symmetrical 3rd dowel





Codice/*Code*
Cod. **MRP**

CODICE *CODE*	D	d1	L	W	R	H	J ± .01	K ± .01	G	E ± .01	F	VITE *SCREW*
MRP 10	10	14.0	44.5	39.9	9.5	19.05	7.50	9.00	11.12	26.924	16.00	M8
MRP 13	13	17.0	50.8	48.3	12.7	19.05	6.50	12.00	14.27	29.972	16.00	M8
MRP 16	16	20.0	54.0	51.6	14.3	19.05	6.00	13.50	15.87	31.750	16.00	M8
MRP 20	20	24.0	60.3	58.2	17.5	19.05	5.00	16.50	17.47	33.528	23.00	M10
MRP 25	25	29.0	69.9	66.5	22.2	23.82	7.00	22.00	19.84	40.640	30.00	M12
MRP 32	32	36.0	69.9	66.5	22.2	23.82	7.00	22.00	19.84	40.640	30.00	M12
MRP 40	40	44.0	77.40	77.8	26.0	27.00	10.00	26.00	24.00	43.993	33.35	M12

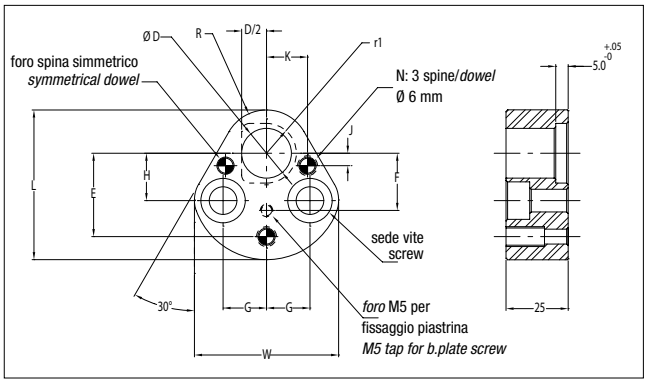
Esempio di ordinazione/*Order example*: MRP 16 (codice/*code*)

Per accessori e piastrine di spessoramento vedi pagg. 3.49-3.50
For accessories and backing plates see pages 3.49-3.50

Portapunzoni per punzoni testa cilindrica con sagoma con terzo foro simmetrico

Retainers for shoulder shaped punches with symmetrical 3rd dowel





Codice/*Code*
Cod. **MRQ**

CODICE *CODE*	D	r1	L	W	R	H	J ± .01	K ± .01	G	E ± .01	F	VITE *SCREW*
MRQ 10	10	7.0	44.5	39.9	9.5	19.05	7.50	9.00	11.12	26.924	16.00	M8
MRQ 13	13	8.5	50.8	48.3	12.7	19.05	6.50	12.00	14.27	29.972	16.00	M8
MRQ 16	16	10.0	54.0	51.6	14.3	19.05	6.00	13.50	15.87	31.750	16.00	M8
MRQ 20	20	12.0	60.3	58.2	17.5	19.05	5.00	16.50	17.47	33.528	23.00	M10
MRQ 25	25	14.5	69.9	66.5	22.2	23.82	7.00	22.00	19.84	40.640	30.00	M12
MRQ 32	32	18.0	69.9	66.5	22.2	23.82	7.00	22.00	19.84	40.640	30.00	M12
MRQ 40	40	22.0	77.40	77.8	26.0	27.00	10.00	26.00	24.00	43.993	33.35	M12

Esempio di ordinazione/*Order example*: MRQ 10 (codice/*code*)

Per accessori e piastrine di spessoramento vedi pagg. 3.49-3.50
For accessories and backing plates see pages 3.49-3.50

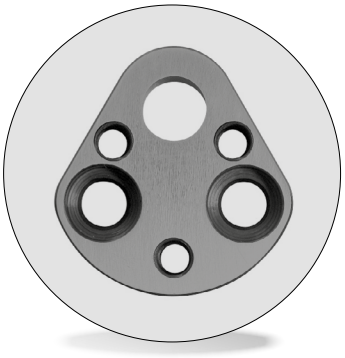
CF Torino - È vietata la riproduzione, anche parziale, del presente catalogo.

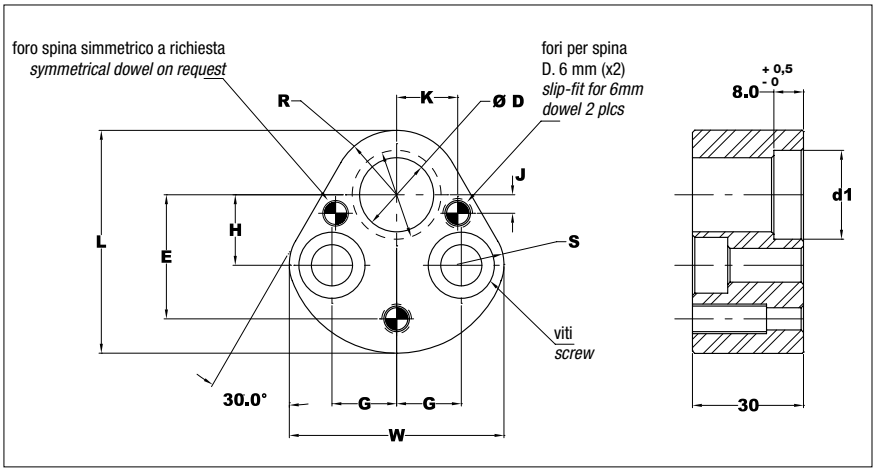
Via Alba, 25 - 10024 Moncalieri (TO) - Italy
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cftorino@cftorino.it www.cftorino.it

Portapunzoni per punzoni testa rinforzata

Dura punch retainers

Portapunzoni per punzoni testa rinforzata tondi *Retainers for shoulder round punches head 8mm*



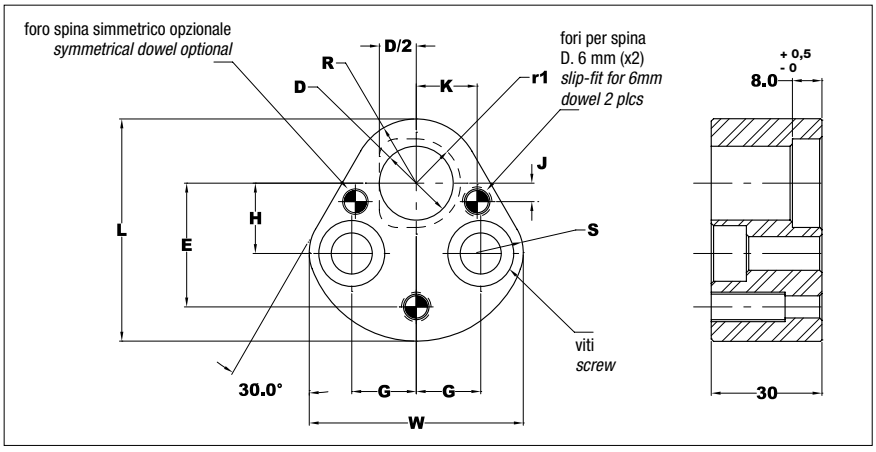


Codice/*Code*
Cod. **XMRN**

CODICE *CODE*	D	d1	L	W	R	H	J ± .01	K ± .01	S	G	E ± .01	MISURA VITI *SCREW SIZE*
XMRN-10	10.00	15.5	44.3	39.75	9.5	19.05	7.5	9.0	12.65	11.12	26.924	M8
XMRN-13	13.00	18.5	50.67	48.13	12.7	19.05	6.5	12.0	9.47	14.27	29.972	M8
XMRN-16	16.00	21.5	53.85	51.6	14.2	19.05	6.0	13.5	9.47	15.87	31.750	M8
XMRN-20	20.00	25.5	60.2	58.0	17.4	19.05	5.0	16.5	12.62	17.47	33.528	M10
XMRN-25	25.00	30.5	69.72	66.32	22.2	23.82	7.0	22.0	22.17	19.84	40.640	M12

Portapunzoni per punzoni testa rinforzata con sagoma

Retainers for shoulder shaped punches head 8mm



Codice/*Code*
Cod. **XMRO**

CODICE *CODE*	D	r1	L	W	R	H	J ± .01	K ± .01	S	G	E ± .01	MISURA VITI *SCREW SIZE*
XMRO-10	10.00	7.75	44.3	39.75	9.5	19.05	7.5	9.0	12.65	11.12	26.924	M8
XMRO-13	13.00	9.25	50.67	48.13	12.7	19.05	6.5	12.0	9.47	14.27	29.972	M8
XMRO-16	16.00	10.75	53.85	51.6	14.2	19.05	6.0	13.5	14.2	15.87	31.750	M8
XMRO-20	20.00	12.75	60.2	58.0	17.4	19.05	5.0	16.5	12.62	17.47	33.528	M10
XMRO-25	25.00	15.25	69.72	66.32	22.2	23.82	7.0	22.0	22.17	19.84	40.640	M12

Esempio di ordinazione/*Order example*: XMRO13 (codice/*code*)

Per accessori e piastrine di spessoramento vedi pagg. 3.49-3.50
For accessories and backing plates see pages 3.49-3.50

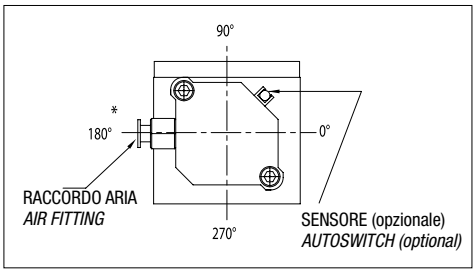
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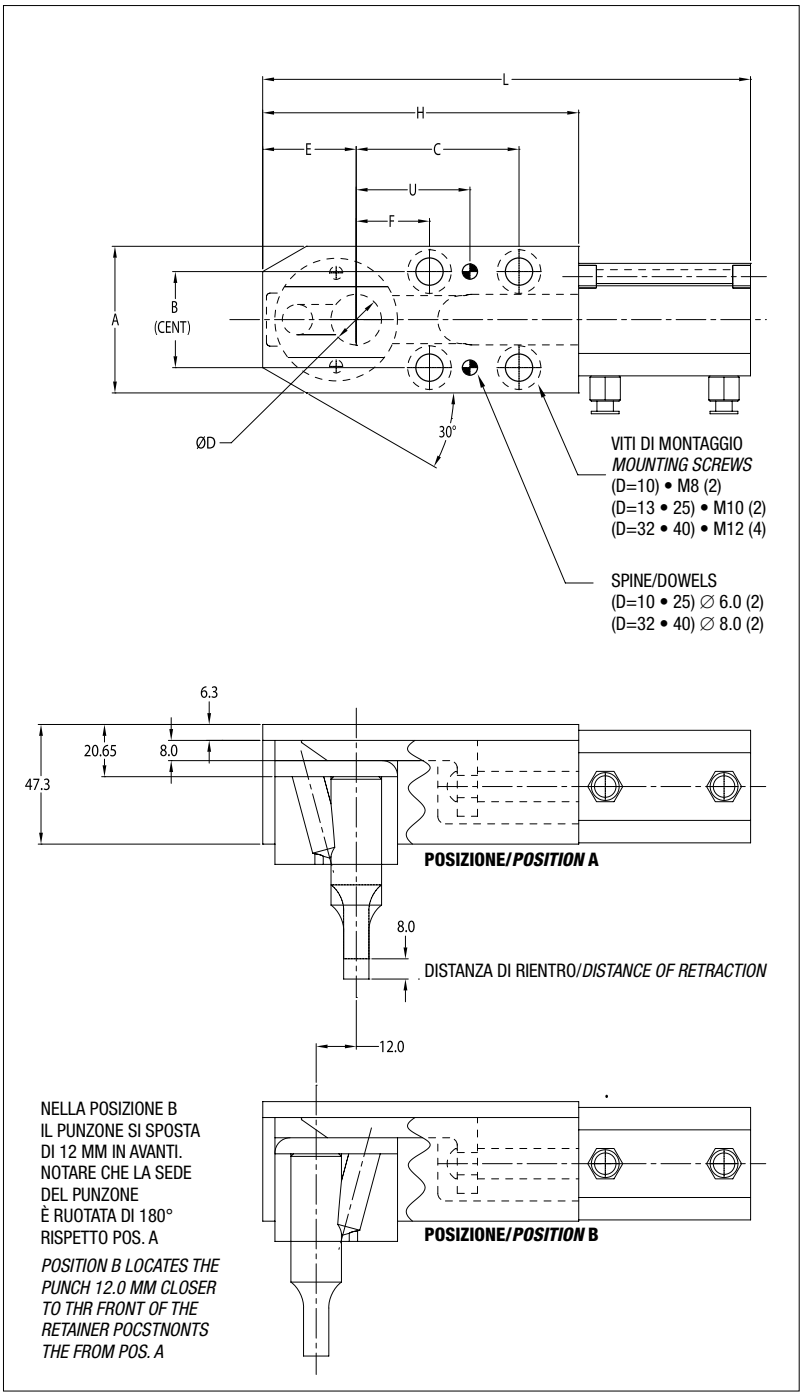
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Portapunzoni retrattili a doppia posizione per punzoni Ball lock a cambio rapido

Retractable retainers heavy duty Ball lock







Il portapunzone retrattile a doppia posizione ball lock fornisce la capacità di aggiungere o togliere fori rapidamente, senza richiedere impegnativi piani di produzione e senza aggiungere ulteriori costi e attrezzature supplementari. Questo portapunzone è conforme alle normative NAAMS e alle principali normative automobilistiche. La posizione B facilita le operazioni di cambio spostando il punzone di 12 mm verso la parte anteriore del portapunzone. Le caratteristiche di questo portapunzone sono che ha un corpo unico robusto e conveniente, ed elimina la necessità di protezioni di sicurezza.

Moeller dual-position ball lock retractable retainers provide the capability to add, or subtract, holes quickly without affecting demanding production schedules, and without the added cost of additional tooling. Moeller dual-position ball lock retractable retainers are available to conform to NAAMS, and leading automotive standards. Position B facilitates close-space applications by moving the punch 12mm closer to the front end of the retainer. Moeller dual-position ball lock retainers feature a strong and convenient one- piece body, eliminating the need for a separate safety shield.

Codice/*Code*
Cod. **MRA**

Nota: con il portapunzone vengono fornite viti, spine, cilindro aria e raccordi. Tubi per aria e sensori non sono inclusi e devono essere ordinati separatamente. Consultateci per accessori aggiuntivi.
Change retainer set includes all necessary screws and dowels,air cylinder and fittings. Tubing for air supply and autoswitch are not included and must be ordered separately. Consult factory for additional accessories.

CODICE *CODE*	D	L	A	± .01 B	C		E		F		H	U ± .01		VITE *SCREW*
					POS. A	POS. B	POS. A	POS. B	POS. A	POS. B		POS. A	POS. B	
MRA 10	10	161	46	30			28	16	21	33	93,5	37	49	M8
MRA 13	13	172,5	50	30			28	16	25	37	100	41	53	M10
MRA 16	16	177	50	30			31	19	25	37	104,5	41	53	M10
MRA 20	20	191,5	58	38			32,5	20,5	29	41	113,5	45	57	M10
MRA 25	25	206,5	58	38			35	23	29	41	123,5	45	57	M10
MRA 32	32	260	80	56	100	112	38	26	38	50	152	60	72	M12
MRA 40	40	264	80	56	100	112	42	30	38	50	156	60	72	M12

Esempio di ordinazione/*Order example*: MRA 40 (codice/*code*) o/*or* MRA 40 Pos. B (codice/*code*+pos.)

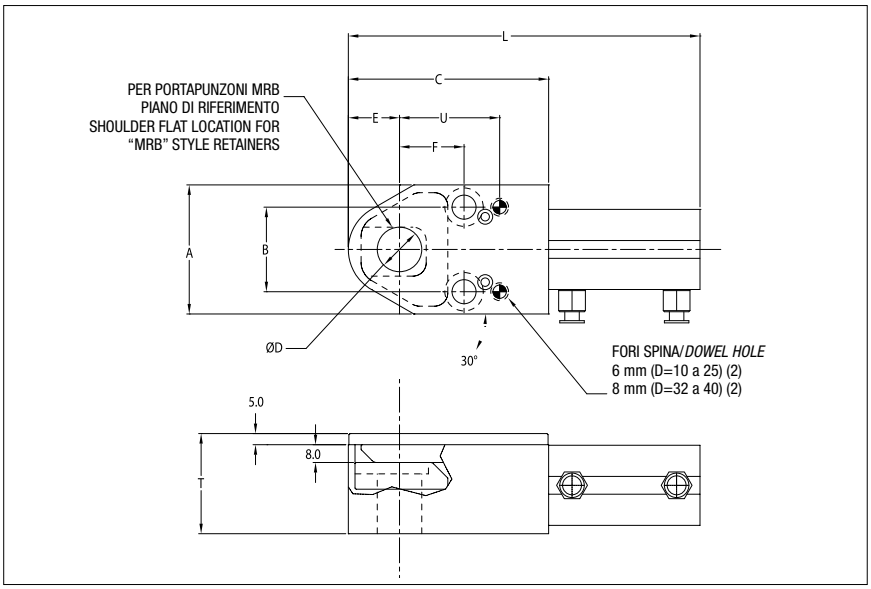
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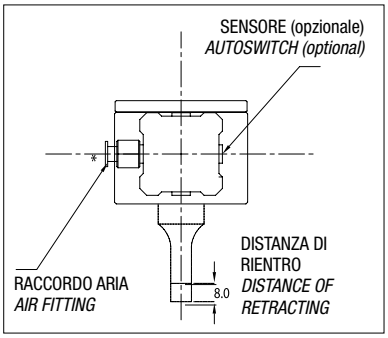
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Portapunzoni retrattili per punzoni testa cilindrica

Retractable retainers shoulder style







Codice/*Code*
Cod. **MRC / MRB**

Il portapunzone retrattile per punzoni a testa cilindrica fornisce la capacità di aggiungere o togliere fori rapidamente, senza richiedere impegnativi piani di produzione e senza aggiungere ulteriori costi e attrezzature supplementari. Le caratteristiche di questo portapunzone sono che ha un corpo unico robusto e conveniente, ed elimina la necessità di protezioni di sicurezza.

Moeller shoulder retractable retainers provide the capability to add, or subtract, holes quickly without affecting demanding production schedules, and without the added cost of additional tooling. Moeller shoulder retractable retainers feature a strong and convenient one- piece body, eliminating the need for a separate safety shield.

Nota: con il portapunzone vengono fornite viti, spine, cilindro aria e raccordi. Tubi per aria e sensori non sono inclusi e devono essere ordinati separatamente. Consultateci per accessori aggiuntivi/*Note: change retainer set includes all necessary screws and dowels,air cylinder and fittings. Tubing for air supply and autoswitch are not included and must be ordered separately. Consult factory for additional accessories.*

CODICE per punzoni tondi	CODICE per punzoni sagomati	D	L	A	± .01 B	C	E	F	T	U ± .01	VITE
MRC 10	MRB 10	10	128	46	30	73	18	25	45	41	M8
MRC 13	MRB 13	13	128	49	30	73	18	25	45	41	M10
MRC 16	MRB 16	16	128	49	30	73	18	25	45	41	M10
MRC 20	MRB 20	20	155	58	38	90	23	29	45	45	M10
MRC 25	MRB 25	25	155	58	38	90	23	29	45	45	M10
MRC 32	MRB 32	32	208	80	56	125	33	38	55	60	M12
MRC 40	MRB 40	40	208	80	56	125	33	38	55	60	M12

Esempio di ordinazione/*Order example*: MRB 16 (codice/*code*)

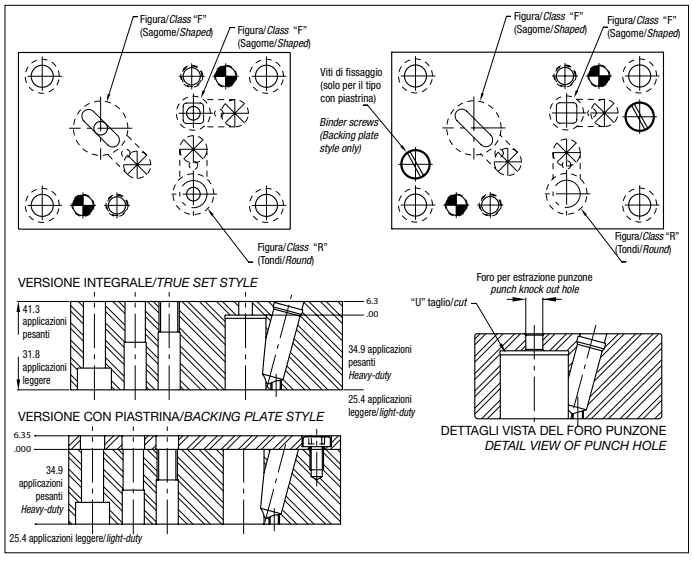
Portapunzoni speciali multiforo *Special ball-lock retainers multi hole*

TOLLERANZE tutti i tipi/*TOLERANCES all types*	
PERIMETRO/*OUTSIDE EDGES*	± .5
FORI SPINA/*DOWEL HOLE LOCATIONS*	± .01
FORI SEDI VITI/SCREW HOLE LOCATIONS	± .1
FORI SEDI POSIZIONAMENTO/*COMPONENT HOLE LOCATIONS*	± .01

FORI SFERE/*BALL-HOLES*	
FIGURE *CLASS*	TOLLERANZA RADIALE *RADIAL TOLERANCE*
R	± .5°
F	± .0°5°

*Tutti i portapunzoni Ball Lock per fori punzoni o matrici devono essere disegnati come tondi, figura "R" o sagome, figura "F". Dove vengono utilizzati punzoni con sagome, i fori e le semisfere sono eseguiti con precisione. Questo garantisce il posizionamento radiale, senza ulteriori aggiunte di costo sul portapunzone./ *All Ball Lock retainer punch or button holes must be designated as Round, class "R" or Shaped, class "F". Where shaped components are being used, the angle holes are precision ground. This guarantees radial location, buts adds cost to the retainer.*

Nota: Sede sfera figura "R" sarà fornita senza alcuna specifica/*Note: Ball-Seat class "R" will be supplied unless otherwise specified*



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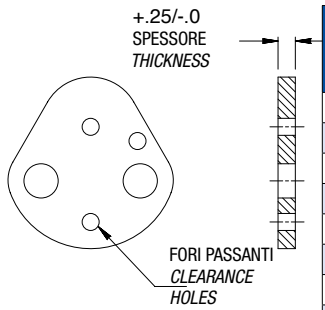
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Accessori per portapunzoni

Retainers components

Piastrine di spessoramento per portapunzoni *True set shim plates*

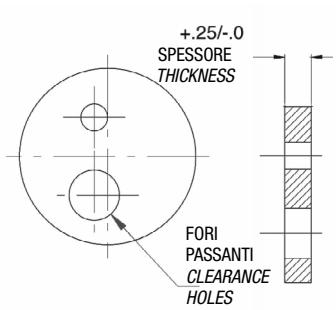
CODICE *CODE*
MAX 10-
MAX 13-
MAX 16-
MAX 20-
MAX 25-
MAX 32-
MAX 40-



spessore *Available Thickness*	cod. ordinaz. *Ordering Number*
1.80	018
3.00	030
3.18	031
4.75	047
6.00	060
6.35	063
10.00	100
13.00	130

Esempio di ordinazione/*Order example*:
MAX 13-031 (codice/*code*+codice ordinazione+*order code*)

CODICE *CODE*
MAY 10-
MAY 13-
MAY 16-
MAY 20-
MAY 25-
MAY 32-
MAY 40-

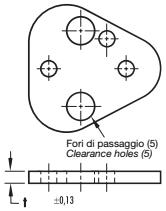


spessore *Available Thickness*	cod. ordinaz. *Ordering Number*
1.80	018
3.00	030
3.18	031
4.75	047
6.00	060
6.35	063
10.00	100
13.00	130

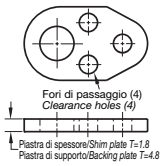
Esempio di ordinazione/*Order example*:
MAY 13-031 (codice/*code*+codice ordinazione+*order code*)

Piastra di spessore e supporto

Shim plate backing plate



D	Piastra di spessore *Shim Plate* T=1.8	Piastra di supporto *Backing Plate* T=4.8
10	CURSP 1018	CURBP 1048
13	CURSP 1318	CURBP 1348
16	CURSP 1618	CURBP 1648
20	CURSP 2018	CURBP 2048
25	CURSP 2518	CURBP 2548
32	CURSP 3218	CURBP 3248

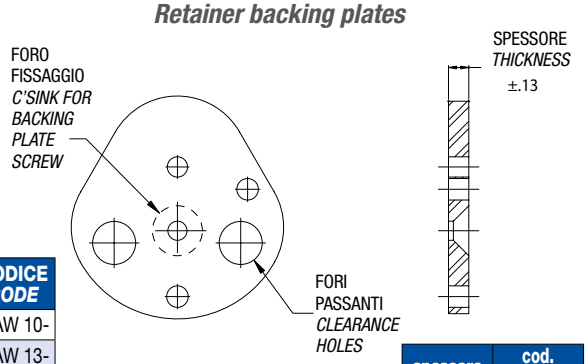


D	Piastra di spessore *Shim Plate* T=1.8 (soft)	Piastra di supporto *Backing Plate* T=4.8 (HR C55)
10	CORSP 1018	CORBP 1048
13	CORSP 1318	CORBP 1348
16	CORSP 1618	CORBP 1648
20	CORSP 2018	CORBP 2048
25	CORSP 2518	CORBP 2548
32	CORSP 3218	CORBP 3248

Esempio di ordinazione/*Order example*: CURSP 1018 (codice/*code*)

Piastrine di reazione per portapunzoni

Retainer backing plates



CODICE *CODE*
MAW 10-
MAW 13-
MAW 16-
MAW 20-
MAW 25-
MAW 32-

spessore *Available Thickness*	cod. ordinaz. *Ordering Number*
4.75	047
6.35	063

Esempio di ordinazione/*Order example*:
MAW 13-047 (codice/*code*+codice ordinazione+*order code*)

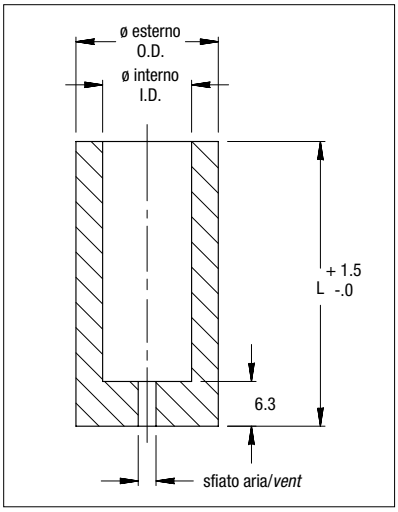
Estrattori in poliuretano *Urethane stripper*

CODICE *CODE*	Ø INTERNO I.D.	Ø ESTERNO O.D.	L	PRESSIONE APPROSSIMATIVA *APPROXIMATE PRESSURE*		
				3.0	6.5	9.5
MTC 06-45	06	19	45	1324	2256	—
MTC 06-53			53	1079	1863	—
MTC 06-71			71	686	1079	1765
MTC 08-45	08	21	45	1471	2207	—
MTC 08-53			53	1324	1961	2942
MTC 08-71			71	981	1618	2648
MTC 10-45	10	23	45	1716	2795	—
MTC 10-53			53	1422	2452	3187
MTC 10-56			56	1422	2452	3187
MTC 10-71			71	1128	2010	2697
MTC 13-45	13	26	45	2109	3334	—
MTC 13-53			53	1471	2354	3432
MTC 13-56			56	1471	2354	2942
MTC 13-71			71	1275	1961	2452
MTC 16-45	16	30	45	2354	3825	—
MTC 16-53			53	2158	3531	4511
MTC 16-56			56	2158	3431	4511
MTC 16-71			71	1814	2942	3825
MTC 20-45	20	38	45	2452	3923	—
MTC 20-53			53	2158	3629	5590
MTC 20-71			71	1618	2942	4658
MTC 25-45	25	50	45	9317	14318	—
MTC 25-53			53	7355	11572	15985
MTC 25-71			71	4904	8336	13485

Esempio di ordinazione/*Order example*: MTC 20-45 (codice/*code*)

Codice/Code	sfiato aria / *vent*	ø interno / I.D.'s
Cod. **MTC**	1.6	06 - 10
	3.2	13 - 25

Materiale/*Material*: poliuretano/*polyurethane*
Durezza/*Durometer hardness*: 95 Shore A



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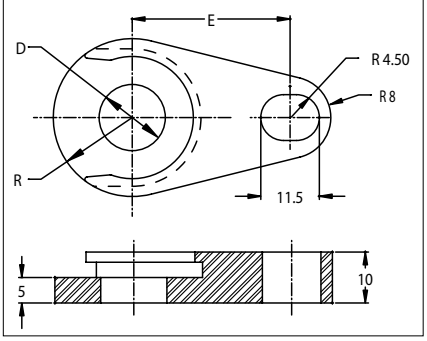
Ritegni e estrattori in poliuretano

True set stripper retainers

- Mono struttura innovativa
- Sistema brevettato integrale per una migliore tenuta in trancia
- Complementari e intercambiabili con le norme NAAMS (Standard USA)
- Alta precisione tecnica per assicurare perpendicolarità risultante dalla lunga durata del poliuretano
- Adattabile a portapunzoni speciali multi-foro

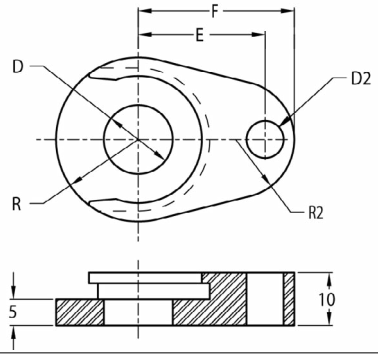
- Innovative One-Piece construction
- Patented cost savings "Snap in" retention feature
- Interchangeable and complies with NAAMS standards
- Precision machined to assure perpendicularity resulting in prolonged Urethane life
- Adaptable to special multi-hole Retainers

CTR PIASTRINA DI ASSEMBLAGGIO TIPO MTR
MTR STYLE STRIPPER RETAINER



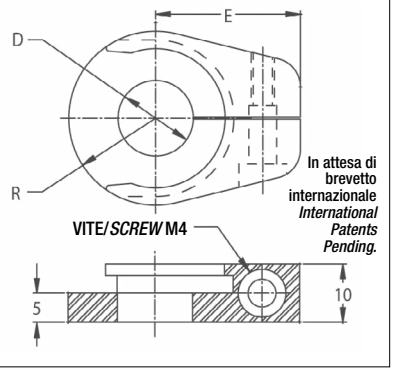
CODICE/*CODE*	D	R	E
CTR 10	10	13	28
CTR 13	13	15.5	31
CTR 16	16	18	32.9
CTR 20	20	20.5	34.8
CTR 25	25	24	39.8
CTR 32	32	31	41.3
CTR 40	40	36	45

CTP PIASTRINA DI ASSEMBLAGGIO TIPO MTP
MTP STYLE STRIPPER RETAINER



CODICE/*CODE*	D	R	E	F	D2	R2
CTP 10	10	13.0	21.0	26.5	7	10.0
CTP 13	13	15.5	23.9	29.4	7	11.0
CTP 16	16	18.0	24.5	30.0	7	12.8
CTP 20	20	20.5	29.0	36.0	9	11.8
CTP 25	25	24.0	33.5	40.5	9	12.9
CTP 32	32	31.0	40.6	49.3	9	8.0
CTP 40	40	36.0	44.0	53.0	9	8.0

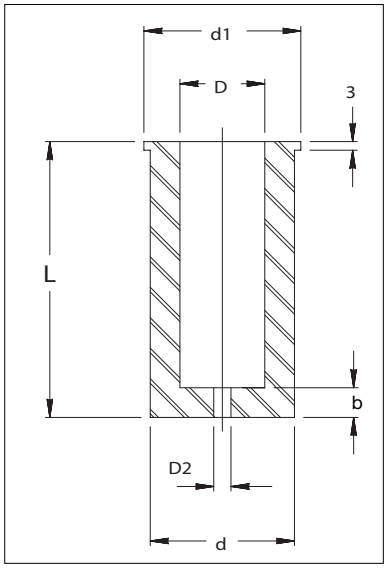
CTM PIASTRINA DI ASSEMBLAGGIO TIPO MTM
MTM STYLE STRIPPER RETAINER



CODICE/*CODE*	D	R	E
CTC 10	10	13	22.5
CTC 13	13	15.5	25
CTC 16	16	18	27.5
CTC 20	20	20.5	30
CTC 25	25	24	35.5
CTC 32	32	31	37.5
CTC 40	40	36	42.3

Esempio di ordinazione/*Order example*: CTR 10 (codice/*code*)

Codice/*Code*
Cod. **CTS**



CODICE/ *CODE*	GACBO PUNZONE *SHANK*	D	d	L	d1	d2	b
CTS10-44	10	9.75	18	44	21	1.6	6
CTS10-54	10	9.75	18	54	21	1.6	6
CTS10-64	10	9.75	18	64	21	1.6	6
CTS10-74	10	9.75	18	74	21	1.6	6
CTS13-44	13	12.75	23	44	26	3.0	6
CTS13-54	13	12.75	23	54	26	3.0	6
CTS13-64	13	12.75	23	64	26	3.0	6
CTS13-74	13	12.75	23	74	26	3.0	6
CTS16-44	16	15.75	28	44	31	3.0	6
CTS16-54	16	15.75	28	54	31	3.0	6
CTS16-64	16	15.75	28	64	31	3.0	6
CTS16-74	16	15.75	28	74	31	3.0	6
CTS20-44	20	19.75	33	44	36	3.0	7
CTS20-54	20	19.75	33	54	36	3.0	7
CTS20-64	20	19.75	33	64	36	3.0	7
CTS20-74	20	19.75	33	74	36	3.0	7
CTS25-44	25	24.75	40	44	43	3.0	7
CTS25-54	25	24.75	40	54	43	3.0	7
CTS25-64	25	24.75	40	64	43	3.0	7
CTS25-74	25	24.75	40	74	43	3.0	7
CTS32-44	32	31.70	50	44	55	3.0	7
CTS32-54	32	31.70	50	54	55	3.0	7
CTS32-64	32	31.70	50	64	55	3.0	7
CTS32-74	32	31.70	50	74	55	3.0	7
CTS40-44	40	39.70	60	44	65	3.0	8
CTS40-54	40	39.70	60	54	65	3.0	8
CTS40-64	40	39.70	60	64	65	3.0	8

ELEMENTO IN POLIURETANO CON DUREZZA 95 SHORE A *URETHANE HARDNESS 95 SHORE A*			
	Lunghezza punzone carico pesante *Heavy Duty Ball Lock Punch Length*	Lunghezza punzone carico leggero *Light Duty Ball Lock Punch Length*	Lunghezza consigliata *Recommended Stripper Length "L"*
L	80	71	44
	90	80	54
	100	90	64
	110	100	74

Esempio di ordinazione/*Order example*: CTS 25-44 (codice/*code*)

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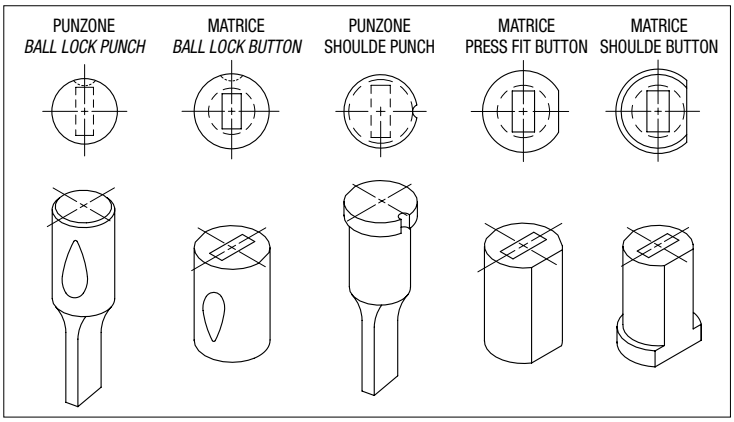
Riferimenti
Locating devices

Riferimenti standard *Standard locations*

La sede standard della sfera, per tutti i prodotti a innesto rapido, è a 90°. Il taglio di chiavetta e il foro spina standard sono a 0°. In alternativa, e senza sovraprezzo, si possono ordinare nelle posizioni: 0°, 90°, 180°, 270°. Per ordinare specificare @ ___°.
Standard ballseat location for all ball lock products is 90°. Standard flat, dowel groove and Windsor Lock location is at 0°.
Note: 0° is at 3:00. Alternate no charge locations are 0°, 90°,180°, 270° (see drawing). To order alternate locations specify locating device type @ ___°.

Es. punzone Ball lock/*Ball lock punch example*
MHR 13-80 P=6.0 W=5.5 BS 0°

Es. chiavetta per matrice/*Button flat example*
MDO25-32 P=13.0 W=10.5 F1 90°

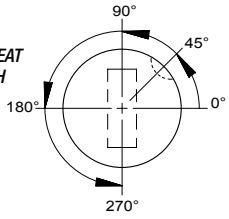


Riferimenti a richiesta *Custom locations*

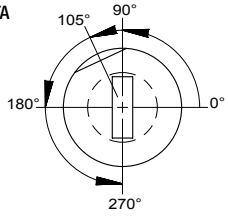
I particolari sono visti in posizione sullo stampo guardando dall'alto.
I punzoni sono visti dal gambo, le matrici dell'alto di faccia.
Parts are viewed in die position looking from above the die. Punches are viewed looking through the shanks. Buttons are viewed through top face.

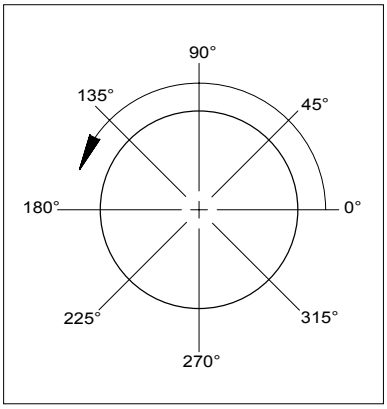
Esempi tipici/*Typical examples*

RIFERIMENTO
SEDE SFERA
CUSTOM BALL SEAT
LOCATION PUNCH
BS-45°

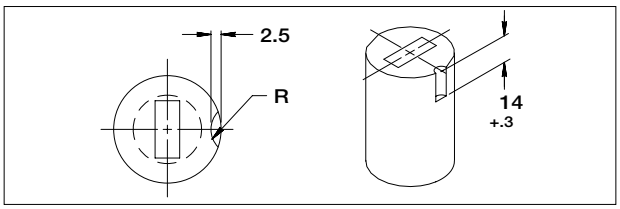


TAGLIO DI CHIAVETTA
CUSTOM FLAT
LOCATION
DIE BUTTON
F2-105°

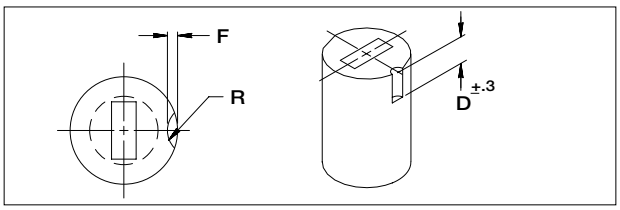




Windsor lock

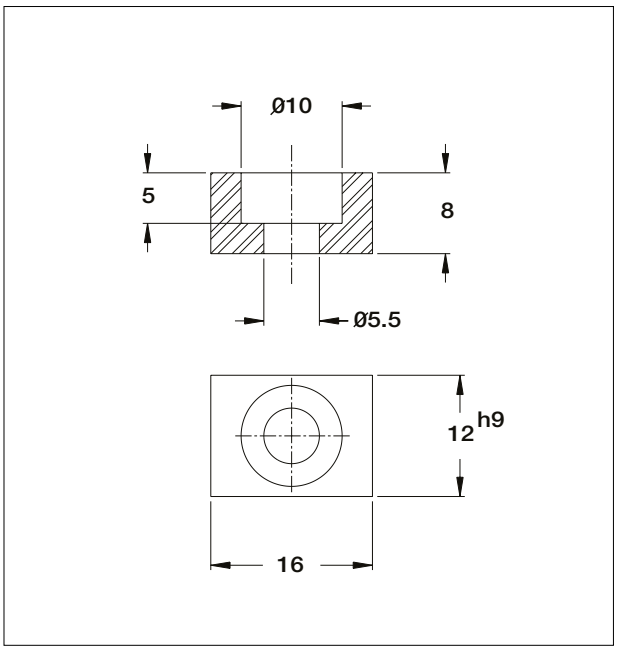


W6	6.0 WINDSOR LOCK R = 3.0 RAD
W10	10.0 WINDSOR LOCK R = 5.0 RAD
W13	13.0 WINDSOR LOCK R = 6.5 RAD



WX	Definito dall'utente/*User defined* Specificare le dimensioni di "F", "R" e "D" *Must specify "F", "R" and "D" dimensions*

Chiavetta ritegno matrice *Button retention key*

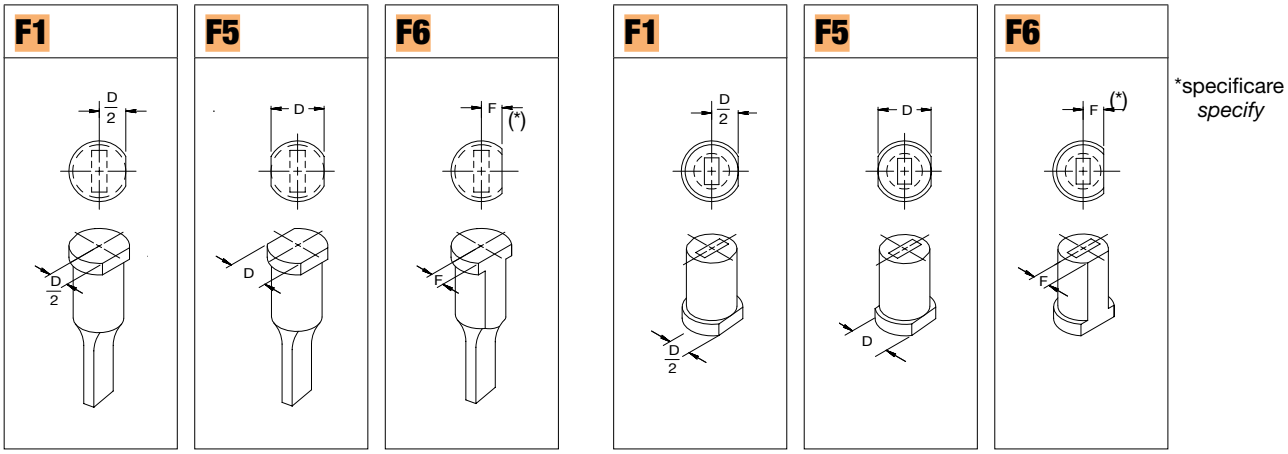


MAK-01

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Tagli di chiavetta a punzoni e matrici con testa
Flats on shoulder punches and buttons



*specificare *specify*

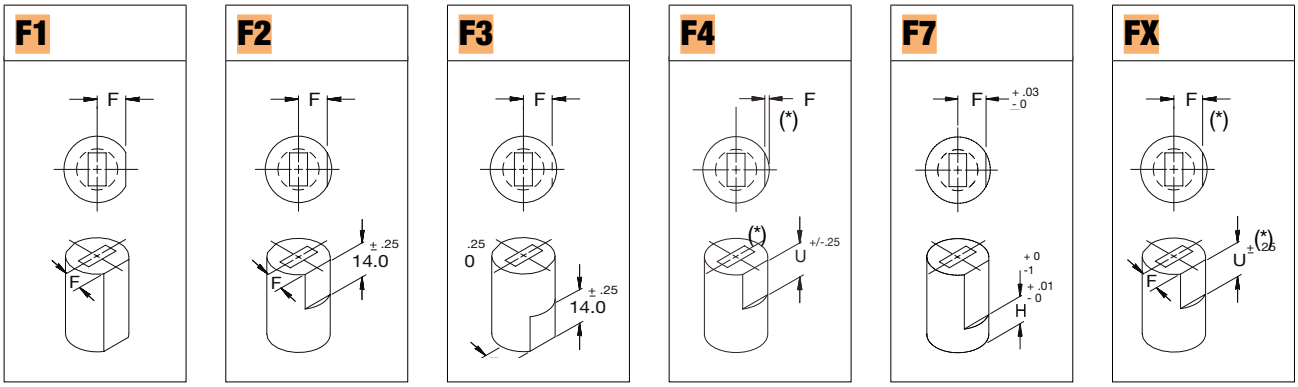
F1 e F5 sono tangenti al gambo. Per F6 si richiede di specificare quota "F" in sede d'ordine. F5 standard a 180°.
F1, F5 are ground flush to shank. F6 is a user defined flat and requires an "F" dimension specified with order. F5 flats are standard 180° apart.

Tagli di chiavetta su matrici lisce
Flats on press fit buttons

F1, F2, F3		F7	
CORPO/*BODY* DIA	"F" +0.02 -0-00	F	H
8	3.5		
10	4.0		
13	5.5	5.0	9
16	7.0	6.5	9
20	8.5	8.5	9
22	9.5		
25	11.0	10.5	16
32	14.0	14.0	16
38	17.0		
40	18.0	18.0	16

F1, F2, F3		F7	
CORPO/*BODY* DIA	"F" +0.02 -0-00	F	H
45	20.5		
50	23.0	23.0	16
56	26.0		
63	29.5	29.5	16
71	33.5		
76	35.5		
85	40.0		
90	42.5		
100	47.5		

Per F1, F2, F3 utilizzare quota "F" come da tabella. Per FX, F4 specificare le quote "F" e "U" in fase d'ordine.
F1 uses "F" dimension as defined in chart,unless an alternate "F" dimension is specified with order. F2, F3 use "F" dimensions as defined in chart. F4, FX are user defined flats and requires "F" and "U" dimension specified with order.



*specificare *specify*

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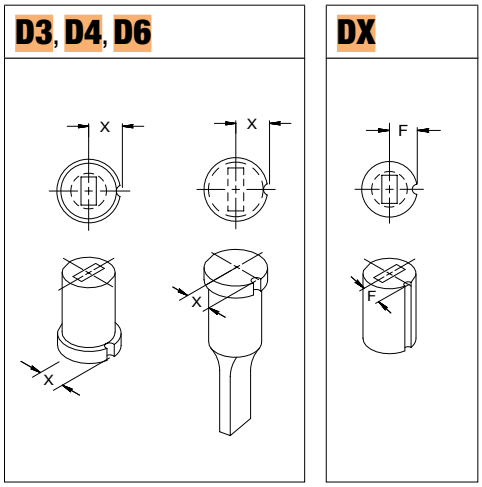
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Alterazioni standard

Standard alterations

Foro spina *Dowel grooves*

Ø CORPO/*BODY* "D"	DX SPINA/*DOWEL*	D3 3.0 SPINA/*DOWEL*	D4 4.0 SPINA/*DOWEL*	D6 6.0 SPINA/*DOWEL*
	"F" dim	"F" dim	"F" dim	"F" dim
8	specificare/*specify*	4.7	5.2	6.2
10	specificare/*specify*	5.5	6.0	7.0
13	specificare/*specify*	6.7	7.2	8.2
16	specificare/*specify*	8.0	8.0	9.0
20	specificare/*specify*	10.0	10.0	11.0
22	specificare/*specify*	11.0	11.0	12.0
25	specificare/*specify*	12.5	12.5	13.5
32-UP	specificare/*specify*	D/2	D/2	D/2



X/F dimens. +/- .013

D3, D4 e D6 identificano le sedi spina con Ø=3, 4 e 6 mm. Nelle matrici e punzoni con collare sono posizionate tangenti al corpo. In tutti gli altri prodotti la sede spina è posizionata, rispetto al centro, con la quota F (indicata nella tabella). La DX identifica una sede spina con la quota F specificata dal cliente e deve essere citata in fase d'ordine

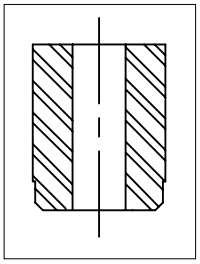
D3, D4, D6 are standard 3, 4, 6, dowel grooves. On shoulder products, the groove is positioned tangent to shank. On all other products the dowel is ground to an "F" dimension as shown on chart. DX is a user defined dowel groove and requires an "F" dimension and dowel size specified with the order.

Matrice ridotta su tutta la lunghezza

Button reduced along the entire length

XR

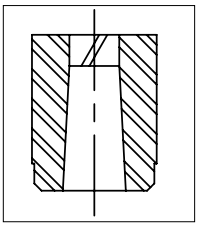
Indica la mancanza di scarico con le quote "P" e/o "W" passanti per tutta l'altezza della matrice
Button round or shape/I.D.through hole no relief



Controllo eliminazione sfridi *Slug control alteration*

XS

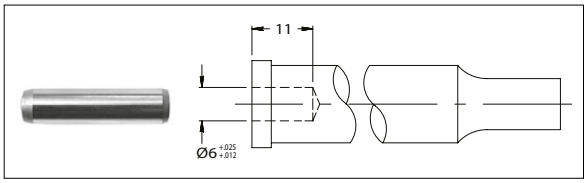
N.B.: in fase d'ordine, specificare spessore materiale da tranciare e "gioco" tra punzone e matrice
Advise material thickness and die clearance, per side at time of order.



Spina centraggio *Center dowel*

CD

Disponibile per punzoni a testa cilindrica di qualsiasi lunghezza con diametri da 10mm a 40mm. Disponibile per punzoni a cilindrica con eiettore con lunghezza pari o superiore a 70mm e diametri da 10mm a 40mm.
Available on all length shoulder punches in diameters of 10 mm through 40mm.



Spina di ritegno simmetrica *Symmetrical retainer dowel*

SD

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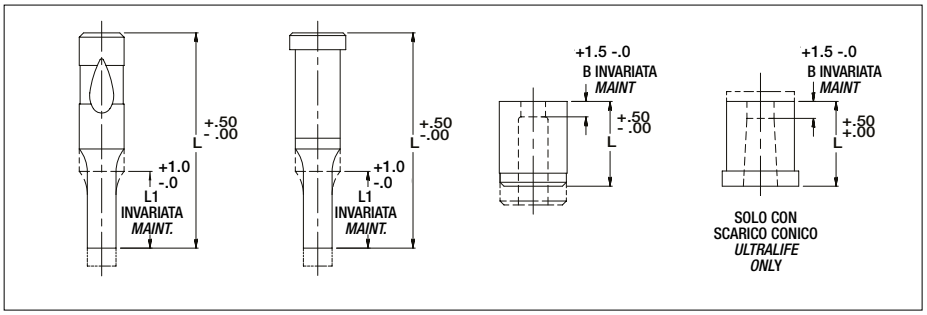
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Alterazioni standard

Standard alterations

Riduzioni della lunghezza totale *Overall lenght reductions*

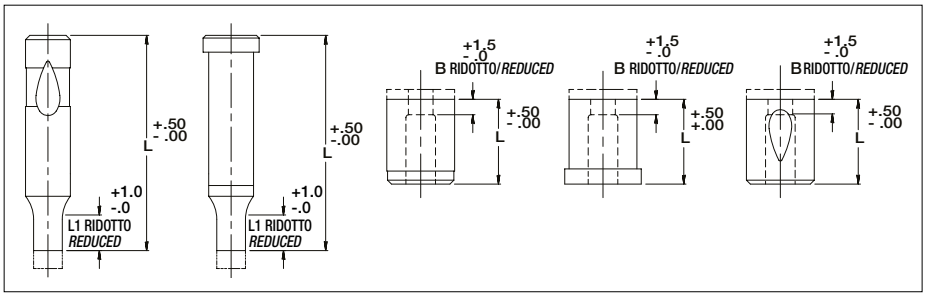
X1



Riduzione della lunghezza mantenendo la quota “L1” su punzoni e “B” sulle matrici. Non eseguibili su matrici con collare a scarico cilindrico o a innesto rapido.

Reduces punch or button length maintaining “B” point or land length. Not available in counter bore style on shoulder or ball lock buttons.

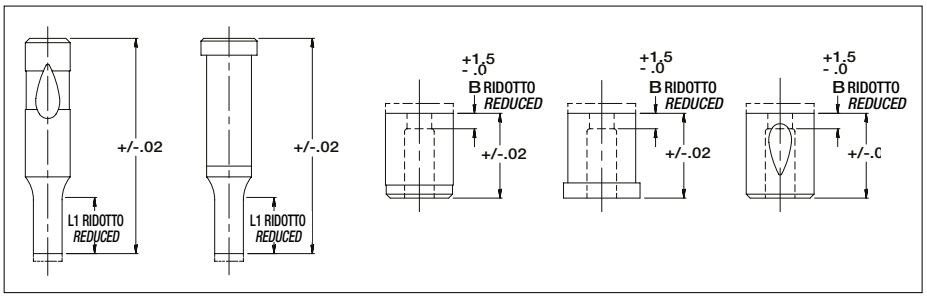
X2



Riduce la lunghezza di punzone o matrice ma anche la quota “B” ed “L1”.

Reduces punch or button length but also reduces “B” dimension or land length.

X3

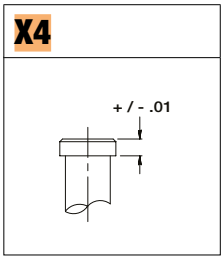


Lunghezza totale precisa di +/- 0.02. Nota: 0,5 mm quota max di riduzione.

Provides a precision overall length of +/-.02 Note: .5 maximum stock removal.

Alterazioni della testa *Head alterations*

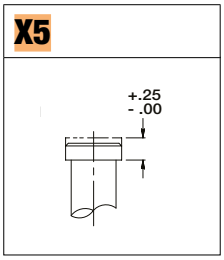
X4



Garantisce uno spessore preciso della testa ma riduce la lunghezza totale.

Provides a precision head length but reduces overall length

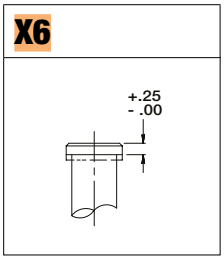
X5



Garantisce lo spessore della testa ma riduce la lunghezza totale.

Reduces head length but reduces overall length

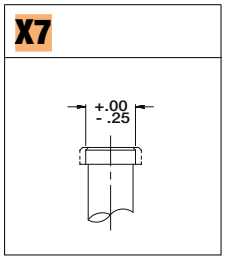
X6



Garantisce lo spessore della testa mantenendo la lunghezza totale.

Reduces head length while maintaining overall length

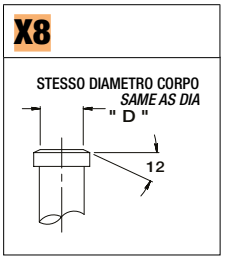
X7



Riduce il diametro della testa.

Reduces head diameter

X8



Spigoli sulla testa per migliorare la forza.

Angle on head face to improve strength

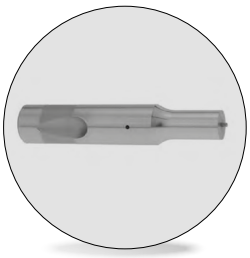
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Alterazioni speciali

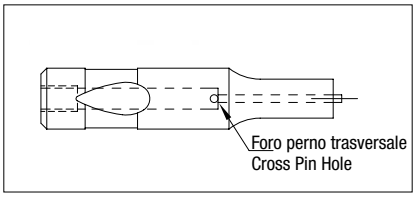
Special alterations

Alterazione perno trasversale *Cross pin alteration*



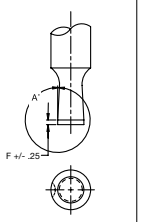
XCP

Per aggiungere il Foro Perno Trasversale utilizzare XCP alla fine del codice
To add a Cross Pin Hole
Use alteration code XCP at end of description

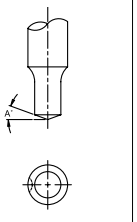


Spigoli trancianti *Shear angles*

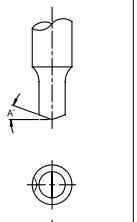
S1



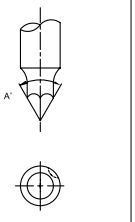
S2



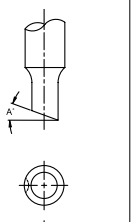
S3



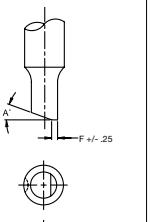
S4



S5



S6



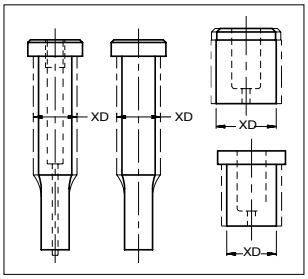
L'angolo "A" e la quota "F" devono essere definite dal cliente in fase d'ordine/*Angle "A" and dimension "F" are user defined and must be S1 specified with order.*

RIFERIMENTI SEDE STANDARD: Sede standard della sfera come da immagine. La sede della chiavetta su prodotti con testa è a 90°.
STANDARD SEAT REFERENCES: *Standard ball seat as per drawing. The flat, for product with head, is at 90°.*

Riduzione della dimensione del gambo *Reduction of shank dimension*

XD

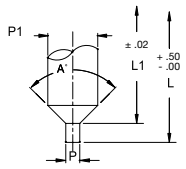
La riduzione del diametro del gambo, secondo le specifiche richieste dal cliente, non altera i diametri della testa.
Reduce shank to customer specific size. Does not alter head diameter.



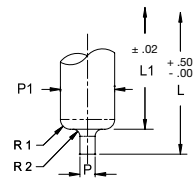
CORPO/BODY	5	6	8	10	13	16	20	22	25	32	38	40
PUNZONE/*PUNCH SOLID* MIN D	3.5	5.0	6.5	8.5	11.5	14.5	18.5		23.5	30.5		38.5
PUNZONE EIETTORE/*PUNCH EJECTOR* MIN D	4.5	5.0	6.8	9.0	11.5	14.5	18.5		23.5	30.5		38.5
MATRICE/*BUTTON* MIN D			6.5	8.5	11.5	14.5	18.5	20.5	23.0	30.0	36.0	38.0

Punzoni e matrici per flangiatura *Extrusion tools*

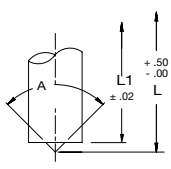
E1



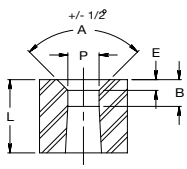
E2



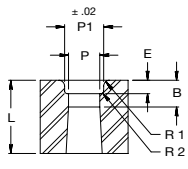
E3



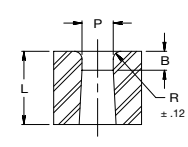
E4



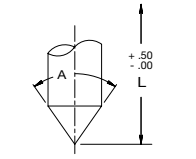
E5



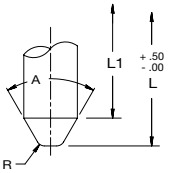
E6



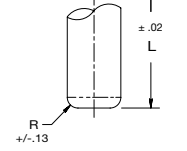
E7



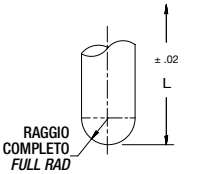
E8



E9



E10



Le quote "L1" e "E" devono essere specificate in fase d'ordine insieme alla tolleranza specifica. Per precisare meglio la quota "L" utilizzare le alterazioni X3. Per contrastare la resistenza della lamiera in fase di trancia si consiglia l'uso di matrici con scarico conico/ *How precise L1 and E dimensions need to be is application specific. Please specify tolerance with order. For a precision "L" dimension add alteration code X3. For strength, all extrusion buttons are produced in the "Ultralife" style.*

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cftorino@cftorino.it www.cftorino.it

Estrattore meccanico per portapunzoni applicazioni pesanti con innesto rapido

True strip for retainer heavy duty Ball lock

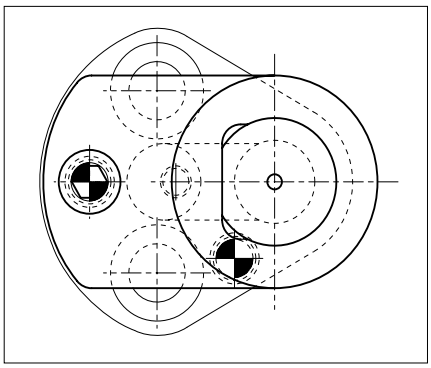


SPECIFICARE IN FASE D'ORDINE:

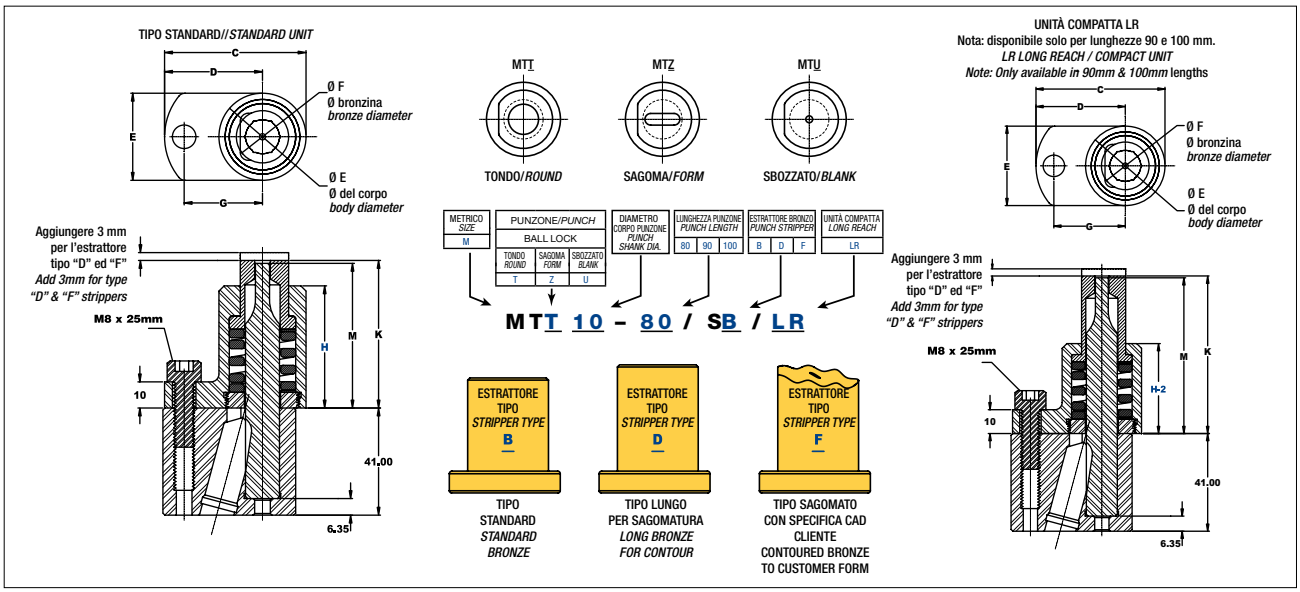
- se il portapunzone e il punzone sono richiesti, devono essere ordinati a parte come voci aggiuntive;
- se viene richiesto il tipo "F" con sagoma personalizzata bisogna prevedere, in fase d'ordine, l'aggiunta del dato CAD della superficie.

SPECIFY AT TIME OF ORDER:

- *If retainer and punch are required, please purchase as additional line items at time of order.*
- *If panel contour is required on stripper face, please specify at time of order and provide surface data. P.O.R.*



Indicare dimensioni punzone (P o P/W) in fase d'ordine per poter effettuare la lavorazione sulla bronzina/*Denote punch point dimensions at time of order for factory machining.*



CODICE CODE	C	D	E	F	G	H	H-2	K	M	TIPO STANDARD corsa massima con molla blu Standard max travel from k-dim. [blue]	TIPO COMPATTO LR corsa massima con molla blu Long reach/ compact max travel from k-dim. [blue]	TIPO STANDARD corsa massima con molla rossa Standard max travel from k-dim [red]	TIPO COMPATTO LR corsa massima con molla rossa Long reach/ compact max travel from k-dim. [red]
MT_10-80/S_	47.4	33.9	27	15	26.9	37.74	37.74	45.7	45.1	8.3	8.3	6.3	6.3
MT_10-90/S_						46.74		55.7	55.1				
MT_10-100/S_						54.52		65.7	65.1	11.1		8.4	
MT_13-80/S_	54.1	37.5	33.3	20	30	37.74	37.74	45.7	45.1	8.0	8.0	6.5	6.5
MT_13-90/S_						46.74		55.7	55.1				
MT_13-100/S_						54.52		65.7	65.1	10.9		8.5	
MT_16-80/S_	58.7	38.7	40	27	31.8	37.74	37.74	45.7	45.1	9.4	9.4	7.4	7.4
MT_16-90/S_						46.74		55.7	55.1				
MT_16-100/S_						54.52		65.7	65.1	13		9.5	
MT_20-80/S_	65.4	42.4	46.1	33	33.5	37.74	37.74	45.7	45.1	9.1	9.1	7.4	7.4
MT_20-90/S_						46.74		55.7	55.1				
MT_20-100/S_						54.52		65.7	65.1	11.0		8.9	
MT_25-80/S_	74.9	47.1	55.6	42.5	40.6	37.74	37.74	45.7	45.1	10.1	10.1	8.4	8.4
MT_25-90/S_						46.74		55.7	55.1				
MT_25-100/S_						54.52		65.7	65.1	10.6		8.9	
MT_32-80/S_	78.9	47.1	63.5	50.6	40,6	37.74	37.74	45.7	45.1	9.7	9.7	7.6	7.6
MT_32-90/S_						46.74		55.7	55.1				
MT_32-100/S_						54.52		65.7	65.1	11.8		7.7	
MT_40-80/S	90.8	54.5	72.5	59,7	44	37.74	37.74	45.7	45.1	8.4	8.4	7.2	7.2
MT_40-90/S						46.74		55.7	55.1				
MT_40-100/S						54.52		65.7	65.1	10.4		7.7	

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Estrattore meccanico per portapunzoni tipo tondo con innesto rapido per applicazioni pesanti

True strip for round economy style retainer heavy duty Ball lock

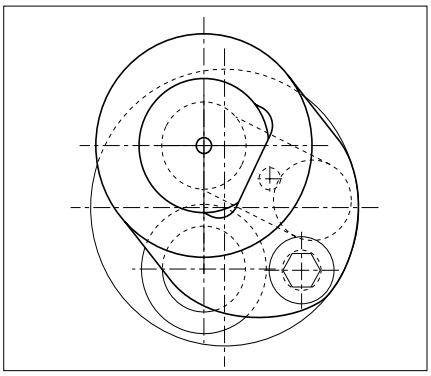


SPECIFICARE IN FASE D'ORDINE:

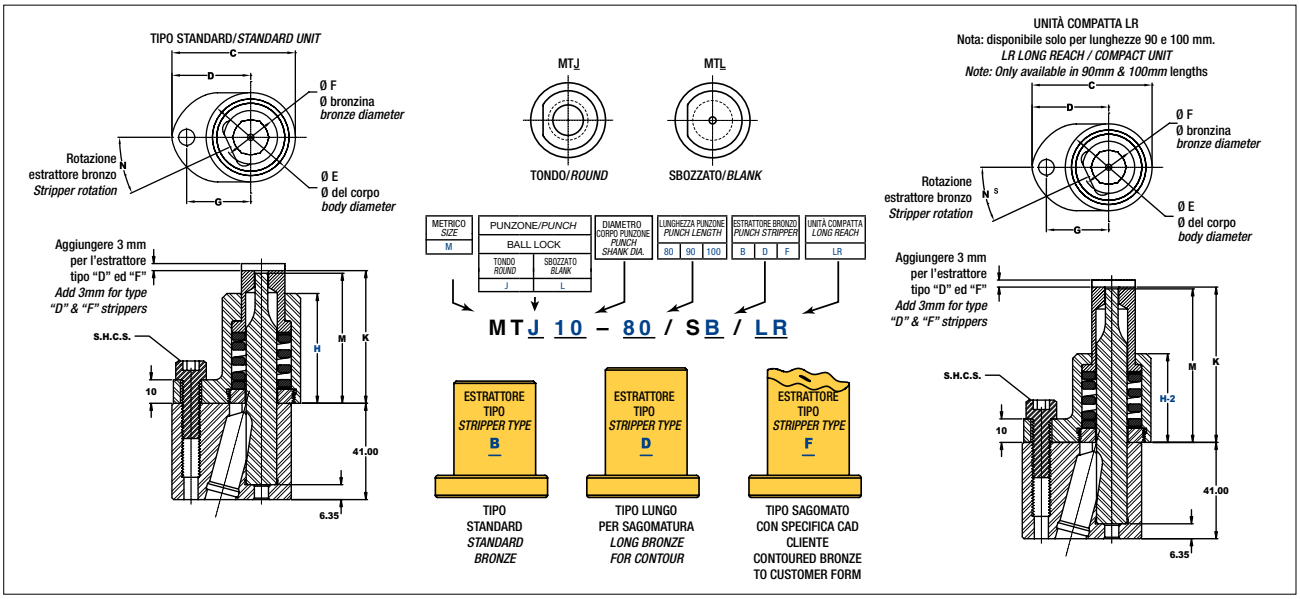
- se il portapunzone e il punzone sono richiesti, devono essere ordinati a parte come voci aggiuntive;
- se viene richiesto il tipo "F" con sagoma personalizzata bisogna prevedere, in fase d'ordine, l'aggiunta del dato CAD della superficie.

SPECIFY AT TIME OF ORDER:

- *If retainer and punch are required, please purchase as additional line items at time of order.*
- *If panel contour is required on stripper face, please specify at time of order and provide surface data. P.O.R.*



Indicare dimensioni punzone (P o P/W) in fase d'ordine per poter effettuare la lavorazione sulla bronzina/*Denote punch point dimensions at time of order for factory machining.*



CODICE CODE	C	D	E	F	G	H	H-2	K	M	N	TIPO STANDARD corsa massima con molla blu Standard max travel from k-dim. [blue]	TIPO COMPATTO LR corsa massima con molla blu Long reach/ compact max travel from k-dim. [blue]	TIPO STANDARD corsa massima con molla rossa Standard max travel from k-dim [red]	TIPO COMPATTO LR corsa massima con molla rossa Long reach/ compact max travel from k-dim. [red]	S.H.C.S.
MT_10-80/S	40	26.5	27	15	21	37.74	37.74	45.7	45.1	22.5°	8.3	8.3	6.3	6.3	6 mm x1.0 25 mm lungh.
MT_10-90/S						46.74		55.7	55.1						
MT_10-100/S						54.52		65.7	65.1		11.1		8.4		
MT_13-80/S	46.1	29.4	33.3	20	23.9	37.74	37.74	45.7	45.1	25°	8.0	8.0	6.5	6.5	
MT_13-90/S						46.74		55.7	55.1						
MT_13-100/S						54.52		65.7	65.1		10.9		8.5		
MT_16-80/S	50	30	40	27	24.5	37.74	37.74	45.7	45.1	18.5°	9.4	9.4	7.4	7.4	
MT_16-90/S						46.74		55.7	55.1						
MT_16-100/S						54.52		65.7	65.1		13		9.5		
MT_20-80/S	59	36	46.1	33	29	37.74	37.74	45.7	45.1	18°	9.1	9.1	7.4	7.4	8 mm x1.25 25 mm lungh.
MT_20-90/S						46.74		55.7	55.1						
MT_20-100/S						54.52		65.7	65.1		11.0		8.9		
MT_25-80/S	68.3	40.5	55.6	42.5	33.5	37.74	37.74	45.7	45.1	23°	10.1	10.1	8.4	8.4	
MT_25-90/S						46.74		55.7	55.1						
MT_25-100/S						54.52		65.7	65.1		10.6		8.9		
MT_32-80/S	79.4	47.6	63.5	50.6	40.6	37.74	37.74	45.7	45.1	20°	9.7	9.7	7.6	7.6	
MT_32-90/S						46.74		55.7	55.1						
MT_32-100/S						54.52		65.7	65.1		11.8		7.7		
MT_40-80/S	87.2	51	72.5	59.7	44	37.74	37.74	45.7	45.1	20°	8.4	8.4	7.2	7.2	
MT_40-90/S						46.74		55.7	55.1						
MT_40-100/S						54.52		65.7	65.1		10.4		7.7		

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Estrattore meccanico per portapunzoni con testa cilindrica e a innesto rapido per applicazioni leggere

Shoulder style and light duty Ball lock retainers

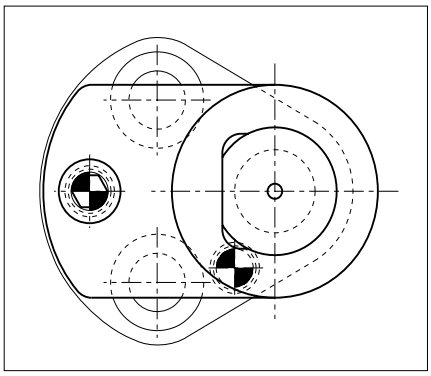


SPECIFICARE IN FASE D'ORDINE:

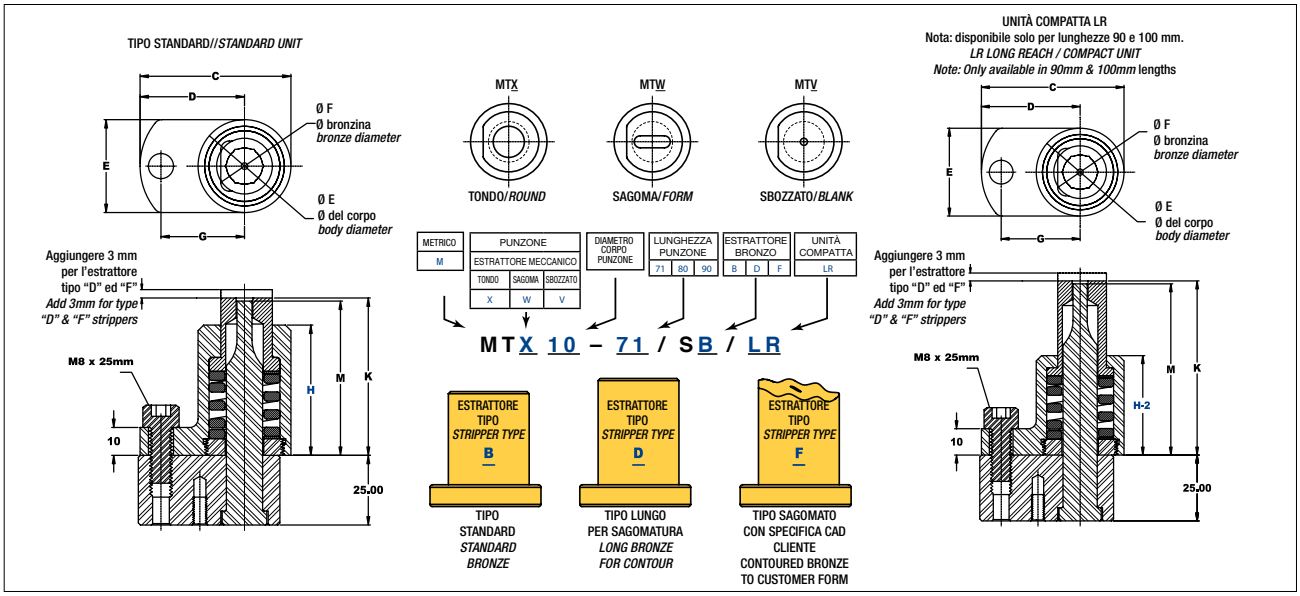
- se il portapunzone e il punzone sono richiesti, devono essere ordinati a parte come voci aggiuntive;
- se viene richiesto il tipo "F" con sagoma personalizzata bisogna prevedere, in fase d'ordine, l'aggiunta del dato CAD della superficie.

SPECIFY AT TIME OF ORDER:

- *If retainer and punch are required, please purchase as additional line items at time of order.*
- *If panel contour is required on stripper face, please specify at time of order and provide surface data. P.O.R.*



Indicare dimensioni punzone (P o P/W) in fase d'ordine per poter effettuare la lavorazione sulla bronzina/*Denote punch point dimensions at time of order for factory machining.*



CODICE CODE	C	D	E	F	G	H	H-2	K	M	TIPO STANDARD corsa massima con molla blu Standard max travel from k-dim. [blue]	TIPO COMPATTO LR corsa massima con molla blu Long reach/ compact max travel from k-dim. [blue]	TIPO STANDARD corsa massima con molla rossa Standard max travel from k-dim [red]	TIPO COMPATTO LR corsa massima con molla rossa Long reach/ compact max travel from k-dim. [red]
MT_10-71/S	47.4	33.9	27	15	26.9	37.74	37.74	46.6	46	8.3	8.3	6.3	6.3
MT_10-80/S						46.74		55.6	55				
MT_10-90/S						54.52		65.6	65	11.1		8.4	
MT_13-71/S	54.1	37.5	33.3	20	30	37.74	37.74	46.6	46	8.0	8.0	6.5	6.5
MT_13-80/S						46.74		55.6	55				
MT_13-90/S						54.52		65.6	65	10.9		8.5	
MT_16-71/S	58.7	38.7	40	27	31.8	37.74	37.74	46.6	46	9.4	9.4	7.4	7.4
MT_16-80/S						46.74		55.6	55				
MT_16-90/S						54.52		65.6	65	13		9.5	
MT_20-71/S	65.4	42.4	46.1	33	33.5	37.74	37.74	46.6	46	9.1	9.1	7.4	7.4
MT_20-80/S						46.74		55.6	55				
MT_20-90/S						54.52		65.6	65	11.0		8.9	
MT_25-71/S	74.9	47.1	55.6	42.5	40.6	37.74	37.74	46.6	46	10.1	10.1	8.4	8.4
MT_25-80/S						46.74		55.6	55				
MT_25-90/S						54.52		65.6	65	10.6		8.9	
MT_32-71/S	78.9	47.1	63.5	50.6	40,6	37.74	37.74	46.6	46	9.7	9.7	7.6	7.6
MT_32-80/S						46.74		55.6	55				
MT_32-90/S						54.52		65.6	65	11.8		7.7	

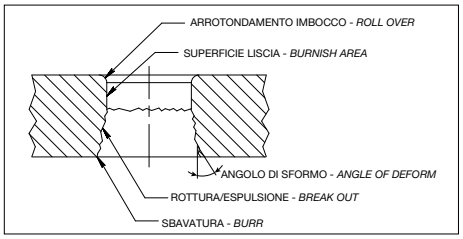
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Gioco Punzone-Matrice *Punch & Die Clearances*

Il gioco tra punzone e matrice è basato sulla tipologia del materiale, spessore del materiale, finitura richiesta del foro e la durata prevista. È espresso in percentuale sullo spessore del materiale stampato. È importante ricordare che il punzone determina la dimensione del foro e la matrice determina la dimensione della pastiglia. Di regola, un gioco ottimale consente una tranciatura piatta, taglio netto con un minimo di carico necessario. Un gioco insufficiente determina una sbavatura minima, ma la vita del punzone diminuisce a causa del grosso sforzo. Un eccessivo gioco tra punzone e matrice determina una deformazione e un'imboccatura eccessiva ma aumenta la vita del punzone. Qui di seguito alcune linee guida per diversi tipi di materiali stampati. I valori indicati si riferiscono al gioco totale delle matrici per un uso generale con punzoni senza eiettore. Raddoppiando il gioco e usando punzoni con l'eiettore, la durata prevista risulterà notevolmente più lunga. La maggior parte dell'ususra punzoni è dovuta dalle forze di strisciamento durante la fase di estrazione. L'aumento del gioco e l'uso di punzoni con l'eiettore aiuta a mantenere l'usura dei punzoni al minimo.

Clearance between punch and die is based upon type of material being stamped, material thickness, finish requirement of hole and anticipated tool life. It is expressed as a total percentage of material thickness being stamped. It is important to remember that the punch determines hole size and the die determines slug size. As a rule, optimal clearance provides flat, sharp and clean punching with minimum tool load. Insufficient clearance results in minimum burr and rollover, but tool life is shortened due to high tool loads. Excessive clearance results in deformation and larger rollover but increased tool life. Below are some general guidelines for different types of material being stamped. The values shown are recommended total die clearance for general purpose holes using non-ejector punches. By doubling the amount of clearance and using ejector punches, anticipated tool life will be greatly increased. Most of the punch wear is produced by stripping forces when the punch is being withdrawn. The increased clearance by using ejector punches helps keep tool wear to a minimum.



Materiale	*Material*	Soft	Hard
Alluminio	*Aluminum*	10%	20%
Ottone/Rame	*Brass/Copper*	6%	15%
Acciaio (poco carbonio)	*Steel (Low Carbon)*	10%	12%
Acciaio (molto carbonio)	*Steel (High Carbon)*	18%	20%

Suggerimenti sulle applicazioni dei trattamenti superficiali *Suggested surface treatment applications*

	FORMATURA & ESTRUSIONE *Forming & extruding*					FORATURA & TAGLIO *Piercing & trimming*			
	Dis/Flangiatura *Draw/Flange*	Estrusione *Extruding*	Forgiatura *Forging*	Formatura a caldo *Hot Forming*	Coniatura/ Goffratura *Coin/Emboss*	Forare & Tagliare Pierce & Trim	Stampaggio a caldo *Hot Stamping*	Tranciatura fine *Fine Blanking*	Rifilare/Cesoiare *Shave/Lance*
Acciai non legati ***Non-alloyed Steel***	TAN	TAN MWU* ACD	TAN MWU* ACD	TAN MWU* ACD	TCN TAN MTN	TAN ACE	ACE TAN TCN	TCN ACE ACA	TCN ACE
Acciai < 250 Mpa ***Steel < 250 Mpa***	TIN TCN	ACE MWU* ACD MTN			TCN MTN	TIN TCN		TCN ACE	TIN TCN ACE
Acciai < 400 Mpa ***Steel < 400 Mpa***	TCN ACE	ACE MWU*			TCN ACE	ACE MWU* ACA		TAN ACE	TAN TCN ACE
Acciai ad alta resistenza ***High Strength Steels***	ACE TCN	ACE TCN TAN		ACE MWU* ACD	TCN ACE MWU*	ACE MWU* ACA	ACE TCN MWU* ACA	TAN ACE	TAN ACE
Alluminio** ***Aluminum*****	MAY	MAY	MAY		MAY TCN	MAY		MAY	MAY
Acciai inossidabili ***Stainless Steels***	TCN ACE MWU* ACD	TCN ACE MWU* ACD	TCN ACE MWU* ACD		TCN MWU* ACD	ACE TCN MWU* ACA MSP		ACE TCN	ACE TCN
Ottone/Bronzo/Rame ***Brass/Bronze/Copper***	CRN ACD	CRN MWU* ACD	CRN MWU* ACD		CRN MWU* ACD	CRN ACE TAN		CRN ACE TAN	CRN ACE TAN
Leghe esotiche ***Exotic Alloys***	ACO	ACO	ACO		ACO	ACO		ACO	ACO

*M-Wear Ultra include la finitura superficiale eseguita da Moeller (ESF).
** M-Wear Ultra includes Moeller's Enhanced Surface Finish (ESF).*

**La finitura superficiale eseguita da Moeller ESF è consigliata per tutte le applicazioni sull'alluminio.
*** Moeller Enhanced Surface Finish ESF is recommended for all aluminum applications.*

TIN Titanium Nitride (TiN)
TCN Titanium Carbonitride (TiCN)
TAN Titanium Aluminum Nitride (TiAlN)
ACA Alcrona EVO Advanced
ACD Alcrona EVO Duplex
ACE Alcrona EVO (AlCrN-based)
ACO Alcronos
CRN Chromium Nitride (CRN)
ESF Enhanced Surface Finish
MAY Mayura DLC
MWU* M-Wear Ultra
MSP Moeller Special Process
MTN M-Tride

CF Torino - È vietata la riproduzione, anche parziale, del presente catalogo.

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