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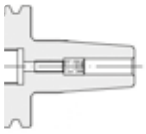
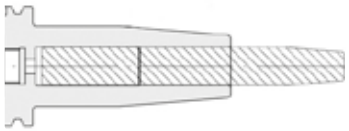
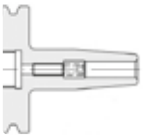
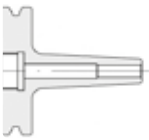
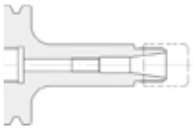
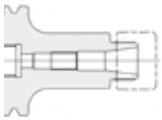
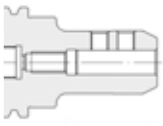
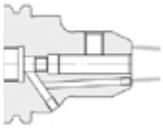
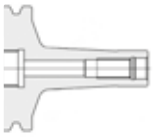
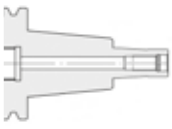
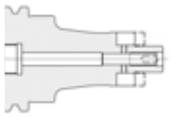
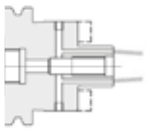
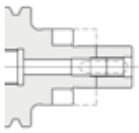
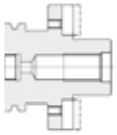
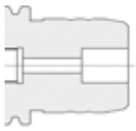
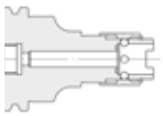
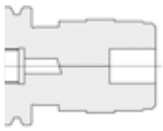
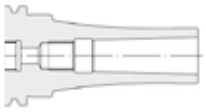
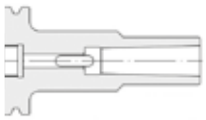
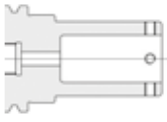
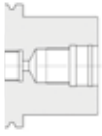
HSK A+C DIN 69893-1

HSK A+C

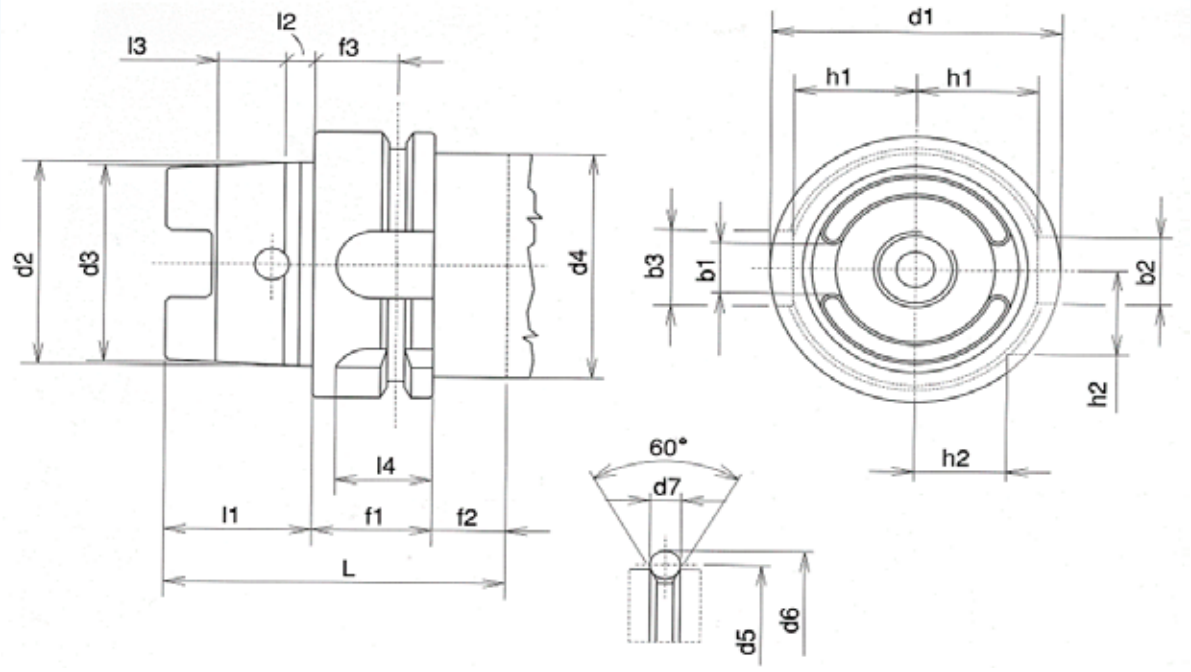
Mandrini
Toolholders

HSK A+C DIN 69893-1

ATR **DIN 69895**	Tubetti per l'adduzione del refrigerante *Coolant tubes* *Tubes d'arrosage* *Kühlmittelrohre*	p. 76	
CTO 4,5° Standard **similar to DIN 69882-8**	Mandrino per calettamento termico *Shrink fit chuck* *Porte-outils de frettage* *Schrumpfutter*	p. 77	
CTW 4,5° Standard **Cooling Plus**	Mandrino per calettamento termico con canali di lubrificazione *Shrink fit chuck with coolant bores* *Porte-outils de frettage avec conduits d'arrosage* *Schrumpfutter mit Kühlmittellbohrung*	p. 82	
CTP 4,5° **without back up screw**	Mandrino per calettamento termico estensibile,adatto per prolunghe *Extensible shrink fit-chuck suitable for extensions* *Porte outils de frettage prolongeable approprié pour rallonges* *Verlägerbares schrumpfutter geeignet fur verlangerungs*	p. 84	
CTF 4,5° **Slim**	Mandrino per calettamento termico di finitura *Finishing shrink fit chuck* *Porte outils de frettage pour finissage* *Schrumpfutter zum schlichten*	p. 88	
CTF 3° Slim **without back up screw**	Mandrino per calettamento termico. Ideale per la costruzione di STAMPI e cavità profonde *Shrink fit chuck. Suitable for the MOLD and for deep cavities* *Porte outils de frettage. Idéal pour la construction de Mold et des cavités profondes* *Schrumpfutter fur tiefe Kavitaten geeignet, speziell fur den Gesenk, und Formenbau*	p. 90	
ERM - Mini **DIN 6499**	Portapinze di precisione ER - Mini DIN 6499 *Precision collet chuck ER - Mini DIN 6499* *Porte pinces de precision ER - Mini DIN 6499* *Prazisions spannzangenfutter ER - Mini DIN 6499*	p. 92	
ERO / ERH **Standard** **High Performance**	Portapinze di precisione ER DIN 6499 *Precision collet chuck ER DIN 6499* *Porte pinces de precision ER DIN 6499* *Prazisions spannzangenfutter ER DIN 6499*	p. 95	
PU **Din 6595** **Din 6535 HE**	Mandrino portapunte *Adapter for drilling tools* *Porte-foret* *Aufnahme für Vollbohrer*	p. 99	
WEH / WEW **Cooling Plus** **DIN 6535-HB / 6535-HE**	Mandrini per attacchi Weldon – WN con canali di lubrificazione *Weldon – WN toolholders with coolant bores* *Porte outils Weldon – WN avec conduits d'arrosage* *Weldon-WN aufnahme mit kühlmittellbohrung*	p. 103	
MDO / MDH	Portafrese con filetto interno, per frese con attacco filettato *Cutter-Holder with modular threaded connection* *Mandrin Porte-Fraise avec attachement modulaire filetè* *Fraseraufnahme mit modular-gewinde aufnahme*	p. 106	
MDR	Portafrese Rinforzato con filetto interno, per frese con attacco filettato *Cutter-Holder with modular threaded connection* *Mandrin Porte-Fraise avec attachement modulaire filetè* *Fraseraufnahme mit modular-gewinde aufnahme*	p. 111	

FM	Portafrese combinato per frese a manicotto e a disco - Con trascinatore frontale fisso e linguetta *Combi face mill holder for shell-end and disc milling cutters* *Kombidorn* *Porte-fraise avec entrainement combine*	p. 114	
FSW **Cooling Plus** **DIN 6357 B**	Portafrese a spianare con trascinatore fisso - con canali di lubrificazione *Face mill arbor with coolant bores* *Porte-fraises à surfacer avec conduits d'arrosage* *Messerkopf- aufnahme mit Kühlmittelbohrun*	p. 116	
FC **DIN 6358**	Portafrese combinato con trascinatore mobile *Kmbi-shell mill arbor* *Porte-fraise a double usage* *Kombi-aufsteckfräsdorne*	p. 120	
FF **DIN 6357-A / DIN 2079**	Portafrese flangiati per frese a spianare *Face mill holder for face milling cutters* *Porte-fraise pour fraises a surfacer* *Aufsteckfräserdorne für messerköpfe*	p. 121	
MS **SINKRO**	Maschiatore sincronizzato per bussole ABM-ER) con passaggio lubrificante *Sinkro tapping chucks for Sinkro's tap adapter ABM-ER) with coolant flow* *Sinkro-Gewindeschneidfutter fur schnellwechseleinsatze SinKro ABM.ER)* *Sinkro-appareil a taruder pour douilles porte-taraud Sinkro ABM.ER)*	p. 123	
MR	Maschiatore a cambio rapido senza compensazione assiale con passaggio lubrificante *Quick change tapping chuck without axial compensation with coolant flow* *Appareil à thrauder avec changement rapid sans compensation axiale* *Gewindeschneidfutter ohne längenausgleich*	p. 124	
MC	Maschiatore a cambio rapido con compensazione assiale senza passaggio lubrificante *Quick change tapping chuck with axial compensation without coolant flow* *Appareil à thrauder avec changement rapid avec compensation axiale* *Gewindeschneidfutter mit doppel längenausgleich*	p. 125	
RF **DIN 228-1 Form A**	Riduzione Cono Morse per frese *Morse adapter for milling cutter* *Porte-fraise avec raccord CM* *Morse-kegel-aufnahme mit Anzuggewinde*	p. 126	
RP **DIN 228-1 Form B**	Riduzione Cono Morse per punte *Morse-adapter for drilling tools* *Porte-foret avec raccord CM* *Morse-kegel-aufnahme*	p. 127	
DP	Sistema modulare DP *Modular system DP*	p. 128	
VAR	Sistema modulare VAR *Modular system VAR*	p. 129	

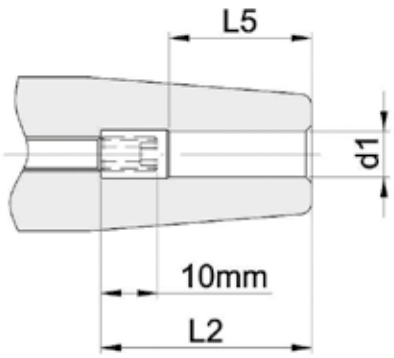
DIN 69893 - HSK A+C



	HSK 32	HSK 40	HSK 50	HSK 63	HSK 80	HSK 100
b1	7,05	8,05	10,54	12,54	16,04	20,02
b2	7	9	12	16	18	20
b3	9	11	14	18	20	22
d1	32	40	50	63	80	100
d2	24	30	38	48	60	75
d3	23,270	29,050	36,900	46,530	58,100	72,600
d4 (max)	26	34	42	53	67	85
d5	26,5	34,8	43	55	70	92
d6	37	45	59,3	72,3	88,8	109,75
d7	4	4	7	7	7	7
f1	20	20	26	26	26	29
f2	15	15	16	16	16	16
f3	16	16	18	18	18	20
f4	2	2	3,75	3,75	3,75	3,75
h1	13	17	21	26,5	34	44
h2	9,5	12	15,5	20	25	31,5
L	51	55	67	74	82	95
l1	16	20	25	32	40	50
l2	3,2	4	5	6,3	8	10
l3	7,3	9,5	11	14,7	19	24
l4	12	12	19	21	22	24

Shrink fit chuck

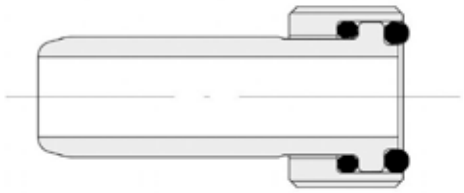
GRIP PLUS
SHRINK FIT TECHNOLOGY



d1	L2	L5 minimum grip	RVR CTW
3	-	9	-
4	-	12	-
5	-	15	-
6	37	22	M5 x 0,8
8	37	26	M6 x 1
10	42	31	M8 x 1
12	47	36	M10 x 1
14	47	36	M10 x 1
16	50	39	M12 x 1
18	50	39	M12 x 1
20	52	41	M16 x 1
25	58	47	M16 x 1
32	62	51	M16 x 1

ATR DIN 69895

Tubetti per l'adduzione del refrigerante
Coolant tubes
Tubes d'arrosage
Kühlmittelrohre



TUBETTO PER REFRIGERANTE HSK

- HSK A - C Form
- HSK E Form

COOLANT TUBE HSK

- *HSK A - C Form*
- *HSK E Form*

CODICE - CODE	Ø1					APPLICATION
ATR.010.HK032	M10 x 1					HSK 032
ATR.012.HK040	M12 x 1					HSK 040
ATR.016.HK050	M16 x 1					HSK 050
ATR.018.HK063	M18 x 1					HSK 063
ATR.020.HK080	M20 x 1,5					HSK 080
ATR.024.HK100	M24 x 1,5					HSK 100

ACH ATR

Chiave per tubetto refrigerante

Wrench for coolant tube

CODICE - CODE						APPLICATION
ACH.ATR032						ATR.010.HK032
ACH.ATR040						ATR.012.HK040
ACH.ATR050						ATR.016.HK050
ACH.ATR063						ATR.018.HK063
ACH.ATR080						ATR.020.HK080
ACH.ATR100						ATR.024.HK100

CT0 4,5° standard (similar to DIN 69882-8)

GRIP PLUS SHRINK FIT TECHNOLOGY

HSK A+C DIN 69893-1

Mandrino per calettamento termico
Shrink fit chuck
Porte-outils de frettage
Schrumpfutter

G 2,5 25.000 RPM or U<1 gmm | ≤3 µm | 4,5° | Ø 3-4-5 | ON REQUEST | HSS h6 | HM h6 | HSC | HPC | CHIP

MANDRINI A CALETTAMENTO
simile a DIN 69882-8

- Chuck Body Fine Balanced
- G 2,5 - 25.000 Rpm - Or U< 1 gmm
- Run Out 3 micron
- Angolo di calettamento esterno 4,5° gradi
- Con grano di registrazione assiale
- Ø 3-4-5 senza grano di registrazione assiale
- Per utensili in HSS e in HM
- Tolleranza gambo utensile “h6”
- Raffreddamento con fori di refrigerazione “A RICHIESTA”

• Con fori di refrigerazione VEDI “CTW”
• Fori di refrigerazione “A RICHIESTA”

SHRINK FIT CHUCKS
similar to DIN 69882-8

- *Chuck Body Fine Balanced*
- *G 2,5 - 25.000 Rpm - Or U< 1 gmm*
- *Run Out 3 micron*
- *4,5° slope at the top*
- *With back-up screw*
- *Ø 3-4-5 Without back-up screw*
- *For carbide steel and HSS shanks*
- *For tools with shank tolerance h6*
- *With coolant channels ON REQUEST*

• *With coolant channels SEARCH “ CTW “*
• *Coolant Channels “ ON REQUEST “*

Accessori | *Accessories*

ATR

p. 76

ASC

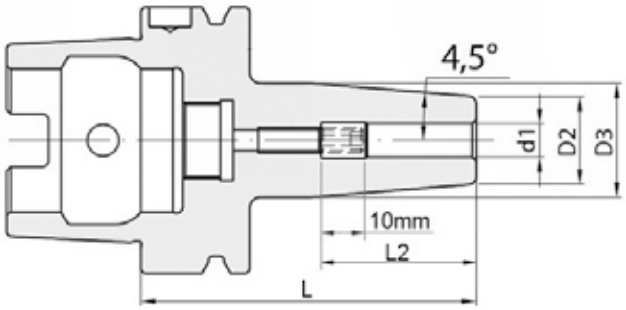
p. 310

Ricambi | *Spare parts*

RVR CTW

p. 352

Mandrino per calettamento termico
Shrink fit chuck
Porte-outils de frettage
Schrumpfutter



HSK 040 (A+C form) - CTO 4,5° standard

CODICE-CODE	d1	L	D2	D3	L2	G	L5 minimum grip	Fori Refrigerazione Coolant Channels	APPLICATION
HKA.040.CT003.060	3	60	9	16		No RVR	9	--	
HKA.040.CT004.060	4	60	10	16		No RVR	12	--	
HKA.040.CT005.060	5	60	11	16		No RVR	15	--	
HKA.040.CT006.080	6	80	21	27	37	M5 x 0,8	22	•	
HKA.040.CT008.080	8	80	21	27	37	M6 x 1	26	•	
HKA.040.CT010.080	10	80	24	32	42	M8 x 1	31	•	
HKA.040.CT012.090	12	90	24	32	47	M10 x 1	36	•	
HKA.040.CT016.090	16	90	27	34	50	M12 x 1	39	•	

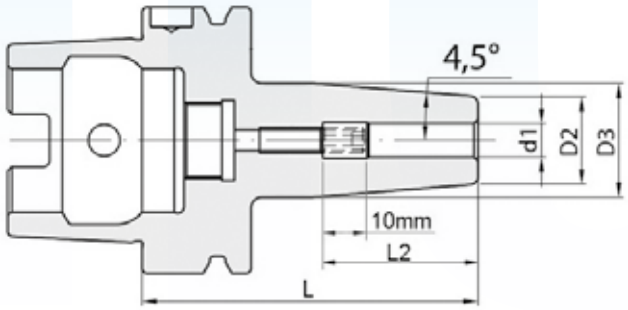
HSK 050 (A+C form) - CTO 4,5° standard

CODICE-CODE	d1	L	D2	D3	L2	G	L5 minimum grip	Fori Refrigerazione Coolant Channels	APPLICATION
HKA.050.CT003.080	3	80	9	18		No RVR	9	--	
HKA.050.CT004.080	4	80	10	18		No RVR	12	--	
HKA.050.CT005.080	5	80	11	18		No RVR	15	--	
HKA.050.CT006.080	6	80	21	27	37	M5 x 0,8	22	•	
HKA.050.CT008.080	8	80	21	27	37	M6 x 1	26	•	
HKA.050.CT010.085	10	85	24	32	42	M8 x 1	31	•	
HKA.050.CT012.090	12	90	24	32	47	M10 x 1	36	•	
HKA.050.CT016.095	16	95	27	34	50	M12 x 1	39	•	

HSK 063 (A+C form) - CT0 4,5° standard

CODICE-CODE	d1	L	D2	D3	L2	G	L5 minimum grip	Fori Refrigerazione Coolant Channels	APPLICATION
HKA.063.CT003.080	3	80	9	16,8		No RVR	9	--	
HKA.063.CT003.130	3	130	9	24,6		No RVR	9	--	
HKA.063.CT004.080	4	80	10	17,8		No RVR	12	--	
HKA.063.CT004.130	4	130	10	25,6		No RVR	12	--	
HKA.063.CT005.080	5	80	11	18,8		No RVR	15	--	
HKA.063.CT005.130	5	130	11	26,6		No RVR	15	--	
HKA.063.CT006.080	6	80	21	27	37	M5 x 0,8	22	•	
HKA.063.CT006.120	6	120	21	27	37	M5 x 0,8	22	•	
HKA.063.CT006.130	6	130	21	27	37	M5 x 0,8	22	•	
HKA.063.CT006.160	6	160	21	27	37	M5 x 0,8	22	•	
HKA.063.CT008.080	8	80	21	27	37	M6 x 1	26	•	
HKA.063.CT008.120	8	120	21	27	37	M6 x 1	26	•	
HKA.063.CT008.130	8	130	21	27	37	M6 x 1	26	•	
HKA.063.CT008.160	8	160	21	27	37	M6 x 1	26	•	
HKA.063.CT010.085	10	85	24	32	42	M8 x 1	31	•	
HKA.063.CT010.120	10	120	24	32	42	M8 x 1	31	•	
HKA.063.CT010.130	10	130	24	32	42	M8 x 1	31	•	
HKA.063.CT010.160	10	160	24	32	42	M8 x 1	31	•	
HKA.063.CT012.090	12	90	24	32	47	M10 x 1	36	•	
HKA.063.CT012.120	12	120	24	32	47	M10 x 1	36	•	
HKA.063.CT012.130	12	130	24	32	47	M10 x 1	36	•	
HKA.063.CT012.160	12	160	24	32	47	M10 x 1	36	•	
HKA.063.CT014.090	14	90	27	34	47	M10 x 1	36	•	
HKA.063.CT014.120	14	120	27	34	47	M10 x 1	36	•	
HKA.063.CT014.130	14	130	27	34	47	M10 x 1	36	•	
HKA.063.CT014.160	14	160	27	34	47	M10 x 1	36	•	
HKA.063.CT016.095	16	95	27	34	50	M12 x 1	39	•	
HKA.063.CT016.120	16	120	27	34	50	M12 x 1	39	•	
HKA.063.CT016.130	16	130	27	34	50	M12 x 1	39	•	
HKA.063.CT016.160	16	160	27	34	50	M12 x 1	39	•	
HKA.063.CT018.095	18	95	33	42	50	M12 x 1	39	•	
HKA.063.CT018.120	18	120	33	42	50	M12 x 1	39	•	
HKA.063.CT018.130	18	130	33	42	50	M12 x 1	39	•	
HKA.063.CT018.160	18	160	33	42	50	M12 x 1	39	•	
HKA.063.CT020.100	20	100	33	42	52	M16 x 1	41	•	
HKA.063.CT020.120	20	120	33	42	52	M16 x 1	41	•	
HKA.063.CT020.130	20	130	33	42	52	M16 x 1	41	•	
HKA.063.CT020.160	20	160	33	42	52	M16 x 1	41	•	
HKA.063.CT025.115	25	115	44	53	58	M16 x 1	47	•	
HKA.063.CT025.160	25	160	44	53	58	M16 x 1	47	•	
HKA.063.CT032.120	32	120	44	53	62	M16 x 1	51	•	

Mandrino per calettamento termico
Shrink fit chuck
Porte-outils de frettage
Schrumpfutter



HSK 100 (A+C form) - CTO 4,5° standard

CODICE-CODE	d1	L	D2	D3	L2	G	L5 minimum grip	Fori Refrigerazione Coolant Channels	APPLICATION
HKA.100.CT006.085	6	85	21	27	37	M5 x 0,8	22	•	
HKA.100.CT006.130	6	130	21	27	37	M5 x 0,8	22	•	
HKA.100.CT006.160	6	160	21	27	37	M5 x 0,8	22	•	
HKA.100.CT008.085	8	85	21	27	37	M6 x 1	26	•	
HKA.100.CT008.130	8	130	21	27	37	M6 x 1	26	•	
HKA.100.CT008.160	8	160	21	27	37	M6 x 1	26	•	
HKA.100.CT010.090	10	90	24	32	42	M8 x 1	31	•	
HKA.100.CT010.130	10	130	24	32	42	M8 x 1	31	•	
HKA.100.CT010.160	10	160	24	32	42	M8 x 1	31	•	
HKA.100.CT012.095	12	95	24	32	47	M10 x 1	36	•	
HKA.100.CT012.130	12	130	24	32	47	M10 x 1	36	•	
HKA.100.CT012.160	12	160	24	32	47	M10 x 1	36	•	
HKA.100.CT014.095	14	95	27	34	47	M10 x 1	36	•	
HKA.100.CT014.130	14	130	27	34	47	M10 x 1	36	•	
HKA.100.CT014.160	14	160	27	34	47	M10 x 1	36	•	
HKA.100.CT016.100	16	100	27	34	50	M12 x 1	39	•	
HKA.100.CT016.130	16	130	27	34	50	M12 x 1	39	•	
HKA.100.CT016.160	16	160	27	34	50	M12 x 1	39	•	
HKA.100.CT018.100	18	100	33	42	50	M12 x 1	39	•	
HKA.100.CT018.130	18	130	33	42	50	M12 x 1	39	•	
HKA.100.CT018.160	18	160	33	42	50	M12 x 1	39	•	
HKA.100.CT020.105	20	105	33	42	52	M16 x 1	41	•	
HKA.100.CT020.130	20	130	33	42	52	M16 x 1	41	•	
HKA.100.CT020.160	20	160	33	42	52	M16 x 1	41	•	
HKA.100.CT025.115	25	115	44	53	58	M16 x 1	47	•	
HKA.100.CT025.160	25	160	44	53	58	M16 x 1	47	•	
HKA.100.CT032.120	32	120	44	53	62	M16 x 1	51	•	
HKA.100.CT032.160	32	160	44	53	62	M16 x 1	51	•	

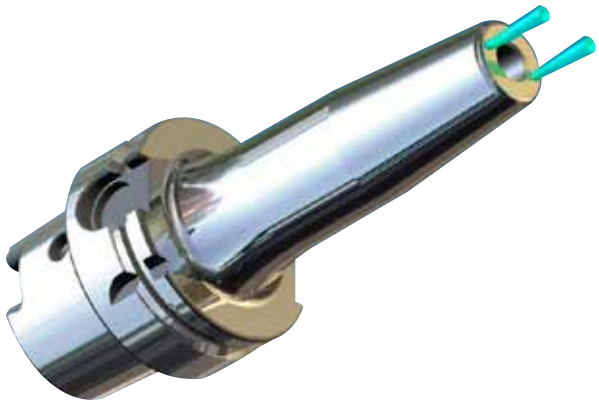
MICKROS

CNC TOOL HOLDERS

CTW Cooling Plus

GRIP PLUS SHRINK FIT TECHNOLOGY

Mandrino per calettamento termico con canali di lubrificazione
Shrink fit chuck with coolant bores
Porte-outils de frettage avec conduits d'arrosage
Schrumpfutter mit Kühlmittellbohrung



G 2,5 25.000 RPM or U<1 gmm | ≤3 µm | 4,5° | HSS h6 | HM h6 | HSC | HPC | CHIP

MANDRINI A CALETTAMENTO
Cooling Plus

- Chuck Body Fine Balanced
  G 2,5 - 25.000 Rpm - Or U< 1 gmm
- Run Out 3 micron
- Angolo di calettamento esterno 4,5° gradi
- Con grano di registrazione assiale
- Per utensili in HSS e in HM
- Tolleranza gambo utensile "h6"
- Fori di refrigerazione "STANDARD" richiudibili

SHRINK FIT CHUCKS
Cooling Plus

- *Chuck Body Fine Balanced*
  G 2,5 - 25.000 Rpm - Or U< 1 gmm
- *Run Out 3 micron*
- *4,5° slope at the top*
- *With back-up screw*
- *For carbide steel and HSS shanks*
- *For tools with shank tolerance h6*
- *With coolant channels*

Accessori | *Accessories*

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Ricambi | *Spare parts*

RVR CTW

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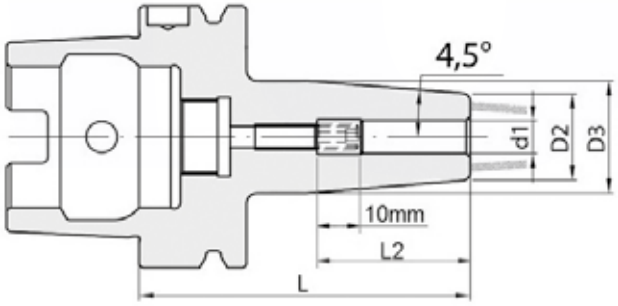

HSK 063 (A+C form) - CTW Cooling Plus

CODICE-CODE	d1	L	D2	D3	L2	G	L5 minimum grip	APPLICATION
HKA.063.CTW06.080	6	80	21	27	37	M5 x 0,8	22	
HKA.063.CTW06.130	6	130	21	27	37	M5 x 0,8	22	
HKA.063.CTW08.080	8	80	21	27	37	M6 x 1	26	
HKA.063.CTW08.130	8	130	21	27	37	M6 x 1	26	
HKA.063.CTW10.085	10	85	24	32	42	M8 x 1	31	
HKA.063.CTW10.130	10	130	24	32	42	M8 x 1	31	
HKA.063.CTW12.090	12	90	24	32	47	M10 x 1	36	
HKA.063.CTW12.130	12	130	24	32	47	M10 x 1	36	
HKA.063.CTW14.090	14	90	27	34	47	M10 x 1	36	
HKA.063.CTW14.130	14	130	27	34	47	M10 x 1	36	
HKA.063.CTW16.095	16	95	27	34	50	M12 x 1	39	
HKA.063.CTW16.130	16	130	27	34	50	M12 x 1	39	
HKA.063.CTW18.095	18	95	33	42	50	M12 x 1	39	
HKA.063.CTW18.130	18	130	33	42	50	M12 x 1	39	
HKA.063.CTW20.100	20	100	33	42	52	M16 x 1	41	
HKA.063.CTW20.130	20	130	33	42	52	M16 x 1	41	
HKA.063.CTW25.115	25	115	44	53	58	M16 x 1	47	
HKA.063.CTW32.120	32	120	44	53	62	M16 x 1	51	

CTP 4,5°

GRIP PLUS SHRINK FIT TECHNOLOGY

Mandrino per calettamento termico estensibile, adatto per prolunghe
Extensible shrink fit-chuck suitable for extensions
Porte outils de frettage prolongeable approprié pour rallonges
Verlägerbares schrumpfutter geeignet fur verlangerungs

G 2,5 25.000 RPM or U<1 gmm | ≤3 µm | 4,5° | EXTENSIBLE | ON REQUEST | HSS h6 | HM h6 | HSC | HPC | CHIP

MANDRINI A CALETTAMENTO
per prolunghe e riduzioni prolungate

- Consigliato per uso di prolunghe e riduzioni prolungate
- Chuck Body Fine Balanced
  G 2,5 - 25.000 Rpm - Or U< 1 gmm
- Run Out 3 micron
- Angolo di calettamento esterno 4,5° gradi
- (*) Estensibile - impostazione di lunghezza variabile
- Senza grano di registrazione assiale
- Raffreddamento con fori di refrigerazione “A RICHIESTA”
- Per utensili in HSS e in HM
- Tolleranza gambo utensile “h6”

EXTRA SHORT:
- Elevata rigidità
- Elevata forza di serraggio
- Ugualmente adatto alla produzione ad alta velocità e fresatura pesante
- Aumento della capacità di lavorazione
- Maggiore avanzamento e profondità di taglio più grande

SHRINK FIT CHUCKS
for extensions

- *Suitable to use with extensions and reduction*
- *Chuck Body Fine Balanced*
  G 2,5 - 25.000 Rpm - Or U< 1 gmm
- *Run Out 3 micron*
- *4,5° slope at the top*
- *(*) Extensible - Variable length setting*
- *Without back-up screw*
- *With coolant channels ON REQUEST*
- *For carbide steel and HSS shanks*
- *For tools with shank tolerance h6*

EXTRA SHORT:
- *High rigidity*
- *High clamping force*
- *Equally suited to high-speed manufacturing and heavy milling*
- *Increased machining capacity*
- *Higher feed and larger cutting depth*

Accessori | *Accessories*

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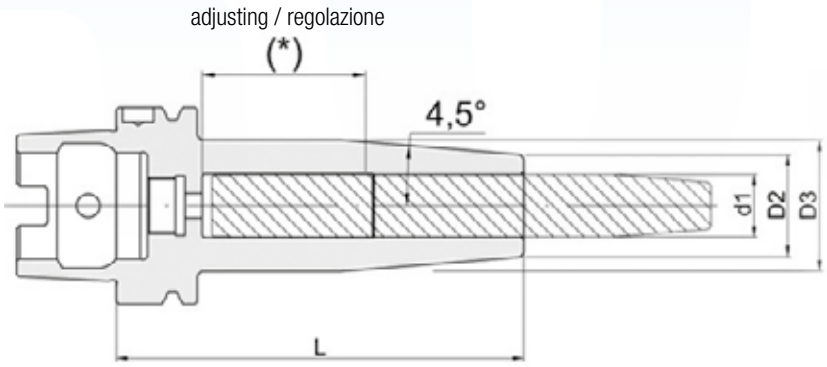
Ricambi | *Spare parts*



HSK 063 (A+C form) - CTP 4,5°

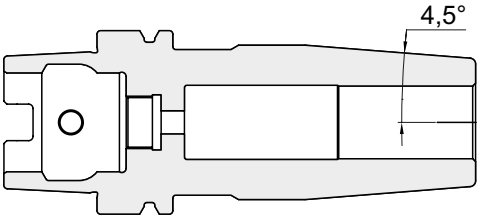
CODICE-CODE	d1	L	D2	D3		(*) Adjusting Regolazione	MinimumGrip	APPLICATION
HKA.063.CTP12.130	12	130	24	32		(*) 50	36	
HKA.063.CTP16.080	16	80	33	42		(*) 0	39	
HKA.063.CTP16.130	16	130	27	34		(*) 57	39	
HKA.063.CTP20.080	20	80	38	47		(*) 0	41	
HKA.063.CTP20.130	20	130	33	42		(*) 55	41	
HKA.063.CTP25.085	25	85	44	52		(*) 0	47	
HKA.063.CTP25.130	25	130	44	52		(*) 49	47	
HKA.063.CTP32.090	32	90	44	52		(*) 0	51	
HKA.063.CTP32.130	32	130	44	52		(*) 45	51	

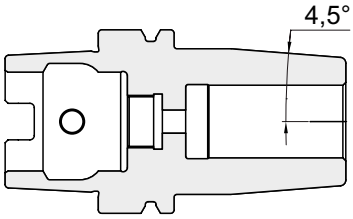
HSK 100 (A+C form) - CTP 4,5°

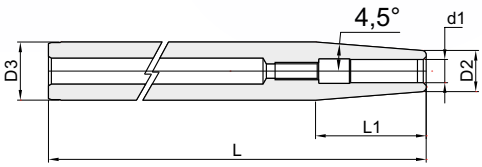
CODICE - CODE	d1	L	D2	D3		(*)	Minimum Grip	APPLICATION
HKA.100.CTP16.085	16	85	33	41		(*) 0	39	
HKA.100.CTP16.130	16	130	27	34		(*) 57	39	
HKA.100.CTP20.085	20	85	38	46		(*) 0	41	
HKA.100.CTP20.130	20	130	33	42		(*) 55	41	
HKA.100.CTP25.090	25	90	44	53		(*) 0	47	
HKA.100.CTP25.130	25	130	44	53		(*) 49	47	
HKA.100.CTP32.095	32	95	44	54		(*) 0	51	
HKA.100.CTP32.130	32	130	44	53		(*) 45	51	

Prolunghe
Extensions

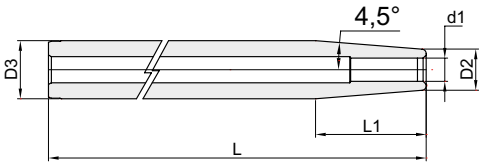
GRIP PLUS SHRINK FIT TECHNOLOGY



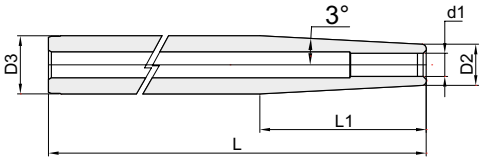




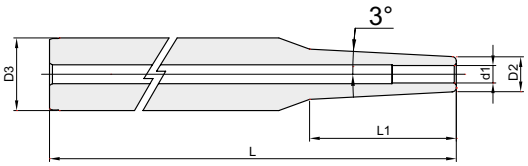
CIL CTO



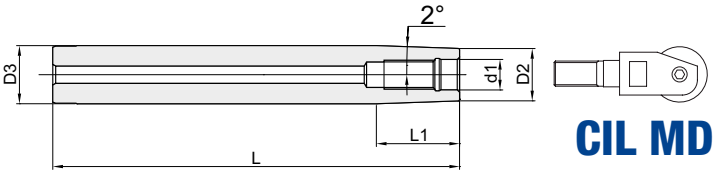
CIL CTP



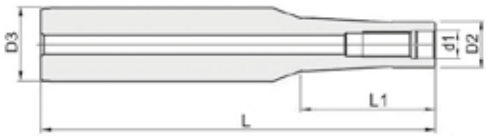
CIL CTF



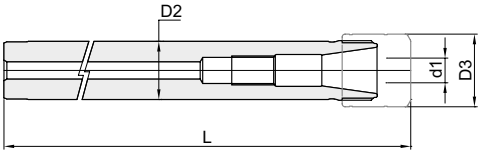
CIL CTR



CIL MD

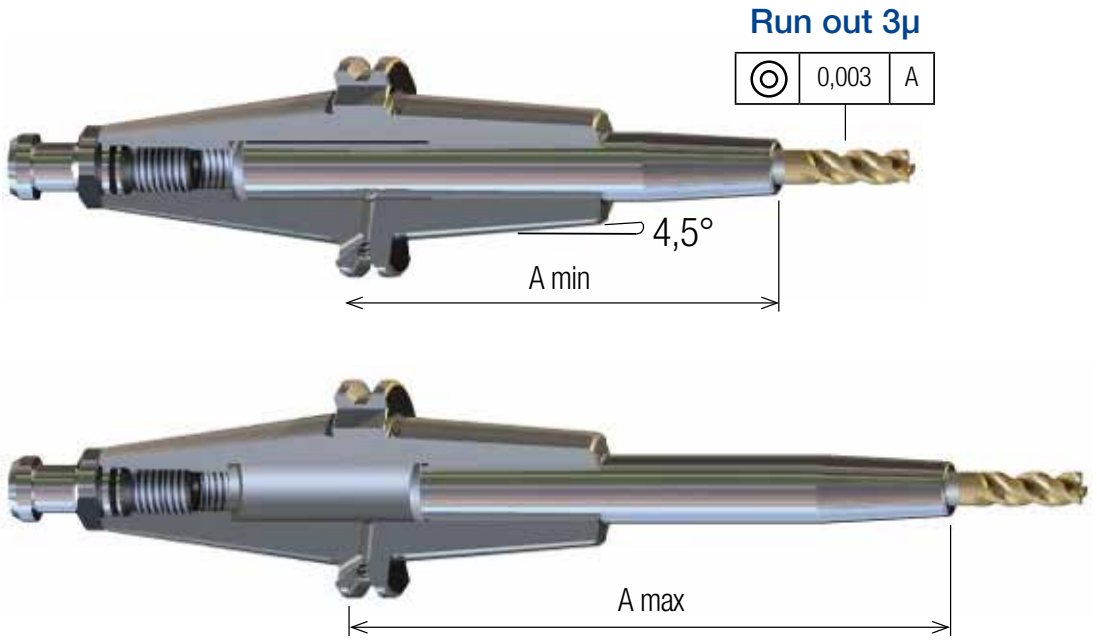


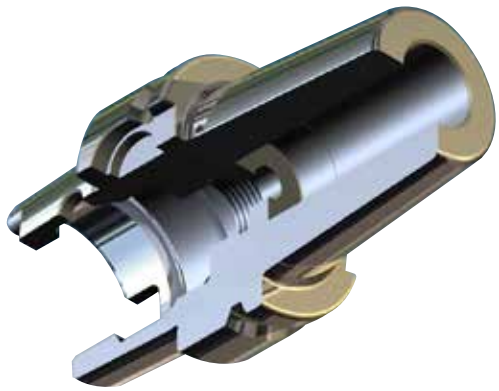
CIL MDR



CIL ERM

Esempio di applicazione
Application example

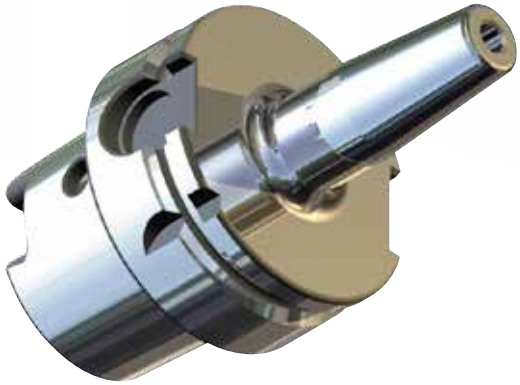




CTF slim - 4,5°

GRIP PLUS
SHRINK FIT TECHNOLOGY

Mandrino per calettamento termico di finitura
Finishing shrink fit chuck
Porte outils de frettage pour finissage
Schrumpfutter zum schlichten



MANDRINI A CALETTAMENTO
Slim - 4,5°

MANDRINO A CALETTAMENTO DI FINITURA
- Chuck Body Fine Balanced
  G 2,5 - 25.000 Rpm - Or U< 1 gmm
- Run Out 3 micron
- Con grano di registrazione assiale
- Angolo di calettamento esterno 4,5° gradi
- Solo per utensili in HM
- Tolleranza gambo utensile “h6”

SHRINK FIT CHUCKS
Slim - 4,5°

SHRINK FIT CHUCK FOR FINISHING
- *Chuck Body Fine Balanced*
  G 2,5 - 25.000 Rpm - Or U< 1 gmm
- *Run Out 3 micron*
- *With back-up screw*
- *4,5° slope at the top*
- *Only for carbide steel shanks*
- *For tools with shank tolerance h6*

Accessori | *Accessories*

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Ricambi | *Spare parts*

RVR CTW

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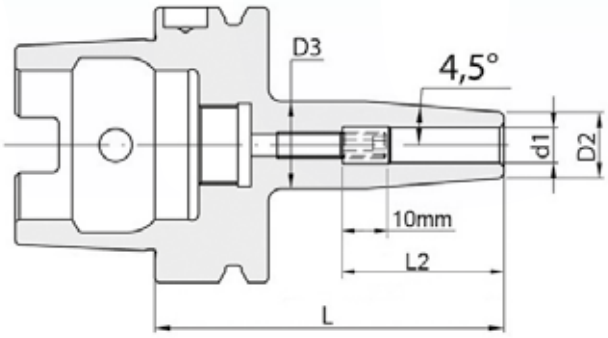


HSK 040 (A+C form) - CTF slim - 4,5°

CODICE-CODE	d1	L	D2	D3	L2	G	L5 minimum GRIP	APPLICATION
HKA.040.CTF06.130- 45	6	130	15	30	37	M5 x 0,8	22	
HKA.040.CTF08.130- 45	8	130	15	30	37	M6 x 1	26	
HKA.040.CTF10.130- 45	10	130	18	30	42	M8 x 1	31	
HKA.040.CTF12.130- 45	12	130	18	30	47	M10 x 1	36	

HSK 050 (A+C form) - CTF slim - 4,5°

CODICE-CODE	d1	L	D2	D3	L2	G	L5 minimum GRIP	APPLICATION
HKA.050.CTF06.080- 45	6	80	15	20	37	M5 x 0,8	22	
HKA.050.CTF08.080- 45	8	80	15	20	37	M6 x 1	26	
HKA.050.CTF10.085- 45	10	85	18	25	42	M8 x 1	31	

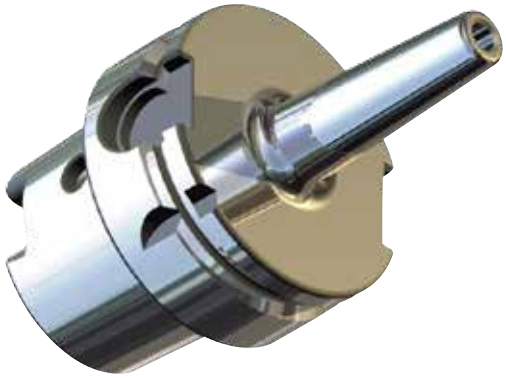
HSK 063 (A+C form) - CTF slim - 4,5°

CODICE-CODE	d1	L	D2	D3	L2	G	L5 minimum GRIP	APPLICATION
HKA.063.CTF06.080- 45	6	80	15	20	37	M5 x 0,8	22	
HKA.063.CTF06.130- 45	6	130	15	30,6	37	M5 x 0,8	22	
HKA.063.CTF08.080- 45	8	80	15	20	37	M6 x 1	26	
HKA.063.CTF08.130- 45	8	130	15	30,6	37	M6 x 1	26	
HKA.063.CTF10.085- 45	10	85	18	25	42	M8 x 1	31	
HKA.063.CTF10.130- 45	10	130	18	33,6	42	M8 x 1	31	
HKA.063.CTF12.090- 45	12	90	18	25	47	M10 x 1	36	
HKA.063.CTF12.130- 45	12	130	18	33,6	47	M10 x 1	36	

CTF slim - 3°

GRIP PLUS
SHRINK FIT TECHNOLOGY

Mandrino per calettamento termico. Ideale per la costruzione di STAMPI e cavità profonde
Shrink fit chuck. Suitable for the MOLD and for deep cavities
Porte outils de frettage. Idéal pour la construction de MOLD et des cavités profondes
Schrumpfutter fur tiefe Kavitaten geeignet, speziell fur den Gesenk, und Formenbau



G 2,5 25.000 RPM or U<1 gmm | ≤3 µm | 3° | 3° | HM h6 | HSC | CHIP

MANDRINI A CALETTAMENTO
Slim - 3°

- MANDRINO A CALETTAMENTO DI FINITURA
- Chuck Body Fine Balanced
  G 2,5 - 25.000 Rpm - Or U< 1 gmm
- Run Out 3 micron
- Angolo esterno inclinazione di 3° PER STAMPI
- Spessore Parete 3mm
- Senza grano di registrazione assiale
- Solo per utensili in HM
- Tolleranza gambo utensile “h6”

SHRINK FIT CHUCKS
Slim - 3°

- *SHRINK FIT CHUCK FOR FINISHING*
- *Chuck Body Fine Balanced*
  G 2,5 - 25.000 Rpm - Or U< 1 gmm
- *Run Out 3 micron*
- *3° slope at the top .Suitable for the MOLD*
- *3 mm. wall thickness*
- *Without back-up screw*
- *Only for carbide tools*
- *For tools with shank tolerance h6*

Accessori | *Accessories*

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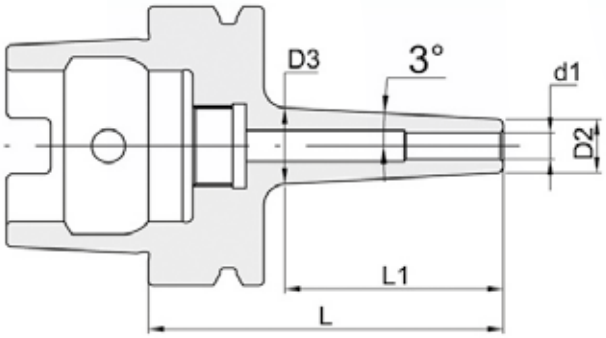
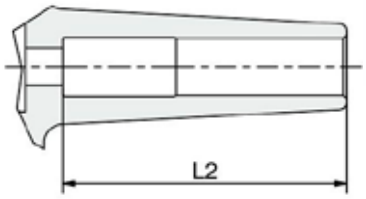
Ricambi | *Spare parts*

spessore parete 3 mm - 3 mm wall thickness



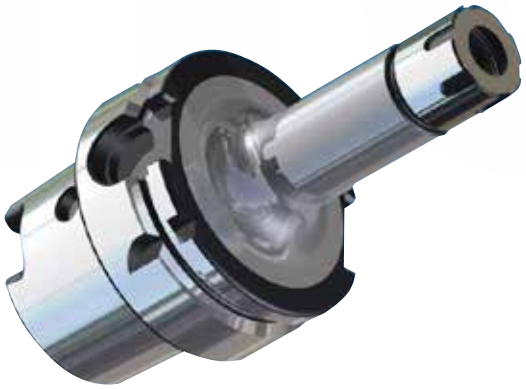


HSK 063 (A+C form) - CTF slim - 3°

CODICE-CODE	d1	L	D2	D3	L1	L2	L5 minimum GRIP	APPLICATION
HKA.063.CTF03.080- 30	3	80	9	14,2	50	-	9	
HKA.063.CTF03.130- 30	3	130	9	18,4	90	-	9	
HKA.063.CTF04.080- 30	4	80	10	15,2	50	-	12	
HKA.063.CTF04.130- 30	4	130	10	19,4	90	-	12	
HKA.063.CTF05.080- 30	5	80	11	16,2	50	-	15	
HKA.063.CTF05.130- 30	5	130	11	20,4	90	-	15	
HKA.063.CTF06.080- 30	6	80	12	17,2	50	-	22	
HKA.063.CTF06.120-30	6	120	12	21	86	-	22	
HKA.063.CTF06.130- 30	6	130	12	21,4	90	-	22	
HKA.063.CTF08.080- 30	8	80	14	19,2	50	-	26	
HKA.063.CTF08.120- 30	8	120	14	23	86	-	26	
HKA.063.CTF08.130- 30	8	130	14	23,4	90	-	26	
HKA.063.CTF10.085- 30	10	85	16	21,7	55	-	31	
HKA.063.CTF10.120- 30	10	120	16	25	86	-	31	
HKA.063.CTF10.130- 30	10	130	16	25,4	90	-	31	
HKA.063.CTF12.090- 30	12	90	18	24,2	60	60	36	
HKA.063.CTF12.120- 30	12	120	18	27	86	75	36	
HKA.063.CTF12.130- 30	12	130	18	27,4	90	75	36	

ERM - Mini DIN 6499

Portapinze di precisione ER - Mini DIN 6499
Precision collet chuck ER - Mini DIN 6499
Porte pinces de precision ER - Mini DIN 6499
Prazisions spannzangenfutter ER - Mini DIN 6499



G 2,5 25.000 RPM or U < 1 gmm | ≤3 µm | HSC | CHIP

PORTAPINZE ERM - Mini type
High Performance

- Chuck Body Fine Balanced
  G 2,5 - 25.000 Rpm - Or U< 1 gmm
- Run Out 3 micron
- Con grano di registrazione assiale
- Ghiera RGM tipo Mini

COLLET CHUCKS ERM - Mini type
High Performance

- *Chuck Body Fine Balanced*
  G 2,5 - 25.000 Rpm - Or U< 1 gmm
- *Run Out 3 micron*
- *With back-up screw*
- *Mini type nuts RGM*

Accessori | *Accessories*

ATR  p. 76

PER  p. 317

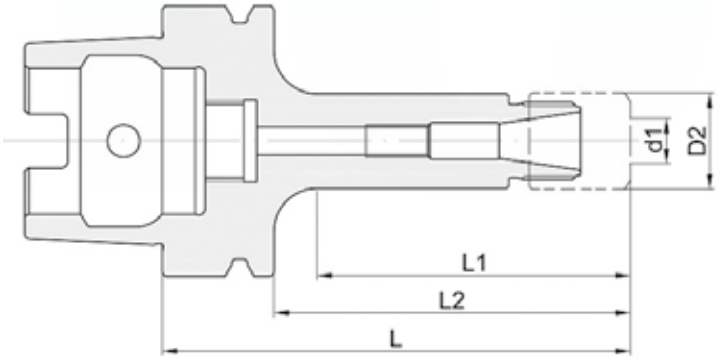
ACH GM  p. 344

ASC  p. 310

Ricambi | *Spare parts*

RGM  p. 338

RVR ER  p. 352

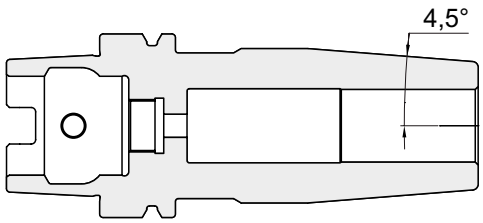


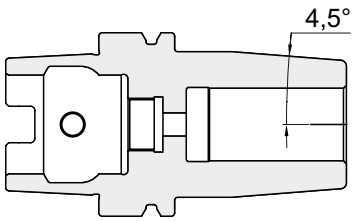
HSK 063 (A+C form) - ERM - Mini

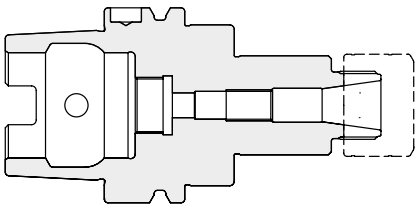
CODICE-CODE	d1	L	D2	L2	L1		Nuts/ghiere	APPLICATION
HKA.063.ERM11.100-G25	0,5-7	100	16	74	64		RGM-Mini	
HKA.063.ERM11.160-G25	0,5-7	160	16	134	124		RGM-Mini	
HKA.063.ERM16.100-G25	1-10	100	22	74	64		RGM-Mini	
HKA.063.ERM16.160-G25	1-10	160	22	134	124		RGM-Mini	
HKA.063.ERM20.110-G25	1-13	110	28	84	74		RGM-Mini	

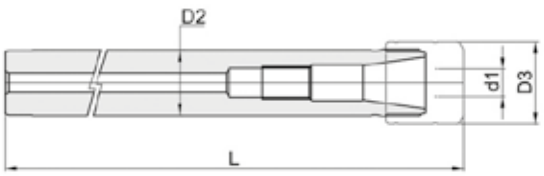
Prolunghe
Extensions

Prolunga portapinze DIN 6499 con ghiera Mini (acciaio speciale per calettamento)
Extensions DIN 6499 with mini nuts (**special steel** shrinking)
Rallonges DIN 6499 avec mini ecrous (en **acier special**)
Verlängerungen mit mini spannmutter DIN 6499 (**spezieller stahl**)









CIL.ERM

ER DIN 6499

Portapinze di precisione ER DIN 6499
Precision collet chuck ER DIN 6499
Porte pinces de precision ER DIN 6499
Prazisions spannzangenfutter ER DIN 6499

ER0 Standard

ERH H/P High Performance DIN 6499

ER0: G 6,3 18000 RPM | ≤3 µm | CHIP

ERH: G 2,5 25.000 RPM or U < 1 gmm | ≤3 µm | HSC | CHIP

ER0
MANDRINO PORTAPINZE
ER TYPE STANDARD

- Chuck Body Pre-Balanced
  G 6,3 - 18.000 Rpm
- Run Out 3 micron
- Con grano di registrazione assiale
- (1) Senza grano di registrazione assiale

COLLET CHUCKS
ER TYPE STANDARD

- *Chuck Body Pre- Balanced*
  G 6,3 - 18.000 Rpm
- *Run Out 3 micron*
- *With back-up screw*
- *(1) Without back-up screw*

ERH
MANDRINO PORTAPINZE
ER TYPE H/P HIGH PERFORMANCE

- Chuck Body Fine-Balanced
  G 2,5 25.000 Rpm - Or U< 1 gmm
- Run Out 3 micron
- Con grano di registrazione assiale
- (1) Senza grano di registrazione assiale

PRECISION COLLET CHUCKS
ER TYPE H/P HIGH PERFORMANCE

- *Chuck Body Fine Balanced*
  G 2,5 25.000 Rpm - Or U< 1 gmm
- *Run Out 3 micron*
- *With back-up screw*
- *(1) Without back-up screw*

Accessori | *Accessories*


ATR
p. 76


PER
p. 317


ACH GS
p. 344


ACH GX
p. 344

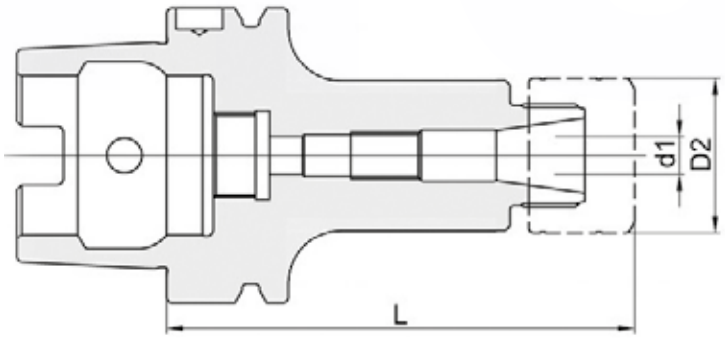

ASC
p. 310

Ricambi | *Spare parts*


RGX
p. 339


RGE
p. 341


RVR ER
p. 352



HSK 032 (A+C form) - ERH

CODICE-CODE	d1	L	D2	Nuts/ghiere	on-request Nuts		APPLICATION
HKA.032.ERH16.080	0,5-10	80	32	RGE	RGX.ER16 D2=28		

HSK 040 (A+C form) - ERH

CODICE-CODE	d1	L	D2	Nuts/ghiere	on-request Nuts		APPLICATION
HKA.040.ERH16.080	0,5-10	80	32	RGE	RGX.ER16 D2=28		
HKA.040.ERH25.080	1,5-16	80	42	RGE		(1) No RVR	

HSK 050 (A+C form) - ERH

CODICE-CODE	d1	L	D2	Nuts/ghiere	on-request Nuts		APPLICATION
HKA.050.ERH16.100	0,5-10	100	32	RGE	RGX.ER16 D2=28		
HKA.050.ERH25.080	1,5-16	80	42	RGE		(1) No RVR	
HKA.050.ERH32.070	2,5-20	70	50	RGE		(1) No RVR	

HSK 063 (A+C form) ER0 - ERH

CODICE-CODE		d1	L	D2	Nuts/ghiere	on-request Nuts		APPLICATION
ER0	ERH							
	HKA.063.ERH11.100	0,5-7	100	22	RGX			
HKA.063.ER016.075	HKA.063.ERH16.075	0,5-10	75	32	RGS-RGE	RGX.ER16 D2=28	(1) No RVR	
HKA.063.ER016.100	HKA.063.ERH16.100	0.5-10	100	32	RGS-RGE	RGX.ER16 D2=28		
HKA.063.ER016.130	HKA.063.ERH16.130	0.5-10	130	32	RGS-RGE	RGX.ER16 D2=28		
	HKA.063.ERH16.160	0.5-10	160	32	RGS-RGE	RGX.ER16 D2=28		
	HKA.063.ERH16.200	0.5-10	200	32	RGS-RGE	RGX.ER16 D2=28		
HKA.063.ER020.100	HKA.063.ERH20.100	1-13	100	35	RGS-RGE			
	HKA.063.ERH20.160	1-13	160	35	RGS-RGE			
HKA.063.ER025.075	HKA.063.ERH25.075	1,5-16	75	42	RGS-RGE		(1) No RVR	
HKA.063.ER025.100	HKA.063.ERH25.100	1.5-16	100	42	RGS-RGE			
HKA.063.ER025.130	HKA.063.ERH25.130	1.5-16	130	42	RGS-RGE			
	HKA.063.ERH25.160	1,5-16	160	42	RGS-RGE			
	HKA.063.ERH25.200	1.5-16	200	42	RGS-RGE			
HKA.063.ER032.075	HKA.063.ERH32.075	2,5-20	75	50	RGS-RGE		(1) No RVR	
HKA.063.ER032.100	HKA.063.ERH32.100	2.5-20	100	50	RGS-RGE			
HKA.063.ER032.130	HKA.063.ERH32.130	2.5-20	130	50	RGS-RGE			
	HKA.063.ERH32.160	2,5-20	160	50	RGS-RGE			
	HKA.063.ERH32.200	2.5-20	200	50	RGS-RGE			
HKA.063.ER040.080	HKA.063.ERH40.080	3-26	80	63	RGS-RGE		(1) No RVR	

HSK 100 (A+C form) - ERH

CODICE-CODE	d1	L	D2	Nuts/ghiere	on-request Nuts		APPLICATION
HKA.100.ERH16.120	0,5-10	120	32	RGE	RGX.ER16 D2=28		
HKA.100.ERH16.160	0.5-10	160	32	RGE	RGX.ER16 D2=28		
HKA.100.ERH16.200	0.5-10	200	32	RGE	RGX.ER16 D2=28		
HKA.100.ERH25.120	1.5-16	120	42	RGE			
HKA.100.ERH25.160	1.5-16	160	42	RGE			
HKA.100.ERH25.200	1.5-16	200	42	RGE			
HKA.100.ERH32.100	2.5-20	100	50	RGE			
HKA.100.ERH32.120	2.5-20	120	50	RGE			
HKA.100.ERH32.160	2.5-20	160	50	RGE			
HKA.100.ERH32.200	2.5-20	200	50	RGE			
HKA.100.ERH40.120	3-26	120	63	RGE			
HKA.100.ERH40.160	3-26	160	63	RGE			

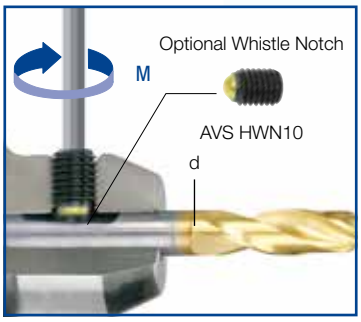
PU

DIN 6595 / 6535 HE

Mandrino portapunte - Foratura MICKROS plus con utensili con gambo di diametro ≥ 14 mm

Adapter for drilling tools - MICKROS plus punching with diameter stem tools ≥ 14 mm

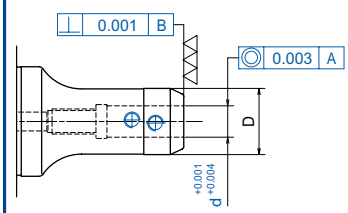
Particolare attenzione ha prestato la MICKROS plus a questa operazione, progettando e realizzando il prodotto "PU" che presenta i seguenti vantaggi rispetto ai tradizionali portautensili con attacco Whistle Notch (DIN 1835-E):



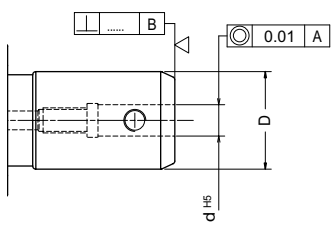
- Minore ingombro come illustrato in tabella
- Maggiore precisione di concentricità
- Maggiore precisione di coassialità
- Minore peso e maggiore bilanciabilità
- Maggiore resistenza alla torsione grazie alla posizione disassata dei grani di serraggio utensile.
- Possibilità di utilizzo di punte ad inserto con gambo diam. 40 anche su attacchi HSK 63
- Maggiore rigidità soprattutto nell'utilizzo di punte ad inserto con battuta
- Possibilità di utilizzare utensili di precisione con battuta (ottima applicazione con utensili speciali)
- Possibilità di usare grano con semisfera basculante **AVS HWN** 10 dal diam. 14 ÷ 25 per attacchi Whistle Notch.

d	Ø D - DIN 1835-E Whistle Notch	Ø D - MICKROS plus PU
14	48	36
16	48	38
18	52	40
20	52	42
25	63	48
32	71	58
40	-	64

PU - MICKROS plus



Whistle Notch - DIN 1835 E



MICKROS plus lent particular attention to this operation, designing and building the product "PU" that offers the following advantages in respect to the traditional toolbox with Whistle Notch fastening (DIN 1835-E):

- Fewer obstacles as shown in table
- Greater concentricity precision
- Greater axial precision
- Less weight and better balance
- Greater resistance to torsion thanks to offset position of tool tightening grains
- Possible to use insertion tips with stem diameter 40 also on HSK 63
- Greater rigidity above all in the use of tips to insert with abutting end
- Possible to use precision tools with abutting end (excellent application with special tools).

MICKROS plus a prêté une attention particulière à cette opération en concevant et en réalisant le produit "PU" qui présente les avantages suivants par rapport aux porte-outils traditionnels avec attache Whistle Notch (DIN 1835-E):

- Encombrement mineur comme illustré dans le tableau
- Plus grande précision de concentricité
- Plus grande précision de coaxialité
- Poids plus petit et plus grand équilibrage
- Plus grande résistance à la torsion grâce à la position désaxée des grains de serrage de l'outil
- Possibilité d'utilisation de forets à insertion avec tige de diamètre 40 même sur attaches HSK 63
- Plus grande rigidité surtout dans l'utilisation de forets à insertion avec butée
- Possibilité d'utiliser des outils de précision avec butée (application optimale avec des outils spéciaux)
- Possibility to use screw with horizontally pivoted halfsphere AVS HWN 10 from Ø 14 to Ø 25 for Whistle Notch type.

MICKROS plus hat besondere Aufmerksamkeit auf diese Bearbeitungsform verwendet und das Produkt "PU" entwickelt und realisiert, das im Vergleich zu den traditionellen Werkzeugträgern mit Aufnahme Whistle Notch (DIN 1835-E) folgende Vorteile aufweist:

- Geringere Abmessungen wie in der Tabelle dargestellt
- Größere Genauigkeit der Konzentrizität
- Größere Präzision der Koaxialität
- Geringeres Gewicht und größere Auswuchtfähigkeit
- Größere Torsionsbeständigkeit dank der außerachsigen Position der Werkzeugspannstifte
- Möglichkeit zur Nutzung von Spitzeneinsätzen mit Schaftdurchmesser 40 auch an Aufnahmen HSK 63
- Größere Festigkeit vor allem bei Verwendung von Spitzeneinsätzen mit Anschlag
- Möglichkeit zur Verwendung von Präzisionswerkzeugen mit Anschlag (optimale Anwendung mit Spezialwerkzeugen).

PU DIN 6595 / 6535 HE

Mandrino portapunte
Adapter for drilling tools
Porte-foret
Aufnahme für Vollbohrer

G 6,3 15.000 RPM | ≤3 µm | HPC | CHIP

MANDRINO PORTAPUNTE

- Run Out 3 micron
- Grano di registrazione assiale

- Minore ingombro come illustrato in tabella D2
- Maggiore precisione di coassialità (d1 +0/+0,005)
- Minore peso e maggiore bilanciabilità
- Maggiore resistenza alla torsione grazie alla posizione disassata dei grani di serraggio utensile
- Possibilità di utilizzo di punte ad inserto gambo diam. 40
- Maggiore rigidità con utensili con battuta

OPTIONAL:
- Possibilità di usare grano con semisfera basculante
- AVS HWN10 per diam. 14 ÷ 25
- per attacchi Whistle Notch DIN 6595 / 6535 HE

ADAPTER FOR DRILLING TOOLS

- *Run Out 3 micron*
- *With set-up screw*

- *Fewer obstacles as shown in table D2*
- *Greater axial precision (d1 +0/+0,005)*
- *Less weight and better balance*
- *Greater resistance to torsion thanks to offset position of tool tightening screws*
- *Possible to use insertion tips with tool shank diameter 40*
- *Greater rigidity above all tools with abutting end*

OPTIONAL:
- *Possibility to use screw with horizontally pivoted half-sphere*
- *AVS HWN10 for diam. 14 ÷ 25*
- *For Whistle Notch type DIN 6595 / 6535 HE*

Accessori | *Accessories*

ATR  p. 76

ABR  p. 349

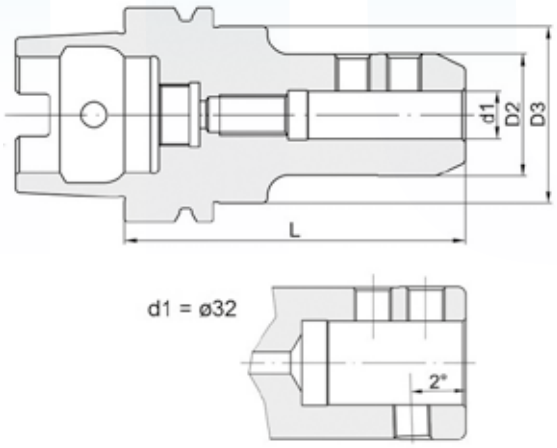
AVS  p. 351

ASC  p. 310

Ricambi | *Spare parts*

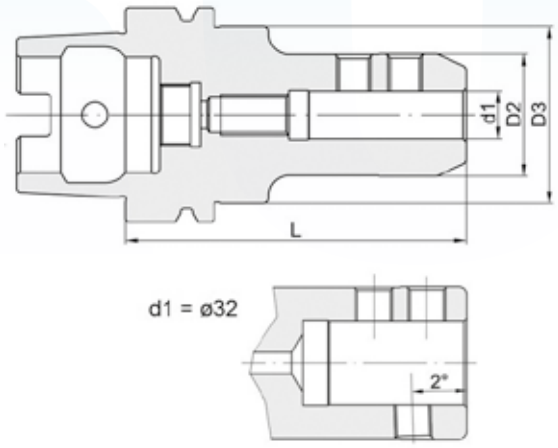
RVU 5923  p. 353

RVR WN  p. 353



HSK 063 (A+C form) - PU

CODICE-CODE	d1	L	D2	D3				APPLICATION
HKA.063.PU014.100	14	100	36	52				DIN 6595DIN 6535 HE
HKA.063.PU014.140	14	140	36	52				DIN 6595DIN 6535 HE
HKA.063.PU016.100	16	100	38	52				DIN 6595DIN 6535 HE
HKA.063.PU016.140	16	140	38	52				DIN 6595DIN 6535 HE
HKA.063.PU018.100	18	100	40	52				DIN 6595DIN 6535 HE
HKA.063.PU018.140	18	140	40	52				DIN 6595DIN 6535 HE
HKA.063.PU020.100	20	100	42	52				DIN 6595DIN 6535 HE
HKA.063.PU020.140	20	140	42	52				DIN 6595DIN 6535 HE
HKA.063.PU025.090	25	90	48			No RVR		DIN 6595DIN 6535 HE
HKA.063.PU025.130	25	130	48					DIN 6595DIN 6535 HE
HKA.063.PU032.090	32	90	58			No RVR		DIN 6595DIN 6535 HE
HKA.063.PU032.130	32	130	58			No RVR		DIN 6595DIN 6535 HE
HKA.063.PU040.100	40	100	63			No RVR		DIN 6595



HSK 100 (A+C form) - PU

CODICE-CODE	d1	L	D2	D3				APPLICATION
HKA.100.PU014.140	14	140	36	84.5				DIN 6595DIN 6535 HE
HKA.100.PU014.200	14	200	36	84.5				DIN 6595DIN 6535 HE
HKA.100.PU016.140	16	140	38	84.5				DIN 6595DIN 6535 HE
HKA.100.PU016.200	16	200	38	84.5				DIN 6595DIN 6535 HE
HKA.100.PU018.140	18	140	40	84.5				DIN 6595DIN 6535 HE
HKA.100.PU018.200	18	200	40	84.5				DIN 6595DIN 6535 HE
HKA.100.PU020.140	20	140	42	84.5				DIN 6595DIN 6535 HE
HKA.100.PU020.200	20	200	42	84.5				DIN 6595DIN 6535 HE
HKA.100.PU025.130	25	130	48	84.5				DIN 6595DIN 6535 HE
HKA.100.PU025.160	25	160	48	84.5				DIN 6595DIN 6535 HE
HKA.100.PU025.200	25	200	48	84.5				DIN 6595DIN 6535 HE
HKA.100.PU032.130	32	130	58	84.5		No RVR		DIN 6595DIN 6535 HE
HKA.100.PU032.160	32	160	58	84.5		No RVR		DIN 6595DIN 6535 HE
HKA.100.PU040.130	40	130	68	84.5		No RVR		DIN 6595
HKA.100.PU040.160	40	160	68	84.5		No RVR		DIN 6595
HKA.100.PU050.130	50	130	76	84.5		No RVR		DIN 6595

WEH-WEW

DIN 6535 HB / 6535 HE

Mandrini per attacchi Weldon e Whistle Notch - Foratura MICKROS plus con utensili con gambo di diametro ≤ 12 mm

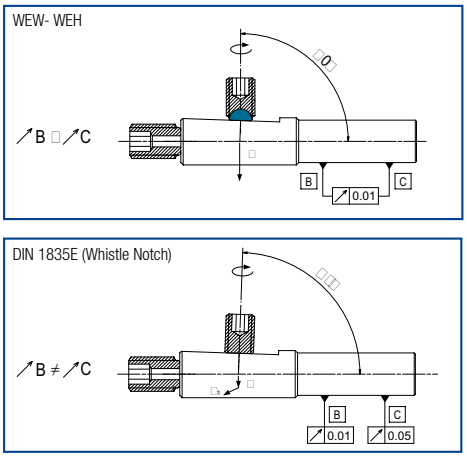
Weldon and Whistle Notch toolholders - MICKROS plus punching with diameter stem tools ≤ 12 mm

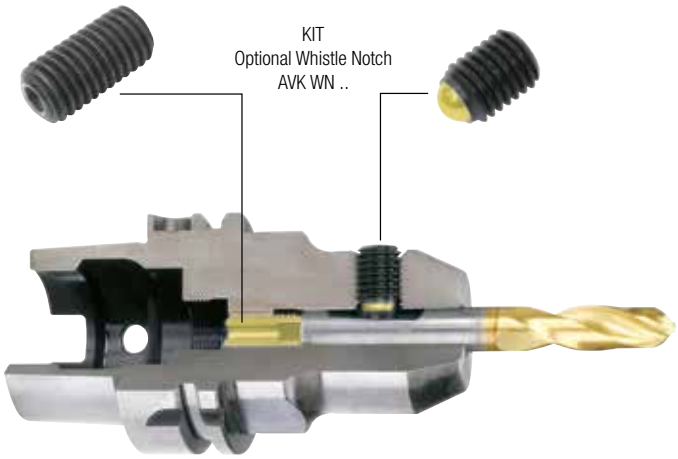
Tutti i mandrini WEW - WEH Mickros Plus dal diam. 6 al diam. 12 possono montare sia frese con gambo Weldon (DIN 1835-B) che punte con gambo Whistle Notch (DIN 1835-E) grazie al Kit optional "AVK WN…" composto da:
- Vite speciale con sfera oscillante per il serraggio di utensili con piano inclinato 2° "AVSH WN…"
- Grano di battuta per la regolazione assiale dell'utensile "RVR…".

Vantaggi:
- Maggiore flessibilità: forare e fresare con un unico mandrino.
- Riduzione dei costi: nella maggioranza dei casi può sostituire i sistemi di serraggio idraulici.
- Maggiore precisione in foratura; la vite di serraggio con sfera spianata basculante blocca l'utensile agendo come un cuscinetto ed elimina l'attrito tra i piani (cosa che normalmente avviene con i sistemi DIN 1835E Whistle Notch a vite inclinata 2°) evitando la perdita di precisione in coassialità dovuta ad errori angolari (F; F1).

All of the spindles WEW - WEH Mickros Plus diameter from 6 to 12 can mount both cutters with Weldon stem (DIN 1835-B) and tips with Whistle Notch stem (DIN 1835-E) thanks to the Kit optional "AVK WN". Made up of:
- Special screw with oscillating sphere for the tightening of tools with inclined layout 2" "AVSH WN".
- Sprig striking beat for axial regulation of the "RVR" tool

Advantages:
- Greater flexibility: punch and mill with a single spindle.
- Lower costs: in most cases it can replace hydraulic tightening systems.
- Greater punching precision; the tightening screws with self-stabilizing levelled sphere blocks the tool while acting as a bearing and eliminating friction between the levels (which normally happens with DIN 1835 Whistle Notch systems with 2" inclined screw) and avoiding the loss of axial precision due to angular errors (F; F1).





Toutes les broches WEW - WEH Mickros Plus de diam. 6 au diam. 12 peuvent porter des fraises avec tige Weldon (DIN 1835-B) ainsi que des forets avec tige Whistle Notch (DIN 1835-E) grâce au jeu "AVK WN…" em option composé de:
- Vis spéciale avec bille oscillante pour le serrage des outils avec plan incliné 2° «AVSH WN…»
- Grain de butée pour la régulation axiale de l'outil "RVR…".

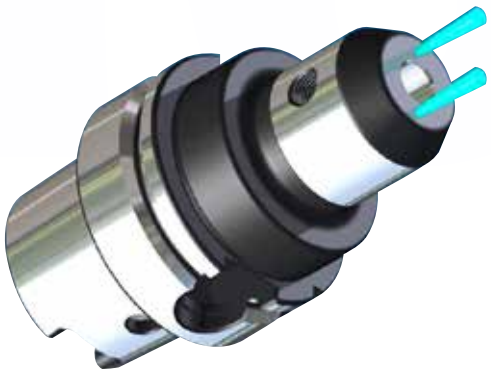
Avantages:
- Plus grande flexibilité: percer et fraiser avec une unique broche.
- Réduction des coûts: dans la plupart des cas, elle peut remplacer les systèmes de serrages hydrauliques.
- Plus grande précision dans le perçage, la vis de serrage avec bille plate oscillante bloque l'outil en agissant comme un coussinet et élimine le frottement entre les plans (chose qui arrive normalement avec les systèmes DIN 1835E Whistle Notch à vis inclinée 2°) en évitant la perte de précision en coaxialité due à des erreurs angulaires (F; F1).

Bei allen Werkzeugafnahmen WEW - WEH Mickros Plus von Durchmesser 6 bis Durchmesser 12 können sowohl Werkzeuge mit Schaft Weldon (DIN 1835-B) als auch Werkzeuge mit Schaft Whistle Notch (DIN 1835-E) montiert werden. Dazu ist optional das Kit "AVK WN…" erhältlich, das aus folgenden Elementen besteht:
- Spezialschraube mit Schwingkugel für das Einspannen von Werkzeugen mit 2° geneigter Ebene "AVSH WN…"
- Anschlagstift für die Axialregelung des Werkzeugs "RVR…".

Vorteile:
- Größere Flexibilität: Bohren und Fräsen mit einer einzigen Werkzeugafnahme.
- Reduzierung der Kosten: Kann in den meisten Fällen die hydraulischen Einspannsysteme ersetzen.
- Größere Bohrpräzision: Die Spannschraube mit abgeflachter Schwingkugel blockiert das Werkzeug, indem es wie ein Lager wirkt, und vermeidet Reibung zwischen den Ebenen (die normalerweise mit den Systemen DIN 1835E Whistle Notch mit 2° geneigter Schraube eintritt), so dass ein Verlust der Koaxialitätspräzision durch Winkelfehler vermieden wird (F; F1).

WEH-WEW Cooling Plus

Mandrini per attacchi Weldon - WN (WEW con canali di lubrificazione)
Weldon - WN toolholders (WEW with coolant bores)
Porte outils Weldon - WN (WEW avec conduits d'arrosage)
Weldon - WN (WEW aufnahme mit kühlmittellbohrung)



G 6,3 15.000 RPM | ≤3 µm | HPC | CHIP

MANDRINI per attacchi Weldon-Whistle Notch WEW - Cooling Plus

- Run Out 3 micron
- Fori di refrigerazione "STANDARD" richiudibili

- Tutti i mandrini WEH - WEW Mickros Plus dal diam. 6 al diam. 12 possono montare:
- frese con gambo Weldon (DIN 6535 HB)
- punte con gambo Whistle Notch (DIN 6535 HE)

OPTIONAL:
- Cod. AVK WN (Ø d1 = 6 - 12) Whistle Notch DIN 6535 HB / 6535 HE
- Vite speciale con sfera oscillante per il serraggio di utensili con piano inclinato 2° "AVSH WN..."
- Grano per la regolazione assiale dell'utensile "RVR...".

TOOL HOLDERS Weldon-Whistle Notch WEW - Cooling Plus

- *Run Out 3 micron*
- *With coolant channels "STANDARD"*

- *All of the spindles WEH - WEW Mickros Plus diameter from 6 to 12 can mount:*
- *both cutters with Weldon stem (DIN 6535 HB)*
- *and tips with Whistle Notch stem (DIN 6535 HE)*

OPTIONAL:
- *Cod. AVK WN (Ø d1 = 6 - 12) Whistle Notch DIN 6535 HB / 6535 HE*
- *Special screw with oscillating sphere for the tightening of tools with inclined layout 2" "AVSH WN".*
- *With back-up screw"RVR"*

Accessori | *Accessories*

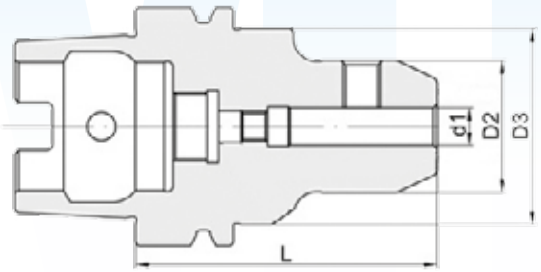
ATR  p. 76

ASC  p. 310

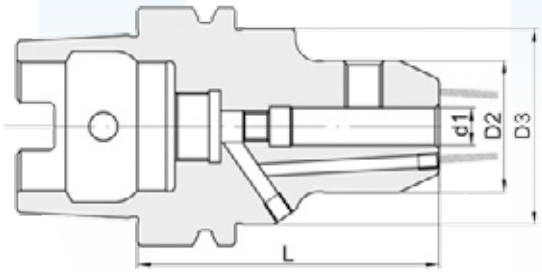
AVK WN  p. 350

Ricambi | *Spare parts*

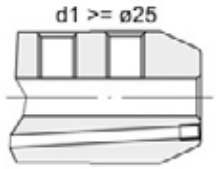
RVD 1835  p. 353



WEH



WEW



HSK 063 (A+C form) - WEH-WEW Cooling Plus

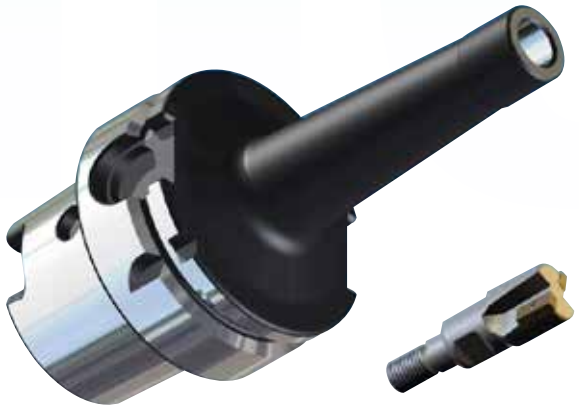
CODICE-CODE		d1	L	D2	D3			APPLICATION
WEH	WEW							
HKA.063.WEH06.075	HKA.063.WEW06.075	6	75	25	52			DIN 6535 HBDIN 6535 HE
HKA.063.WEH06.140	HKA.063.WEW06.140	6	140	25	52			DIN 6535 HBDIN 6535 HE
HKA.063.WEH08.075	HKA.063.WEW08.075	8	75	28	52			DIN 6535 HBDIN 6535 HE
HKA.063.WEH08.140	HKA.063.WEW08.140	8	140	28	52			DIN 6535 HBDIN 6535 HE
HKA.063.WEH10.080	HKA.063.WEW10.080	10	80	35	52			DIN 6535 HBDIN 6535 HE
HKA.063.WEH10.140	HKA.063.WEW10.140	10	140	35	52			DIN 6535 HBDIN 6535 HE
HKA.063.WEH12.084	HKA.063.WEW12.084	12	84	42	52			DIN 6535 HBDIN 6535 HE
HKA.063.WEH12.140	HKA.063.WEW12.140	12	140	42	52			DIN 6535 HBDIN 6535 HE
HKA.063.WEH14.084	HKA.063.WEW14.084	14	84	44	52			DIN 6535 HB
HKA.063.WEH16.084	HKA.063.WEW16.084	16	84	48				DIN 6535 HB
HKA.063.WEH16.140	HKA.063.WEW16.140	16	140	48	52			DIN 6535 HB
HKA.063.WEH18.084	HKA.063.WEW18.084	18	84	50				DIN 6535 HB
HKA.063.WEH20.084	HKA.063.WEW20.084	20	84	52				DIN 6535 HB
HKA.063.WEH20.140	HKA.063.WEW20.140	20	140	52	52			DIN 6535 HB
HKA.063.WEH25.104	HKA.063.WEW25.104	25	104	63				DIN 6535 HB
HKA.063.WEH32.110	HKA.063.WEW32.110	32	110	72				DIN 6535 HB

HSK 100 (A+C form) - WEW Cooling Plus

CODICE-CODE	d1	L	D2	D3				APPLICATION
HKA.100.WEW06.080	6	80	25	84.5				DIN 6535 HBDIN 6535 HE
HKA.100.WEW06.140	6	140	25	84.5				DIN 6535 HBDIN 6535 HE
HKA.100.WEW06.200	6	200	25	84.5				DIN 6535 HBDIN 6535 HE
HKA.100.WEW08.080	8	80	28	84.5				DIN 6535 HBDIN 6535 HE
HKA.100.WEW08.140	8	140	28	84.5				DIN 6535 HBDIN 6535 HE
HKA.100.WEW08.200	8	200	28	84.5				DIN 6535 HBDIN 6535 HE
HKA.100.WEW10.085	10	85	35	84.5				DIN 6535 HBDIN 6535 HE
HKA.100.WEW10.140	10	140	35	84.5				DIN 6535 HBDIN 6535 HE
HKA.100.WEW10.200	10	200	35	84.5				DIN 6535 HBDIN 6535 HE
HKA.100.WEW12.085	12	85	42	84.5				DIN 6535 HBDIN 6535 HE
HKA.100.WEW12.140	12	140	42	84.5				DIN 6535 HBDIN 6535 HE
HKA.100.WEW12.200	12	200	42	84.5				DIN 6535 HBDIN 6535 HE
HKA.100.WEW14.085	14	85	44	84.5				DIN 6535 HB
HKA.100.WEW16.100	16	100	48	84.5				DIN 6535 HB
HKA.100.WEW16.140	16	140	48	84.5				DIN 6535 HB
HKA.100.WEW16.200	16	200	48	84.5				DIN 6535 HB
HKA.100.WEW18.100	18	100	50	84.5				DIN 6535 HB
HKA.100.WEW20.100	20	100	52	84.5				DIN 6535 HB
HKA.100.WEW20.140	20	140	52	84.5				DIN 6535 HB
HKA.100.WEW20.200	20	200	52	84.5				DIN 6535 HB
HKA.100.WEW25.110	25	110	65	84,5				DIN 6535 HB
HKA.100.WEW25.160	25	160	65	84,5				DIN 6535 HB
HKA.100.WEW25.200	25	200	65	84,5				DIN 6535 HB
HKA.100.WEW32.110	32	110	72	84,5				DIN 6535 HB
HKA.100.WEW32.160	32	160	72	84,5				DIN 6535 HB
HKA.100.WEW32.200	32	200	72	84,5				DIN 6535 HB
HKA.100.WEW40.120	40	120	84					DIN 6535 HB
HKA.100.WEW40.160	40	160	84					DIN 6535 HB
HKA.100.WEW40.200	40	200	84					DIN 6535 HB

MD0

Portafrese con filetto interno, per frese con attacco filettato
Cutter-Holder with modular threaded connection
Mandrin Porte-Fraise avec attachement modulaire filetè
Fraseraufnahme mit modular-gewinde aufnahme



G 2,5 25.000 RPM or U<1 gmm | ≤3 µm | 3° | HSC | CHIP

PORTAFRESE rigido per frese con attacco filettato

- Design ottimizzato, con metodo di costruzione migliorato, combina elevata rigidità con attenuazione delle vibrazioni.
- Chuck Body Fine Balanced G 2,5 - 25.000 Rpm - Or U< 1 gmm
- Run Out 3 micron
- Angolo profilo esterno < 3 gradi

Rigid CUTTER-HOLDERS with modular threaded connection

- *The optimized design with better construction combines high rigidity with vibration dampening features.*
- *Chuck Body Fine Balanced G 2,5 - 25.000 Rpm - Or U< 1 gmm*
- *Run Out 3 micron*
- *< 3° slope at the top*

Accessori | *Accessories*

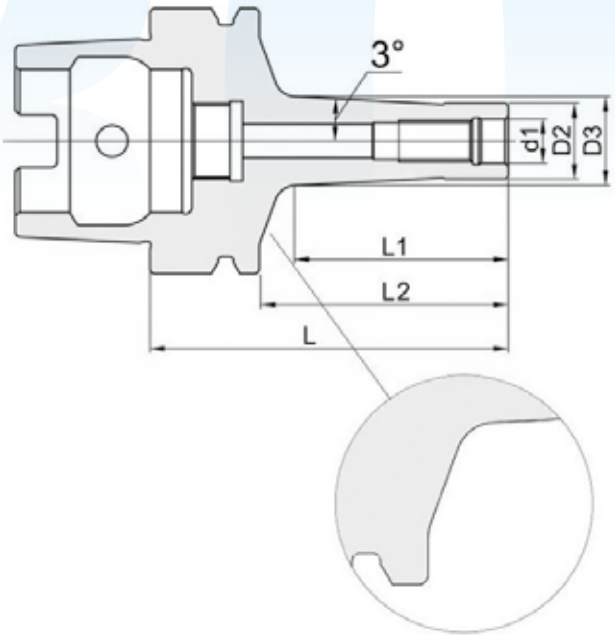

ATR
p. 76


MDM
p. 54


MDM ER
p. 55


ASC
p. 310

Ricambi | *Spare parts*

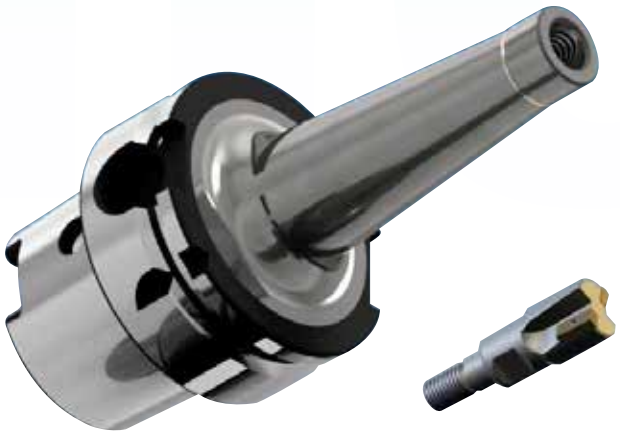


HSK 063 (A+C form) - MD0

CODICE-CODE	d1	L	D2	D3		L1	L2	APPLICATION
HKA.063.MD008.025	8,5-M8	60	13.5	14		25	34	
HKA.063.MD008.050	8,5-M8	85	13.5	16.5		50	59	
HKA.063.MD008.075	8,5-M8	110	13.5	19		75	84	
HKA.063.MD008.100	8,5-M8	135	13.5	22		100	109	
HKA.063.MD010.025	10,5-M10	60	18	18.5		25	34	
HKA.063.MD010.050	10,5-M10	85	18	21		50	59	
HKA.063.MD010.075	10,5-M10	110	18	24		75	84	
HKA.063.MD010.100	10,5-M10	135	18	26.5		100	109	
HKA.063.MD012.025	12,5-M12	60	21	21.5		25	34	
HKA.063.MD012.050	12,5-M12	85	21	24		50	59	
HKA.063.MD012.075	12,5-M12	110	21	27		75	84	
HKA.063.MD012.100	12,5-M12	135	21	29.5		100	109	
HKA.063.MD016.025	17-M16	60	29	29,5		26	34	
HKA.063.MD016.050	17-M16	85	29	32		50	59	
HKA.063.MD016.075	17-M16	110	29	35		75	84	
HKA.063.MD016.100	17-M16	135	29	37.5		100	109	

MDH

Portafrese con filetto interno, per frese con attacco filettato
Cutter-Holder with modular threaded connection
Mandrin Porte-Fraise avec attachement modulaire filetè
Fraseraufnahme mit modular-gewinde aufnahme



G 2,5 25.000 RPM or U < 1 gmm | ≤3 µm | 3° | HSC | CHIP

PORTAFRESE
per frese con attacco filettato

- Chuck Body Fine Balanced
  G 2,5 - 25.000 Rpm - Or U< 1 gmm
- Run Out 3 micron

- S = tipo **SLIM** - Adatto **PER STAMPI**
- **D3 minore** del **Ø** Max Fresa filettata

CUTTER-HOLDERS
with modular threaded connection

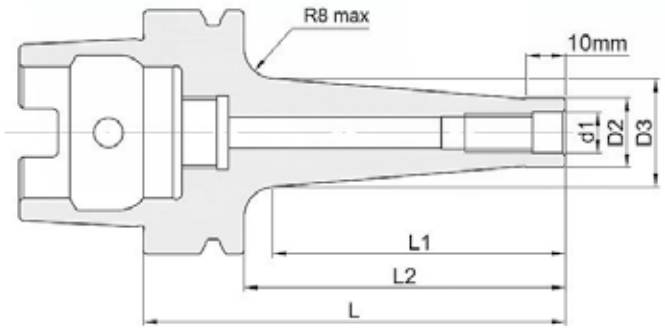
- *Chuck Body Fine Balanced*
  G 2,5 - 25.000 Rpm - Or U< 1 gmm
- *Run Out 3 micron*

- *S = **SLIM** type - Suitable for the **MOLD***
- ***D3** < Max **Ø** threaded type cutter*

Accessori | *Accessories*

ATR p. 76 | MDM p. 54 | MDM ER p. 55 | ASC p. 310

Ricambi | *Spare parts*



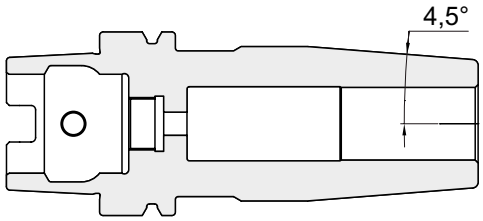
HSK 063 (A+C form) - MDH

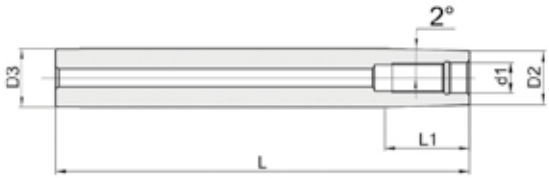
CODICE-CODE	d1	L	D2	D3		L1	L2	APPLICATION
HKA.063.MDH10.050	10,5-M10	84	18	25		50	58	
HKA.063.MDH10.050-S	10,5-M10	84	18	19,5		50	58	Slim
HKA.063.MDH10.075	10,5-M10	109	18	28		75	83	
HKA.063.MDH10.075-S	10,5-M10	109	18	19,5		75	83	Slim
HKA.063.MDH10.100	10,5-M10	134	18	28		100	108	
HKA.063.MDH10.100-S	10,5-M10	134	18	19,5		100	108	Slim
HKA.063.MDH10.125	10,5-M10	159	18	34		125	133	
HKA.063.MDH10.125-S	10,5-M10	159	18	19,5		125	133	Slim
HKA.063.MDH12.050	12,5-M12	84	21	24		50	58	
HKA.063.MDH12.075	12,5-M12	109	21	31		75	83	
HKA.063.MDH12.075-S	12,5-M12	109	21	24		75	83	Slim
HKA.063.MDH12.100	12,5-M12	134	21	31		100	108	
HKA.063.MDH12.100-S	12,5-M12	134	21	24		100	108	Slim
HKA.063.MDH12.125	12,5-M12	159	21	31		125	133	
HKA.063.MDH12.150	12,5-M12	184	21	39		150	158	
HKA.063.MDH12.175	12,5-M12	209	21	42		175	183	
HKA.063.MDH16.050	17-M16	84	29	34		50	58	
HKA.063.MDH16.050-S	17-M16	84	29	31		50	58	Slim
HKA.063.MDH16.075	17-M16	109	29	34		75	83	
HKA.063.MDH16.075-S	17-M16	109	29	31		75	83	Slim
HKA.063.MDH16.100	17-M16	134	29	39		100	108	
HKA.063.MDH16.100-S	17-M16	134	29	31		100	108	Slim
HKA.063.MDH16.125	17-M16	159	29	39		125	133	
HKA.063.MDH16.125-S	17-M16	159	29	31		125	133	Slim
HKA.063.MDH16.150	17-M16	184	29	39		150	158	
HKA.063.MDH16.175	17-M16	209	29	42		175	183	
HKA.063.MDH16.200	17-M16	234	29	45		200	208	

Prolunghe
Extensions

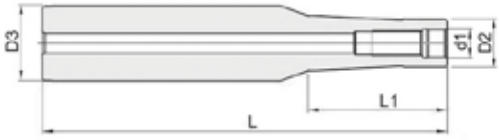
GRIPPLUS
SHRINK FIT TECHNOLOGY

Sistema modulare per frese attacco filettato
Threaded modular tool system for
milling cutter with threaded connection

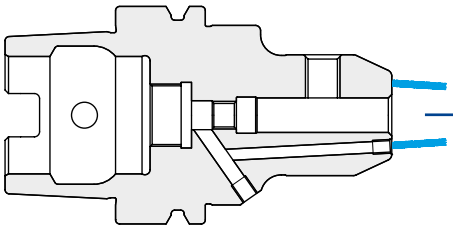


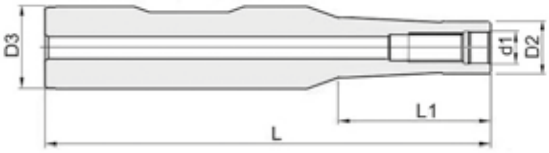


CIL.MD

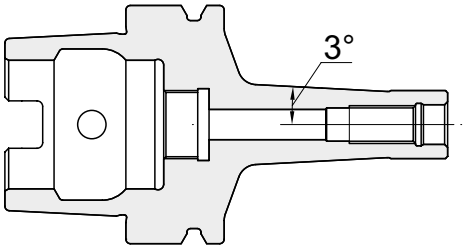


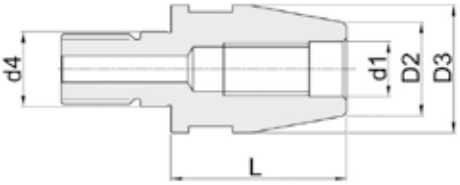
CIL.MDR





CIL.MDW
(Weldon Shank)



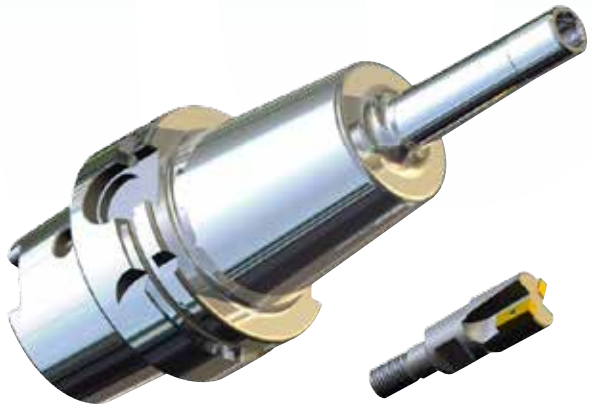


MDM

MDM-ER

MDR

Portafrese Rinforzato con filetto interno, per frese con attacco filettato
Cutter-Holder with modular threaded connection
Mandrin Porte-Fraise avec attachement modulaire filetè
Fraseraufnahme mit modular-gewinde aufnahme



G 2,5 25.000 RPM or U < 1 gmm | ≤3 µm | 3° | HSC | CHIP

PORTAFRESE RINFORZATO
per frese con attacco filettato

Il design ottimizzato e metodo di costruzione migliorato, combinato con accoppiamento a caldo, associa elevata rigidità con attenuazione delle vibrazioni.

- Chuck Body Fine Balanced
  G 2,5 - 25.000 Rpm - Or U< 1 gmm
- Run Out 3 micron
- Angolo profilo esterno L1< 3 gradi

- Mandrino Kombinato con calettamento a caldo
  HKA.063.CTP + CIL...MDR

HEAVY DUTY CUTTER-HOLDERS
with modular threaded connection

The optimized design with better construction combines with shrink-fit technology, high rigidity with vibration dampening features

- *Chuck Body Fine Balanced*
  G 2,5 - 25.000 Rpm - Or U< 1 gmm
- *Run Out 3 micron*
- *L1< 3° slope at the top*

- *Kombi Tool-Holder with shrink-fit technology*
  HKA.063.CTP + CIL...MDR

Accessori | *Accessories*

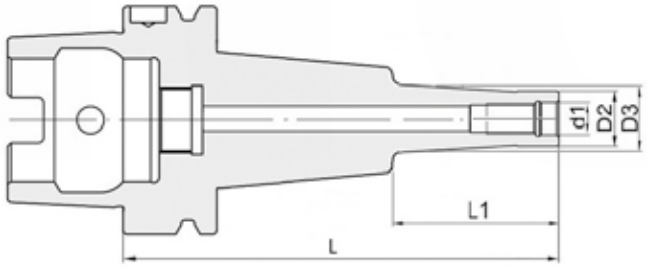

ATR
p. 76


MDM
p. 54


MDM ER
p. 55

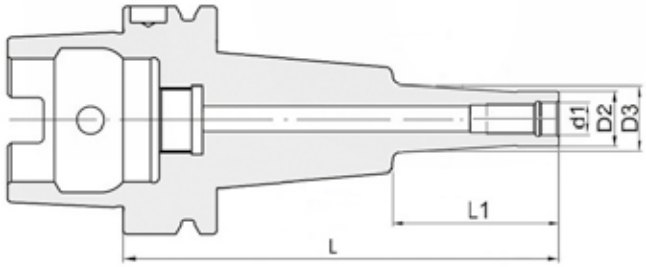

ASC
p. 310

Ricambi | *Spare parts*



HSK 063 (A+C form) - MDR

CODICE-CODE	d1	L	D2	D3		L1		APPLICATION
HKA.063.MDR08.025	8,5-M8	110	13,5			25		KOMBI
HKA.063.MDR08.050	8,5-M8	135	13,5	15		50		KOMBI
HKA.063.MDR08.075	8,5-M8	160	13,5	15		75		KOMBI
HKA.063.MDR10.025	10,5-M10	115	18			25		KOMBI
HKA.063.MDR10.050	10,5-M10	140	18	19		50		KOMBI
HKA.063.MDR10.075	10,5-M10	165	18	19		75		KOMBI
HKA.063.MDR10.100	10,5-M10	190	18	19		100		KOMBI
HKA.063.MDR12.025	12,5-M12	115	21			25		KOMBI
HKA.063.MDR12.050	12,5-M12	140	21	24		50		KOMBI
HKA.063.MDR12.075	12,5-M12	165	21	24		75		KOMBI
HKA.063.MDR12.100	12,5-M12	190	21	24		100		KOMBI
HKA.063.MDR16.050	17-M16	145	29			50		KOMBI
HKA.063.MDR16.075	17-M16	170	29	29		75		KOMBI
HKA.063.MDR16.100	17-M16	195	29	29		100		KOMBI
HKA.063.MDR16.125	17-M16	220	29	29		125		KOMBI



HSK 100 (A+C form) - MDR

CODICE-CODE	d 1	L	D 2	D 3		L1		APPLICATION
HKA.100.MDR08.025	8,5-M8	115	13,5			25		KOMBI
HKA.100.MDR08.050	8,5-M8	140	13,5	15		50		KOMBI
HKA.100.MDR08.075	8,5-M8	165	13,5	15		75		KOMBI
HKA.100.MDR10.025	10,5-M10	120	18			25		KOMBI
HKA.100.MDR10.050	10,5-M10	145	18	19		50		KOMBI
HKA.100.MDR10.075	10,5-M10	170	18	19		75		KOMBI
HKA.100.MDR10.100	10,5-M10	195	18	19		100		KOMBI
HKA.100.MDR12.025	12,5-M12	120	21			25		KOMBI
HKA.100.MDR12.050	12,5-M12	145	21	24		50		KOMBI
HKA.100.MDR12.075	12,5-M12	170	21	24		75		KOMBI
HKA.100.MDR12.100	12,5-M12	195	21	24		100		KOMBI
HKA.100.MDR16.050	17-M16	150	29			50		KOMBI
HKA.100.MDR16.075	17-M16	175	29	29		75		KOMBI
HKA.100.MDR16.100	17-M16	200	29	29		100		KOMBI
HKA.100.MDR16.125	17-M16	225	29	29		125		KOMBI

FM

Portafrese combinato per frese a manicotto e a disco con trascinatore frontale fisso e linguetta

Combi face mill holder for shell-end and disc milling cutters

Porte-fraise avec entrainement combine

Kombidorn

G 6,3 15.000 RPM | ≤3 µm | HPC | CHIP

PORTAFRESE COMBINATO per frese manicotto / disco

- Con trascinatore frontale fisso e linguetta
- Run Out 3 micron

COMBI FACE MILL HOLDERS for shell-end and disc milling cutters

- *Run Out 3 micron*

Accessori | *Accessories*

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ASC  p. 310

Ricambi | *Spare parts*

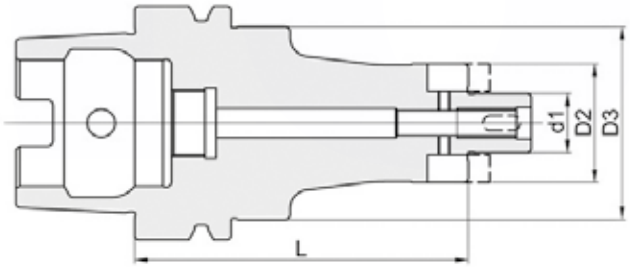
RVU 5931  p. 355

RCT FM/DP  p. 355

RLU 6604  p. 356

RVU 5933  p. 355

RRS FM  p. 356



HSK 063 (A+C form) - FM

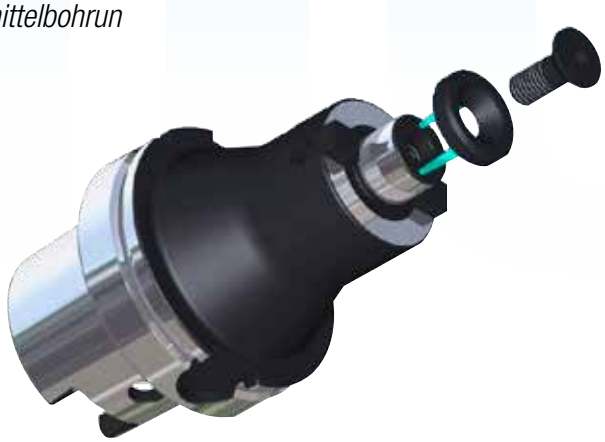
CODICE-CODE	d1	L	D2	D3				APPLICATION
HKA.063.FM016.065	16	65	32	52				
HKA.063.FM016.090	16	90	32	52				
HKA.063.FM016.145	16	145	32	52				
HKA.063.FM022.100	22	100	40	52				
HKA.063.FM022.150	22	150	40	52				
HKA.063.FM027.110	27	110	48	52				
HKA.063.FM027.155	27	155	48	52				
HKA.063.FM032.110	32	110	58	-				

HSK 100 (A+C form) - FM

CODICE-CODE	d1	L	D2	D3				APPLICATION
HKA.100.FM016.090	16	90	32	84.5				
HKA.100.FM016.145	16	145	32	84.5				
HKA.100.FM022.100	22	100	40	84.5				
HKA.100.FM022.150	22	150	40	84.5				
HKA.100.FM022.200	22	200	40	84.5				
HKA.100.FM027.110	27	110	48	84.5				
HKA.100.FM027.155	27	155	48	84.5				
HKA.100.FM027.200	27	200	48	84.5				
HKA.100.FM032.110	32	110	58	84.5				
HKA.100.FM032.155	32	155	58	84.5				

FSW Cooling Plus Din 6357-B

Portafrese a spianare con trascinatore fisso con canali di lubrificazione
Face mill arbor with coolant bores
Porte-fraises à surfacer avec conduits d'arrosage
Messerkopf- aufnahme mit Kühlmittelbohrun



G 2,5 25.000 RPM or U<1 gmm | ≤3 µm | HPC | CHIP

PORTAFRESE
con canali di lubrificazione

PORTAFRESE A SPIANARE CON TRASCINATORE FISSO
- *Chuck Body Fine Balanced*
  G 2,5 - 25.000 Rpm - Or U< 1 gmm
- *Run Out 3 micron*
- Fori di refrigerazione "STANDARD"

FS : Senza canali di lubrificazione
ed equilibratura standard G 6,3 15000 RPM

FACE MILL ARBOR
with coolant channels

FACE MILL ARBOR WITH COOLANT CHANNELS
- *Chuck Body Fine Balanced*
  G 2,5 - 25.000 Rpm - Or U< 1 gmm
- *Run Out 3 micron*
- *With " STANDARD "coolant channels*

FS : Without coolant bores
and standard balanced G 6,3 15000 RPM

Accessori | *Accessories*

ATR

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ASC

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Ricambi | *Spare parts*

RVU 5931

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RCT FM/DP

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RVU 5933

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RRS FM

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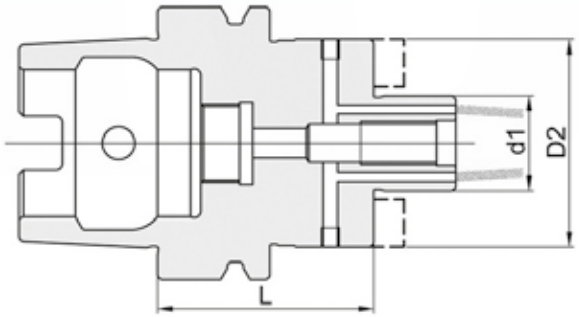


HSK 040 (A+C form) - FS

CODICE-CODE	d1	L	D2					APPLICATION
FS Senza canali di lubrificazione - *Without coolant bores*								
HKA.040.FS016.050	16	50	32					
HKA.040.FS022.060	22	60	48					

HSK 050 (A+C form) - FS

CODICE-CODE	d1	L	D2					APPLICATION
FS Senza canali di lubrificazione - *Without coolant bores*								
HKA.050.FS016.050	16	50	32					
HKA.050.FS022.060	22	60	48					

Fig. 1

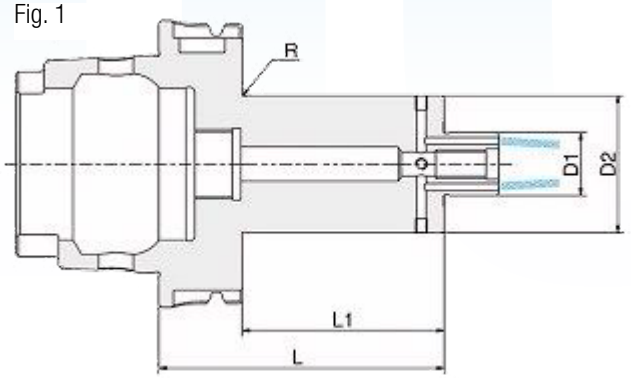
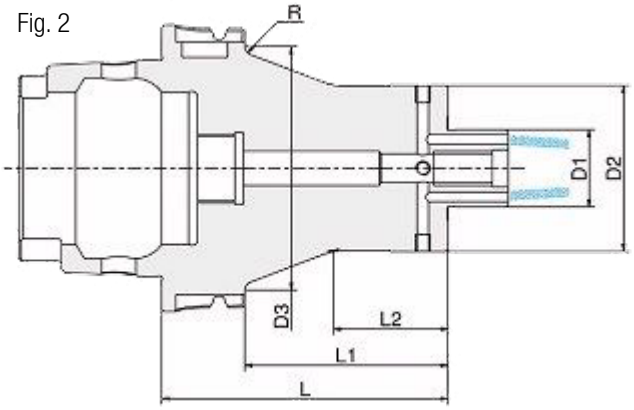


Fig. 2



HSK 063 (A+C form) - FSW Cooling Plus

CODICE-CODE	d1	L	D2	D3		L1 - R	L2	APPLICATION
HKA.063.FSW16.050	16	50	38			24 - 2		Fig. 1
HKA.063.FSW16.100	16	100	38	50		74 - 2	30	Fig. 2
HKA.063.FSW22.050	22	50	48			24		Fig. 1
HKA.063.FSW22.100	22	100	48			74 - 1,5		Fig. 1
HKA.063.FSW22.160	22	160	48			134 - 1,5		Fig. 1
HKA.063.FSW27.055	27	55	58			29		Fig. 1
HKA.063.FSW27.100	27	100	58			74		Fig. 1
HKA.063.FSW27.160	27	160	58			134		Fig. 1
HKA.063.FSW32.060 - 75	32	60	75			34		Fig. 1
HKA.063.FSW32.060	32	60	78			34		Fig. 1
HKA.063.FSW32.100	32	100	78			74		Fig. 1
HKA.063.FSW32.160	32	160	78			134		Fig. 1
HKA.063.FSW40.060	40	60	87			34		Fig. 1

Fig. 1

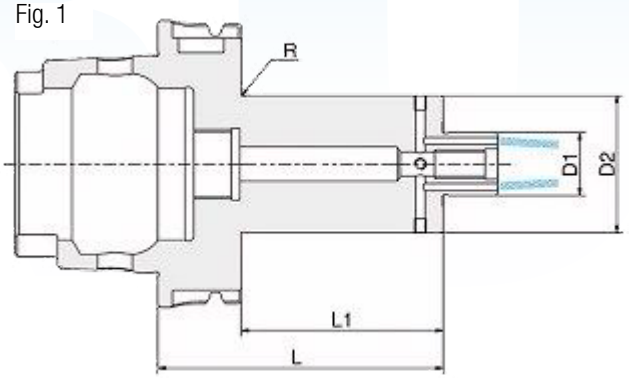
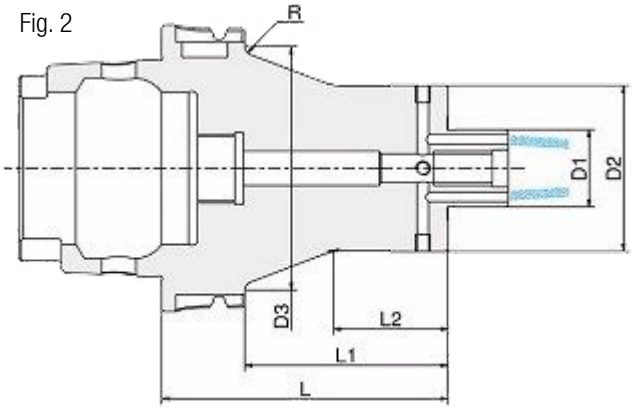


Fig. 2

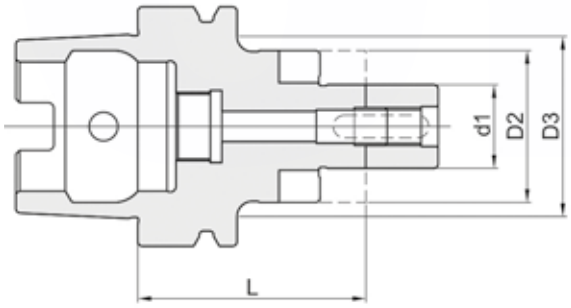


HSK 100 (A+C form) - FSW Cooling Plus

CODICE-CODE	d1	L	D2	D3		L1 - R	L2	APPLICATION
HKA.100.FSW16.060	16	60	38			31	-	Fig. 1
HKA.100.FSW16.100	16	100	38	75		71 - 2	30	Fig. 2
HKA.100.FSW16.160	16	160	38	75		131 - 2	30	Fig. 2
HKA.100.FSW22.060	22	60	48			31	-	Fig. 1
HKA.100.FSW22.100	22	100	48	80		71 - 3	35	Fig. 2
HKA.100.FSW22.160	22	160	48	75		131 - 1,5	35	Fig. 2
HKA.100.FSW27.065	27	65	58	80		36 - 3	23	Fig. 2
HKA.100.FSW27.100	27	100	58	85		71 - 3	40	Fig. 2
HKA.100.FSW27.160	27	160	58	85		131 - 3	40	Fig. 2
HKA.100.FSW32.065	32	65	78			36	-	Fig. 1
HKA.100.FSW32.100	32	100	78			71	-	Fig. 1
HKA.100.FSW32.160	32	160	78			131	-	Fig. 1
HKA.100.FSW40.065	40	65	87			36	-	Fig. 1
HKA.100.FSW40.100	40	100	87			71	-	Fig. 1
HKA.100.FSW40.160	40	160	87			131	-	Fig. 1

FC DIN 6358

Portafrese combinato con trascinatore mobile
KOMBI-shell mill arbor
Porte-fraise a double usage
Kombi-aufsteckfräsdorne



G 6,3 15.000 RPM | ≤3 µm | HPC | CHIP

PORTAFRESE COMBINATO con trascinatore mobile

- Per il fissaggio di frese DIN 841 / DIN 1880 e di frese angolari DIN 842 / DIN 1830.
- Run Out 3 micron

COMBI SHELL END MILL ARBOR

- *For clamping shell end mills DIN 841 / DIN 1880 and angular milling cutters DIN 842 / DIN 1830.*
- *Run Out 3 micron*

HSK 063 (A+C form) - FC

CODICE-CODE	d1	L	D2	D3				APPLICATION
HKA.063.FC016.060	16	60	32	39				
HKA.063.FC022.060	22	60	40	47				
HKA.063.FC027.060	27	60	48					
HKA.063.FC032.060	32	60	58					
HKA.063.FC040.070	40	70	70					

HSK 100 (A+C form) - FC

CODICE-CODE	d1	L	D2					APPLICATION
HKA.100.FC016.060	16	60	32					
HKA.100.FC022.060	22	60	40					
HKA.100.FC027.060	27	60	48					
HKA.100.FC032.070	32	70	58					
HKA.100.FC040.070	40	70	70					

Accessori | *Accessories*

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Ricambi | *Spare parts*

RVU 5933  p. 355

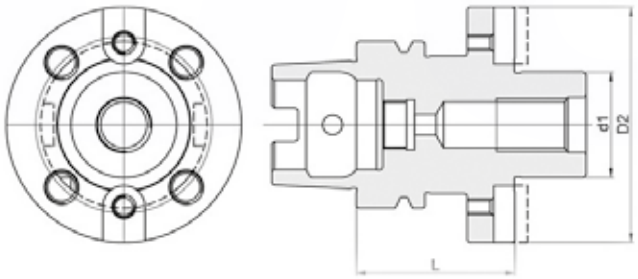
RRS FM  p. 356

RTD 6366  p. 356

RLU 6604  p. 356

FF Din 6357-A / Din 2079

Portafrese flangiati per frese a spianare
Face mill holder for face milling cutters
Porte-fraise pour fraises a surfacer
Aufsteckfräserdorne für messerköpfe



G 6,3 15.000 RPM | ≤3 µm | HPC | CHIP

PORTAFRESE CON FLANGIA

- Run Out 3 micron

ADAPTER for MILLING TOOLS with flange

- *Run Out 3 micron*

HSK 063 (A+C form) - FF

CODICE-CODE	d1	L	D2					APPLICATION
HKA.063.FF040.060	40	60	89					

HSK 100 (A+C form) - FF

CODICE-CODE	d1	L	D2					APPLICATION
HKA.100.FF040.070	40	70	89					
HKA.100.FF040.120	40	120	89					
HKA.100.FF060.080	60	80	128					

Accessori | *Accessories*

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Ricambi | *Spare parts*

RVU 5931  p. 355

RCT FM/DP  p. 355

RVU 5933  p. 355

RRS FM  p. 356

MS Maschiatori per maschiatura sincronizzata “SINKRO”
Tapping chuck for syncronized tapping “SINKRO”

Sulle macchine con maschiatura rigida sincronizzata la compensazione assiale, anche se minima, è fondamentale per l’esecuzione di filetti in tolleranza, questa compensazione permette infatti di eliminare eventuali errori della macchina dovuti a difetti o giochi che inevitabilmente si vengono a creare.
Esiste una correlazione tra la durata del maschio per lavorazioni meccaniche e l’allineamento maschio-foro particolarmente evidente su maschi da M3 a M12. Se il fissaggio del maschio nel maschiatore è tale da non garantire in punta al maschio un perfetto allineamento ed una perfetta assenza di gioco assiale, nell’esecuzione del filetto il maschio avrà un’usura rapida nelle prime spire dell’elica dovuta alle micro collisioni generate dallo scorretto imbocco con il foro da filettare.
Al contrario se il maschio è perfettamente allineato al foro ed anche perfettamente esente da giochi, quando inizia a filettare, la durata del maschio aumenta in modo evidente, fino a tre volte la durata solita.

Caratteristiche tecniche:
- Capacità di maschiatura: M3 - M12; M6 - M20; M14 - M33
- Perfetto allineamento maschio - foro
- Durata del maschio tripla rispetto ad un sistema di maschiatura tradizionale
- Cambio rapido del maschio e della bussola
- Adatto per maschiatura rigida sincronizzata con compensazione in sfilamento (1 mm) ed in rientro (0,2 mm) per serie **M3 - M12 e M6 - M20** e con compensazione in sfilamento (2 mm) ed in rientro (0,4 mm) per serie **M14 - M33**
- Predisposto per il passaggio della lubrificazione fino a 50 bar
- Ingombro ridotto

La filettatura rigida sincronizzata presuppone una macchina atta a sincronizzare la rotazione del mandrino principale ed il movimento di avanzamento. Oggi questa è generalmente una caratteristica standard dei centri di lavoro.
L’esperienza ha dimostrato che al momento dell’inversione di rotazione la sincronia non è sempre garantita al 100%. In tal caso si producono in parte sull’utensile forze assiali molto elevate.
I maschi per filettatura sincrona possono essere alloggiati sia nei comuni mandrini Weldon che nei portautensili a pinze. Entrambi gli elementi di serraggio presentano lo svantaggio, che le forze assiali prodotte non possono essere compensate nell’inversione.

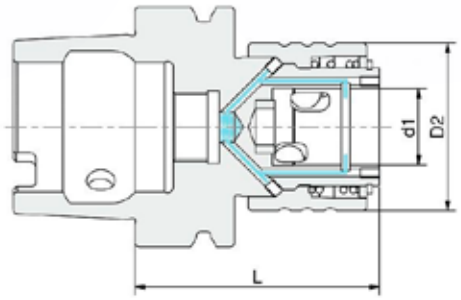
On rigid tapping we need a minimum compensation to absorb eventual errors between feed rate and pitch of the thread. Analysis showed that there is a correlation between the alignment of the tap and hole especially on small taps from M3 to M12. If the alignment isn’t perfect than the tap wears out easily because the tap touches the flanks of the hole because of a slight radial play. On the other hand we found that if there is no radial play involved the tool life can be increased drastically.

Technical features:
- Tap capacity: M3 - M12; M6 - M20; M14 - M33;
- Perfect line up tap-hole
- Triple life of tap in comparison to a traditional tapping system
- Quick change of the tap and the adapter
- Suitable for rigid tapping with a micro compensation in extension (1 mm) and (0,2 mm) in compression type **M3 - M12 and M6 - M20** and compensation in extension (2 mm) and (0,4 mm) in compression type **M14 - M33**
- Possible coolant flow till 50 bar
- Reduced dimensions.

With rigid tapping we need a machining centre with a rigid tapping program. This has become a standard feature nowadays.
Our experience showed us at the very critical moment of inverting the sense of the machine the synchronisation is not always 100% granted. In that case there is a high pressure on the flanks of the tap.
Taps for synchronized tapping can be placed in Weldon tapping chucks or in collect chucks. In both cases axial forces can not be compensated during the inversion.

MS Sinkro Plus

Maschiatore sincronizzato (per bussole ABM-ER) con passaggio lubrificante
Sinkro tapping chucks (for Sinkro's tap adapter ABM-ER) with coolant flow
Sinkro-Gewindeschneidfutter (fur schnellwechseleinsatze SinKro ABM.ER)
Sinkro-appareil a taruder (pour douilles porte-taraud Sinkro ABM.ER)



ABM... ER

CHIP

HSK A+C DIN 69893-1

MASCHIATORE sincronizzato Sinkro Plus

- Con passaggio lubrificante
- per bussole ABM.ER con pinze PER-S (ER Type-Din 6499)

Sinkro Plus TAPPING CHUCKS

- *With coolant flow*
- *for SinKro's tap adapter ABM.ER with PER-S Collets (ER Type Din 6499)*

HSK 063 (A+C form) - MS Sinkro Plus

CODICE-CODE	d1	L	D2			ACCESSORIES		APPLICATION
HKA.063.MS020.064	20	64	43			ABM.020.ER16 M3÷12		INTEGRAL
HKA.063.MS032.097	32	97	60			ABM.032.ER25 M6÷20		INTEGRAL

HSK 100 (A+C form) - MS Sinkro Plus

CODICE-CODE	d1	L	D2			ACCESSORIES		APPLICATION
HKA.100.MS020.070	20	70	43			ABM.020.ER16 M3÷12		INTEGRAL
HKA.100.MS032.091	32	91	60			ABM.032.ER25 M6÷20		INTEGRAL

Accessori | *Accessories*

ATR  p. 76

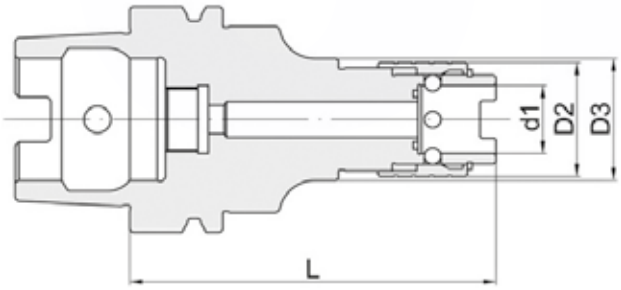
ABM ER  p. 63

ASC  p. 310

Ricambi | *Spare parts*

MR

Maschiatore rigido a cambio rapido senza compensazione assiale con passaggio lubrificante
Rigid tap holder without axial compensation with coolant flow
Appareil à thrauder avec changement rapid sans compensation axiale
Gewindeschneidfutter ohne längenausgleich



CHIP

MASCHIATORE rigido senza compensazione assiale

CON PASSAGGIO LUBRIFICANTE
- Adatti macchine CNC predisposte per "maschiatura rigida".
- (per bussole portamaschi ABM-R)

RIGID TAPPING CHUCKS without axial compensation

WITH COOLANT FLOW
- *Suitable for use on CNC machines with rigid tapping cycles.*
- *(Bush for tapping ABM-R/RW/F type)*

HSK 063 (A+C form) - MR

CODICE-CODE	d1	L	D2	D3	CAPACITY	APPLICATION
HKA.063.MR019.090	19 M3÷14	90	35		M3 - M12	INTEGRAL
HKA.063.MR019.140	19 M3÷14	140	35	42	M3 - M12	INTEGRAL
HKA.063.MR031.100	31 M4÷24	100	50		M8 - M20	INTEGRAL

HSK 100 (A+C form) - MR

CODICE-CODE	d1	L	D2	CAPACITY	APPLICATION
HKA.100.MR019.100	19 M3÷14	100	35	M3 - M12	INTEGRAL
HKA.100.MR019.160	19 M3÷14	160	35	M3 - M12	INTEGRAL
HKA.100.MR031.110	31 M4÷24	110	50	M6 - M20	INTEGRAL
HKA.100.MR031.160	31 M4÷24	160	50	M6 - M20	INTEGRAL
HKA.100.MR048.125	48 M14÷36	125	72	M14-M33	INTEGRAL

Accessori | *Accessories*

ATR

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ABM R

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ABM RW

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ASC

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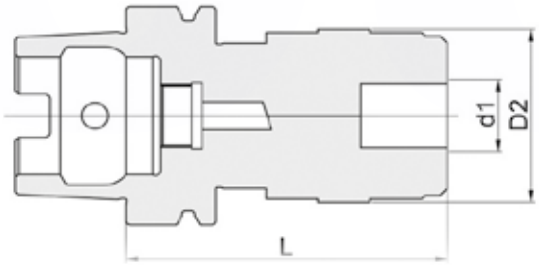
Ricambi | *Spare parts*

MC

Maschiatore a cambio rapido con compensazione assiale senza passaggio lubrificante
Quick change tapping chuck with axial compensation without coolant flow
Appareil à thrauder avec changement rapid avec compensation axiale
Gewindeschneidfutter mit doppel längenausgleich



CHIP

MASCHIATORE
doppia compensazione assiale

- Senza passaggio lubrificante
- (per bussole portamaschi ABM-R/RW/F)

QUICK-CHANGE TAPPING CHUCK
with double axial compensation

- *Without coolant flow*
- *(Bush for tapping ABM-R/RW/F type)*

HSK 063 (A+C form) - MC

CODICE-CODE	d1	L	D2	D3		Capacity	Rientro-Sfilam Compr - Ext	APPLICATION
HKA.063.MC019.072	19 M3÷14	72	41			M3 - M12		INTEGRAL
HKA.063.MC019.141	19 M3÷14	141	38	42		M3 - M12	9 - 9	KOMBI
HKA.063.MC031.110	31 M4÷24	110	60			M6 - M20		INTEGRAL
HKA.063.MC031.153	31 M4÷24	153	55	48		M6 - M20	15 - 15	KOMBI

HSK 100 (A+C form) - MC

CODICE-CODE	d1	L	D2	D3		Capacity	Rientro-Sfilam Compr - Ext	APPLICATION
HKA.100.MC019.080	19 M3÷14	80	41			M3 - M12		INTEGRAL
HKA.100.MC019.181	19 M3÷14	181	38	42		M3 - M12	9 - 9	KOMBI
HKA.100.MC031.100	31 M4÷24	100	60			M6 - M20		INTEGRAL
HKA.100.MC031.193	31 M4÷24	193	55	48		M6 - M20	15 - 15	KOMBI
HKA.100.MC048.144	48 M14÷36	144	86			M14-M33		INTEGRAL
HKA.100.MC048.219	48 M14÷36	219	79	72		M14-M33	24 - 24	KOMBI

Accessori | *Accessories*

Ricambi | *Spare parts*

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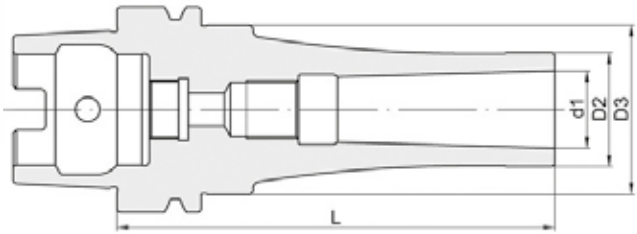
ABM R  p. 346

ABM F  p. 347

ASC  p. 310

RF DIN 228-1 form A

Riduzione cono morse per frese
Morse adapter for milling cutter
Porte-fraise avec raccord CM
Morse-kegel-aufnahme mit Anzuggewinde



G 6,3 15.000 RPM | ≤5 µm | HPC | CHIP

Riduzione cono morse per frese

- Run Out 5 micron

Adapter for morse taper with thread

- *Run Out 5 micron*

HSK 063 (A+C form) - RF

CODICE-CODE	d1	L	D2	D3				APPLICATION
HKA.063.RF001.105	MORSE 1	105	20	52				
HKA.063.RF002.125	MORSE 2	125	28	52				
HKA.063.RF003.145	MORSE 3	145	40	52				
HKA.063.RF004.165	MORSE 4	165	44	52				

HSK 100 (A+C form) - RF

CODICE-CODE	d1	L	D2	D3				APPLICATION
HKA.100.RF002.140	MORSE 2	140	28	84.5				
HKA.100.RF003.150	MORSE 3	150	40	84.5				
HKA.100.RF004.170	MORSE 4	170	44	84.5				

Accessori | *Accessories*

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ACH RF  p. 354

ASC  p. 310

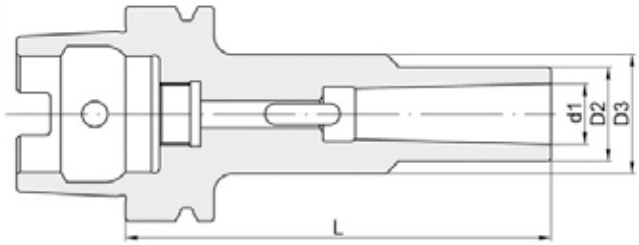
Ricambi | *Spare parts*

RBH RF  p. 354

RVH RF  p. 354

RP DIN 228-1 form B

Riduzione cono morse per punte
Morse-adapter for drilling tools
Porte-foret avec raccord CM
Morse-kegel-aufnahme



G 6,3 15.000 RPM | ≤5 µm | CHIP

Riduzione cono morse per punte

- Run Out 5 micron

Adapter for morse taper with tang

- *Run Out 5 micron*

HSK 063 (A+C form) - RP

CODICE-CODE	d1	L	D2	D3				APPLICATION
HKA.063.RP001.105	MORSE 1	105	25	28				
HKA.063.RP002.125	MORSE 2	125	28					
HKA.063.RP003.145	MORSE 3	145	40	44				
HKA.063.RP004.165	MORSE 4	164	44					

HSK 100 (A+C form) - RP

CODICE-CODE	d1	L	D2	D3				APPLICATION
HKA.100.RP002.125	MORSE 2	125	28					
HKA.100.RP003.145	MORSE 3	145	40	44				
HKA.100.RP004.165	MORSE 4	165	44					
HKA.100.RP005.220.	MORSE 5	220	63					

Accessori | *Accessories*

ATR

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ASC

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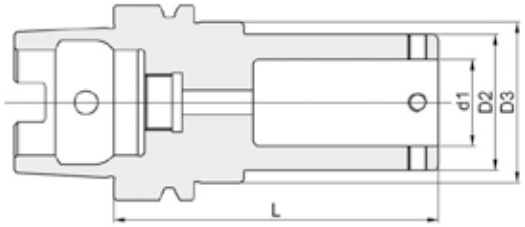
Ricambi | *Spare parts*

DP Modular

Sistema modulare DP
Modular system DP



≤5 µm | CHIP

Adattatore modulare HSK - DP

- ADATTATORE MODULARE TIPO “DP”
  “ON - DEMAND” Lotti/minimi produzione
  30 pezzi

Modular Adaptor HSK - DP

- *MODULAR ADAPTOR “DP” type*
  “ON - DEMAND” Minimal quantity of production
  30 pieces

CODICE-CODE	d1	L	D2	D3				APPLICATION
HKA.100.DP063.110	32	110	63	84.5				
HKA.100.DP080.135	40	135	78	84.5				

Accessori | *Accessories*

ATR

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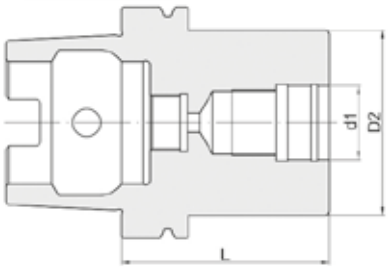
Ricambi | *Spare parts*

VAR Modular

Sistema modulare Varilock
Modular system Varilock



≤5 µm | CHIP

Adattatore Modulare tipo HSK - VAR

- ADATTATORE MODULARE TIPO “VAR”
  “ON-DEMAND” Lotti/minimi produzione
  30 pezzi

Modular Adaptor HSK - VAR

- *ADAPTOR HSK - VAR*
  “ON-DEMAND” Minimal quantity of production
  30 pieces

CODICE-CODE	d1	L	D2					APPLICATION
HKA.100.VAR50.080	27	80	50					
HKA.100.VAR63.090	32	90	63					
HKA.100.VAR80.090	32	90	80					

Accessori | *Accessories*

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Ricambi | *Spare parts*

RBF VAR  p. 357

RVS VAR  p. 357

RTR VAR  p. 357