MD MG TESTE MULTIPLE

Made in Italy

FH *Facing Heads* · **BAH** *Big Angle Heads* · **TA.CP** *Angle Heads* · **TA** *Angle Heads* · **MOx** *Spindle Speeders* · **HT** *Turret Heads* · **VH** *Variable axis heads* · **TSI/TSX** *Twin spindle milling heads* · **T** *Adjustable joint multi spindle heads* · **MT-TC-TC3** *Fixed multi spindle heads*

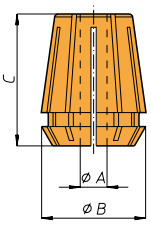


ACCESSORI



ACCESSORIES





PINZE DIN 6499 FORMA B - TIPO ER
SPRING COLLETS DIN 6499 FORM B - ER TYPE

ER8		øB=8,5		C=15													
CODICE *CODE*	224400	224401	224402	224403	224404	224405	224406	224407	224408								
øA	1-0,5	1,5-1	2-1,5	2,5-2	3-2,5	3,5-3	4-3,5	4,5-4	5-4,5								

ER11		øB=11,5		C=18													
CODICE *CODE*	224411	224412	224413	224414	224415	224416	224417	224418	224419	224420	224421	224422	224423				
øA	1-0,5	1,5-1	2-1,5	2,5-2	3-2,5	3,5-3	4-3,5	4,5-4	5-4,5	5,5-5	6-5,5	6,5-6	7-6,5				

ER16		øB=17		C=27,5													
CODICE *CODE*	224426	224424	224425	224467	224436	224429	224430	224431	224432	224433	224434	224435					
øA	1-0,5	1,5-1	2-1,5	2,5-2	3-2,5	4-3	5-4	6-5	7-6	8-7	9-8	10-9					

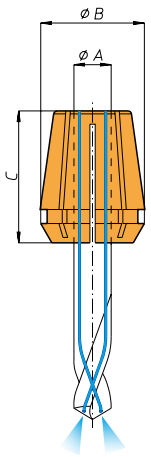
ER20		øB=21		C=31,5													
CODICE *CODE*	224451	224437	224450	224409	224410	224440	224441	224442	224443	224444	224445	224446	224447	224448	224449		
øA	1-0,5	1,5-1	2-1,5	2,5-2	3-2,5	4-3	5-4	6-5	7-6	8-7	9-8	10-9	11-10	12-11	13-12		

ER25		øB=26		C=34													
CODICE *CODE*	224468	224469	224470	224471	224472	224454	224455	224456	224457	224458	224459	224460	224461	224462	224463	224464	
øA	1-0,5	1,5-1	2-1,5	2,5-2	3-2,5	4-3	5-4	6-5	7-6	8-7	9-8	10-9	11-10	12-11	13-12	14-13	
CODICE *CODE*	224465	224466	224550														
øA	15-14	16-15	16-17														

ER32		øB=33		C=40													
CODICE *CODE*	224473	224474	224476	224477	224478	224479	224480	224481	224482	224483	224484	224485	224486	224487			
øA	2,5-2	3-2,5	4-3	5-4	6-5	7-6	8-7	9-8	10-9	11-10	12-11	13-12	14-13	15-14			
CODICE *CODE*	224488	224489	224490	224491	224492	224551	224552										
øA	16-15	17-16	18-17	19-18	20-19	21-20	22-21										

ER40		øB=41		C=46													
CODICE *CODE*	224499	224500	224501	224502	224503	224504	224505	224506	224507	224508	224509	224510	224511	224512	224513		
øA	3-2	4-3	5-4	6-5	7-6	8-7	9-8	10-9	11-10	12-11	13-12	14-13	15-14	16-15	17-16		
CODICE *CODE*	224514	224515	224516	224517	224518	224519	224520	224521	224522	224523	224524	224525	224526				
øA	18-17	19-18	20-19	21-20	22-21	23-22	24-23	25-24	26-25	27-26	28-27	29-28	30-29				

ER50		øB=52		C=60													
CODICE *CODE*	224530	224531	224532	224533	224534	224535	224536	224537	224538	224539	224540	224541	224542	224543	224544	224545	224546
øA	6-4	8-6	10-8	12-10	14-12	16-14	18-16	20-18	22-20	24-22	25-23	26-24	28-26	30-28	32-30	34-32	36-34



PINZE DIN 6499
SPRING COLLETS DIN 6499

ER16 UPV		øB=17		C=27,5													
CODICE *CODE*	235205	235206	235207	235208	235209	235210	235211	235212									
øA	3	4	5	6	7	8	9	10									

ER20 UPV		øB=21		C=31,5													
CODICE *CODE*	235215	235216	235217	235218	235219	235220	235221	235222	235223	235224	235225						
øA	3	4	5	6	7	8	9	10	11	12	13						

ER25 UPV		øB=26		C=34													
CODICE *CODE*	235228	235229	235230	235231	235232	235233	235234	235235	235236	235237	235238	235239	235240	235241			
øA	3	4	5	6	7	8	9	10	11	12	13	14	15	16			

ER32 UPV		øB=33		C=40													
CODICE *CODE*	235246	235247	235248	235249	235250	235251	235252	235253	235254	235255	235256	235257	235258	235259	235260		
øA	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17		
CODICE *CODE*	235261	235262	235263														
øA	18	19	20														

ER40 UPV		øB=41		C=46													
CODICE *CODE*	235266	235267	235268	235269	235270	235271	235272	235273	235274	235275	235276	235277	235278	235279	235280		
øA	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
CODICE *CODE*	235281	235282	235283	235284	235285	235286	235287	235288									
øA	19	20	21	22	23	24	25	26									

PINZE DI MASCHIATURA CON COMPENSAZIONE - TIPO ET1*
*TAPPING COLLETS WITH COMPENSATION - ET1 TYPE**

ET 1-12	A=21,5			øB=11,5		C=5,5		CAPACITÀ M2 - M4										
CODICE CODE	224650	224651	224652	224653	224654													
øA	1,4	2,2	2,5	2,8	3,5													

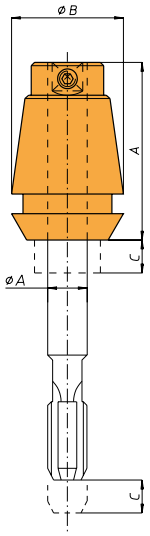
ET 1-16	A=27			øB=17		C=7		CAPACITÀ M2 - M8										
CODICE CODE	224658	224659	224660	224661	224662	224663	224664	224665										
øA	1,4	2,2	2,5	2,8	3,5	4	4,5	6										

ET 1-20	A=31			øB=21		C=7		CAPACITÀ M2 - M10										
CODICE CODE	224670	224671	224672	224673	224674	224675	224676	224677										
øA	2,2	2,5	2,8	3,5	4	4,5	6	7										

ET1-25	A=34			øB=26		C=8		CAPACITÀ M2 - M12										
CODICE CODE	224682	224683	224684	224685	224686	224687	224688	224689	224690	224691								
øA	2,2	2,5	2,8	3,5	4	4,5	6	7	8	9								

ET 1-32	A=43			øB=33		C=10		CAPACITÀ M35 - M16										
CODICE CODE	224695	224696	224697	224698	224699	224700	224701	224702	224703									
øA	4	4,5	6	7	8	9	10	11	12									

ET1-40	A=54			øB=41		C=13		CAPACITÀ M5 - M20										
CODICE CODE	224706	224707	224708	224709	224710	224711	224712	224713	224714									
øA	6	7	8	9	10	11	12	14	16									



*Not suitable for coolant through (tool)

PINZE DI MASCHIATURA SENZA COMPENSAZIONE - TIPO ER
TAPPING COLLETS WITHOUT COMPENSATION - ER TYPE

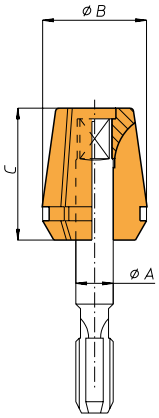
ER 16 GB	øB=16			C=27,5														
CODICE CODE	224585	224587	22458	224589	224590													
øA	4,5	6	7	8	9													

ER 20 GB	øB=20			C=31,5														
CODICE CODE	224593	224595	224596	224597	224598	224599	224600											
øA	4,5	6	7	8	9	10	11											

ER 25 GB	øB=25			C=34														
CODICE CODE	224604	224606	224607	224608	224609	224610	224611	224612	224613	224614								
øA	4,5	6	7	8	9	10	11	12	14	16								

ER 32 GB	øB=32			C=40														
CODICE CODE	224617	224619	224620	224621	224622	224623	224624	224625	224626	224627	224628	224629						
øA	4,5	6	7	8	9	10	11	12	14	16	18	20						

ER 40 GB	øB=40			C=46														
CODICE CODE	224634	224635	224636	224637	224638	224639	224640	224641	224642	224643	224644	224645						
øA	6	7	8	9	10	11	12	14	16	18	20	22						

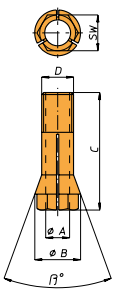


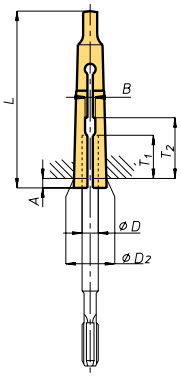
PINZE
COLLETS

6023E	øB=6,5			C=20		D=M5x0,6		SW=5,5		β°=20°		COPPIA SERRAGGIO (NM)=3						
CODICE CODE	224740	224741	224742	224743	224746													
øA	1	1,5	2	2,5	3													

600E	øB=9			C=28,5		D=M6x0,75		SW=7		β°=20°		COPPIA SERRAGGIO (NM)=5						
CODICE CODE	224574	224575	224576	224577	224578	224579												
øA	1,5	2	2,5	3	3,5	4												

601E	øB=11			C=33		D=M8x0,75		SW=9		β°=20°		COPPIA SERRAGGIO (NM)=9						
CODICE CODE	224728	224729	224730	224731	224732	224733	224734	224735	224736	224737								
øA	1,5	2	2,5	3	3,5	4	4,5	5	5,5	6								

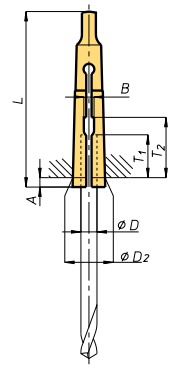




PINZE PORTA MASCHI DIN 6328
TAPHOLDER COLLETS DIN 6328

DIN 6328 - CONO MORSE 1	D2=12.065					A=3,5	L=65,5										
D	2,5	2,8	3,5	4	4,5	6	7	8	9								
CODICE *CODE*	224000	224002	224008	224010	224012	224018	224022	224024	224026								
B	2,2	2,2	2,8	3,1	3,5	5,1	5,7	6,3	7,3								
T1	15	15	16	16	18	19,5	19,5	22	25								
T2	19	19	21	24	24	26	27	30	32								

DIN 6328 - CONO MORSE 2	D2=17.78				A=5	L=80											
D	6	7	8	9	10	11	12										
CODICE *CODE*	224112	224116	224120	224122	224126	224128	224134										
B	5,1	5,7	6,4	7,3	8,3	9,3	9,3										
T1	19,5	19,5	19,5	22	23	24	24										
T2	26	26	27	22	32	34	34										



PINZE PORTA PUNTE DIN 6329
TOOLHOLDER COLLETS DIN 6329

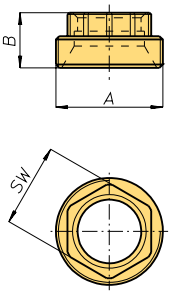
DIN 6329 - CONO MORSE 1	D2=12.065					A=3,5	L=65,5														
D	3	3,2	3,5	3,75	4	4,25	4,5	4,75	5	5,25	5,5	5,75	6	6,25	6,5	6,75	7	7,25	7,5	7,75	8
CODICE *CODE*	224164	224166	224168	224170	224172	224174	224176	224178	224180	224182	224184	224186	224188	224190	224192	224194	224196	224198	224200	224202	224204
B	1,8			2,2		2,4		2,7				3,2				3,8					
T1	20											22				22					
T2	25					26						29				29					

DIN 6329 - CONO MORSE 2	D2=17.78					A=5	L=80														
D	5,5	6	6,5	7	7,5	8	8,5	9	9,5	10	10,5	11	11,5	12	12,5	13					
CODICE *CODE*	224260	224262	224264	224266	224268	224270	224272	224274	224276	224278	224280	224282	224284	224286	224288	224290					
B	3,2			3,8			4,8			5,3			6,3								
T1	22						25					28									
T2	29						33			37			39								

GHIERE ESAGONALI PER PINZE DIN 6499
EXAGON CLAMPING NUT FOR SPRING COLLETS DIN 6499

Ghiera *Nut*	Codice *Code*	øA	B	SW	Coppia serraggio *Clamping force (Nm)*	
ER 11AE	224980	M18 x 1	9	15	24 (30)	
ER 16AE	224981	M24 x 1	12	19	40 (50)	
ER 20AE	224982	M28 x 1,5	13	22	52 (65)	
ER 25AE	224983	M32 x 1,5	16,5	27	80 (100)	
ER 32AE	224984	M40 x 1,5	19	32	104 (130)	

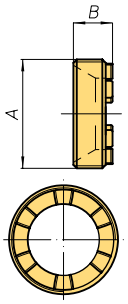
Tra parentesi valore massimo - *Between brackets max. value*



GHIERE REGOFIX PER PINZE DIN 6499
REGOFIX CLAMPING NUT FOR SPRING COLLETS DIN 6499

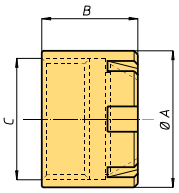
Ghiera *Nut*	Codice *Code*	øA	B	*Wrench*	Coppia serraggio *Clamping force (Nm)* Pinze con scarico *Spring collet with extractor*	Pinze senza scarico *Spring collet without extractor*
HI-Q/ER AX 11	224951	M18 x 1	7,5	E 11 AX	21 (25)	24 (29)
HI-Q/ER AX 16	224950	M24 x 1	7,6	E 16 AX	40 (50)	40 (50)
HI-Q/ER AX 20	224952	M28 x 1,5	8,5	E 20 AX	35 (42)	40 (50)
HI-Q/ER AX 25	224953	M32 x 1,5	8,8	E 25 AX	64 (80)	64 (80)
HI-Q/ER AX 32	224954	M40 x 1,5	9,8	E 32 AX	72 (90)	104 (125)

Tra parentesi valore massimo - *Between brackets max. value*

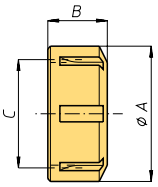


GHIERE PER PINZE DIN 6499
CLAMPING NUT FOR SPRING COLLETS DIN 6499

Ghiera *Nut*	Codice *Code*	øA	B	C	Coppia serraggio *Clamping force (Nm)* Pinze con scarico *Spring collet with extractor*	Pinze senza scarico *Spring collet without extractor*
ER 8M	224900	11,8	10,8	M10 x 0,75	5 (6)	5 (6)
ER 11M	224902	16	12	M13 x 0,75	12 (15)	16 (20)
ER 16M	224904	22	18	M19 x 1	24 (30)	24 (30)
ER 20M	224906	28	21	M24 x 1	28 (35)	28 (35)
ER 25M	224908	35	20	M30 x 1	32 (40)	32 (40)



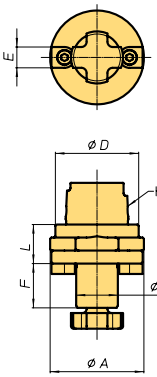
ER 11 S	224985	19	11,3	M14 x 0,75	16 (19)	24 (30)
ER 16 S	224932	28	17,5	M22 x 1,5	44 (53)	56 (70)
ER 20 S	224935	34	19	M25 x 1,5	35 (42)	80 (100)
ER 25 S	224974	42	20	M32 x 1,5	64 (80)	104 (130)
ER 32 S	224975	50	22,5	M40 x 1,5	136 (170)	136 (170)
ER 40 S	224976	63	25,5	M50 x 1,5	176 (220)	176 (220)
ER 50 S	224986	78	35,3	M64 x 2	240 (300)	240 (300)



HI-Q/ER 11	224933	19	11,3	M14 x 0,75	16 (19)	24 (30)
HI-Q/ER 16	224909	28	17,5	M22 x 1,5	44 (53)	56 (70)
HI-Q/ER 20	224910	34	19	M25 x 1,5	35 (42)	80 (100)
HI-Q/ER 25	224912	42	20	M32 x1,5	64 (80)	104 (130)
HI-Q/ER 32	224914	50	22,5	M40 x 1,5	136 (170)	136 (170)
HI-Q/ER 40	224916	63	25,5	M50 x 1,5	176 (220)	176 (220)
HI-Q/ER 50	224918	78	35,3	M64 x 2	240 (300)	240 (300)

Tra parentesi valore massimo - *Between brackets max. value*

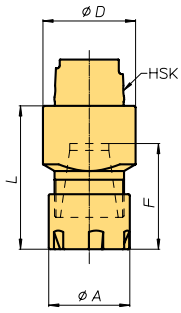
INSERTO HSK PORTA FRESA
HSK MILL ADAPTERS



Codice *Code*	Grandezza *Size*	HSK	øA	øB	øD	E	F	L	Vite *Screw*	Chiave* *Wrench**
009401	HSK 32-16	32	36	16	32	8	17	15	M8	097419
009419	HSK 32-22	32	54	22	32	10	19	22	M10	097415
009404	HSK 40-16	40	40	16	40	8	17	15	M8	097419
009405	HSK 40-22	40	54	22	40	10	19	22	M10	097415
009416	HSK 50-22	50	54	22	50	10	19	23	M10	
009406	HSK 50-27	50	64	27	50	12	21	23	M12	097416
009417	HSK 63-27	63	64	27	64	12	21	25	M12	
009408	HSK 63-32	63	74	32	63	14	24	25	M16	097417
009414	HSK 80-32	80	80	32	80	14	24	35	M16	
009413	HSK 80-40	80	80	40	80	16	27	35	M20	097591

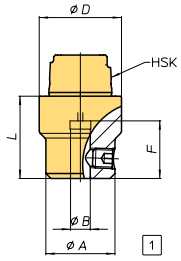
*Le chiavi non sono comprese - **The wrench aren't included*

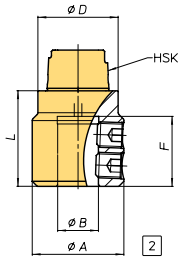
INSERTO HSK PORTA PINZE PER UTENSILI A GAMBO CILINDRICO
HSK ADAPTERS WITH COLLET FOR CYLINDRICAL SHANK TOOLS



Codice *Code*	Grandezza *Size*	HSK	Pinza *Collet*	øA	øD	F	L	Ghiera *Nut*
009400	HSK 32-ER 20M	32	ER 20	28	32	37,5	49,5	ER 20M
009402	HSK 32-ER 25M	32	ER 25	35	32	41	53	ER 25M
009415	HSK 40-ER 20M	40	ER 20	28	40	37,5	49,5	ER 20M
009403	HSK 40-ER 25M	40	ER 25	35	40	41	54	ER 25M
009418	HSK 40-ER 32M	40	ER 32	50	42	47	59,5	ER 32UM
009407	HSK 50-ER 32	50	ER 32	50	50	47	64	ER 32UM
009409	HSK 63-ER 32	63	ER 32	50	63	47	65	ER 32UM
009410	HSK 63-ER 40	63	ER 40	63	63	53	71	ER 40UM
009411	HSK 80-ER 40	80	ER 40	63	80	53	73,5	ER 40UM
009412	HSK 80-ER 50	80	ER 50	78	80	69	91,5	ER 50UM

INSERTO HSK WELDON/WHISTLE NOTCH
ADAPTER HSK WELDON/WHISTLE NOTCH

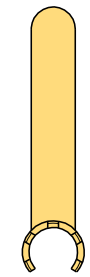




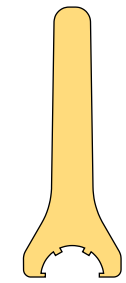
Codice *Code*	Grandezza *Size*	HSK	øA	øD	F	L	B	TIPO *Type*
228220	HSK 32 W8	32	28	32	30	45	8	1
228221	HSK 32 W10	32	32	32	30	45	10	
228222	HSK 32 W12	32	32	32	35	50	12	
228223	HSK 40 W8	40	28	40	30	45	8	
228224	HSK 40 W10	40	35	40	30	45	10	
228225	HSK 40 W12	40	40	40	35	50	12	
228226	HSK 40 W16	40	40	40	40	55	16	
228227	HSK 50 W8	50	28	50	30	45	8	
228228	HSK 50 W10	50	35	50	30	45	10	
228229	HSK 50 W12	50	42	50	35	50	12	
228230	HSK 50 W16	50	50	50	40	55	16	
228231	HSK 50 W20	50	50	50	45	60	20	
228232	HSK 63 W8	63	28	63	30	45	8	
228233	HSK 63 W10	63	35	63	30	45	10	
228234	HSK 63 W12	63	42	63	35	50	12	
228235	HSK 63 W16	63	50	63	40	55	16	
228236	HSK 63 W20	63	52	63	45	60	20	
228237	HSK 63 W25	63	63	63	50	70	25	2
228238	HSK 63 W32	63	72	63	55	75	32	

CHIAVI PER GHIERE
CLAMPING NUTS SPANNER

Chiavi *Spanner*	Codice chiave *Spanner code*	Per ghiera *For clamping nut*	Codice ghiera *Clamping nut code*	
CE 8M	231300	ER 8M	224900	
CE 11M	231302	ER 11M	224902	
CE 16M	231306	ER 16M	224904	
CE 20M	231309	ER 20M	224906	
CE 25M	231313	ER 25M	224908	

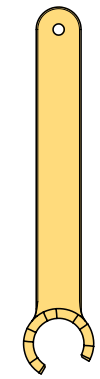


Chiavi *Spanner*	Codice chiave *Spanner code*	Per ghiera *For clamping nut*	Codice ghiera *Clamping nut code*	
CE 20U	231315	ER 20UM	224973	224910
CE 25U	231314	ER 25UM	224974	224912
CE32U	231320	ER 32UM	224975	224914
CE 40U	231321	ER 40UM	224976	224916
CE 50U	231323	ER 50UM	224986	224918



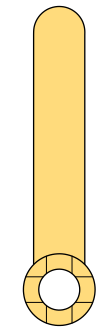
CHIAVI PER GHIERE
CLAMPING NUTS SPANNER

Chiavi *Spanner*	Codice chiave *Spanner code*	Per ghiera *For clamping nut*	Codice ghiera *Clamping nut code*	
E 11 AX	231356	ERAX11	224951	
E 16 AX	231357	ERAX16	224950	
E 20 AX	231358	ERAX20	224952	
E 25 AX	231359	ERAX25	224953	
E 32 AX	231360	ERAX32	224954	

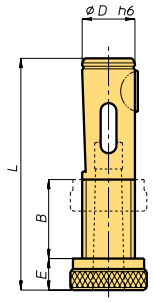


CHIAVI PER VITI
SPANNER SCREW

Chiavi *Spanner*	Codice chiave *Spanner code*	Inserto HSK *HSK mill adapter*			
CM8	097419	HSK 32-16 HSK 40-16			
CM10	097415	HSK 40-22 HSK 50-22			
CM12	097416	HSK 50-27 HSK 63-27			
CM16	097417	HSK 63-32 HSK 80-32			
CM20	097591	HSK 80-40			

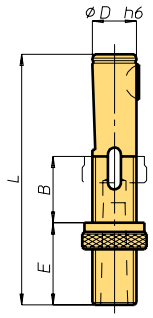


INSERTI REGISTRABILI DIN 6327/1 PORTA UTENSILI A CONO MORSE
DIN 6327/1 ADJUSTABLE ADAPTERS FOR MORSE TAPER SHANK TOOLS



Codice *Code*	Grandezza *Size*	Cono Morse *Morse taper*	øD^{h6}	Filettatura *Thread*	B	E	L	Linguetta *Woodruff key*
009010	D 16 x 1	1	16	Tr 16 x 1,5	28	12	85	5 x 6,5
009012	D 20 x 1	1	20	Tr 20 x 2	28	12	88	5 x 7,5
009014	D 25 x 2	2	25	Tr 25 x 2	30	12	95	6 x 9
009016	D 28 x 2	2	28	Tr 28 x 2	30	12	95	6 x 9
009018	D 32 x 3	3	32	Tr 32 x 2	36	12	118	8 x 11
009020	D 36 x 3	3	36	Tr 36 x 2	36	14	118	8 x 11
009022	D 48 x 4	4	48	Tr 48 x 2	47	18	144	10 x 13

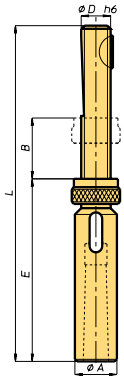
INSERTI REGISTRABILI DIN 6327/2 PORTA UTENSILI A CONO MORSE
DIN 6327/2 ADJUSTABLE ADAPTERS FOR MORSE TAPER SHANK TOOLS



Codice *Code*	Grandezza *Size*	Cono Morse *Morse taper*	øD^{h6}	Filettatura *Thread*	B	E	L	Linguetta *Woodruff key*
009024	F 16 x 1 x 25	1	16	Tr 16 x 1,5	28	37	110	5 x 6,5
009026	F 16 x 1 x 50					62	135	
009028	F 16 x 1 x 75					87	160	
009030	F 16 x 1 x 100					112	185	
009032	F 20 x 1 x 25	1	20	Tr 20 x 2	28	37	113	5 x 7,5
009034	F 20 x 1 x 50					62	38	
009036	F 20 x 1 x 75					87	163	
009038	F 20 x 1 x 100					112	188	
009040	F 25 x 2 x 25	2	25	Tr 25 x 2	30	37	120	6 x 9
009042	F 25 x 2 x 50					62	145	
009044	F 25 x 2 x 75					87	170	
009046	F 25 x 2 x 100					112	195	
009048	F 28 x 2 x 25	2	28	Tr 28 x 2	30	37	120	6 x 9
009050	F 28 x 2 x 50					62	145	
009052	F 28 x 2 x 75					87	1170	
009054	F 28 x 2 x 100					112	195	
009056	F 32 x 3 x 25	3	32	Tr 32 x 2	36	37	148	8 x 11
009058	F 32 x 3 x 50					62	178	
009060	F 32 x 3 x 75					87	208	
009062	F 32 x 3 x 100					112	238	
009064	F 36 x 3 x 25	3	36	Tr 36 x 2	36	37	148	8 x 11
009066	F 36 x 3 x 50					62	178	
009068	F 36 x 3 x 75					87	208	
009070	F 36 x 3 x 100					112	238	
009072	F 48 x 4 x 25	4	48	Tr 48 x 2	47	37	184	10 x 13
009074	F 48 x 4 x 50					62	224	
009076	F 48 x 4 x 75					87	264	
009078	F 48 x 4 x 100					112	304	

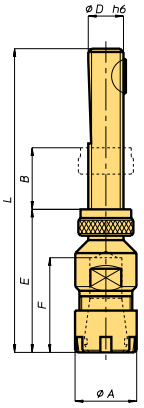
INSERTI REGISTRABILI PORTA UTENSILI A CONO MORSE (NORMA OMG)
ADJUSTABLE ADAPTERS FOR MORSE TAPER SHANK TOOLS (OMG NORM)

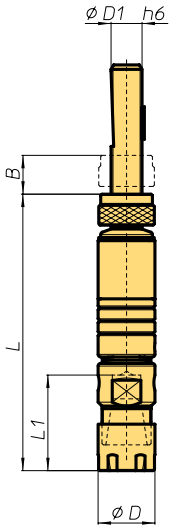
Codice *Code*	Grandezza *Size*	Cono Morse *Morse taper*	øD^{h6}	Filettatura *Thread*	øA	B	E	L	Linguetta *Woodruff key*
009110	Tr 8 x 1	1	8	Tr 8 x 1	16,8	16	84	126	2 x 3,7
009116	Tr 10 x 1	1	10	Tr 10 x 1,5	19,5	18	89	138	3 x 5
009122	Tr 12 x 1	1	12	Tr 12 x 1,5	22	18	91	138	3 x 5



INSERTO PORTA PINZE PER UTENSILI A GAMBO CILINDRICO (DIN 6327)
DIN 6327 ADJUSTABLE ADAPTERS FOR CYLINDRICAL SHANK TOOLS

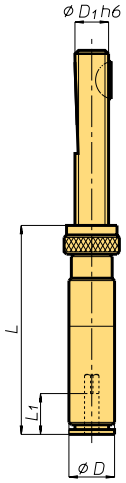
Codice *Code*	Grandezza *Size*	øD^{h6}	Filettatura *Thread*	øA	B	E	F	L	Pinza *Collet*	Linguetta *Woodruff key*
009112	Tr 8 ER 8	8	Tr 8 x 1	12	16	36	23	75	ER 8	2 x 3,7
009114	Tr 8 ER 11	8	Tr 8 x 1	16	16	41	28	80	ER 11	2 x 3,7
009118	Tr 10 ER 11	10	Tr 10 x 1,5	16	18	43	28	93	ER 11	3 x 5
009120	Tr 10 ER 16	10	Tr 10 x 1,5	22	18	54	39	104	ER 16	3 x 5
009124	Tr 12 ER 16	12	Tr 12 x 1,5	22	18	56	39	106	ER 16	3 x 5
009130	Tr 16 ER 20	16	Tr 16 x 1,5	28	28	65	47	136	ER 20	5 x 6,5
009140	Tr 20 ER 20	20	Tr 20 x 2	32	28	65	47	139	ER 20	5 x 7,5
009145	Tr 20 ER 25	20	Tr 20 x 2	35	28	61	44	135	ER 25	5 x 7,5
009170	Tr 28 ER 32	28	Tr 28 x 2	50	30	65	49	147	ER 32	6 x 9





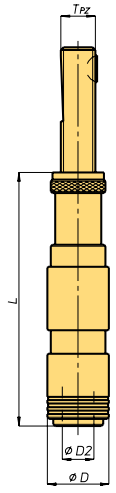
MANDRINI OMG PER MASCHIARE CON DIAMETRO RIDOTTO
OMG TAPPING SPINDLES WITH REDUCED DIAMETER

Codice *Code*	Mandrino *Spindle*				øD	D1	L	L1	B	Pinza *Collet*
009450	MM.Tr8.ER8	M5	0,5	8	15	8	75	23	16	ER8
009453	MM.Tr8.ER11	M6	1	10	19	8	90	27	16	ER11
009451	MM.Tr10.ER11	M6	1	10	19	10	90	27	18	ER11
009454	MM.Tr10.ER16	M8	1	10	22	10	105	37	18	ER16
009452	MM.Tr12.ER16	M8	1	10	22	12	107	37	18	ER16



MANDRINI PER MASCHIARE CON DIAMETRO RIDOTTO
TAPPING SPINDLES WITH REDUCED DIAMETER

Codice *Code*	Mandrino *Spindle*			øD	D1	L	L1
227030	MR. 0 -10 x 1.5 Tpz	M1 - M10	2.5 - 7.2	14	10	44	15
227031	MR. 0 -12 x 1.5 Tpz				12		
227032	MR. 1 -12 x 1.5 Tpz	M4 - M14	4.5 - 11.3	19	12	52	17
227033	MR. 1 -16 x 1.5 Tpz				16		
227034	MR. 2 -20 x 2 Tpz	M8 - M24	7 - 18	31	20	77	30
227035	MR. 2 -28 x 2 Tpz				28		
227036	MR. 3 -28 x 2 Tpz	M14 - M36	11 - 28	48	28	95	44
227037	MR. 3 -36 x 2 Tpz				36	97	
227038	MR. 4 -36 x 2 Tpz	M22 - M48	18 - 36	60	36	132	71
227039	MR. 4 -48 x 2 Tpz				48	136	

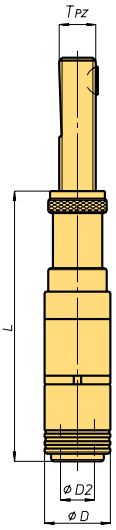


MANDRINI A CAMBIO RAPIDO PER MASCHIARE CON COMPENSAZIONE ASSIALE
QUICK CHANGE TAPPING CLUCKS WITH AXIAL COMPENSATION

Mandrino *Spindle*		D	D2				16x1.5 Tpz	Codice *Code*	20x2 Tpz	Codice *Code*	L 28x2 Tpz	Codice *Code*	36x2 Tpz	Codice *Code*
MF 0-5D-20-10	M1 - M10	23	13	20	10	0	116	227060	116	227061				
MF 0-5D-15-15				15	15		111	227062	111	227063				
MF 0-5D-0-30				0	30		96	227064	96	227065				
MF 1-5D-30-10	M3 - M12	35	19	30	10	1	148	227066	148	227067	148	227068		
MF 1-5D-20-20				20	20		138	227069	138	227070	138	227071		
MF 1-5D-0-40				0	40		118	227072	118	227073	118	227074		
MF 2-4D-30-10	M8 - M20	50	31	30	10	2			172	227075	172	227076	172	227077
MF 2-4D-20-20				20	20				162	227078	162	227079	162	227080
MF 2-4D-0-40				0	40				142	227081	142	227082	142	227083
MF 3-3D-30-10	M14 - M33	72	48	30	10	3					218	227084	218	227085
MF 3-3D-20-20				20	20						208	227086	208	227087
MF 3-3D-0-40				0	40						188	227088	188	227089

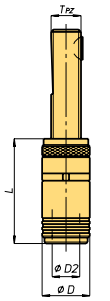
MANDRINI A CAMBIO RAPIDO PER MASCHIARE CON COMPENSAZIONE ASSIALE E SPOSTAMENTO PARALLELO ALL'ASSE
QUICK CHANGE TAPPING CHUCKS WITH AXIAL COMPENSATION AND RADIAL PARALLEL FLOATING

Mandrino *Spindle*		D	D2					16x1.5 Tpz	Codice *Code*	20x2 Tpz	Codice *Code*	L 28x2 Tpz	Codice *Code*	36x2 Tpz	Codice *Code*
MF 0-5D-20-10	M1 - M10	23	13	0,25	20	10	0	138	227090	138	227091				
MF 0-5D-15-15					15	15		133	227092	133	227093				
MF 0-5D-0-30					0	30		118	227094	118	227095				
MF 1-5D-30-10	M3 - M12	35	19	0,5	30	10	1	163	227096	163	227097	163	227098		
MF 1-5D-20-20					20	20		153	227099	153	227100	153	227101		
MF 1-5D-0-40					0	40		133	227102	133	227103	133	227104		
MF 2-4D-30-10	M8 - M20	50	31	1	30	10	2			196	227105	196	227106	174	227077
MF 2-4D-20-20					20	20				186	227108	186	227109	164	227080
MF 2-4D-0-40					0	40				166	227111	166	227112	144	227083
MF 3-3D-30-10	M14 - M33	72	48	1,5	30	10	3					252	227084	220	227085
MF 3-3D-20-20					20	20						242	227116	210	227087
MF 3-3D-0-40					0	40						222	227118	190	227089



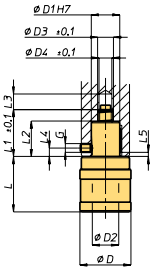
MANDRINI A CAMBIO RAPIDO PER MASCHIARE CON SPOSTAMENTO PARALLELLO ALL'ASSE
QUICK CHANGE TAPPING CHUCKS WITH RADIAL PARALLEL FLOATING

Mandrino *Spindle*		D	D2			16x1.5 Tpz	Codice *Code*	20x2 Tpz	Codice *Code*	L 28x2 Tpz	Codice *Code*	36x2 Tpz	Codice *Code*
MFC 0	M1 - M10	23	13	0,25	0	65	227131	65	227132				
MFC 1	M3 - M12	35	19	0,5	1	70	227133	70	227134	70	227135		
MFC 2	M8 - M20	50	31	1	2			96	227136	96	227137	98	227138
MFC 3	M14 - M33	72	48	1,5	3					136	227139	138	227146



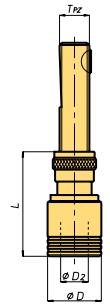
MANDRINI A CAMBIO RAPIDO PER MASCHIARE CON COMPENSAZIONE ASSIALE
QUICK CHANGE TAPPING CHUCKS WITH AXIAL COMPENSATION

Codice *Code*	Mandrino *Spindle*					D	D1	D2	D3	D4	L	L1	L2 min.	L3 min.	L4	L5	G	Chiavetta DIN 6885
227185	MKD0.GC	M1 - M10	0	6,5	6,5	26	15	13	8,2	6	37	32	18,5	11	6	3	M5	5x3x12
227186	MKD1.GC	M3 - M12	1	7,5	7,5	36	20	19	11,2	9	39	33	24,5	11	6	3	M6	6x4x16
227187	MKD2.GC	M8 - M20	2	12,5	12,5	53	25	31	13,2	11	63	39	30,5	20	8	4	M8	6x6x20



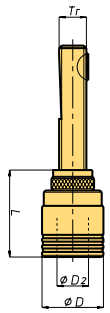
MANDRINI A CAMBIO RAPIDO PER MASCHIARE CON COMPENSAZIONE ASSIALE
QUICK CHANGE TAPPING CHUCKS WITH AXIAL COMPENSATION

Mandrino *Spindle*					øD	øD2	28x2 Tpz	Codice *Code*	36x2 Tpz	L Codice *Code*	48x2 Tpz	Codice *Code*
AKD 1-..	M3- M12	1	20	20	32	19	65	227190	67	227191	71	227192
AKD 2-..	M8 - M20	2	20	25	50	31			83	227193	87	227194
AKD 40-..	M6 - M18	4	20	20	40	26	80	227195				

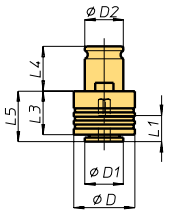


MANDRINI A CAMBIO RAPIDO PER MASCHIARE CON COMPENSAZIONE ASSIALE
QUICK CHANGE TAPPING CHUCKS WITH AXIAL COMPENSATION

Mandrino *Spindle*					øD	øD2	16x1,5 Tpz	Codice *Code*	20x2 Tpz	L Codice *Code*	28x2 Tpz	Codice *Code*	36x2 Tpz	Codice *Code*
MKD-0- Tr..	M1 - M10	0	6,5	6,5	26	13	50	227165	50	227166				
MKD-1- Tr..	M1 - M12	1	7,5	7,5	36	19	52	227167	52	227168	52	227169		
MKD-2- Tr..	M4 - M20	2	12,5	12,5	53	31			76	227171	76	227172	78	227173
MKD-3- Tr..	M4 - M33	3	20	20	78	48							111	227175

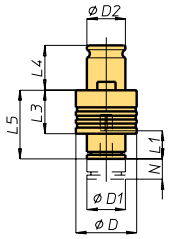


BUSSOLE PORTA MASCHIO A CAMBIO RAPIDO CON FRIZIONE DESTRA E SFERE
QUICK CONNECTION TAP-HOLDER BUSHES WITH BALL RIGHT CLUTCH



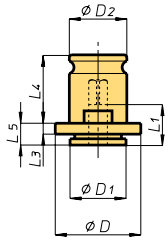
Codice *Code*	Bussola *Bush*		øgambo maschio *Tap shank diametre*	øD	øD1	øD2	L1	L3	L4	L5
227206	BFS 0	M1 - M10	2,5 - 7,2	23	13	13	15	20	19,5	21
227207	BFS 1	M3 - M12	3,5 - 11,3	32	19	19	17	25	21,5	25
227208	BFS 2	M8 - M20	7 - 18	50	30	31	30	31	35	34
227209	BFS 3	M14 - M33	11 - 28	72	48	48	44	41	55,5	45
227210	BFS 40	M6 - M18	6 - 14	40	25	26	30	27	32	30

BUSSOLE PORTA MASCHIO A CAMBIO RAPIDO CON FRIZIONE DESTRA E SFERE
QUICK CONNECTION TAP-HOLDER BUSHES WITH BALL RIGHT CLUTCH



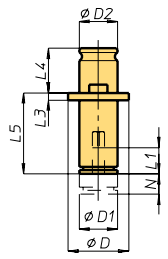
Codice *Code*	Bussola *Bush*		øgambo maschio *Tap shank diametre*	N	øD	øD1	øD2	L1	L3	L4	L5
227211	BFSR 0	M1 - M10	2,5 - 7,2	8	23	13	13	15	20	19,5	28
227212	BFSR 1	M2 - M12	3,5 - 11,3	10	32	19	19	17	25	21,5	33
227213	BFSR 2	M8 - M20	7 - 18	15	50	30	31	30	31	35	59
227214	BFSR 3	M14 - M33	11 - 28	25	72	48	48	44	41	55,5	82

BUSSOLE PORTA MASCHIO A CAMBIO RAPIDO
QUICK CONNECTION TAP-HOLDER BUSHES



Codice *Code*	Bussola *Bush*		øgambo maschio *Tap shank diametre*	øD	øD1	øD2	L1	L3	L4	L5
227250	BFC 0	M1 - M10	2,5 - 7,2	22	13	13	15	4	19,5	7
227251	BFC 1	M3 - M12	3,5 - 11,3	30	19	19	17	4	21,5	7
227252	BFC 2	M8 - M20	7 - 18	48	30	31	30	5	35	11
227253	BFC 3	M14 - M33	11 - 28	70	48	48	44	6	55,5	14
227254	BFC 40	M6 - M18	6 - 14	40	25	26	30	5	32	13

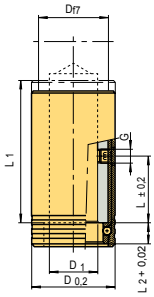
BUSSOLE PORTA MASCHIO A CAMBIO RAPIDO
QUICK CONNECTION TAP-HOLDER BUSHES



Codice *Code*	Bussola *Bush*		øgambo maschio *Tap shank diametre*	N	øD	øD1	øD2	L1	L3	L4	L5
227255	BFCR 0	M1 - M10	2,5 - 7,2	8	22	13	13	15	4	19,5	28
227256	BFCR 1	M2 - M12	3,5 - 11,3	10	30	19	19	17	4	21,5	33
227257	BFCR 2	M8 - M20	7 - 18	15	48	30	31	30	5	35	59
227258	BFCR 3	M14 - M33	11 - 28	25	70	48	48	44	6	55,5	82

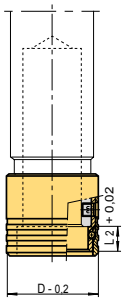
MANICOTTI AD INNESTO RAPIDO
QUICK CONNECTION SLEEVES

Codice *Code*	Manicotto *Sleeve*	øD	øD1	øD3	L	L1	L2	G
227309	AIRFA. 12	24	12	20	22	48	9	M5
227310	AIRFA. 16	30	16	25	34	64	9,5	M6
227311	AIRFA. 20	38	20	32	34	70	11	M6
227312	AIRFA. 25	45	25	37	38	76	12	M8
227313	AIRFA. 28	48	28	40	38	78	12	M8
227314	AIRFA. 32	55	32	45	45	89	14	M8
227315	AIRFA. 36	60	36	50	45	97	16	M8
227316	AIRFA. 48	80	48	67	57	122	20	M10



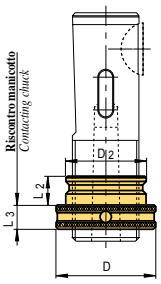
MANICOTTI AD INNESTO RAPIDO
QUICK CONNECTION SLEEVES

Codice *Code*	Manicotto *Sleeve*	øD	øD1	øD3	øD4	L	L1	L2	G
227350	AIRFCA. 16	27	16	25	22	8	30	9,5	M5
227351	AIRFCA. 20	34	20	32	28	8	30	11	M5
227352	AIRFCA. 25	41	25	37	34,5	8	32	12	M6
227353	AIRFCA. 28	44	28	40	37	8	32	12	M6
227354	AIRFCA. 32	49	32	45	41	9	39	13,5	M6
227355	AIRFCA. 36	55	36	50	46	9	39	16	M6
227356	AIRFCA. 48	73	48	67	61	11	51	20	M8



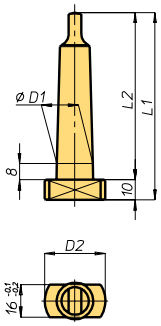
GHIERE AD INNESTO RAPIDO
RING NUTS

Codice *Code*	Manicotto *Sleeve*	øD	øD2	L2	L3
227367	GIRF. 12	21,5	16,4	9	9
227368	GIRF. 16	26	19,9	9,5	9
227369	GIRF. 20	33	25,4	11	9
227370	GIRF. 25	40	31,9	12	10
227371	GIRF. 28	42	33,9	12	10
227372	GIRF. 32	47	37,9	13,5	10
227373	GIRF. 36	54	43,4	16	10
227374	GIRF. 48	72	57,9	20	14



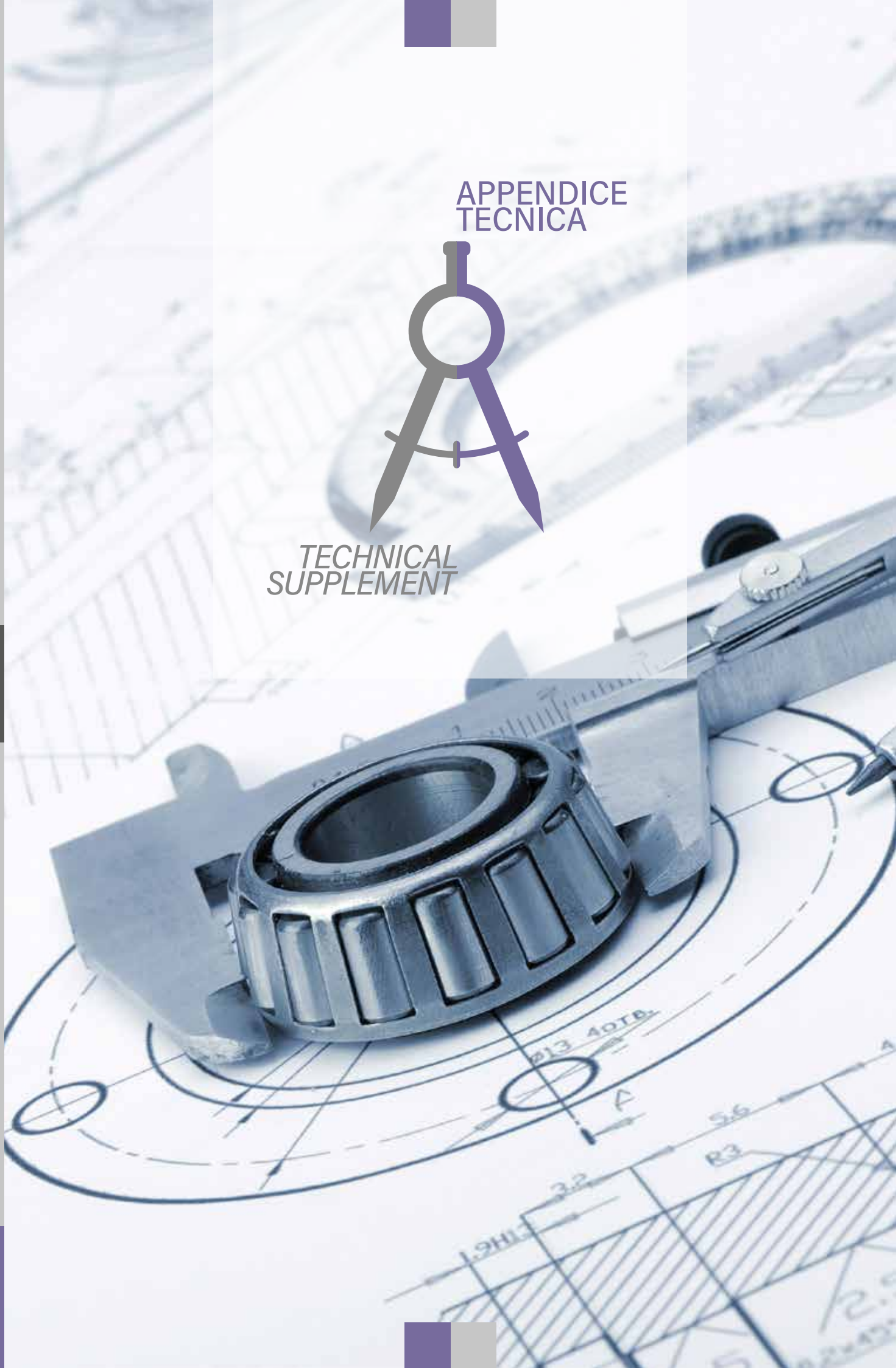
TRASCINATORI A CONO MORSE
MORSE TAPER WITH DRIVING DOG

Codice *Code*	Cono Morse *Morse taper*	A	B	L1	L2	L3	D1	D2	D3	R	ß
011120	2	8	6,3	93	83	16	17,78	28	13,5	6	1°25'50"
011125	3	8	7,9	112	102	20	23,825	30	18,5	7	1°26'16"
011130	4	8	11,9	135,5	125,5	24	31,267	42	24,5	8	1°29'15"
011135	5	8	15,9	167,5	157,5	29	44,399	50	35,7	10	1°30'26"
011136	6	8	19	228	218	40	63,348	62	51	13	1°29'



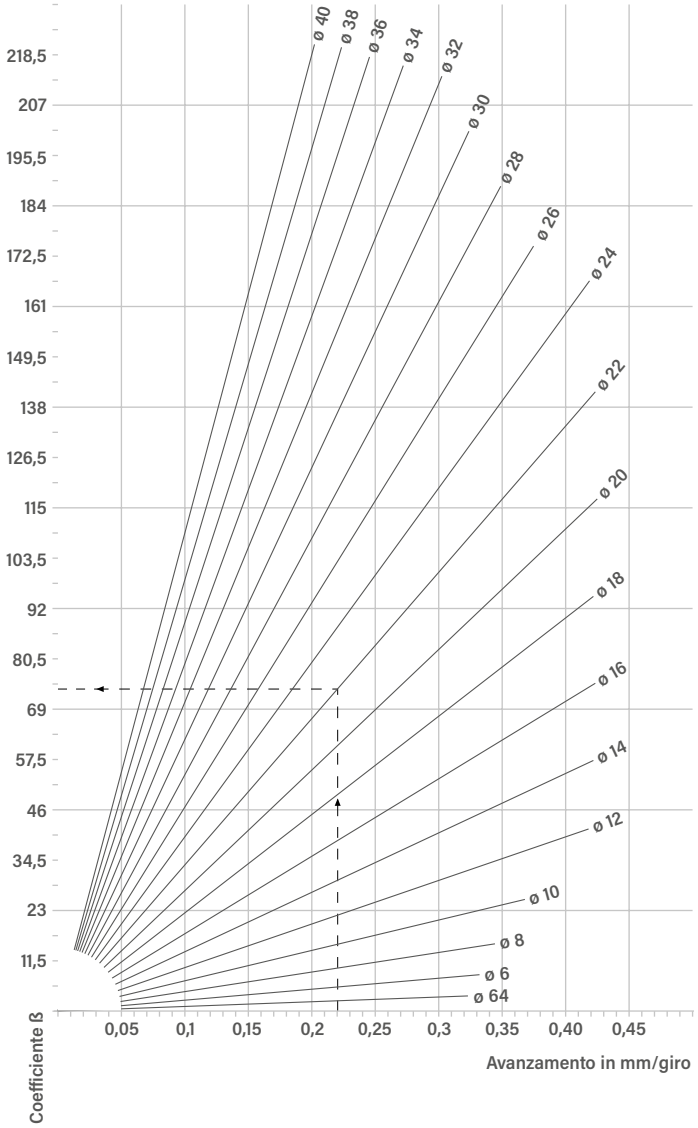
APPENDICE TECNICA

TECHNICAL SUPPLEMENT




0.5x45°
0.01MM

CALCOLO MOMENTO TORCENTE E POTENZA
ESTIMATE TORQUE AND POWER



La OMG, con questo diagramma, desidera offrire la possibilità di calcolare con velocità e ottima approssimazione, il momento torcente e la relativa potenza necessaria per l'esecuzione delle forature. Scegliendo l'appropiato avanzamento sull'ascissa, congiungendo con il relativo diametro di foratura, in ordinata si leggerà un determinato valore del "coefficente ß"; moltiplicando questo per la resistenza del materiale si otterrà il momento torcente. Applicando poi la formula

$$N = \frac{M_t \times n}{9549,3}$$

dove n è il n° di giri, si otterrà la potenza N espressa in kW

With this diagram, OMG makes it possible to calculate the torque and corresponding power necessary for drilling quickly and with maximum approximation. By selecting the proper feed on the abscissa and adding it to the corresponding drilling diameter on the ordinate, a certain «coefficient ß» value is obtained. By multiplying this by the material strength, the torque can be found. Then, by applying the formula,

$$N = \frac{M_t \times n}{9549,3}$$

where n is the number of revolutions, it is possible to determine power N expressed in kW.

Es:

a = 0,22 mm/giro
punta Ø 22
giri/1' = 230
R = 500 N/mm²
coefficiente ß = 73

$$M_t = \frac{73 \times 500}{1000} = 36,5 \text{ Nm}$$

$$N = \frac{36,5 \times 230}{9549,3} = 0,88 \text{ kW}$$

Ex:

a = 0,22 mm/revs
tip Ø 22
rpm = 230
R = 500 N/mm²
coefficient ß = 73

Dimensioni estremità mandrini macchine utensili per la costruzione del manicotto di collegamento.

Spindles dimensions off machine-tools to manufacture the connection collar.

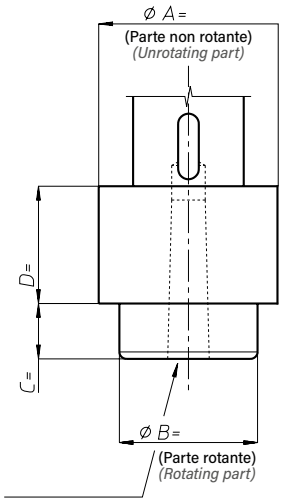


Fig. 1

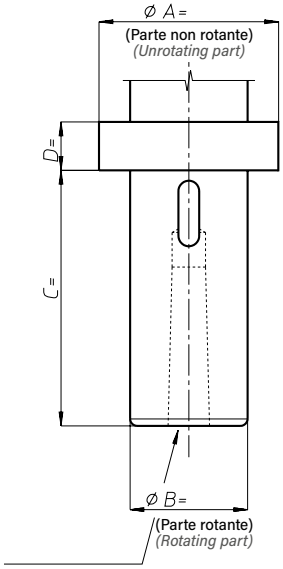


Fig. 2

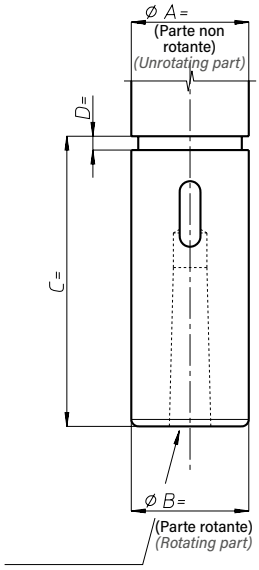


Fig. 3

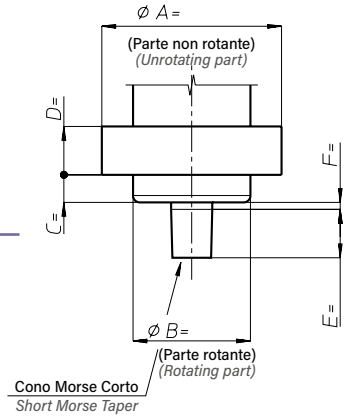


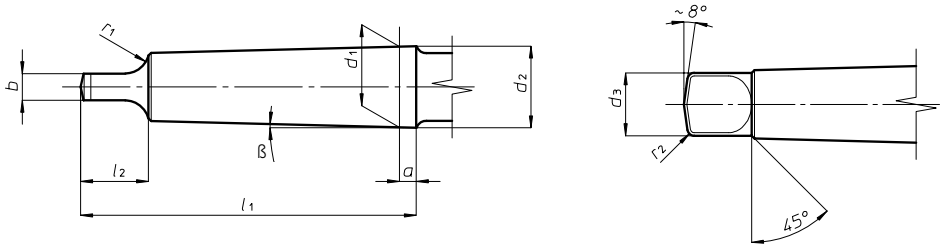
Fig. 4

Se nessuna figura si adatta alla vostra macchina, disegnate qui l'estremità mandrino.

If no picture fits your machine, draw here the spindle end.

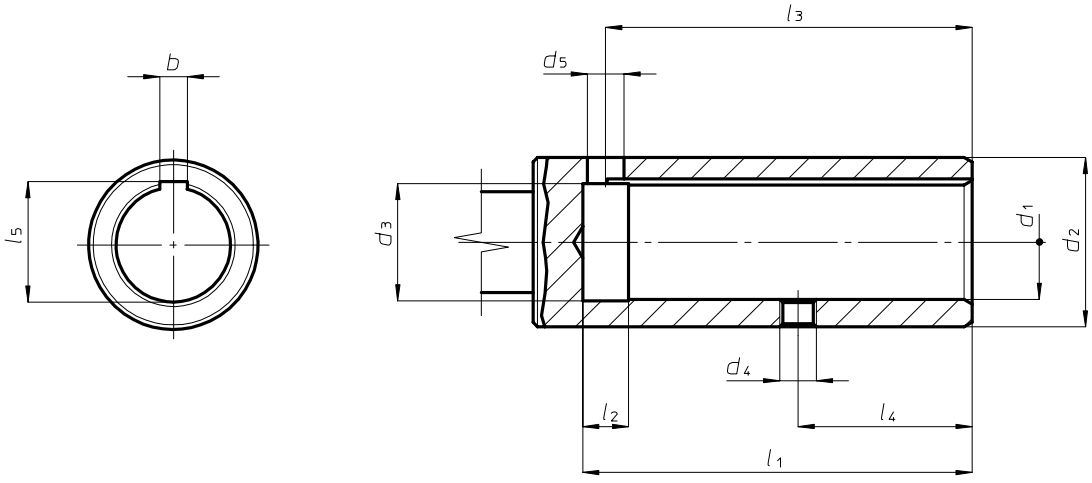
DIN 228

CONO MORSE · *MORSE TAPER*

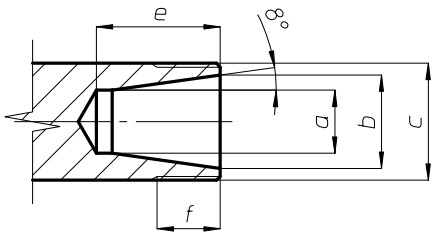


Cono Morse *Morse Taper*	a	b h13	d1	d2	d3max	l1max	l2max	r1	r2	ß
0	3	3,9	9,045	9,2	6	59,5	10,5	4	1	1°29'27"
1	3,5	5,2	12,065	12,2	8,7	65,5	13,5	5	1,2	1°25'43"
2	5	6,3	17,780	18	13,5	80	16	6	1,6	1°25'50"
3	5	7,9	23,825	24,1	18,5	99	20	7	2	1°26'16"
4	6,5	11,9	31,267	31,6	24,5	124	24	8	2,5	1°29'15"
5	6,5	15,9	44,399	44,7	35,7	156	29	10	3	1°30'26"
6	8	19	63,348	63,8	51	218	40	13	4	1°29'36"

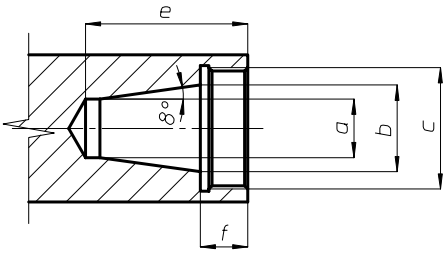
DIN 5058



Grandezza *Size d1 H7*	Ø8	Ø10	12	16	Ø20	Ø25	28	Ø32	Ø36	48
b	2	3	3	5	5	6	6	8	9	10
d2f7	15	18	20	25	32	37	40	45	50	67
d3	8,6	10,6	12,6	16,6	20,6	25,6	28,6	32,8	36,8	48,8
d4	M4	M5	M5	M6	M6	M8	M8	M8	M8	M10
d5	3,5	5	5	6	6	8	8	10	10	12
l1 min	42	52	52	75	78	85	85	106	106	129
l2	8	8	8	8	8	10	10	10	10	12
l3	35	48	48	70	73	80	80	101	101	123
l4 ±0,1	16	22	22	34	34	38	38	45	45	57
l5 ±0,1	9	11,1	13,1	17,3	21,3	26,7	29,7	33,7	37,7	50,1



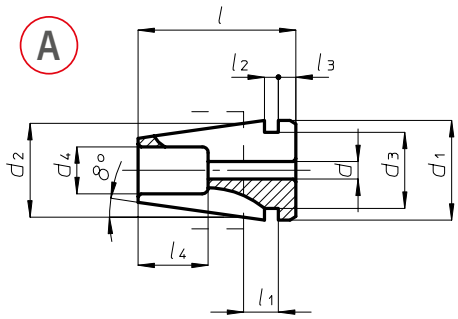
Grandezza *Size d1 H7*	Serraggio *Clamping*	a	b ±0,05	c	e	f	
ER8	0,5... 5,0	5,2	8	M10x0,75	13,0	7,5	
ER11	0,5... 7,0	7,5	11	M13x0,75	17,0	10,0	
ER16	0,5... 10,0	10,5	16	M19x1,00	22,0	13,0	
ER20	0,5... 13,0	13,5	20	M24x1,00	26,5	13,5	
ER25	0,5... 16,0	18,0	25	M30x1,00	29,0	14,0	
ER16	0,5... 10,0	10,5	16	M22x1,50	22,0	13,0	
ER20	0,5... 13,0	13,5	20	M25x1,50	26,5	13,5	
ER25	0,5... 16,0	18,0	25	M32x1,50	29,0	14,0	
ER32	1,0... 20,0	23,5	32	M40x1,50	34,0	16,0	
ER40	2,0... 30,0	30,5	40	M50x1,50	38,0	17,0	
ER50	4,0... 34,0	38,0	50	M64x2,00	48,0	24,0	

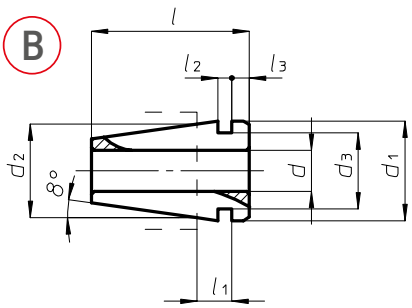


Grandezza *Size d1 H7*	Serraggio *Clamping*	a	b ±0,05	c	e	f	
ER11	0,5... 7,0	7,5	11	M18x1,00	23,0	7,0	
ER16	0,5... 10,0	10,5	16	M24x1,00	32,0	10,0	
ER20	0,5... 13,0	13,5	20	M28x1,50	37,5	11,0	
ER25	0,5... 16,0	18,0	25	M32x1,50	41,0	12,0	
ER32	1,0... 20,0	23,5	32	M40x1,50	48,0	14,0	

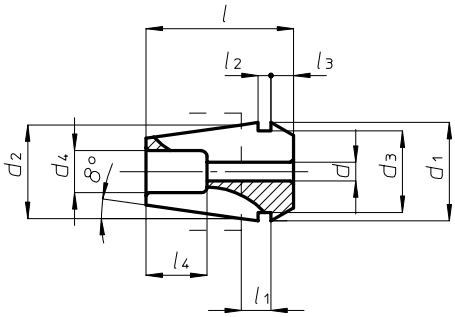
DIN 6499-B

PINZE · *COLLETS*

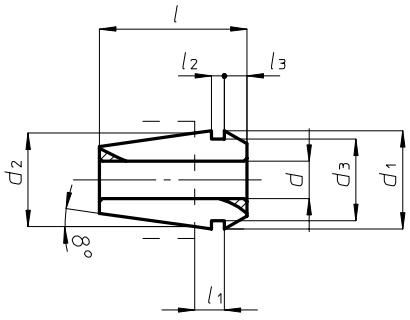




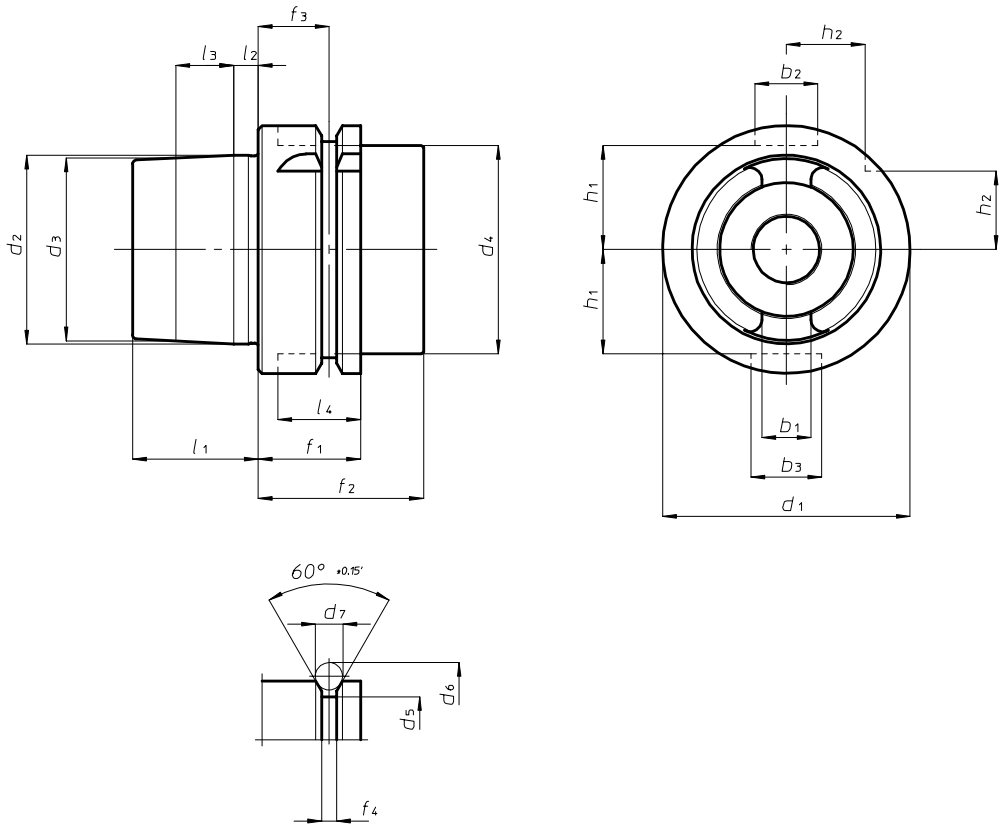
Grandezza *Size d1 H7*	d	d1	d2	d3	d4	l	l1	l2	l3	l4	Disegno *Picture*
ER8	0,5... 2,5	8,5	8,0	6,5	4,0	13,5	2,98	1,2	1,5	6,0	A
ER8	3,0... 5,0	8,5	8,0	6,5	-	13,5	2,98	1,2	1,5	-	A



Grandezza *Size d1 H7*	d	d1	d2	d3	d4	l	l1	l2	l3	l4	
ER11	0,5... 2,5	11,5	11,0	9,5	5,0	18,0	3,80	2,0	2,5	9,0	
ER16	0,5... 4,5	17,0	16,0	13,8	7,5	27,5	6,26	2,7	4,0	10,0	
ER20	1,0... 6,5	21,0	20,0	17,4	9,0	31,5	6,36	2,8	4,8	13,0	
ER25	1,0... 7,5	26,0	25,0	22,0	12,0	34,0	6,66	3,1	5,0	15,0	
ER32	2,0... 3,5	33,0	32,0	29,2	15,0	40,0	7,16	3,6	5,5	20,0	
ER32	4,0... 7,5	33,0	32,0	29,2	15,0	40,0	7,16	3,6	5,5	15,0	
ER40	3,0... 3,5	41,0	40,0	36,2	20,0	46,0	7,66	4,1	7,0	21,0	
ER40	4,0... 8,5	41,0	40,0	36,2	20,0	46,0	7,66	4,1	7,0	18,0	
ER50	4,0... 10,0	52,0	50,0	46,0	20,0	60,0	12,60	5,5	8,5	26,0	



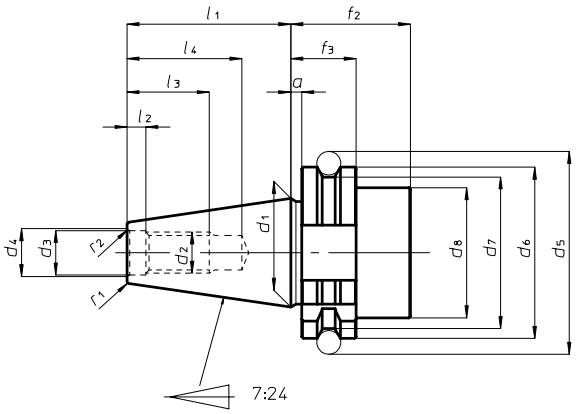
Grandezza *Size d1 H7*	d	d1	d2	d3		l	l1	l2	l3		
ER11	3,0... 7,0	11,5	11,0	9,5		18,0	3,80	2,0	2,5		
ER16	5,0... 10,0	17,0	16,0	13,8		27,5	6,26	2,7	4,0		
ER20	7,0... 13,0	21,0	20,0	17,4		31,5	6,36	2,8	4,8		
ER25	8,0... 16,0	26,0	25,0	22,0		34,0	6,66	3,1	5,0		
ER32	8,0... 20,0	33,0	32,0	29,2		40,0	7,16	3,6	5,5		
ER40	9,0... 30,0	41,0	40,0	36,2		46,0	7,66	4,1	7,0		
ER50	12,0... 34,0	52,0	50,0	46,0		60,0	12,60	5,5	8,5		

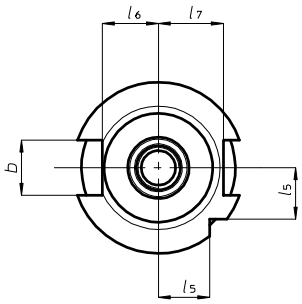


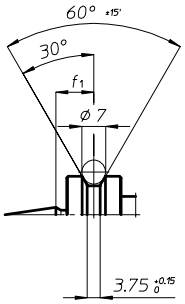
	HSK50	HSK63	HSK80	HSK100
b1 H10	10,5	12,5	16	20
b2 H10	12	16	18	20
b3 H10	14	18	20	22
d1 H10	50	63	80	100
d2	38 +0,009 +0,006	48 +0,011 +0,007	60 +0,013 +0,008	75 +0,015 +0,009
d3	36,900 +0,006 +0,003	46,530 +0,007 +0,003	58,100 +0,008 +0,003	72,600 +0,009 +0,003
d4 max	42	53	67	85
d5 0 -0,1	43	55	70	92
d6 0 -0,1	59,3	72,3	88,8	109,75
d7	7	7	7	7
f1 0 -0,1	26	26	26	29
f2 min	42	42	42	45
f3 ±0,1	18	18	18	20
f4 +0,15 0	3,75	3,75	3,75	3,75
h1 0 -0,2	21	26,5	34	44
h2 0 -0,3	15,5	20	25	31,5
l1 0 -0,2	25	32	40	50
l2	5	6,3	8	10
l3	11	14,7	19	24
l4	19	21	22	24

DIN 6981

FORMA A · *A SHAPE*

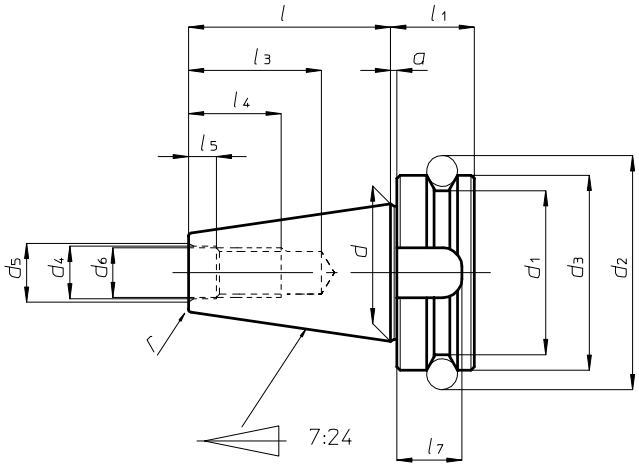


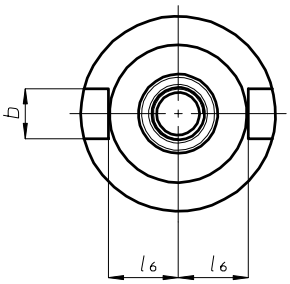


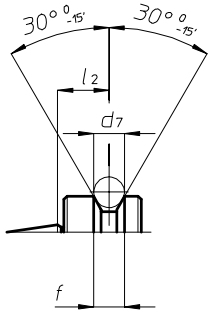


Grandezza *Size d1 H7*	30	40	45	50
a $^{+0,1}_{-0,1}$	32	3,2	3,2	3,2
b H12	16,1	16,1	19,3	25,7
d1	31,75	44,45	57,15	69,85
d2	M12	M16	M20	M24
d3 H7	13	17	21	25
d4 max	14	19	23,4	28
d5 $^{+0,05}_{-0,05}$	59,3	72,3	91,35	107,25
d6 $^{0}_{-0,1}$	50	63,55	82,55	97,50
d7 $^{0}_{-0,5}$	44,3	56,25	75,25	91,25
d8 max	45	50	63	80
f1 $^{+0,1}_{-0,1}$	11,1	11,1	11,1	11,1
f2 min	35	35	35	35
f3 $^{0}_{-0,1}$	19,1	19,1	19,1	19,1
l1 $^{0}_{-0,3}$	47,8	68,4	82,7	101,75
l2 $^{+0,5}_{0}$	5,5	8,2	10	11,5
l3 min	24	32	40	47
l4 min	33,5	42,5	52,5	61,5
l5 $^{0}_{-0,3}$	15	18,5	24	30
l6 $^{0}_{-0,4}$	16,4	22,8	29,1	35,5
l7 $^{0}_{-0,4}$	19	25	31,3	37,7
r1	0,6 $^{0}_{-0,3}$	1,2 $^{0}_{-0,5}$	2 $^{0}_{-0,5}$	2,5 $^{0}_{-0,5}$
r2 $^{0}_{-0,5}$	0,8	1	1,2	1,5

MAS 403

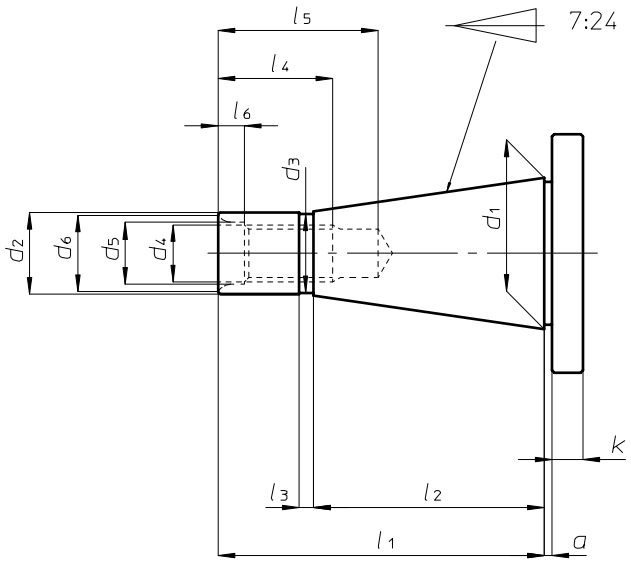


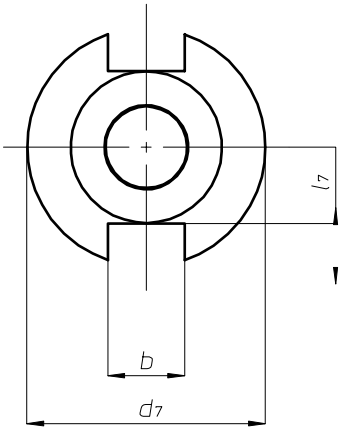




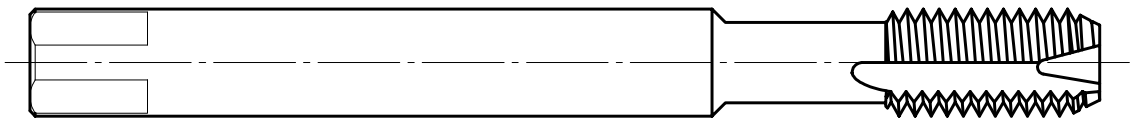
Grandezza *Size d1 H7*	30	40	50
a ±0,4	2	2	3
b H8	16,1	16,1	25,7
d	31,75	44,45	69,85
d1 - 0,1 - 0,3	38	53	85
d2	56,144	74,679	119,019
d3 H8	46	63	100
d4 H8	12,5	17	25
d5	14,5	19	27
d6	M12	M16	M24
d7	8	10	15
f + 0,1 0	8	10	15
l ±0,15	48,4	65,4	101,8
l1	22	27	38
l2 ±0,1	13,6	16,6	23,2
l3	34	43	62
l4	24	30	45
l5 + 0,5 0	7	9	13
l6 0 - 0,2	16,3	22,6	35,4
l7	17	21	31
r	0,5	1	1

DIN 2080





Grandezza *Size*	30	40	45	50
a ±0,2	1,6	1,6	3,2	3,2
b H12	16,1	16,1	19,3	25,7
d1	31,75	44,45	57,15	69,85
d2 a 10	17,4	25,3	32,4	39,6
d3	16,5	24	30	38
d4	M12	M16	M20	M24
d5	13	17	21	26
d6 max	16	21,5	26	32
d7 $^{0}_{-0,4}$	50	63	80	97,5
k ±0,15	8	10	12	12
l1	68,4	93,4	106,8	126,8
l2	48,4	65,4	82,8	101,8
l3	3	5	6	8
l4	24	32	40	47
l5 min	33,5	42,5	52,5	61,5
l6 $^{+0,5}_{0}$	5,5	8,2	10	11,5
l7 max	16,2	22,5	29	35,3



Maschi *Clamping*		ISO 529		DIN 371 (DIN 2181)		DIN 371		DIN 376		JAPAN JIS		US STANDARD	
(mm)	(pollici)	(Ø)	(□)	(Ø)	(□)	(Ø)	(□)	(Ø)	(□)	(Ø)	(□)	(Ø)"	(□)"
M1.0		2,50	2,10	-	-	2,50	2,10	-	-	3,00	2,50	-	-
M1.1		2,50	2,10	-	-	2,50	2,10	-	-	3,00	2,50	-	-
M1.2		2,50	2,10	-	-	2,50	2,10	-	-	3,00	2,50	-	-
M1.4		2,50	2,10	-	-	2,50	2,10	-	-	3,00	2,50	-	-
M1.6	1/16	2,50	2,10	-	-	2,50	2,10	-	-	3,00	2,50	0,141	0,110
M1.7		2,50	2,10	-	-	2,50	2,10	-	-	3,00	2,50	-	-
M1.8		2,50	2,10	-	-	2,50	2,10	-	-	3,00	2,50	0,141	0,110
M2.0		2,80	2,10	2,50	2,00	2,50	2,10	-	-	3,00	2,50	0,141	0,110
M2.2		2,80	2,10	2,80	2,24	2,50	2,10	-	-	3,00	2,50	0,141	0,110
M2.3		2,80	2,10	2,80	2,24	2,50	2,10	-	-	3,00	2,50	-	-
M2.5	3/32	2,80	2,10	2,80	2,24	2,50	2,10	-	-	3,00	2,50	0,141	0,110
M2.6		2,80	2,10	2,80	2,24	2,50	2,10	-	-	3,00	2,50	-	-
M3.0	1/8	3,15	2,50	3,15	2,50	3,50	2,70	3,00	-	4,00	3,00	0,141	0,110
M3.5		3,55	2,80	3,55	2,80	4,00	3,00	2,50	2,10	4,00	3,00	0,141	0,110
M4.0	5/32	4,00	3,15	-	-	4,50	3,40	2,80	2,10	5,00	4,00	0,168	0,131
M4.5	3/16	4,50	3,55	-	-	6,00	4,90	3,50	2,70	5,00	4,00	0,194	0,152
M5.0		5,00	4,00	-	-	6,00	4,90	3,50	2,70	5,50	4,50	0,194	0,152
M6.0	1/4	6,30	5,00	-	-	6,00	4,90	4,50	3,40	6,00	4,50	0,255	0,191
M7.0	5/16	7,10	5,60	-	-	7,00	5,50	5,50	4,30	6,20	5,00	0,318	0,238
M8.0		8,00	6,30	-	-	8,00	6,20	6,00	4,90	6,20	5,00	0,318	0,238
M9.0		9,00	7,10	-	-	9,00	7,00	7,00	5,50	7,00	5,50	0,381	0,286
M10.0	3/8	10,00	8,00	-	-	10,00	8,00	7,00	5,50	7,00	5,50	0,381	0,286
M11.0		8,00	6,30	-	-	-	-	8,00	6,20	8,00	6,20	0,381	0,286
M12.0	1/2	9,00	7,10	-	-	-	-	9,00	7,00	8,50	6,50	0,367	0,275
M14.0	9/16	11,20	9,00	11,20	-	-	-	11,00	9,00	10,50	8,00	0,429	0,322
M16.0	5/8	12,50	10,00	12,50	-	-	-	12,00	9,00	12,50	10,00	0,480	0,360
M18.0	11/16	14,00	11,20	14,00	-	-	-	14,00	11,00	14,00	11,00	0,542	0,406
M20.0	13/16	14,00	11,20	14,00	-	-	-	16,00	12,00	15,00	12,00	0,652	0,489
M22.0	7/8	16,00	12,50	16,00	-	-	-	18,00	14,50	17,00	13,00	0,697	0,523
M24.0	15/16	18,00	14,00	18,00	-	-	-	18,00	14,50	19,00	15,00	0,760	0,570
M27.0	1 1/16	20,00	16,00	20,00	-	-	-	20,00	16,00	20,00	15,00	0,896	0,672
M30.0	1 3/16	20,00	16,00	20,00	-	-	-	22,00	18,00	23,00	23,17	1,021	0,766

US STANDARD: in pollici

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