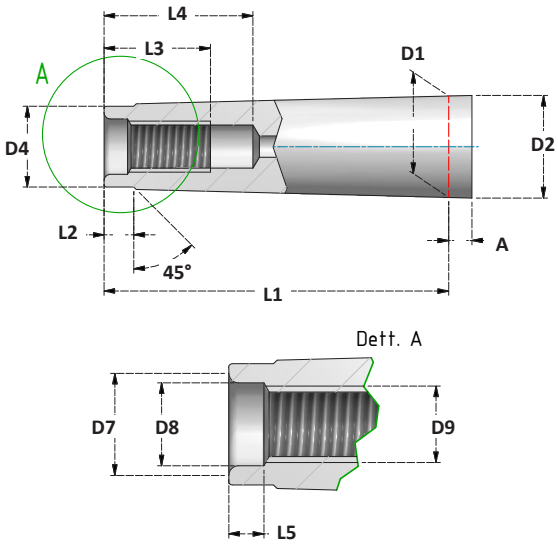
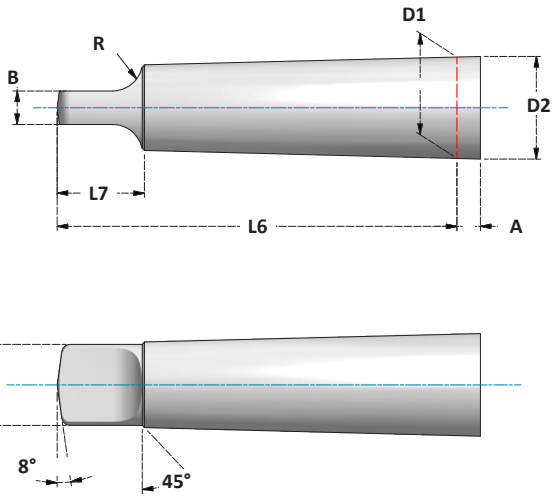
MANDRINI CONO MORSE **- CM**

MORSE TAPER TOOLHOLDERS - CM

Form **A**



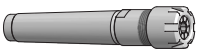
Form **B**



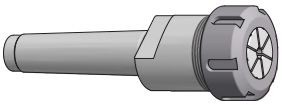
DIMENSIONI CONO

TAPER DIMENSIONS

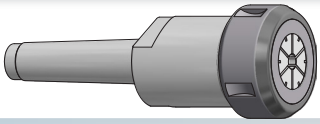
CONO TAPER	A	B	D1	D2	D4	D6	D7	D8	D9	L1	L2	L3	L4	L5	L6	L7	R	α/2
		h13			MAX					MAX		MAX	min	+0,5 0	0 -1	MAX		
1	3,5	5,2	12,065	12,2	9	8,7	8,5	6,4	M6	53,5	5	16	22	4	62	13,5	5	1° 25’ 43”
2	5	6,3	17,78	18	14	13,5	13,2	10,5	M10	64	5	24	31,5	5	75	16	6	1° 25’ 50”
3	5	7,9	23,825	24,1	19	18,5	16	13	M12	81	7	24	33,5	5,5	94	20	7	1° 26’ 16”
4	6,5	11,9	31,267	31,6	25	24,5	21,5	17	M16	102,5	9	32	42,5	8,2	117,5	24	8	1° 29’ 15”
5	6,5	15,9	44,399	44,7	35,7	35,7	26	21	M20	129,5	10	40	52,5	10	149,5	29	10	1° 30’ 26”
6	8	19	63,348	63,8	51	51	32	25	M24	182	16	47	61,5	11,5	210	40	13	1° 29’ 36”



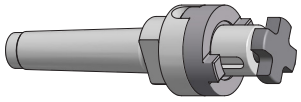
MANDRINI PORTAPINZA ER - GHIERE MINI
COLLET CHUCKS ER - MINI NUTS
DIN ISO 15488 (DIN6499)
PAG. 209



MANDRINI PORTAPINZA ER - GHIERE STANDARD
COLLET CHUCKS ER - STANDARD NUTS
DIN ISO 15488 (DIN6499)
PAG. 210



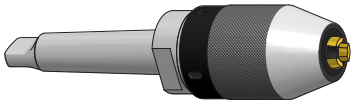
MANDRINI PORTAPINZA EOC
COLLET CHUCKS EOC
DIN ISO 10897(DIN6388)
PAG. 211



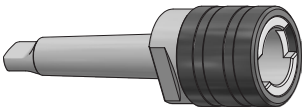
MANDRINI PORTAFRESA COMBI
COMBI SHELL MILL HOLDERS
DIN 6358
PAG. 212

RIDUZIONI CONO MORSE
MORSE TAPER SLEEVES
DIN 2185
PAG. 213

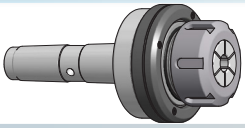
PROLUNGHE CONO MORSE
MORSE TAPER EXTENSIONS
DIN 2187
PAG. 214



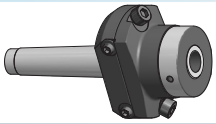
MANDRINI DA TRAPANO
DRILL CHUCKS
PAG. 215



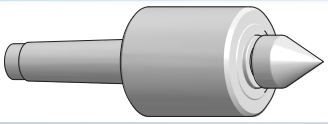
PORTAMASCHI
TAPPING CHUCKS
PAG. 217



PORTA ALESATORI
REAMER HOLDERS
PAG. 218



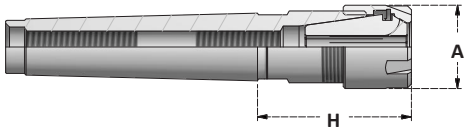
BROCCIATORI
BROACH TOOLHOLDERS
PAG. 219



CONTROPUNTE ROTANTI
LIVE CENTRES
PAG. 221

MANDRINI DI COLLAUDO
TEST ARBORS
ISO-R230
PAG. 221

MANDRINI PORTAPINZA ER MINI
MINI ER COLLET CHUCKS



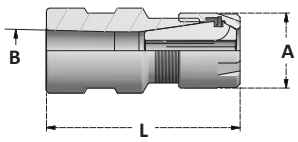
Articolo	H	A	Collets Range	Ghiera Nut
CM1.H25.ERC11M	25	16	1÷7	G11M
CM1.H40.ERC16M	40	22	1÷10	G16M
CM2.H42.ERC16M	42	22	1÷10	G16M
CM2.H50.ERC20M	50	28	1÷14	G20M
CM2.H54.ERC25M	54	35	1÷20	G25M
CM3.H43.ERC16M	43	22	1÷10	G16M
CM3.H47.ERC20M	47	28	1÷14	G20M
CM3.H58.ERC25M	58	35	1÷20	G25M

M

GHIERE **MINI**
MINI *NUTS*

DIN238 | B | ERC MINI

MANDRINI PORTAPINZA ER MINI CON ATTACCO DIN238
DIN238 SHANK MINI ER COLLET CHUCKS



Articolo	B	L	A	Collets Range	Ghiera Nut
B12.L62.ERC11M	B12	62	16	1÷7	G11M
B12.L55.ERC16M	B12	55	22	1÷10	G16M
B12.L67.ERC20M	B12	67	28	1÷14	G20M
B16.L85.ERC16M	B16	85	22	1÷10	G16M
B16.L80.ERC20M	B16	80	28	1÷14	G20M

ACCESSORI - *ACCESSORIES*

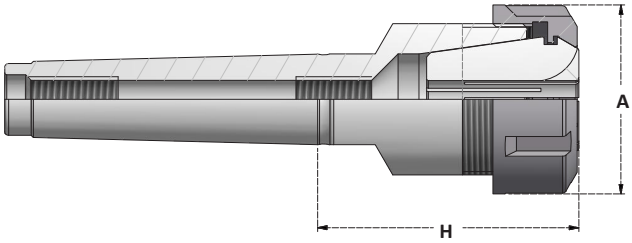
P. 280
PINZE
COLLETS

P. 340
GHIERE
NUTS

P. 376
TENONI
TANGS

P. 353
CHIAVI
WRENCHES

MANDRINI PORTAPINZA ER
ER COLLET CHUCKS



Articolo	H	A	Collets Range	Ghiera Nut
CM1.H25.ERC11	25	19	1÷7	G11SE
CM1.H40.ERC16	40	28	1÷10	G16SE
CM2.H42.ERC16	42	28	1÷10	G16SE
CM2.H50.ERC20	50	34	1÷14	G20SE
CM2.H54.ERC25	54	42	1÷20	G25S
CM3.H53.ERC25	53	42	1÷20	G25S
CM3.H70.ERC32	70	50	2÷22	G32S
CM3.H80.ERC40	80	63	3÷30	G40S
CM4.H56.ERC25	56	42	1÷20	G25S
CM4.H60.ERC32	60	50	2÷22	G32S
CM4.H81.ERC40	81	63	3÷30	G40S
CM4.H96.ERC50	96	78	6÷34	G50S
CM5.H50.ERC32	50	50	2÷22	G32S
CM5.H82.ERC40	82	63	3÷30	G40S
CM5.H91.ERC50	91	78	6÷34	G50S

SE

GHIERE **STANDARD** ESAGONALI
*HEXAGONAL **STANDARD** NUTS*

S

GHIERE **STANDARD** CON TACCHE
***STANDARD** NUTS WITH SLOTS*

KIT - MANDRINO, CHIAVE E PINZE
KIT - TOOLHOLDER, WRENCH AND COLLETS

Articolo	Pinze Collets	Mandrino Chuck	Chiave Wrench
BX.CM1.ERC16	ERC16.D1÷D10 x 1,0mm	CM1.H40.ERC16	CH.E16
BX.CM2.ERC16	ERC16.D1÷D10 x 1,0mm	CM2.H42.ERC16	CH.E16
BX.CM3.ERC25	ERC25.D2÷D16 x 1,0mm	CM3.H53.ERC25	CH25S
BX.CM3.ERC32	ERC32.D3÷D20 x 1,0mm	CM3.H70.ERC32	CH32S
BX.CM4.ERC32	ERC32.D3÷D20 x 1,0mm	CM4.H60.ERC32	CH32S
BX.CM4.ERC40	ERC40.D4÷D26 x 1,0mm	CM4.H81.ERC40	CH40S

ALTRI A RICHIESTA
OTHERS ON REQUEST

MANDRINI CON FILETTI A POLLICI
TOOLHOLDERS WITH INCH THREAD

Articolo	H	A	Collets Range	Ghiera Nut	Filetto Thread
MT3-H3.00-ERC40	76	63	3÷30	G40S	1/2- 13
MT4-H3.18-ERC40	80	63	3÷30	G40S	5/8- 11
MT5-H3.22-ERC40	82	63	3÷30	G40S	3/4- 10

ACCESSORI - *ACCESSORIES*

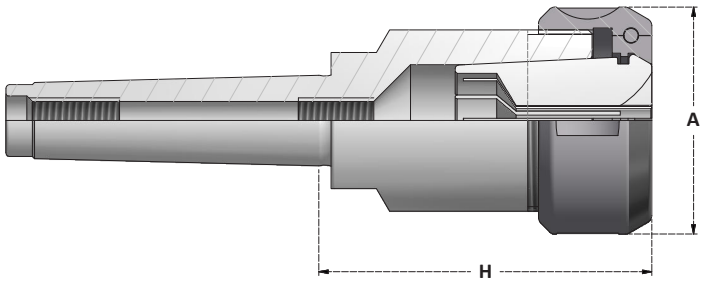
P. 280
PINZE
COLLETS

P. 341
GHIERE
NUTS

P. 376
TENONI
TANGS

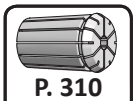
P. 353
CHIAVI
WRENCHES

MANDRINI PORTAPINZA EOC
EOC COLLET CHUCKS



Articolo	H	A	Range D	Ghiera Nut
CM2.H57.EOC16	57	43	2÷16	G16OCC
CM2.H76.EOC25	76	60	2÷25	G25OCC
CM3.H61.EOC16	61	43	2÷16	G16OCC
CM3.H90.EOC25	90	60	2÷25	G25OCC
CM4.H84.EOC25	84	60	2÷25	G25OCC
CM4.H84.EOC32	84	72	4÷32	G32OCC
CM5.H84.EOC25	84	60	2÷25	G25OCC
CM5.H84.EOC32	84	72	4÷32	G32OCC

ACCESSORI - *ACCESSORIES*

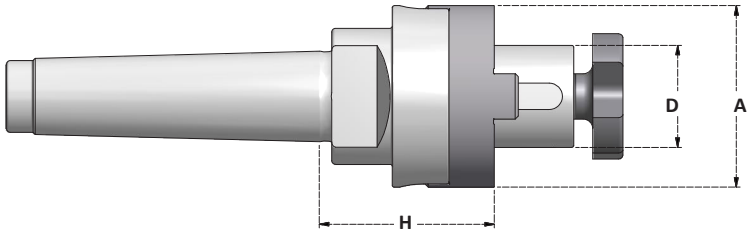

P. 310
PINZE
COLLETS


P. 347
GHIERE
NUTS


P. 376
TENONI
TANGS


P. 354
CHIAVI
WRENCHES

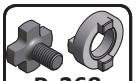
MANDRINI PORTAFRESA COMBINATI
COMBI SHELL MILL HOLDERS



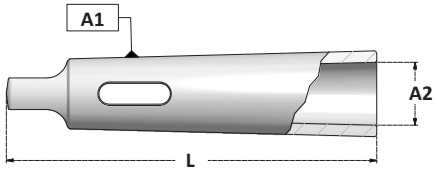
Articolo	D	H	A	ATR	VTC	CHV
CM3.H48.D16C	16	48	32	ATR.D16	VTC.D16	CHV.D16
CM3.H48.D22C	22	48	40	ATR.D22	VTC.D22	CHV.D22
CM3.H48.D27C	27	48	48	ATR.D27	VTC.D27	CHV.D27
CM3.H63.D32C	32	63	58	ATR.D32	VTC.D32	CHV.D32
CM4.H55.D16C	16	55	32	ATR.D16	VTC.D16	CHV.D16
CM4.H55.D22C	22	55	40	ATR.D22	VTC.D22	CHV.D22
CM4.H55.D27C	27	55	48	ATR.D27	VTC.D27	CHV.D27
CM4.H55.D32C	32	55	58	ATR.D32	VTC.D32	CHV.D32
CM5.H75.D22C	22	75	40	ATR.D22	VTC.D22	CHV.D22
CM5.H75.D27C	27	75	48	ATR.D27	VTC.D27	CHV.D27
CM5.H75.D32C	32	75	58	ATR.D32	VTC.D32	CHV.D32
CM5.H75.D40C	40	75	70	ATR.D40	VTC.D40	CHV.D40

ACCESSORI - *ACCESSORIES*

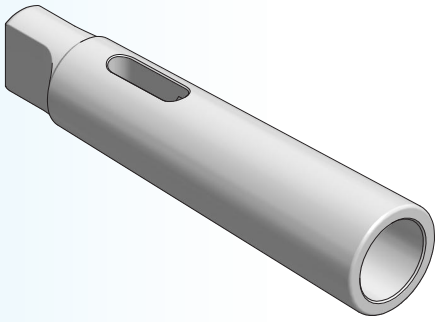

P. 376
TENONI
TANGS


P. 368
ACCESSORI
ACCESSORIES

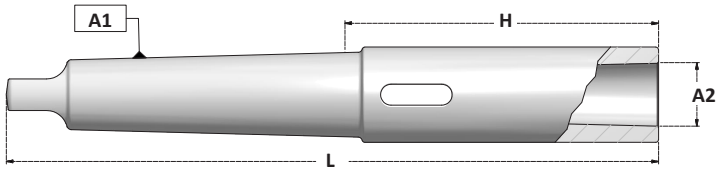
RIDUZIONI CONO MORSE
MORSE TAPER SLEEVES



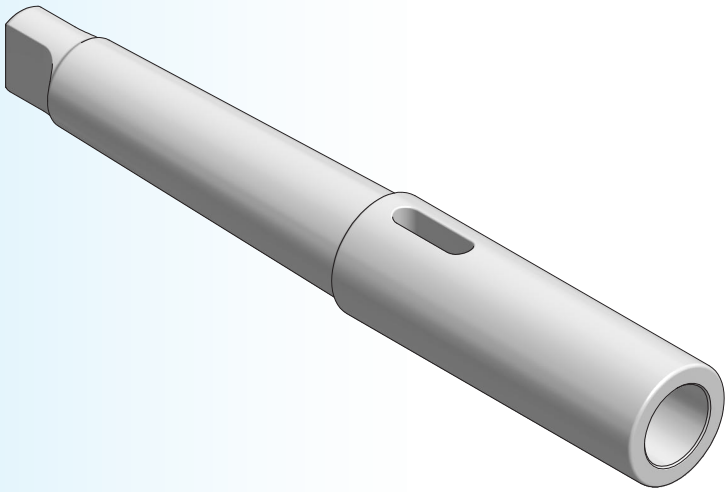
Articolo	A1	A2	L
CMB2-1	CM2	CM1	92
CMB3-1	CM3	CM1	99
CMB3-2	CM3	CM2	112
CMB4-1	CM4	CM1	124
CMB4-2	CM4	CM2	124
CMB4-3	CM4	CM3	140
CMB5-1	CM5	CM1	156
CMB5-2	CM5	CM2	156
CMB5-3	CM5	CM3	156
CMB5-4	CM5	CM4	171
CMB6-1	CM6	CM1	218
CMB6-2	CM6	CM2	218
CMB6-3	CM6	CM3	218
CMB6-4	CM6	CM4	218
CMB6-5	CM6	CM5	218



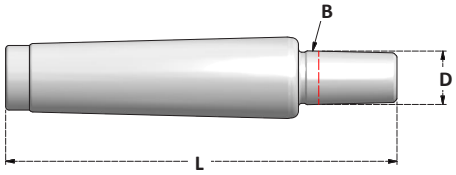
PROLUNGHE CONO MORSE
MORSE TAPER EXTENSIONS



Articolo	A1	A2	L	H
CMBL1-1	CM1	CM1	145	83
CMBL1-2	CM1	CM2	160	98
CMBL2-1	CM2	CM1	160	85
CMBL2-2	CM2	CM2	175	100
CMBL2-3	CM2	CM3	196	121
CMBL3-1	CM3	CM1	175	81
CMBL3-2	CM3	CM2	194	100
CMBL3-3	CM3	CM3	215	121
CMBL3-4	CM3	CM4	240	146
CMBL4-1	CM4	CM1	200	82,5
CMBL4-2	CM4	CM2	215	97,5
CMBL4-3	CM4	CM3	240	122,5
CMBL4-4	CM4	CM4	265	147,5
CMBL4-5	CM4	CM5	300	182,5
CMBL5-1	CM5	CM1	232	82,5
CMBL5-2	CM5	CM2	247	97,5
CMBL5-3	CM5	CM3	268	118,5
CMBL5-4	CM5	CM4	300	150,5
CMBL5-5	CM5	CM5	335	185,5
CMBL5-6	CM5	CM6	396	247
CMBL6-3	CM6	CM3	330	120
CMBL6-4	CM6	CM4	355	145
CMBL6-5	CM6	CM5	399	180
CMBL6-6	CM6	CM6	451	241



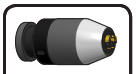
ATTACCHI PER MANDRINI AUTOSERRANTI
DRILL CHUCKS ARBORS



Articolo	L	B	D
CM1.B10	86	B10	10,094
CM1.B12	89	B12	12,065
CM1.B16	99	B16	15,733
CM2.B10	105	B10	10,094
CM2.B12	106	B12	12,065
CM2.B16	112	B16	15,733
CM2.B18	119	B18	17,78
CM3.B10	121	B10	10,094
CM3.B12	125	B12	12,065
CM3.B16	134	B16	15,733
CM3.B18	140	B18	17,78
CM4.B12	152,5	B12	12,065
CM4.B16	159	B16	15,733
CM4.B18	168	B18	17,78
CM5.B16	196	B16	15,733
CM5.B18	205	B18	17,78

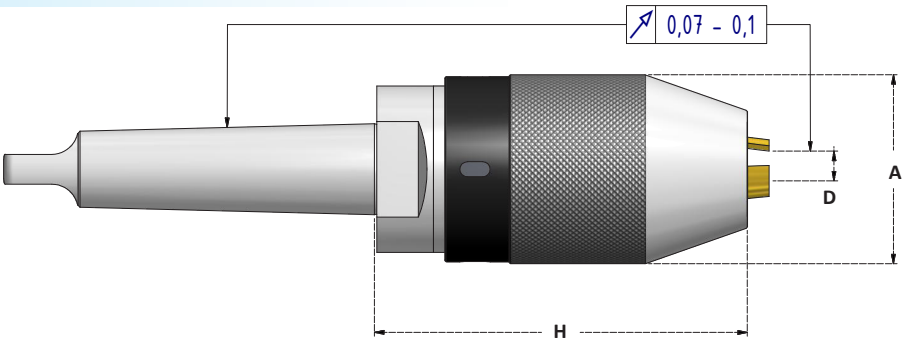
ACCESSORI - *ACCESSORIES*


P. 376
TENONI
TANGS


P. 379
AUTOSERRANTI
DRILL CHUCKS

MANDRINI PORTAPUNTA AUTOSERRANTI - ROTAZIONE DESTRA

DRILL CHUCKS - RIGHT ROTATION



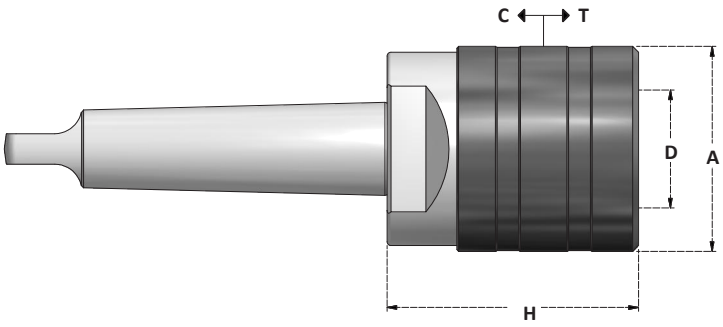
Articolo	D	H	A	Chiave Wrench
CM2B.H61.DCK8S	0,5 - 8	61	37,5	CH.DC8
CM2B.H70.DCK10S	0,5 - 10	70	43	CH.DC10
CM2B.H81.DCK13S	1- 13	81	50,5	CH.DC13
CM3B.H81.DCK13S	1 - 13	81	50,5	CH.DC13
CM4B.H81.DCK13S	1 - 13	81	50,5	CH.DC13
CM3B.H85.DCK16S	3 - 16	85	57	CH.DC16
CM4B.H85.DCK16S	3 - 16	85	57	CH.DC16

GRIFFE RIVESTITE IN TITANIO

TITANIUM COATED JAWS

ACCESSORI - *ACCESSORIES*

MASCHIATORI CON COMPENSAZIONE ASSIALE
TAPPING CHUCKS WITH AXIAL COMPENSATION



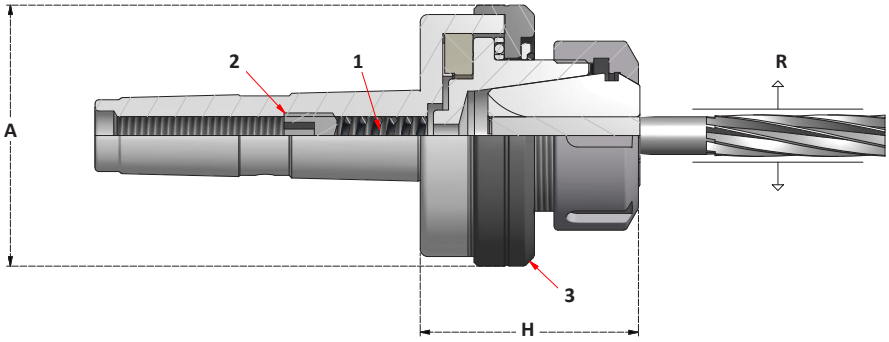
Articolo	Bussola Adapter	D	Tapping Range	H	A	T	C
CM2B.MCR1TC	B1 / BF1	19	M3÷M12	47	36	7,5	7,5
CM3B.MCR1TC	B1 / BF1	19	M3÷M12	47	36	7,5	7,5
CM3B.MCR2TC	B2 / BF2	31	M6÷M20	71	53	12,5	12,5
CM4B.MCR2TC	B2 / BF2	31	M6÷M20	72	53	12,5	12,5
CM4B.MCR3TC	B3 / BF3	48	M14÷M33	105	78	20	20
CM5B.MCR3TC	B3 / BF3	48	M14÷M33	105	78	20	20
CM5B.MCR4TC	B4 / BF4	60	M22÷M48	117	96	22,5	22,5

ACCESSORI - *ACCESSORIES*


P. 376
TENONI
TANGS


P. 371
PINZE
COLLETS

PORTA ALESATORI FLOTTANTI CON REFRIGERAZIONE INTERNA
FLOATING REAMER HOLDERS WITH COOLANT FLOW



Articolo	H	A	Collets Range	Ghiera Nut	R
CM2.RM11	40	42	1÷7	G11A.EX	± 1 mm
CM3.RM11	40	42	1÷7	G11A.EX	± 1 mm
CM2.RM16	44	42	1÷10	G16SE	± 1 mm
CM3.RM16	44	42	1÷10	G16SE	± 1 mm
CM2.RM20	50	50	1÷14	G20SE	± 1 mm
CM3.RM20	50	50	1÷14	G20SE	± 1 mm
CM2.RM25	53	57	1÷20	G25S	± 1 mm
CM3.RM25	53	57	1÷20	G25S	± 1 mm
CM3.RM32	58	69	2÷22	G32S	± 1,5 mm
CM4.RM32	58	69	2÷22	G32S	± 1,5 mm
CM3.RM40	64	79	3÷30	G40S	± 1,5 mm
CM4.RM40	64	79	3÷30	G40S	± 1,5 mm

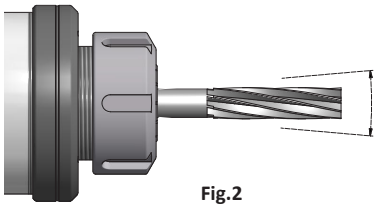


Fig.2

R = Capacità di movimento radiale
R = Radial stroke

L'alesatore oscilla su un cuscinetto a sfere per compensare gli errori di allineamento tra il mandrino della macchina e il pezzo in lavorazione.

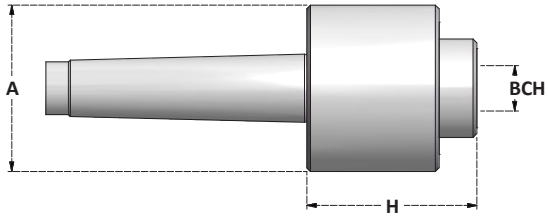
-La spinta della molla **1** mantiene l'utensile centrato anche in posizione orizzontale.
- La vite **2** regola la pressione della molla per regolare il movimento radiale.
- Allentando di 0,1/0,2mm la ghiera **3** si permette all'alesatore di avere un movimento pendolare. (Fig2)

Free mooving ball bearing drive, permit to the reamer to follow the drilled hole of the workpiece.

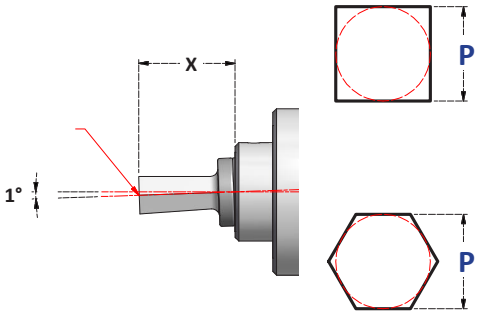
*- Pressure of spring **1** keeps reamer centered, even in horizontal position.*
*- Screw **2** allows adjustment of floating level.*
*- Unscrewing nut **3** for 0,1/0,2mm, reamer have a pendulum float. (Fig 2)*

ACCESSORI - *ACCESSORIES*

BROCCIATORI FISSI
BROACH TOOLHOLDERS



Articolo	BCH	H	A	X
CM2.BCH8	8	38	32	18
CM2.BCH12	12	46	44	25
CM3.BCH16	16	76	58	40
CM4.BCH16	16	76	58	40

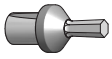


ISTRUZIONI D'USO
- DIAMETRO DI FORATURA
Eseguire una foratura maggiorata di 0,2 - 0,3mm rispetto alla quota **P** della brocciatura da eseguire per rendere meno gravoso l'avanzamento dell'utensile.
- GIRI DELLA BROCCIA
1000 - 1500 (giri/min)
- AVANZAMENTO DELLA BROCCIA
0,01 - 0,03 (mm/giro)
- LUNGHEZZA DELLE BROCCE
Per questi brocciatori è importante usare brocce con lunghezza **X**.

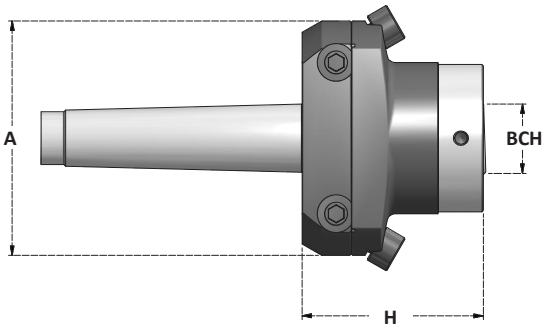
INSTRUCTIONS
- DRILLING DIAMETER
Make the hole 0,2-0,3mm larger than size **P** of broach.
- ROTATION SPEED
1000 - 1500 (rpm)
- FEED
0,01 - 0,03 (mm/rpm)
- BROACHING LENGHT
In this toolholder is important to use broaches with lenghts **X**.

ACCESSORI - *ACCESSORIES*

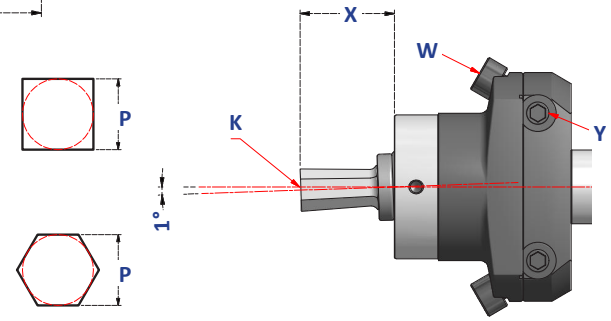

P. 376
TENONI
TANGS


P. 363
BROCCE
BROACHES

BROCCIATORI REGISTRABILI
ADJUSTABLE BROACH TOOLHOLDERS



Articolo	BCH	H	A
CM2.BCH8R	8	34	50
CM2.BCH12R	12	52	62



ISTRUZIONI D'USO

- DIAMETRO DI FORATURA
Eseguire una foratura maggiorata di 0,2 - 0,3mm rispetto alla quota **P** della brocciatura da eseguire per rendere meno gravoso l'avanzamento dell'utensile.

- GIRI DELLA BROCCIA
1000 - 1500 (giri/min)

- AVANZAMENTO DELLA BROCCIA
0,01 - 0,03 (mm/giro)

- LUNGHEZZA DELLE BROCCE
Si possono usare brocce di diversa lunghezza **X**, consentendo così di eseguire brocciature all'interno di incamerature relativamente poco profonde.

- CENTRATURA DELLA BROCCIA
La registrazione mediante le viti **Y** in senso laterale e le viti **W** in senso verticale permette di ottenere la centratura del punto **K** rispetto all'asse del gambo **D** più precisa rispetto ai tradizionali brocciatori non registrabili.

- DISASSAMENTO TORRETTA
Permette, nei casi in cui l'alloggiamento in macchina del gambo **D** non sia in asse con il mandrino della fantina, di correggere tale disassamento agendo sempre sulle viti di registrazione **Y** e **W**.

INSTRUCTIONS

- DRILLING DIAMETER
Make hole 0,2-0,3mm larger than size **P** of broach.

- ROTATION SPEED
1000 - 1500 (rpm)

- FEED
0,01 - 0,03 (mm/rpm)

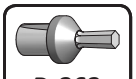
- BROACHING LENGHT
You can use different broaching lenghts **X**, so that you can even broach inside quite deep chambers.

- BROACH CENTRING
By adjusting screws **Y** sideways and screws **W** vertically, you can centre point **K** compared to centre-line of shaft **D**, which is more precise compared to traditional broaching toolholders that are not adjustable.

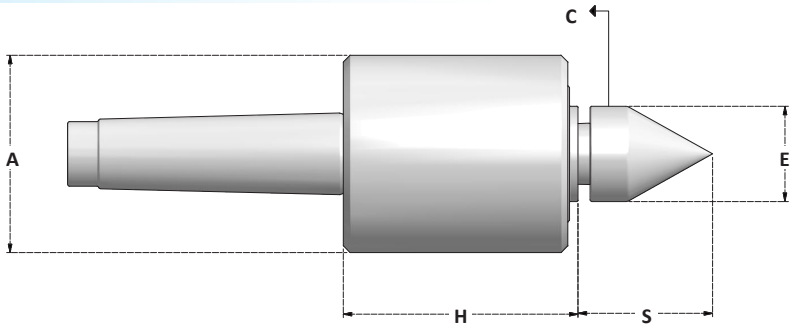
- TURRET OFFSET
If shaft is not lodged in machine centred with chuck of head stock, you can correct this offset again by adjusting screws **Y** and **W**.

ACCESSORI - *ACCESSORIES*


P. 376
TENONI
TANGS


P. 363
BROCCE
BROACHES

CONTROPUNTE ROTANTI CON COMPRESSIONE
LIVE CENTRES WITH COMPRESSION



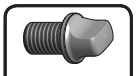
Articolo	H	A	E	S	C
CM3.CNP	71	58	28	34	2,5 *
CM4.CNP	71	58	28	34	2,5

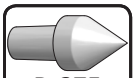
FORNITI CON CUSPIDE CNP.CS1
SUPPLIED WITH TIP CNP.CS1

CUSPIDI INTERCAMBIABILI
INTERCHANGEABLE TIPS

*** CORSA DI COMPRESSIONE**
** ABSORBER STROKE*

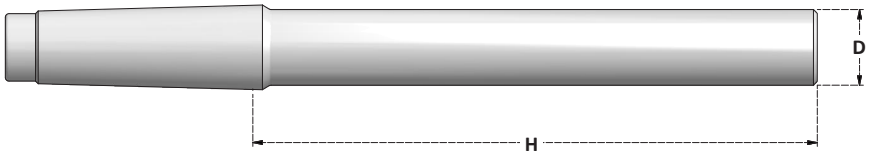
ACCESSORI - *ACCESSORIES*


P. 376
TENONI
TANGS


P. 375
CUSPIDI
TIPS

CM | CK | **ISO-R230**

MANDRINI DI COLLAUDO
TEST ARBORS



Articolo	D	H
CM4.H300.CK40	40	300
CM5.H300.CK50	50	300

FORNITI CON BOX E CERTIFICATO DI COLLAUDO

SUPPLIED IN BOX AND WITH TESTING REPORT