



KGER

Mandrino a pinze precise
ad elevato serraggio



**Perfetta stabilità
ed elevata precisione**



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Bilanciatura

Elevata Bilanciatura

G2.5
25.000 g/min

Conversione: G6.3 a 63.000 g/min

Tutti i mandrini sono finemente bilanciati G2,5 a 25.000 g/min. Questo consente la riduzione delle vibrazioni nelle lavorazioni in HSC e la preservazione linea mandrino della macchina utensile.

Precisione

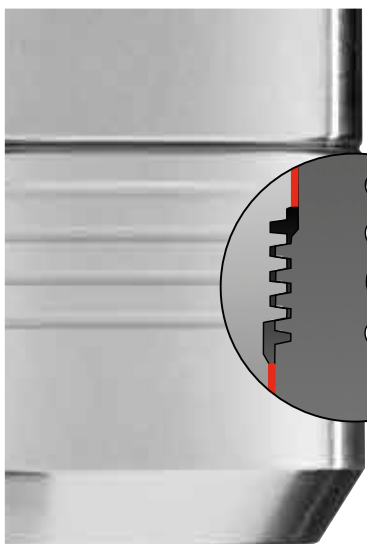
L'accuratezza del serraggio consente una precisione della concentricità dell'utensile entro i 2 µm. Questo permette di minimizzare le usure utensile e quindi di massimizzarne le durate, e di ottenere i migliori risultati nelle operazioni di finitura.

Con sporgenza 4xD

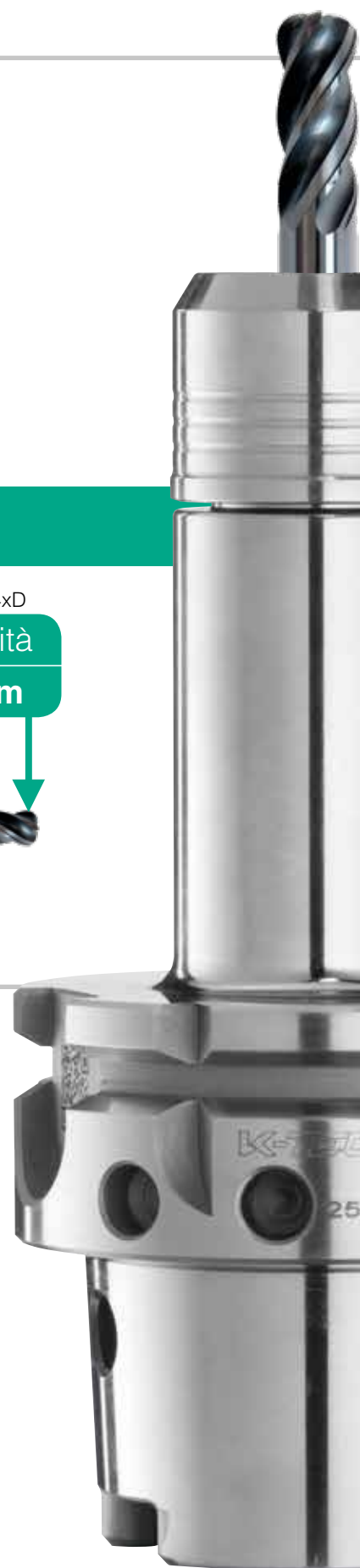
Concentricità
≤ 0.002 mm



Ripetibilità



Lo speciale sistema di doppia guida tra la ghiera e il mandrino consente di mantenere la perfetta concentricità tra i due componenti e quindi la costante elevata precisione in ogni montaggio, oltre a incrementare e uniformare la coppia di serraggio.

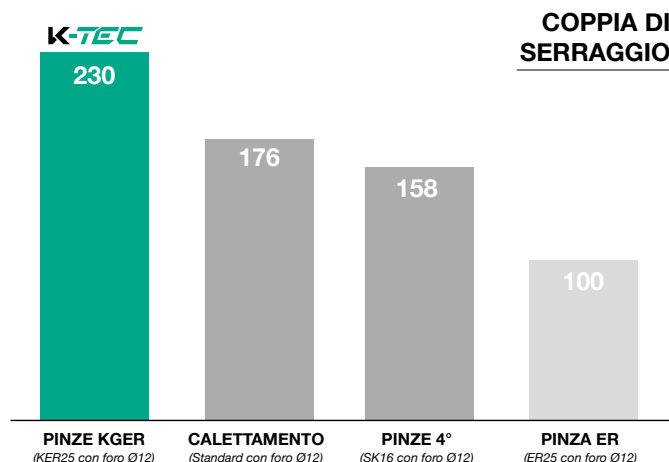


Elevata Coppia

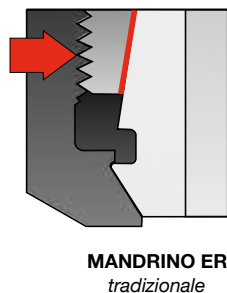
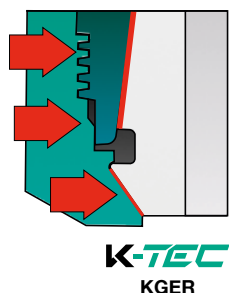


La filettatura di accoppiamento tra mandrino e ghiera, a differenza dei mandrini ER standard, è trapezoidale. Questo profilo unito al doppio centraggio di guida permette di aumentare notevolmente le coppie di serraggio e di conseguenza l'efficienza della lavorazione.

La coppia di serraggio dei mandrini KGER risulta fino al 30% superiore di un mandrino a calettamento a caldo, del 45% in più se rispetto a un mandrino a pinze con sformo ridotto di 4°, fino a superare più del doppio le coppie di un mandrino a ER tradizionale.



Stabilità

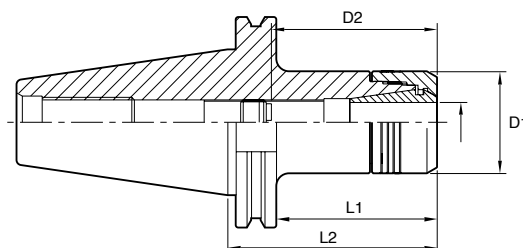
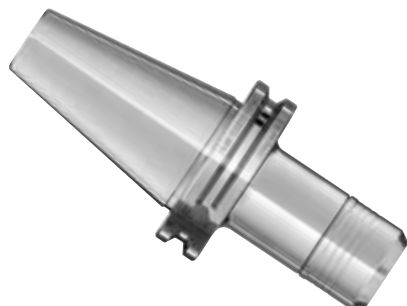


Il mandrino KGER, rispetto a un mandrino ER, consente alla pinza di andare completamente in appoggio sulla parte conica, aumentando la forza di serraggio e la stabilità dell'utensile. Inoltre la doppia guida allinea perfettamente la ghiera in asse con il corpo del mandrino, incrementando il serraggio anche sulla parte più esterna della pinza.

SK-KGER

Mandrini a pinze per alta velocità

Cono DIN 69871-A

DIN
69871TIPO
AG2.5
25.000
min⁻¹

Codice	Campo di serraggio	D1	D2	L1	L2
SK40-KGER16-75	1,0 - 10,0	30	30,5	55,9	75
SK40-KGER16-90	1,0 - 10,0	30	30,5	70,9	90
SK40-KGER16-150	1,0 - 10,0	30	30,5	130,9	150
SK40-KGER20-75	1,0 - 13,0	32	32,5	55,9	75
SK40-KGER20-90	1,0 - 13,0	32	32,5	70,9	90
SK40-KGER20-150	1,0 - 13,0	32	32,5	130,9	150
SK40-KGER25-75	2,0 - 16,0	40	40,5	55,9	75
SK40-KGER25-90	2,0 - 16,0	40	40,5	70,9	90
SK40-KGER25-150	2,0 - 16,0	40	40,5	130,9	150
SK40-KGER32-75	2,0 - 20,0	50	50,5	55,9	75
SK40-KGER32-90	2,0 - 20,0	50	50,5	70,9	90
SK40-KGER32-150	2,0 - 20,0	50	50,5	130,9	150

Accessori

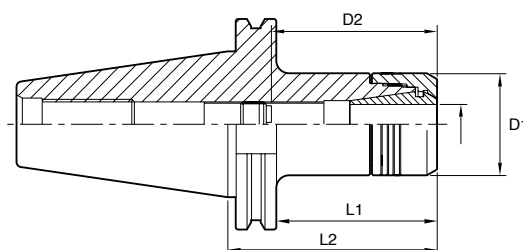
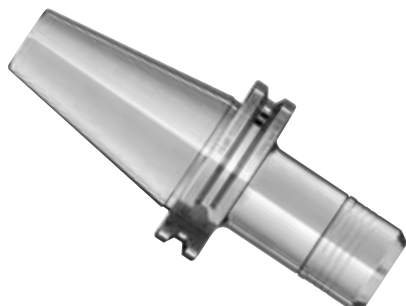


Codice	Ghiera	Pinza	Chiave
KGER16	KGER16	KER16	KH30
KGER20	KGER20	KER20	KH32
KGER25	KGER25	KER25	KH40
KGER32	KGER32	KER32	KH50

SK-KGER

Mandrini a pinze per alta velocità

Cono DIN 69871-A

DIN
69871TIPO
AG2.5
25.000
min⁻¹

Codice	Campo di serraggio	D1	D2	L1	L2
SK50-KGER16-105	1,0 - 10,0	30	30,5	85,9	105
SK50-KGER16-135	1,0 - 10,0	30	30,5	115,9	135
SK50-KGER16-165	1,0 - 10,0	30	30,5	145,9	165
SK50-KGER20-105	1,0 - 13,0	32	32,5	85,9	105
SK50-KGER20-135	1,0 - 13,0	32	32,5	115,9	135
SK50-KGER20-165	1,0 - 13,0	32	32,5	145,9	165
SK50-KGER25-105	2,0 - 16,0	40	40,5	85,9	105
SK50-KGER25-135	2,0 - 16,0	40	40,5	115,9	135
SK50-KGER25-165	2,0 - 16,0	40	40,5	145,9	165
SK50-KGER32-105	2,0 - 20,0	50	50,5	85,9	105
SK50-KGER32-135	2,0 - 20,0	50	50,5	115,9	135
SK50-KGER32-165	2,0 - 20,0	50	50,5	145,9	165

Accessori

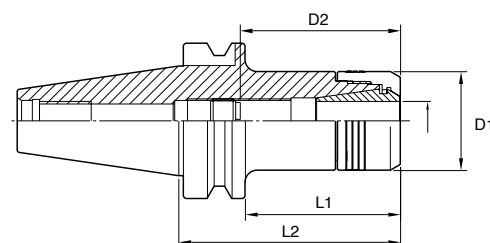
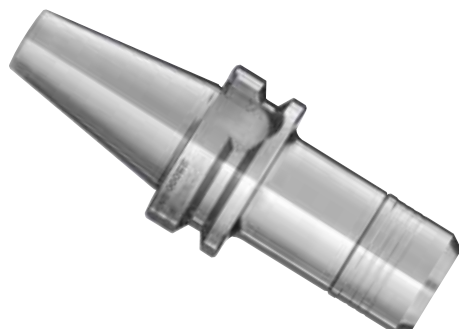


Codice	Ghiera	Pinza	Chiave
KGER16	KGER16	KER16	KH30
KGER20	KGER20	KER20	KH32
KGER25	KGER25	KER25	KH40
KGER32	KGER32	KER32	KH50

BT-KGER

Mandrini a pinze per alta velocità

Cono MAS-BT30

JIS
B6339
MAS 403 BTTIPO
A
 $\nabla = 0,002$

G2.5
25.000
min⁻¹

Codice	Campo di serraggio	D1	D2	L1	L2
BT30-KGER16-60	1,0 - 10,0	30	30,5	38	60
BT30-KGER16-75	1,0 - 10,0	30	30,5	53	75
BT30-KGER16-90	1,0 - 10,0	30	30,5	68	90
BT30-KGER16-120	1,0 - 10,0	30	30,5	98	120
BT30-KGER20-60	1,0 - 13,0	32	32,5	38	60
BT30-KGER20-75	1,0 - 13,0	32	32,5	53	75
BT30-KGER20-90	1,0 - 13,0	32	32,5	68	90
BT30-KGER20-120	1,0 - 13,0	32	32,5	98	120
BT30-KGER25-60	2,0 - 16,0	40	40,5	38	60
BT30-KGER25-75	2,0 - 16,0	40	40,5	53	75
BT30-KGER25-90	2,0 - 16,0	40	40,5	68	90
BT30-KGER25-120	2,0 - 16,0	40	40,5	98	120
BT30-KGER32-60	2,0 - 20,0	50	45	38	60
BT30-KGER32-75	2,0 - 20,0	50	45	53	75
BT30-KGER32-90	2,0 - 20,0	50	45	68	90
BT30-KGER32-120	2,0 - 20,0	50	45	98	120

Accessori

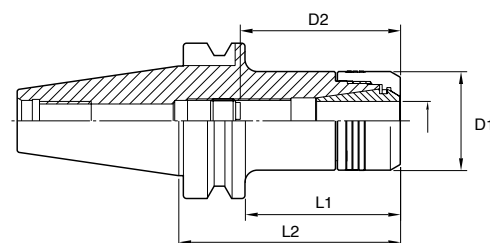
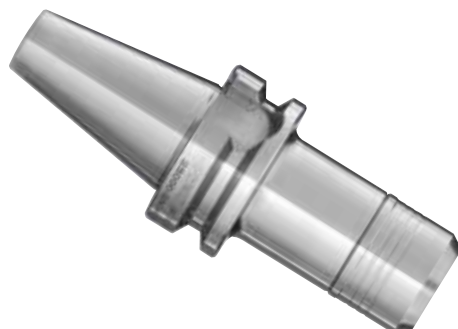


Codice	Ghiera	Pinza	Chiave
KGER16	KGER16	KER16	KH30
KGER20	KGER20	KER20	KH32
KGER25	KGER25	KER25	KH40
KGER32	KGER32	KER32	KH50

BT-KGER

Mandrini a pinze per alta velocità

Cono MAS-BT40



JIS
B6339
MAS 403 BT

TIPO
A

$\nabla = 0,002$

G2.5
25.000
min⁻¹

Codice	Campo di serraggio	D1	D2	L1	L2
BT40-KGER16-75	1,0 - 10,0	30	30,5	48	75
BT40-KGER16-90	1,0 - 10,0	30	30,5	63	90
BT40-KGER16-120	1,0 - 10,0	30	30,5	93	120
BT40-KGER16-150	1,0 - 10,0	30	30,5	123	150
BT40-KGER20-75	1,0 - 13,0	32	32,5	48	75
BT40-KGER20-90	1,0 - 13,0	32	32,5	63	90
BT40-KGER20-120	1,0 - 13,0	32	32,5	93	120
BT40-KGER20-150	1,0 - 13,0	32	32,5	123	150
BT40-KGER25-75	2,0 - 16,0	40	40,5	48	75
BT40-KGER25-90	2,0 - 16,0	40	40,5	63	90
BT40-KGER25-120	2,0 - 16,0	40	40,5	93	120
BT40-KGER25-150	2,0 - 16,0	40	40,5	123	150
BT40-KGER32-75	2,0 - 20,0	50	50,5	48	75
BT40-KGER32-90	2,0 - 20,0	50	50,5	63	90
BT40-KGER32-120	2,0 - 20,0	50	50,5	93	120
BT40-KGER32-150	2,0 - 20,0	50	50,5	123	150

Accessori

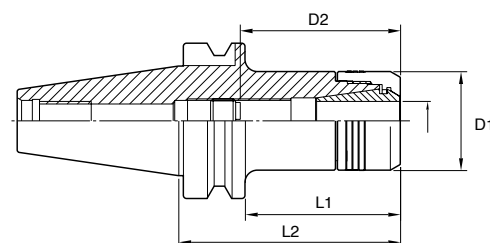
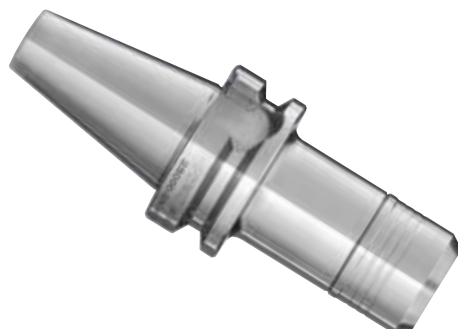


Codice	Ghiera	Pinza	Chiave
KGER16	KGER16	KER16	KH30
KGER20	KGER20	KER20	KH32
KGER25	KGER25	KER25	KH40
KGER32	KGER32	KER32	KH50

BT-KGER

Mandrini a pinze per alta velocità

Cono MAS-BT30

JIS
B6339
MAS 403 BTTIPO
A
 $\nabla = 0,002$

G2.5
25.000
min⁻¹

Codice	Campo di serraggio	D1	D2	L1	L2
BT50-KGER16-105	1,0 - 10,0	30	30,5	67	105
BT50-KGER16-135	1,0 - 10,0	30	30,5	97	135
BT50-KGER16-165	1,0 - 10,0	30	30,5	127	165
BT50-KGER20-105	1,0 - 13,0	32	32,5	67	105
BT50-KGER20-135	1,0 - 13,0	32	32,5	97	135
BT50-KGER20-165	1,0 - 13,0	32	32,5	127	165
BT50-KGER25-105	2,0 - 16,0	40	40,5	67	105
BT50-KGER25-135	2,0 - 16,0	40	40,5	97	135
BT50-KGER25-165	2,0 - 16,0	40	40,5	127	165
BT50-KGER25-200	2,0 - 16,0	40	40,5	162	200
BT50-KGER32-105	2,0 - 20,0	50	50,5	67	105
BT50-KGER32-135	2,0 - 20,0	50	50,5	97	135
BT50-KGER32-165	2,0 - 20,0	50	50,5	127	165
BT50-KGER32-200	2,0 - 20,0	50	50,5	162	200

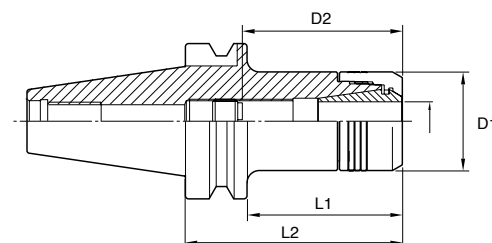
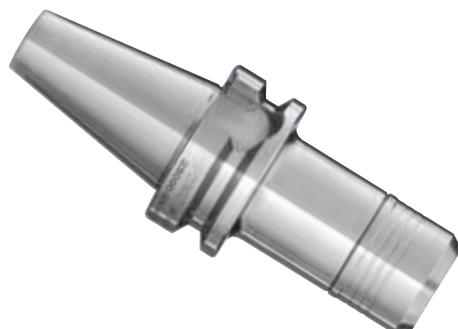
Accessori



Codice	Ghiera	Pinza	Chiave
KGER16	KGER16	KER16	KH30
KGER20	KGER20	KER20	KH32
KGER25	KGER25	KER25	KH40
KGER32	KGER32	KER32	KH50

BBT-KGER

Mandrini a pinze per alta velocità con Cono a doppia faccia di contatto



MAS 403 BT
«B»
DOPPIO
CONTATTO

TIPO
A

$\nabla = 0,002$

G2.5
25.000
min⁻¹

Codice	Campo di serraggio	D1	D2	L1	L2
BBT30-KGER16-60	1,0 - 10,0	30	30,5	39	60
BBT30-KGER16-75	1,0 - 10,0	30	30,5	54	75
BBT30-KGER16-90	1,0 - 10,0	30	30,5	69	90
BBT30-KGER16-120	1,0 - 10,0	30	30,5	99	120
BBT30-KGER20-60	1,0 - 13,0	32	32,5	39	60
BBT30-KGER20-75	1,0 - 13,0	32	32,5	54	75
BBT30-KGER20-90	1,0 - 13,0	32	32,5	69	90
BBT30-KGER20-120	1,0 - 13,0	32	32,5	99	120
BBT30-KGER25-60	2,0 - 16,0	40	40,5	39	60
BBT30-KGER25-75	2,0 - 16,0	40	40,5	54	75
BBT30-KGER25-90	2,0 - 16,0	40	40,5	69	90
BBT30-KGER25-120	2,0 - 16,0	40	40,5	99	120
BBT30-KGER32-60	2,0 - 20,0	50	45	39	60
BBT30-KGER32-75	2,0 - 20,0	50	45	54	75
BBT30-KGER32-90	2,0 - 20,0	50	45	69	90
BBT30-KGER32-120	2,0 - 20,0	50	45	99	120

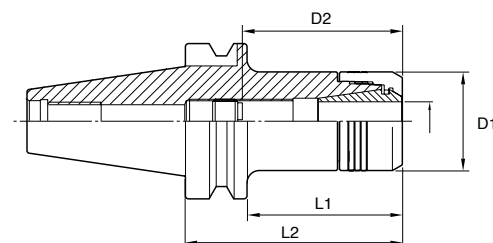
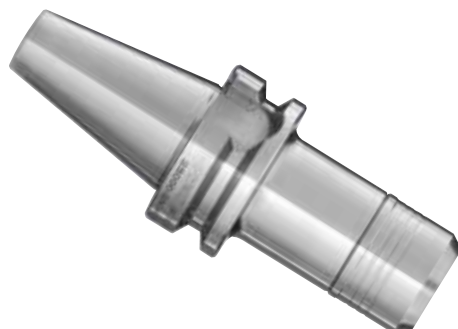
Accessori



Codice	Ghiera	Pinza	Chiave
KGER16	KGER16	KER16	KH30
KGER20	KGER20	KER20	KH32
KGER25	KGER25	KER25	KH40
KGER32	KGER32	KER32	KH50

BBT-KGER

Mandrini a pinze per alta velocità con Cono a doppia faccia di contatto

MAS 403 BT
«B»
DOPPIO
CONTATTOTIPO
A $\nabla = 0,002$
G2.5
25.000
min⁻¹

Codice	Campo di serraggio	D1	D2	L1	L2
BBT40-KGER16-75	1,0 - 10,0	30	30,5	49	75
BBT40-KGER16-90	1,0 - 10,0	30	30,5	64	90
BBT40-KGER16-120	1,0 - 10,0	30	30,5	94	120
BBT40-KGER16-150	1,0 - 10,0	30	30,5	124	150
BBT40-KGER20-75	1,0 - 13,0	32	32,5	49	75
BBT40-KGER20-90	1,0 - 13,0	32	32,5	64	90
BBT40-KGER20-120	1,0 - 13,0	32	32,5	94	120
BBT40-KGER20-150	1,0 - 13,0	32	32,5	124	150
BBT40-KGER25-75	2,0 - 16,0	40	40,5	49	75
BBT40-KGER25-90	2,0 - 16,0	40	40,5	64	90
BBT40-KGER25-120	2,0 - 16,0	40	40,5	94	120
BBT40-KGER25-150	2,0 - 16,0	40	40,5	124	150
BBT40-KGER32-75	2,0 - 20,0	50	50,5	49	75
BBT40-KGER32-90	2,0 - 20,0	50	50,5	64	90
BBT40-KGER32-120	2,0 - 20,0	50	50,5	94	120
BBT40-KGER32-150	2,0 - 20,0	50	50,5	124	150
BBT40-KGER32-200	2,0 - 20,0	50	50,5	174	200

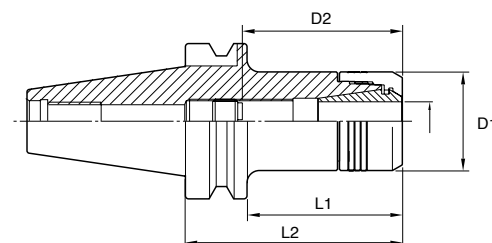
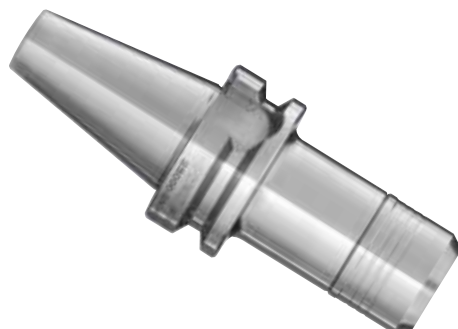
Accessori



Codice	Ghiera	Pinza	Chiave
KGER16	KGER16	KER16	KH30
KGER20	KGER20	KER20	KH32
KGER25	KGER25	KER25	KH40
KGER32	KGER32	KER32	KH50

BBT-KGER

Mandrini a pinze per alta velocità con Cono a doppia faccia di contatto



MAS 403 BT
«B»
DOPPIO
CONTATTO

TIPO
A

$\lambda = 0,002$

G2.5
25.000
min⁻¹

Codice	Campo di serraggio	D1	D2	L1	L2
BBT50-KGER16-105	1,0 - 10,0	30	30,5	68,5	105
BBT50-KGER16-135	1,0 - 10,0	30	30,5	98,5	135
BBT50-KGER16-165	1,0 - 10,0	30	30,5	128,5	165
BBT50-KGER20-105	1,0 - 13,0	32	32,5	68,5	105
BBT50-KGER20-135	1,0 - 13,0	32	32,5	98,5	135
BBT50-KGER20-165	1,0 - 13,0	32	32,5	128,5	165
BBT50-KGER25-105	2,0 - 16,0	40	40,5	68,5	105
BBT50-KGER25-135	2,0 - 16,0	40	40,5	98,5	135
BBT50-KGER25-165	2,0 - 16,0	40	40,5	128,5	165
BBT50-KGER25-200	2,0 - 16,0	40	40,5	163,5	200
BBT50-KGER32-105	2,0 - 20,0	50	50,5	68,5	105
BBT50-KGER32-135	2,0 - 20,0	50	50,5	98,5	135
BBT50-KGER32-165	2,0 - 20,0	50	50,5	128,5	165
BBT50-KGER32-200	2,0 - 20,0	50	50,5	163,5	200

Accessori

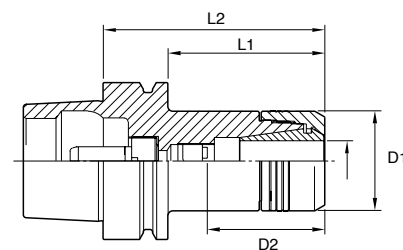


Codice	Ghiera	Pinza	Chiave
KGER16	KGER16	KER16	KH30
KGER20	KGER20	KER20	KH32
KGER25	KGER25	KER25	KH40
KGER32	KGER32	KER32	KH50

HSK-KGER

Mandrini a pinze per alta velocità

Cono HSK-E DIN 69893/E

DIN
69893TIPO
EG2.5
25.000
min⁻¹

Codice	Campo di serraggio	D1	D2	L1	L2
HSK40E-KGER16-70	1,0 - 10,0	30	30,5	50	70
HSK40E-KGER20-70	1,0 - 13,0	32	32,5	50	70
HSK40E-KGER25-70	2,0 - 16,0	40	38,5	50	70
HSK50E-KGER16-70	1,0 - 10,0	30	30,5	44	70
HSK50E-KGER20-70	1,0 - 13,0	32	32,5	44	70
HSK50E-KGER25-70	2,0 - 16,0	40	38,5	44	70
HSK50E-KGER32-75	2,0 - 20,0	50	48,5	49	75

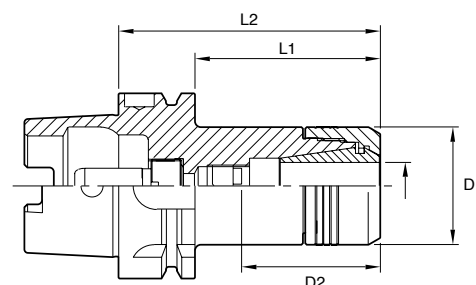
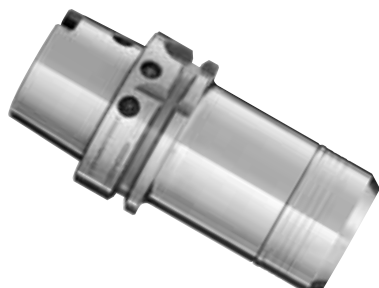
Accessori



Codice	Ghiera	Pinza	Chiave
KGER16	KGER16	KER16	KH30
KGER20	KGER20	KER20	KH32
KGER25	KGER25	KER25	KH40
KGER32	KGER32	KER32	KH50

HSK-KGER

Mandrini a pinze per alta velocità Cono HSK-A DIN 69893/A



DIN 69893	TIPO A	$\nabla = 0,002$ 	G2.5 25.000 min ⁻¹
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Codice	Campo di serraggio	D1	D2	L1	L2
HSK40A-KGER16-70	1,0 - 10,0	30	30,5	50	70
HSK40A-KGER20-70	1,0 - 13,0	32	32,5	50	70
HSK40A-KGER25-70	2,0 - 16,0	40	38,5	50	70
HSK50A-KGER16-100	1,0 - 10,0	30	30,5	74	100
HSK50A-KGER25-100	2,0 - 16,0	40	38,5	74	100
HSK50A-KGER32-100	2,0 - 20,0	50	48,5	74	100
HSK63A-KGER16-70	1,0 - 10,0	30	30,5	44	70
HSK63A-KGER16-100	1,0 - 10,0	30	30,5	74	100
HSK63A-KGER16-150	1,0 - 10,0	30	30,5	124	150
HSK63A-KGER20-70	1,0 - 13,0	32	32,5	44	70
HSK63A-KGER20-100	1,0 - 13,0	32	32,5	74	100
HSK63A-KGER20-150	1,0 - 13,0	32	32,5	124	150
HSK63A-KGER25-70	2,0 - 16,0	40	40,5	44	70
HSK63A-KGER25-100	2,0 - 16,0	40	40,5	74	100
HSK63A-KGER25-150	2,0 - 16,0	40	40,5	124	150
HSK63A-KGER32-80	2,0 - 20,0	50	50,5	54	80
HSK63A-KGER32-100	2,0 - 20,0	50	50,5	74	100
HSK63A-KGER32-150	2,0 - 20,0	50	50,5	124	150

Accessori

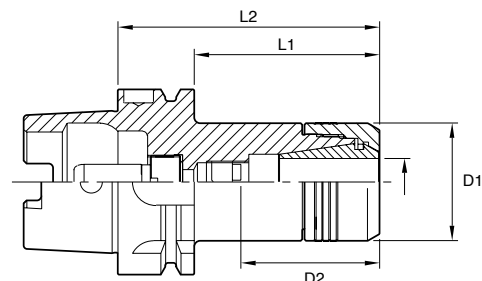
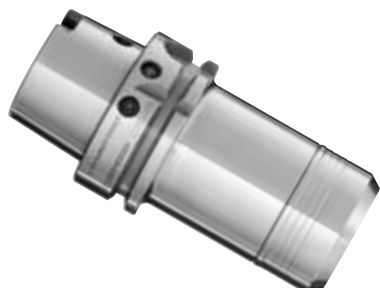


Codice	Ghiera	Pinza	Chiave
KGER16	KGER16	KER16	KH30
KGER20	KGER20	KER20	KH32
KGER25	KGER25	KER25	KH40
KGER32	KGER32	KER32	KH50

HSK-KGER

Mandrini a pinze per alta velocità

Cono HSK-A DIN 69893/A

DIN
69893TIPO
AG2.5
25.000
min⁻¹

Codice	Campo di serraggio	D1	D2	L1	L2
HSK100A-KGER16-100	1,0 - 10,0	30	30,5	71	100
HSK100A-KGER16-150	1,0 - 10,0	30	30,5	121	150
HSK100A-KGER20-100	1,0 - 13,0	32	32,5	71	100
HSK100A-KGER20-150	1,0 - 13,0	32	32,5	121	150
HSK100A-KGER25-100	2,0 - 16,0	40	40,5	71	100
HSK100A-KGER25-150	2,0 - 16,0	40	40,5	121	150
HSK100A-KGER25-165	2,0 - 16,0	40	40,5	131	165
HSK100A-KGER32-100	2,0 - 20,0	50	50,5	71	100
HSK100A-KGER32-150	2,0 - 20,0	50	50,5	121	150

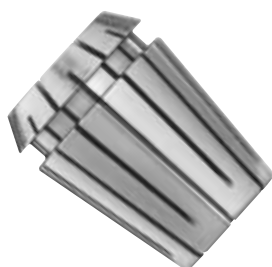
Accessori



Codice	Ghiera	Pinza	Chiave
KGER16	KGER16	KER16	KH30
KGER20	KGER20	KER20	KH32
KGER25	KGER25	KER25	KH40
KGER32	KGER32	KER32	KH50

KER

Pinze elastiche di precisione ER standard e stagne



CONCENTRICITÀ

0,002

STANDARD

Codice	Campo di serraggio
KER16-2N	Ø 1,0-2,0
KER16-3N	Ø 2,0-3,0
KER16-4N	Ø 3,0-4,0
KER16-5N	Ø 4,0-5,0
KER16-6N	Ø 5,0-6,0
KER16-7N	Ø 6,0-7,0
KER16-8N	Ø 7,0-8,0
KER16-9N	Ø 8,0-9,0
KER16-10N	Ø 9,0-10,0
KER20-2N	Ø 1,0-2,0
KER20-3N	Ø 2,0-3,0
KER20-4N	Ø 3,0-4,0
KER20-5N	Ø 4,0-5,0
KER20-6N	Ø 5,0-6,0
KER20-7N	Ø 6,0-7,0
KER20-8N	Ø 7,0-8,0
KER20-9N	Ø 8,0-9,0
KER20-10N	Ø 9,0-10,0
KER20-11N	Ø 10,0-11,0
KER20-12N	Ø 11,0-12,0
KER20-13N	Ø 12,0-13,0
KER25-3N	Ø 2,0-3,0
KER25-4N	Ø 3,0-4,0
KER25-5N	Ø 4,0-5,0
KER25-6N	Ø 5,0-6,0
KER25-7N	Ø 6,0-7,0
KER25-8N	Ø 7,0-8,0
KER25-9N	Ø 8,0-9,0
KER25-10N	Ø 9,0-10,0
KER25-11N	Ø 10,0-11,0
KER25-12N	Ø 11,0-12,0
KER25-13N	Ø 12,0-13,0
KER25-14N	Ø 13,0-14,0
KER25-15N	Ø 14,0-15,0
KER25-16N	Ø 15,0-16,0

Codice	Campo di serraggio
KER32-3N	Ø 2,0-3,0
KER32-4N	Ø 3,0-4,0
KER32-5N	Ø 4,0-5,0
KER32-6N	Ø 5,0-6,0
KER32-7N	Ø 6,0-7,0
KER32-8N	Ø 7,0-8,0
KER32-9N	Ø 8,0-9,0
KER32-10N	Ø 9,0-10,0
KER32-11N	Ø 10,0-11,0
KER32-12N	Ø 11,0-12,0
KER32-13N	Ø 12,0-13,0
KER32-14N	Ø 13,0-14,0
KER32-15N	Ø 14,0-15,0
KER32-16N	Ø 15,0-16,0
KER32-17N	Ø 16,0-17,0
KER32-18N	Ø 17,0-18,0
KER32-19N	Ø 18,0-19,0
KER32-20N	Ø 19,0-20,0

STAGNE

Codice	Campo di serraggio
KER16-4-OP	Ø 3,0-4,0
KER16-5-OP	Ø 4,0-5,0
KER16-6-OP	Ø 5,0-6,0
KER16-7-OP	Ø 6,0-7,0
KER16-8-OP	Ø 7,0-8,0
KER16-9-OP	Ø 8,0-9,0
KER16-10-OP	Ø 9,0-10,0
KER20-6-OP	Ø 5,0-6,0
KER20-7-OP	Ø 6,0-7,0
KER20-8-OP	Ø 7,0-8,0
KER20-9-OP	Ø 8,0-9,0
KER20-10-OP	Ø 9,0-10,0
KER20-11-OP	Ø 10,0-11,0
KER20-12-OP	Ø 11,0-12,0
KER20-13-OP	Ø 12,0-13,0
KER25-6-OP	Ø 5,0-6,0
KER25-7-OP	Ø 6,0-7,0
KER25-8-OP	Ø 7,0-8,0
KER25-9-OP	Ø 8,0-9,0
KER25-10-OP	Ø 9,0-10,0
KER25-11-OP	Ø 10,0-11,0
KER25-12-OP	Ø 11,0-12,0
KER25-13-OP	Ø 12,0-13,0
KER25-14-OP	Ø 13,0-14,0
KER25-15-OP	Ø 14,0-15,0
KER25-16-OP	Ø 15,0-16,0
KER32-8-OP	Ø 7,0-8,0
KER32-9-OP	Ø 8,0-9,0
KER32-10-OP	Ø 9,0-10,0
KER32-11-OP	Ø 10,0-11,0
KER32-12-OP	Ø 11,0-12,0
KER32-13-OP	Ø 12,0-13,0
KER32-14-OP	Ø 13,0-14,0
KER32-15-OP	Ø 14,0-15,0
KER32-16-OP	Ø 15,0-16,0
KER32-17-OP	Ø 16,0-17,0
KER32-18-OP	Ø 17,0-18,0
KER32-19-OP	Ø 18,0-19,0
KER32-20-OP	Ø 19,0-20,0



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