

KANTER





**SCHRUMPFUTTER
SHRINK FIT CHUCKS
MANDRINS DE FRETTAGE
MANDRINI A CALETTAMENTO**

- DIN 69893 PAG. 256-264
- DIN 69871 PAG. 265-269
- MAS 403/BT PAG. 270-275





SCHRUMPFPROGRAMM - Die Vorteile der Schrumpftechnik

- Ideale zur HSC-Bearbeitung
- Sehr schnelle Montage und Demontage des Werkzeuges in der Aufnahme
- Sehr hohe Präzision: Rundlaufgenauigkeit bis 0,003 mm.
- Höchste radial- und axiale Halterkraft, auch bei sehr hohen Geschwindigkeit
- Übertragbares Drehmoment wesentlich höher als bei allen anderen Systemen
- Vielfältige Anwendungsmöglichkeiten: Für Hartmetall und HSS Werkzeuge
- Optimale Oberflächengüte
- Hohe Lebensdauer des Werkzeuges und der Aufnahme

UNSERE SCHRUMPFPUTTER

- Aus hochlegiertem Sonderstahl, mit sehr hoher Dehnrate und Hitzebeständigkeit, spezifisch für Induktion
- Höchste Rundlaufgenauigkeit, max. Rundlauffehler 0.003 mm.
- Für HSC Bearbeitungen, feingewuchtet bis 15000 U/min in Klasse G6.3
- Für HSS und HM Werkzeuge (Schaft des Werkzeuges muß h6 sein)
- Sehr umfangreiches Programm: von MAS BT30/HSK32 bis SK50/HSK100



SHRINK TO FIT - Advantages of the Shrink-To.Fit Technology

- Particularly suitable for High Speed Machining
- Very quick assembling of the tools into the toolholders
- Extremely high precision, runout accuracy under the 0,003 mm.
- High radial and axial clamping force also by a very high speed
- The transferable torque is much higher than any other system
- Wide spread of applications: for HSS and carbide tools
- Excellent surface's quality
- Longer cutting edge's and holder's life

OUR SHRINK TO FIT CHUCKS

- High-alloy steel, very high temperature resistant, specific for Induction.
- High runout accuracy, max error 0.003 mm.
- For High Speed Machining, fine balanced up to 15000 rpm in class G6.3
- For HSS und carbide tools (with shank in h6)
- Very wide range: from MAS BT30/HSK32 to SK50/HSK100



FRETTAGE - Les avantages du système

- Idéal pour travailler à haute vitesse.
- Montage et démontage d'outil rapide
- Grande précision, couplage d'outil et porte outil inférieur à 0,003 mm.
- Avec grande vitesse on a une grande force de serrage soit axial que radial
- Couple de serrage supérieur à tous les autres systèmes
- Vaste possibilité d'usage: pour outil en carbure et en HSS
- Excellent finissage superficiel
- Supérieure dureté d'outil et du mandrin

NOS PORTE-OUTILS DE FRETTAGE

- En acier spécial pour travailler à hautes températures, spécifique pour le frettage à induction.
- Maximum concentricité, erreur de coaxialité maximum: 0.003 mm.
- Pour haute vitesse, ils sont équilibrés à 15000 T/min en classe G6.3
- Pour outils en carbure et en HSS avec tolérance de la queue h6
- Large gamme: de Mas BT 30/HSK32 à ISO50/HSK100



CALETTAMENTO A CALDO - I vantaggi del sistema

- Ideale per le lavorazioni ad alta velocità
- Rapido inserimento ed estrazione dell'utensile
- Altissima precisione, accoppiamento utensile portautensile con coassialità inferiore a 0,003 mm.
- Elevata forza di bloccaggio assiale e radiale anche ad altissime velocità
- Momento torcente di molto superiore a qualsiasi altro sistema
- Vasta possibilità d'impiego: per utensili in metallo duro e in HSS
- Ottima finitura superficiale
- Maggiore durata dell'utensile e del mandrino

I NOSTRI PORTAUTENSILI A CALDO

- In acciaio speciale per lavorazione ad elevate temperature, specifico per il calettamento ad induzione
- Massima concentricità, errore di coassialità massimo: 0.003 mm.
- Per alta velocità, equilibrati a 15000 rpm in classe G6.3
- Per utensili in metallo duro e HSS con tolleranza del gambo h6
- Vastissima gamma: da Mas BT 30/HSK32 a ISO50/HSK100

SCHRUMPFUTTER HSK 32 DIN 69893 Form A • SHRINK FIT CHUCKS HSK 32 DIN69893 TYPE A
MANDRINS DE FRETTAGE TYPE HSK 32 DIN 69893 A • MANDRINI A CALETTAMENTO HSK 32 DIN 69893 tipo A



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SCHRUMPFUTTER HSK 32 DIN 69893 Form E • SHRINK FIT CHUCKS HSK 32 DIN69893 TYPE E
MANDRINS DE FRETTAGE TYPE HSK 32 DIN 69893 E • MANDRINI A CALETTAMENTO HSK 32 DIN 69893 tipo E



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SCHRUMPFUTTER HSK 40 DIN 69893 Form A • SHRINK FIT CHUCKS HSK 40 DIN69893 TYPE A
MANDRINS DE FRETTAGE TYPE HSK 40 DIN 69893 A • MANDRINI A CALETTAMENTO HSK 40 DIN 69893 tipo A



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SCHRUMPFUTTER HSK 40 DIN 69893 Form E • SHRINK FIT CHUCKS HSK 40 DIN69893 TYPE E
MANDRINS DE FRETTAGE TYPE HSK 40 DIN 69893 E • MANDRINI A CALETTAMENTO HSK 40 DIN 69893 tipo E



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SCHRUMPFUTTER HSK 50 DIN 69893 Form A • SHRINK FIT CHUCKS HSK 50 DIN69893 TYPE A
MANDRINS DE FRETTAGE TYPE HSK 50 DIN 69893 A • MANDRINI A CALETTAMENTO HSK 50 DIN 69893 tipo A



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SCHRUMPFUTTER HSK 50 DIN 69893 Form E • SHRINK FIT CHUCKS HSK 50 DIN69893 TYPE E
MANDRINS DE FRETTAGE TYPE HSK 50 DIN 69893 E • MANDRINI A CALETTAMENTO HSK 50 DIN 69893 tipo E



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SCHRUMPFUTTER HSK 63 DIN 69893 Form A • SHRINK FIT CHUCKS HSK 63 DIN69893 TYPE A
MANDRINS DE FRETTAGE TYPE HSK 63 DIN 69893 A • MANDRINI A CALETTAMENTO HSK 63 DIN 69893 tipo A



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SCHRUMPFUTTER HSK 63 DIN 69893 Form A • SHRINK FIT CHUCKS HSK 63 DIN69893 TYPE A
MANDRINS DE FRETTAGE TYPE HSK 63 DIN 69893 A • MANDRINI A CALETTAMENTO HSK 63 DIN 69893 tipo A



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SCHRUMPFUTTER HSK 63 DIN 69893 Form E • SHRINK FIT CHUCKS HSK 63 DIN69893 TYPE E
MANDRINS DE FRETTAGE TYPE HSK 63 DIN 69893 E • MANDRINI A CALETTAMENTO HSK 63 DIN 69893 tipo E



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SCHRUMPFUTTER HSK 100 DIN 69893 Form A • SHRINK FIT CHUCKS HSK 100 DIN69893 TYPE A
MANDRINS DE FRETTAGE TYPE HSK 100 DIN 69893 A • MANDRINI A CALETTAMENTO HSK 100 DIN 69893 tipo A



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SCHRUMPFUTTER ISO 40 DIN 69871 AD • SHRINK FIT CHUCKS ISO 40 DIN 69871 AD
MANDRINS DE FRETTAGE TYPE ISO 40 DIN 69871 AD • MANDRINI A CALETTAMENTO ISO 40 DIN 69871 AD



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SCHRUMPFUTTER ISO 30 DIN 69871 AD • SHRINK FIT CHUCKS ISO 30 DIN 69871 AD
MANDRINS DE FRETTAGE TYPE ISO 30 DIN 69871 AD • MANDRINI A CALETTAMENTO ISO 30 DIN 69871 AD



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SCHRUMPFUTTER ISO 40 DIN 69871 AD/B • SHRINK FIT CHUCKS ISO 40 DIN 69871 AD/B
MANDRINS DE FRETTAGE TYPE ISO 40 DIN 69871 AD/B • MANDRINI A CALETTAMENTO ISO 40 DIN 69871 AD/B



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SCHRUMPFUTTER ISO 50 DIN 69871 AD/B • SHRINK FIT CHUCKS ISO 50 DIN 69871 AD/B
MANDRINS DE FRETTAGE TYPE ISO 50 DIN 69871 AD/B • MANDRINI A CALETTAMENTO ISO 50 DIN 69871 AD/B



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SCHRUMPFUTTER MAS BT-30 Form AD • SHRINK FIT CHUCKS MAS BT-30 type AD
MANDRINS DE FRETTAGE TYPE MAS BT-30 AD • MANDRINI A CALETTAMENTO MAS BT-30 tipo AD



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SCHRUMPFUTTER MAS BT-40 Form AD/B • SHRINK FIT CHUCKS MAS BT-40 type AD/B
MANDRINS DE FRETTAGE TYPE MAS BT-40 type AD/B • MANDRINI A CALETTAMENTO MAS BT-40 tipo AD/B



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SCHRUMPFUTTER MAS BT-50 Form AD/B • SHRINK FIT CHUCKS MAS BT-50 type AD/B
MANDRINS DE FRETTAGE TYPE MAS BT-50 AD/B • MANDRINI A CALETTAMENTO MAS BT-50 tipo AD/B



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SCHRUMPFVERLÄNGERUNGEN • SHRINKING EXTENSIONS
RALLONGES DE FRETTAGE • PROLUNGHE PER CALETTAMENTO



PAG. 274

KANAL

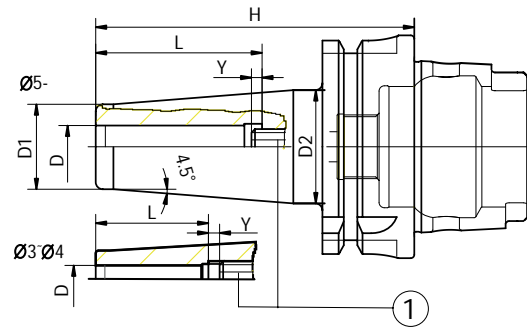
DIN 69893



SCHRUMPFUTTER HSK 32 DIN 69893 Form A
SHRINK FIT CHUCKS HSK 32 DIN69893 TYPE A

MANDRINS DE FRETTAGE TYPE HSK 32 DIN 69893 A
MANDRINI A CALETTAMENTO HSK 32 DIN 69893 tipo A

HSK 32A

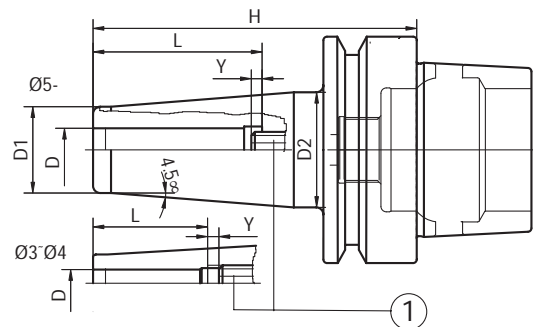


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	251-11793	HSK32AH60K04-HTT	4	60	26	10	10	16	•
	251-11794	HSK32AH60K05-HTT	5	60	30	10	10	16	•
	251-11795	HSK32AH70K06-HTT	6	70	36	10	21	25	•
	251-11796	HSK32AH70K08-HTT	8	70	36	10	21	25	•
	251-11797	HSK32AH75K10-HTT	10	75	41	10	24	29	•
	251-11798	HSK32AH80K12-HTT	12	80	47	10	24	29	•

SCHRUMPFUTTER HSK 32 DIN 69893 Form E
SHRINK FIT CHUCKS HSK 32 DIN69893 TYPE E

MANDRINS DE FRETTAGE TYPE HSK 32 DIN 69893 E
MANDRINI A CALETTAMENTO HSK 32 DIN 69893 tipo E

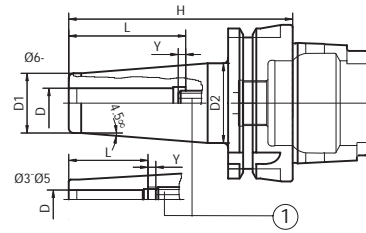
HSK 32E



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STANDARD	251-27315	HSK32EH60K03-HTT	3	60	22	10	10	16	•
	251-27316	HSK32EH60K04-HTT	4	60	26	10	10	16	•
	251-27317	HSK32EH60K05-HTT	5	60	30	10	10	16	•
	251-27307	HSK32EH70K06-HTT	6	70	36	10	21	25	•
	251-27308	HSK32EH70K08-HTT	8	70	36	10	21	25	•
	251-27309	HSK32EH75K10-HTT	10	75	41	10	24	29	•
	251-27318	HSK32EH80K12-HTT	12	80	47	10	24	29	•

SCHRUMPFUTTER HSK 40 DIN 69893 Form A
SHRINK FIT CHUCKS HSK 40 DIN69893 TYPE A

MANDRINS DE FRETTAGE TYPE HSK 40 DIN 69893 A
MANDRINI A CALETTAMENTO HSK 40 DIN 69893 tipo A

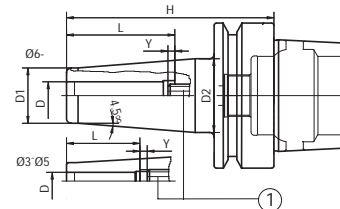


HSK 40A

Code N.	Description	D	H	L	Ymax	D1	D2	G6,3 15000	
STANDARD	251-11740	HSK40AH60K03-HTT	3	60	22	10	10	16	•
	251-11741	HSK40AH60K04-HTT	4	60	26	10	10	16	•
	251-11742	HSK40AH60K05-HTT	5	60	30	10	10	16	•
	251-11743	HSK40AH80K06-HTT	6	80	36	10	21	27	•
	251-11744	HSK40AH80K08-HTT	8	80	36	10	21	27	•
	251-11745	HSK40AH80K10-HTT	10	80	41	10	24	32	•
	251-21707	HSK40AH90K12-HTT	12	90	47	10	24	32	•
	251-11747	HSK40AH90K14-HTT	14	90	47	10	27	34	•
	251-21708	HSK40AH90K16-HTT	16	90	50	10	27	34	•
H120	251-21709	HSK40AH120K03-HTT	3	120	22	10	10	20	•
	251-21710	HSK40AH120K04-HTT	4	120	26	10	15	22	•
	251-21711	HSK40AH120K05-HTT	5	120	30	10	15	22	•
	251-21712	HSK40AH120K06-HTT	6	120	36	10	21	27	•
	251-21713	HSK40AH120K08-HTT	8	120	36	10	21	27	•
	251-21714	HSK40AH120K10-HTT	10	120	42	10	24	32	•
	251-21715	HSK40AH120K12-HTT	12	120	47	10	24	32	•
	251-21778	HSK40AH120K14-HTT	14	120	50	10	27	34	•
	251-21779	HSK40AH120K16-HTT	16	120	50	10	27	34	•

SCHRUMPFUTTER HSK 40 DIN 69893 Form E
SHRINK FIT CHUCKS HSK 40 DIN69893 TYPE E

MANDRINS DE FRETTAGE TYPE HSK 40 DIN 69893 E
MANDRINI A CALETTAMENTO HSK 40 DIN 69893 tipo E



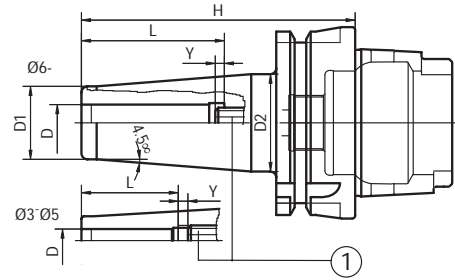
HSK 40E

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STANDARD	251-17374	HSK40EH60K03-HTT	3	60	22	10	10	16	•
	251-17375	HSK40EH60K04-HTT	4	60	26	10	10	16	•
	251-17376	HSK40EH60K05-HTT	5	60	30	10	10	16	•
	251-17333	HSK40EH80K06-HTT	6	80	36	10	21	27	•
	251-17334	HSK40EH80K08-HTT	8	80	36	10	21	27	•
	251-17335	HSK40EH80K10-HTT	10	80	41	10	24	32	•
	251-27322	HSK40EH90K12-HTT	12	90	47	10	24	32	•
	251-17378	HSK40EH90K14-HTT	14	90	47	10	27	34	•
	251-27323	HSK40EH90K16-HTT	16	90	50	10	27	34	•
H120	251-17380	HSK40EH120K03-HTT	3	120	22	10	10	20	•
	251-17381	HSK40EH120K04-HTT	4	120	26	10	15	22	•
	251-17382	HSK40EH120K05-HTT	5	120	30	10	15	22	•
	251-17383	HSK40EH120K06-HTT	6	120	36	10	21	27	•
	251-17384	HSK40EH120K08-HTT	8	120	36	10	21	27	•
	251-17385	HSK40EH120K10-HTT	10	120	42	10	24	32	•
	251-17386	HSK40EH120K12-HTT	12	120	47	10	24	32	•
	251-27348	HSK40EH120K14-HTT	14	120	50	10	27	34	•
	251-27349	HSK40EH120K16-HTT	16	120	50	10	27	34	•

SCHRUMPFUTTER HSK 50 DIN 69893 Form A
SHRINK FIT CHUCKS HSK 50 DIN69893 TYPE A

MANDRINS DE FRETTAGE TYPE HSK 50 DIN 69893 A
MANDRINI A CALETTAMENTO HSK 50 DIN 69893 tipo A

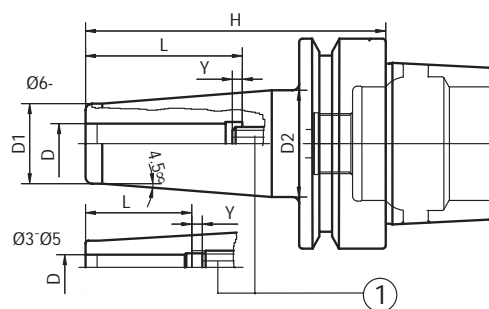
HSK 50A



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STANDARD	251-21716	HSK50AH80K03-HTT	3	80	19	10	10	18	•
	251-21717	HSK50AH80K04-HTT	4	80	22	10	10	18	•
	251-21718	HSK50AH80K05-HTT	5	80	28	10	10	20	•
	251-21719	HSK50AH80K06-HTT	6	80	36	10	21	27	•
	251-21720	HSK50AH80K08-HTT	8	80	36	10	21	27	•
	251-21721	HSK50AH85K10-HTT	10	85	42	10	24	32	•
	251-11704	HSK50AH90K12-HTT	12	90	47	10	24	32	•
	251-11705	HSK50AH90K14-HTT	14	90	47	10	27	34	•
	251-11706	HSK50AH95K16-HTT	16	95	50	10	27	34	•
	251-11715	HSK50AH95K18-HTT	18	95	50	10	33	42	•
	251-11716	HSK50AH100K20-HTT	20	100	52	10	33	42	•
H120	251-21722	HSK50AH120K03-HTT	3	120	19	10	10	22	•
	251-21723	HSK50AH120K04-HTT	4	120	22	10	10	22	•
	251-21724	HSK50AH120K05-HTT	5	120	28	10	10	24	•
	251-11717	HSK50AH120K06-HTT	6	120	36	10	21	27	•
	251-11718	HSK50AH120K08-HTT	8	120	36	10	21	27	•
	251-11719	HSK50AH120K10-HTT	10	120	42	10	24	32	•
	251-11720	HSK50AH120K12-HTT	12	120	47	10	24	32	•
	251-11721	HSK50AH120K14-HTT	14	120	47	10	27	34	•
	251-11722	HSK50AH120K16-HTT	16	120	50	10	27	34	•
	251-21780	HSK50AH120K18-HTT	18	120	50	10	33	42	•
	251-21781	HSK50AH120K20-HTT	20	120	52	10	33	42	•

SCHRUMPFUTTER HSK 50 DIN 69893 Form E MANDRINS DE FRETTAGE TYPE HSK 50 DIN 69893 E
 SHRINK FIT CHUCKS HSK 50 DIN69893 TYPE E MANDRINI A CALETTAMENTO HSK 50 DIN 69893 tipo E

HSK 50E

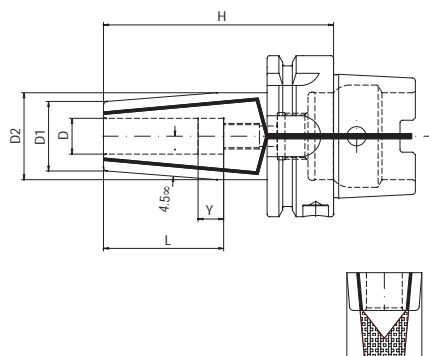


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	251-27325	HSK50EH80K04-HTT	4	80	26	10	15	18	•
	251-27326	HSK50EH80K05-HTT	5	80	30	10	15	20	•
	251-27327	HSK50EH80K06-HTT	6	80	36	10	21	27	•
	251-27328	HSK50EH80K08-HTT	8	80	36	10	21	27	•
	251-27329	HSK50EH85K10-HTT	10	85	41	10	24	36	•
	251-17304	HSK50EH90K12-HTT	12	90	47	10	24	32	•
	251-17305	HSK50EH90K14-HTT	14	90	47	10	27	34	•
	251-17306	HSK50EH95K16-HTT	16	95	50	10	27	34	•
	251-17315	HSK50EH95K18-HTT	18	95	50	10	33	42	•
251-17316	HSK50EH100K20-HTT	20	100	52	10	33	42	•	
H120	251-27330	HSK50EH120K03-HTT	3	120	22	10	10	20	•
	251-27331	HSK50EH120K04-HTT	4	120	26	10	15	22	•
	251-27332	HSK50EH120K05-HTT	5	120	30	10	15	22	•
	251-17317	HSK50EH120K06-HTT	6	120	36	10	21	27	•
	251-17318	HSK50EH120K08-HTT	8	120	36	10	21	27	•
	251-17319	HSK50EH120K10-HTT	10	120	41	10	24	32	•
	251-17320	HSK50EH120K12-HTT	12	120	47	10	24	32	•
	251-17321	HSK50EH120K14-HTT	14	120	47	10	27	34	•
	251-17322	HSK50EH120K16-HTT	16	120	50	10	27	34	•
	251-27350	HSK50EH120K18-HTT	18	120	50	10	33	42	•
251-27351	HSK50EH120K20-HTT	20	120	52	10	33	42	•	

SCHRUMPFUTTER HSK 63 DIN 69893 Form A
SHRINK FIT CHUCKS HSK 63 DIN69893 TYPE A

MANDRINS DE FRETTAGE TYPE HSK 63 DIN 69893 A
MANDRINI A CALETTAMENTO HSK 63 DIN 69893 tipo A

HSK 63A

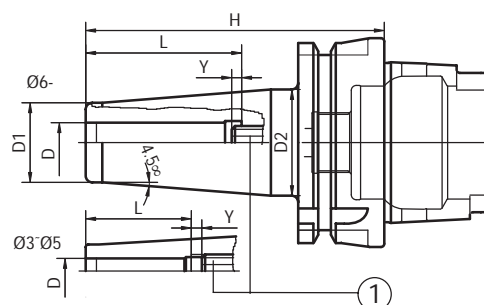


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	251-21766	HSK63AH80K04-HTT	4	80	26	10	15	22	•
	251-21767	HSK63AH80K05-HTT	5	80	10	10	15	22	•
	251-21768	HSK63AH80K06-HTT	6	80	36	10	21	27	•
	251-21769	HSK63AH80K08-HTT	8	80	36	10	21	27	•
	251-21770	HSK63AH85K10-HTT	10	85	41	10	24	32	•
	251-21771	HSK63AH90K12-HTT	12	90	47	10	24	32	•
	251-21772	HSK63AH90K14-HTT	14	90	47	10	27	34	•
	251-21773	HSK63AH95K16-HTT	16	95	50	10	27	34	•
	251-21774	HSK63AH95K18-HTT	18	95	50	10	33	42	•
	251-21775	HSK63AH100K20-HTT	20	100	52	10	33	42	•
	251-21776	HSK63AH115K25-HTT	25	115	58	10	44	53	•
	251-21777	HSK63AH120K32-HTT	32	120	62	10	44	53	•

With cooling through collar
Con passaggio refrigerante interno

SCHRUMPFUTTER HSK 63 DIN 69893 Form A MANDRINS DE FRETTAGE TYPE HSK 63 DIN 69893 A
 SHRINK FIT CHUCKS HSK 63 DIN 69893 TYPE A MANDRINI A CALETTAMENTO HSK 63 DIN 69893 tipo A

HSK 63A

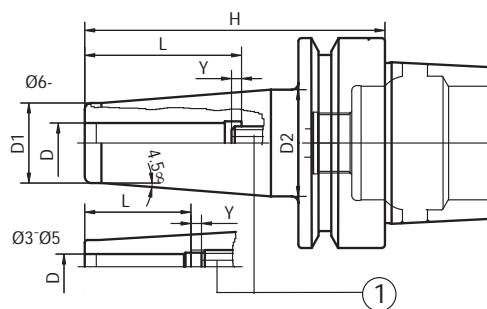


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STANDARD	251-21725	HSK63AH80K03-HTT	3	80	14	10	10	18	•
	251-21726	HSK63AH80K04-HTT	4	80	18	10	10	18	•
	251-21727	HSK63AH80K05-HTT	5	80	22	10	10	18	•
	251-21728	HSK63AH80K06-HTT	6	80	36	10	21	27	•
	251-21729	HSK63AH80K08-HTT	8	80	36	10	21	27	•
	251-21730	HSK63AH85K10-HTT	10	85	42	10	24	32	•
	251-11710	HSK63AH90K12-HTT	12	90	47	10	24	32	•
	251-11711	HSK63AH90K14-HTT	14	90	47	10	27	34	•
	251-11712	HSK63AH95K16-HTT	16	95	50	10	27	34	•
	251-11713	HSK63AH95K18-HTT	18	95	50	10	33	42	•
	251-11714	HSK63AH100K20-HTT	20	100	52	10	33	42	•
	251-21731	HSK63AH115K25-HTT	25	115	58	10	44	53	•
	251-21782	HSK63AH120K32-HTT	32	120	62	10	44	53	•
H120	251-21732	HSK63AH120K03-HTT	3	120	22	10	10	20	•
	251-21733	HSK63AH120K04-HTT	4	120	26	10	15	22	•
	251-21734	HSK63AH120K05-HTT	5	120	30	10	15	22	•
	251-11725	HSK63AH120K06-HTT	6	120	36	10	21	27	•
	251-11726	HSK63AH120K08-HTT	8	120	36	10	21	27	•
	251-11727	HSK63AH120K10-HTT	10	120	41	10	24	32	•
	251-11728	HSK63AH120K12-HTT	12	120	47	10	24	32	•
	251-11729	HSK63AH120K14-HTT	14	120	47	10	27	34	•
	251-11730	HSK63AH120K16-HTT	16	120	50	10	27	34	•
	251-21783	HSK63AH120K18-HTT	18	120	50	10	33	42	•
	251-21784	HSK63AH120K20-HTT	20	120	52	10	33	42	•
251-21785	HSK63AH120K25-HTT	25	120	58	10	44	53	•	
H160	251-21786	HSK63AH160K03-HTT	3	160	22	10	10	20	•
	251-21787	HSK63AH160K04-HTT	4	160	26	10	15	22	•
	251-21788	HSK63AH160K05-HTT	5	160	30	10	15	22	•
	251-21789	HSK63AH160K06-HTT	6	160	36	10	21	27	•
	251-21790	HSK63AH160K08-HTT	8	160	36	10	21	27	•
	251-21791	HSK63AH160K10-HTT	10	160	41	10	24	32	•
	251-21792	HSK63AH160K12-HTT	12	160	47	10	24	32	•
	251-21793	HSK63AH160K14-HTT	14	160	47	10	27	34	•
	251-21794	HSK63AH160K16-HTT	16	160	50	10	27	34	•
	251-21795	HSK63AH160K18-HTT	18	160	50	10	33	42	•
	251-21796	HSK63AH160K20-HTT	20	160	52	10	33	42	•
	251-21797	HSK63AH160K25-HTT	25	160	62	10	44	53	•
	251-21798	HSK63AH160K32-HTT	32	160	62	10	44	53	•

SCHRUMPFUTTER HSK 63 DIN 69893 Form E
SHRINK FIT CHUCKS HSK 63 DIN69893 TYPE E

MANDRINS DE FRETTAGE TYPE HSK 63 DIN 69893 E
MANDRINI A CALETTAMENTO HSK 63 DIN 69893 tipo E

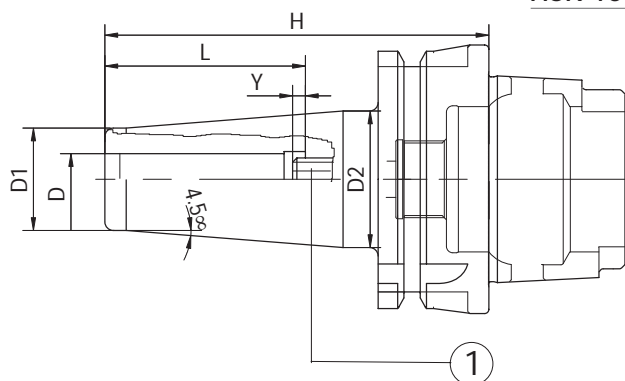
HSK 63E



	Code N.	Description	D	H	L	Ymax	D1	D2	G6,3 15000
STANDARD	251-27333	HSK63EH80K03-HTT	3	80	22	10	10	15	•
	251-27334	HSK63EH80K04-HTT	4	80	26	10	15	22	•
	251-27335	HSK63EH80K05-HTT	5	80	30	10	15	22	•
	251-27336	HSK63EH80K06-HTT	6	80	36	10	21	27	•
	251-27337	HSK63EH80K08-HTT	8	80	36	10	21	27	•
	251-27338	HSK63EH85K10-HTT	10	85	41	10	24	32	•
	251-17310	HSK63EH90K12-HTT	12	90	47	10	24	32	•
	251-17311	HSK63EH90K14-HTT	14	90	47	10	27	34	•
	251-17312	HSK63EH95K16-HTT	16	95	50	10	27	34	•
	251-17313	HSK63EH95K18-HTT	18	95	50	10	33	42	•
	251-17314	HSK63EH100K20-HTT	20	100	52	10	33	42	•
	251-27339	HSK63EH115K25-HTT	25	115	58	10	44	53	•
	251-27356	HSK63EH115K32-HTT	32	120	62	10	44	53	•
H120	251-27340	HSK63EH120K03-HTT	3	120	19	10	10	20	•
	251-27341	HSK63EH120K04-HTT	4	120	26	10	15	22	•
	251-27342	HSK63EH120K05-HTT	5	120	30	10	15	22	•
	251-17325	HSK63EH120K06-HTT	6	120	36	10	21	27	•
	251-17326	HSK63EH120K08-HTT	8	120	36	10	21	27	•
	251-17327	HSK63EH120K10-HTT	10	120	41	10	24	32	•
	251-17328	HSK63EH120K12-HTT	12	120	47	10	24	32	•
	251-17329	HSK63EH120K14-HTT	14	120	47	10	27	34	•
	251-17330	HSK63EH120K16-HTT	16	120	50	10	27	34	•
	251-27352	HSK63EH120K18-HTT	18	120	50	10	33	42	•
	251-27353	HSK63EH120K20-HTT	20	120	52	10	33	42	•
	251-27354	HSK63EH120K25-HTT	25	120	58	10	44	53	•
	251-27355	HSK63EH120K32-HTT	32	120	62	10	44	53	•

SCHRUMPFUTTER HSK 100 DIN 69893 Form A MANDRINS DE FRETTAGE TYPE HSK 100 DIN 69893 A
 SHRINK FIT CHUCKS HSK 100 DIN 69893 TYPE A MANDRINI A CALETTAMENTO HSK 100 DIN 69893 tipo A

HSK 100A



	Code N.	Description	D	H	L	Y _{max}	D1	D2	G6,3 15000
STANDARD	251-21735	HSK100AH85K06-HTT	6	85	36	10	21	27	•
	251-21736	HSK100AH85K08-HTT	8	85	36	10	21	27	•
	251-21737	HSK100AH90K10-HTT	10	90	41	10	24	32	•
	251-21738	HSK100AH95K12-HTT	12	95	47	10	24	32	•
	251-21739	HSK100AH95K14-HTT	14	95	47	10	27	34	•
	251-21740	HSK100AH100K16-HTT	16	100	50	10	27	34	•
	251-21741	HSK100AH100K18-HTT	18	100	50	10	33	42	•
	251-21742	HSK100AH105K20-HTT	20	105	52	10	33	42	•
	251-21743	HSK100AH115K25-HTT	25	115	58	10	44	53	•
	251-21799	HSK100AH120K32-HTT	32	120	62	10	44	53	•
EXTENDED	251-21744	HSK100AH120K06-HTT	6	120	36	10	21	27	•
	251-21745	HSK100AH120K08-HTT	8	120	36	10	21	27	•
	251-21746	HSK100AH120K10-HTT	10	120	41	10	24	32	•
	251-21747	HSK100AH120K12-HTT	12	120	47	10	24	32	•
	251-21748	HSK100AH120K14-HTT	14	120	47	10	27	34	•
	251-21749	HSK100AH120K16-HTT	16	120	50	10	27	34	•
	251-21750	HSK100AH120K18-HTT	18	120	50	10	33	42	•
	251-21751	HSK100AH120K20-HTT	20	120	52	10	33	42	•
	251-31701	HSK100AH160K25-HTT	25	160	58	10	44	53	•
	251-31702	HSK100AH160K32-HTT	32	160	62	10	44	53	•

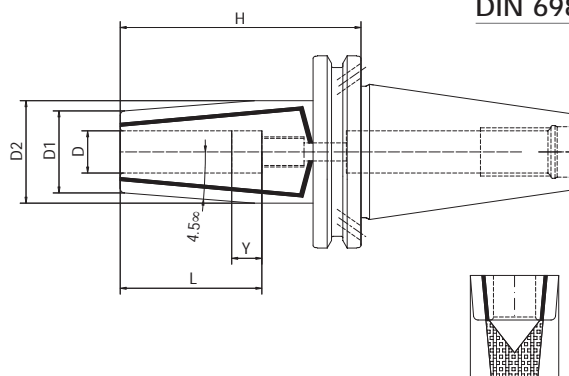
KAMATEK

DIN 6987 I



SCHRUMPFUTTER ISO 40 DIN 69871 AD MANDRINS DE FRETTAGE TYPE ISO 40 DIN 69871 AD
 SHRINK FIT CHUCKS ISO 40 DIN 69871 AD MANDRINI A CALETTAMENTO ISO 40 DIN 69871 AD

DIN 69871 AD



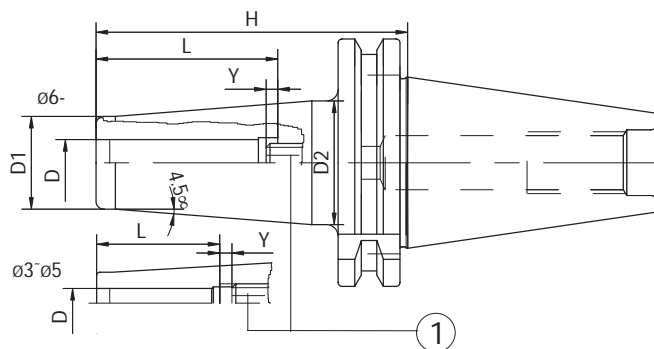
Code N.	Description	D	H	L	Ymax	D1	D2	G6,3 15000
251-21218	TC40H80K03-HTT	3	80	22	10	10	20	•
251-21219	TC40H80K04-HTT	4	80	26	10	15	25	•
251-21220	TC40H80K05-HTT	5	80	30	10	15	25	•
251-21221	TC40H80K06-HTT	6	80	36	10	21	27	•
251-21222	TC40H80K08-HTT	8	80	36	10	21	27	•
251-21223	TC40H80K10-HTT	10	80	41	10	24	32	•
251-21224	TC40H80K12-HTT	12	80	47	10	24	32	•
251-21225	TC40H80K14-HTT	14	80	47	10	27	34	•
251-21226	TC40H80K16-HTT	16	80	50	10	27	34	•
215-21227	TC40H80K18-HTT	18	80	50	10	33	42	•
251-21228	TC40H80K20-HTT	20	80	52	10	33	42	•
251-21229	TC40H100K25-HTT	25	100	58	10	44	53	•
251-21230	TC40H100K32-HTT	32	100	62	10	44	53	•

With cooling through collar
Con passaggio refrigerante interno

SCHRUMPFUTTER ISO 30 DIN 69871 AD
SHRINK FIT CHUCKS ISO 30 DIN 69871 AD

MANDRINS DE FRETTAGE TYPE ISO 30 DIN 69871 AD
MANDRINI A CALETTAMENTO ISO 30 DIN 69871 AD

DIN 69871 AD



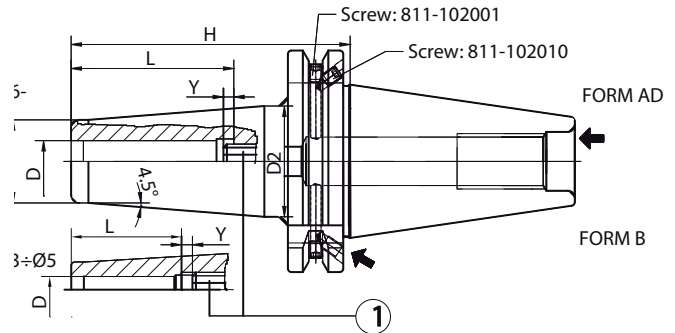
Code N.	Description	D	H	L	Y _{max}	D1	D2	G6,3 15000
251-11279	TC30H80K03-HTT	3	80	14	10	10	19	•
251-11280	TC30H80K04-HTT	4	80	18	10	10	19	•
251-11281	TC30H80K05-HTT	5	80	22	10	10	19	•
251-11282	TC30H80K06-HTT	6	80	36	10	21	27	•
251-11283	TC30H80K08-HTT	8	80	36	10	21	27	•
251-11284	TC30H80K10-HTT	10	80	42	10	24	32	•
251-11285	TC30H80K12-HTT	12	80	47	10	24	32	•
251-11286	TC30H80K14-HTT	14	80	47	10	27	34	•
251-11287	TC30H80K16-HTT	16	80	50	10	27	34	•
251-21231	TC30H80K18-HTT	18	80	50	10	33	42	•
251-21232	TC30H80K20-HTT	20	80	52	10	33	42	•

STANDARD

SCHRUMPFUTTER ISO 40 DIN 69871 AD/B
SHRINK FIT CHUCKS ISO 40 DIN 69871 AD/B

MANDRINS DE FRETTAGE TYPE ISO 40 DIN 69871 AD/B
MANDRINI A CALETTAMENTO ISO 40 DIN 69871 AD/B

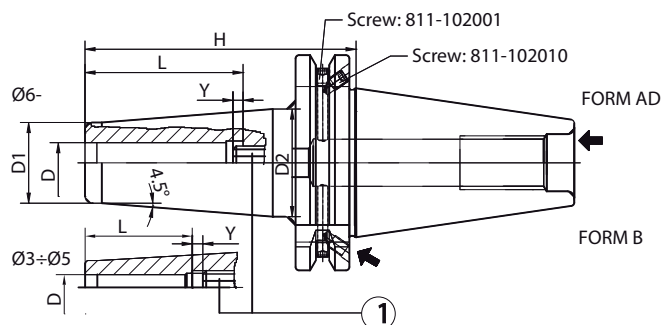
DIN 69871 AD/B



	Code N.	Description	D	H	L	Ymax	D1	D2	G6,3 15000
STANDARD	251-11232	TC40H80K03-HTT	3	80	22	10	10	17	•
	251-11225	TC40H80K04-HTT	4	80	26	10	15	22	•
	251-11233	TC40H80K05-HTT	5	80	30	10	15	22	•
	251-11201	TC40H80K06-HTT	6	80	36	10	21	27	•
	251-11202	TC40H80K08-HTT	8	80	36	10	21	27	•
	251-11203	TC40H80K10-HTT	10	80	41	10	24	32	•
	251-11204	TC40H80K12-HTT	12	80	47	10	24	32	•
	251-11206	TC40H80K14-HTT	14	80	47	10	27	34	•
	251-11205	TC40H80K16-HTT	16	80	50	10	27	34	•
	251-11207	TC40H80K18-HTT	18	80	50	10	33	42	•
	251-11208	TC40H80K20-HTT	20	80	52	10	33	42	•
	251-11218	TC40H100K25-HTT	25	100	58	10	44	53	•
251-21233	TC40H100K32-HTT	32	100	62	10	44	53	•	
H 120	251-11295	TC40H120K03-HTT	3	120	22	10	10	20	•
	251-11296	TC40H120K04-HTT	4	120	26	10	15	22	•
	251-11297	TC40H120K05-HTT	5	120	30	10	15	22	•
	251-11209	TC40H120K06-HTT	6	120	36	10	21	27	•
	251-11210	TC40H120K08-HTT	8	120	36	10	21	27	•
	251-11211	TC40H120K10-HTT	10	120	41	10	24	32	•
	251-11212	TC40H120K12-HTT	12	120	47	10	24	32	•
	251-21201	TC40H120K14-HTT	14	120	47	10	27	34	•
	251-11298	TC40H120K16-HTT	16	120	50	10	27	34	•
	251-21234	TC40H120K18-HTT	18	120	50	10	33	42	•
	251-21235	TC40H120K20-HTT	20	120	52	10	33	42	•
	251-21236	TC40H120K25-HTT	25	120	58	10	44	53	•
251-21237	TC40H120K32-HTT	32	120	62	10	44	53	•	
H 160	251-21238	TC40H160K03-HTT	3	160	22	10	10	20	•
	251-21239	TC40H160K04-HTT	4	160	26	10	15	22	•
	251-21240	TC40H160K05-HTT	5	160	30	10	15	22	•
	251-21241	TC40H160K06-HTT	6	160	36	10	21	27	•
	251-21242	TC40H160K08-HTT	8	160	36	10	21	27	•
	251-21243	TC40H160K10-HTT	10	160	41	10	24	32	•
	251-21244	TC40H160K12-HTT	12	160	47	10	24	32	•
	251-21245	TC40H160K14-HTT	14	160	47	10	27	34	•
	251-21246	TC40H160K16-HTT	16	160	50	10	27	34	•
	251-21247	TC40H160K18-HTT	18	160	50	10	33	42	•
	251-21248	TC40H160K20-HTT	20	160	52	10	33	42	•
	251-21249	TC40H160K25-HTT	25	160	62	10	44	53	•
251-21250	TC40H160K32-HTT	32	160	62	10	44	53	•	

SCHRUMPFUTTER ISO 50 DIN 69871 AD/B MANDRINS DE FRETTAGE TYPE ISO 50 DIN 69871 AD/B
 SHRINK FIT CHUCKS ISO 50 DIN 69871 AD/B MANDRINI A CALETTAMENTO ISO 50 DIN 69871 AD/B

DIN 69871 AD/B



	Code N.	Description	D	H	L	Ymax	D1	D2	G6,3 15000
STANDARD	251-21251	TC50H80K03-HTT	3	80	-	-	10	20	•
	251-21252	TC50H80K04-HTT	4	80	-	-	15	25	•
	251-21253	TC50H80K05-HTT	5	80	-	-	15	25	•
	251-11234	TC50H80K06-HTT	6	80	36	10	21	27	•
	251-11235	TC50H80K08-HTT	8	80	36	10	21	27	•
	251-11236	TC50H80K10-HTT	10	80	41	10	24	32	•
	251-11237	TC50H80K12-HTT	12	80	47	10	24	32	•
	251-11238	TC50H80K14-HTT	14	80	47	10	27	34	•
	251-11224	TC50H80K16-HTT	16	80	50	10	27	34	•
	251-11239	TC50H80K18-HTT	18	80	50	10	33	42	•
	251-11240	TC50H80K20-HTT	20	80	52	10	33	42	•
	251-11241	TC50H100K25-HTT	25	100	58	10	44	53	•
251-21254	TC50H100K32-HTT	32	100	62	10	44	53	•	
H120	251-21255	TC50H120K03-HTT	3	120	-	10	10	20	•
	251-21256	TC50H120K04-HTT	4	120	-	10	15	22	•
	251-21257	TC50H120K05-HTT	5	120	-	10	15	22	•
	251-11242	TC50H120K06-HTT	6	120	36	10	21	27	•
	251-11243	TC50H120K08-HTT	8	120	36	10	21	27	•
	251-11244	TC50H120K10-HTT	10	120	41	10	24	32	•
	251-11245	TC50H120K12-HTT	12	120	47	10	24	32	•
	251-11246	TC50H120K14-HTT	14	120	47	10	27	34	•
	251-11247	TC50H120K16-HTT	16	120	50	10	27	34	•
	251-11248	TC50H120K18-HTT	18	120	50	10	33	42	•
	251-11249	TC50H120K20-HTT	20	120	52	10	33	42	•
	251-21258	TC50H120K25-HTT	25	120	58	10	44	53	•
251-21259	TC50H120K32-HTT	32	120	62	10	44	53	•	
H160	251-21260	TC50H160K03-HTT	3	160	-	10	10	20	•
	251-21261	TC50H160K04-HTT	4	160	-	10	15	22	•
	251-21262	TC50H160K05-HTT	5	160	-	10	15	22	•
	251-21263	TC50H160K06-HTT	6	160	36	10	21	27	•
	251-21264	TC50H160K08-HTT	8	160	36	10	21	27	•
	251-21265	TC50H160K10-HTT	10	160	41	10	24	32	•
	251-21266	TC50H160K12-HTT	12	160	47	10	24	32	•
	251-21267	TC50H160K14-HTT	14	160	47	10	27	34	•
	251-21268	TC50H160K16-HTT	16	160	50	10	27	34	•
	251-21269	TC50H160K18-HTT	18	160	50	10	33	42	•
	251-21270	TC50H160K20-HTT	20	160	52	10	33	42	•
	251-21271	TC50H160K25-HTT	25	160	58	10	44	53	•
251-21272	TC50H160K32-HTT	32	160	62	10	44	53	•	

The logo for KAWAII is displayed in a stylized, bold font. The letters 'K' and 'I' are black, while the 'A' and 'W' are orange. The letters are slightly shadowed and appear to be floating above a background of a white metal grid.

KAWAII

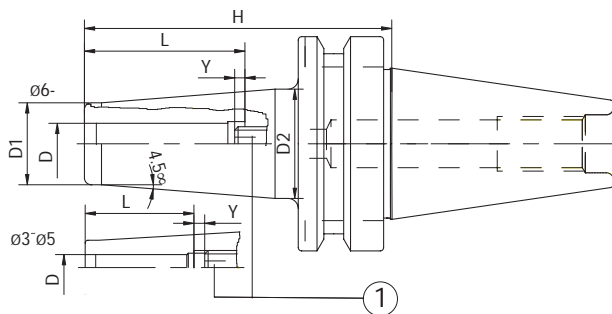
MAS 403/BT



SCHRUMPFUTTER MAS BT-30 Form AD
SHRINK FIT CHUCKS MAS BT-30 Form AD

MANDRINS DE FRETTAGE TYPE MAS BT-30 Form AD
MANDRINI A CALETTAMENTO MAS BT-30 Form AD

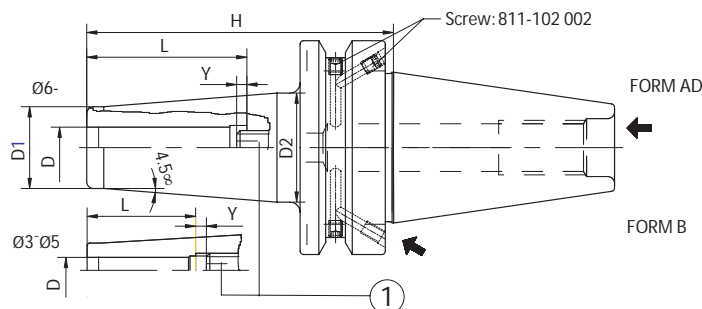
MAS BT-AD



Code N.	Description	D	H	L	Ymax	D1	D2	G6,3 15000
251-11564	BT30H85K03-HTT	3	85	22	10	10	20	•
251-11565	BT30H85K04-HTT	4	85	26	10	15	25	•
251-11566	BT30H85K05-HTT	5	85	30	10	15	25	•
251-11567	BT30H85K06-HTT	6	85	36	10	21	27	•
251-11568	BT30H85K08-HTT	8	85	36	10	21	27	•
251-11569	BT30H85K10-HTT	10	85	41	10	24	32	•
251-11570	BT30H85K12-HTT	12	85	47	10	24	32	•
251-11571	BT30H85K14-HTT	14	85	47	10	27	34	•
251-11572	BT30H85K16-HTT	16	85	50	10	27	34	•

SCHRUMPFUTTER MAS BT40 FORM AD/B MANDRINS DE FRETTAGE MAS BT40 TYPE AD/B
 SHRINK FIT CHUCKS MAS BT40 AD/B MANDRINI A CALETTAMENTO MAS BT40 TIPO AD/B

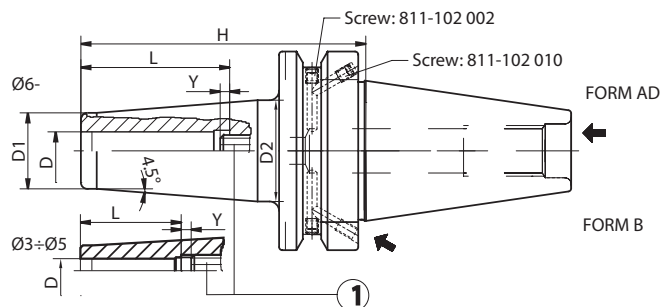
MAS BT AD/B



	Code N.	Description	D	H	L	Ymax	D1	D2	G6,3 15000
STANDARD	251-11580	BT40H90K03-HTT	3	90	22	10	10	17	•
	251-11581	BT40H90K04-HTT	4	90	26	10	15	22	•
	251-11582	BT40H90K05-HTT	5	90	30	10	15	22	•
	251-11501	BT40H90K06-HTT	6	90	36	10	21	27	•
	251-11502	BT40H90K08-HTT	8	90	36	10	21	27	•
	251-11503	BT40H90K10-HTT	10	90	41	10	24	32	•
	251-11504	BT40H90K12-HTT	12	90	47	10	24	32	•
	251-11505	BT40H90K14-HTT	14	90	47	10	27	34	•
	251-11506	BT40H90K16-HTT	16	90	50	10	27	34	•
	251-11507	BT40H90K18-HTT	18	90	50	10	33	42	•
	251-11508	BT40H90K20-HTT	20	90	52	10	33	42	•
	251-11547	BT40H100K25-HTT	25	100	58	10	44	53	•
	251-21504	BT40H100K32-HTT	32	100	62	10	44	53	•
H120	251-11583	BT40H120K03-HTT	3	120	22	10	10	20	•
	251-11584	BT40H120K04-HTT	4	120	26	10	15	22	•
	251-11585	BT40H120K05-HTT	5	120	30	10	15	22	•
	251-11509	BT40H120K06-HTT	6	120	36	10	21	27	•
	251-11510	BT40H120K08-HTT	8	120	36	10	21	27	•
	251-11511	BT40H120K10-HTT	10	120	41	10	24	32	•
	251-11512	BT40H120K12-HTT	12	120	47	10	24	32	•
	251-11587	BT40H120K14-HTT	14	120	47	10	27	34	•
	251-11586	BT40H120K16-HTT	16	120	50	10	27	34	•
	251-21505	BT40H120K18-HTT	18	120	50	10	33	42	•
	251-21506	BT40H120K20-HTT	20	120	52	10	33	42	•
251-21507	BT40H120K25-HTT	25	120	58	10	44	53	•	
251-21508	BT40H120K32-HTT	32	120	62	10	44	53	•	
H160	251-21509	BT40H160K03-HTT	3	160	22	10	10	20	•
	251-21510	BT40H160K04-HTT	4	160	26	10	15	22	•
	251-21511	BT40H160K05-HTT	5	160	30	10	15	22	•
	251-21512	BT40H160K06-HTT	6	160	36	10	21	27	•
	251-21513	BT40H160K08-HTT	8	160	36	10	21	27	•
	251-21514	BT40H160K10-HTT	10	160	41	10	24	32	•
	251-21515	BT40H160K12-HTT	12	160	47	10	24	32	•
	251-21516	BT40H160K14-HTT	14	160	47	10	27	34	•
	251-21517	BT40H160K16-HTT	16	160	50	10	27	34	•
	251-21518	BT40H160K18-HTT	18	160	50	10	33	42	•
	251-21519	BT40H160K20-HTT	20	160	52	10	33	42	•
	251-21520	BT40H160K25-HTT	25	160	58	10	44	53	•
	251-21521	BT40H160K32-HTT	32	160	62	10	44	53	•

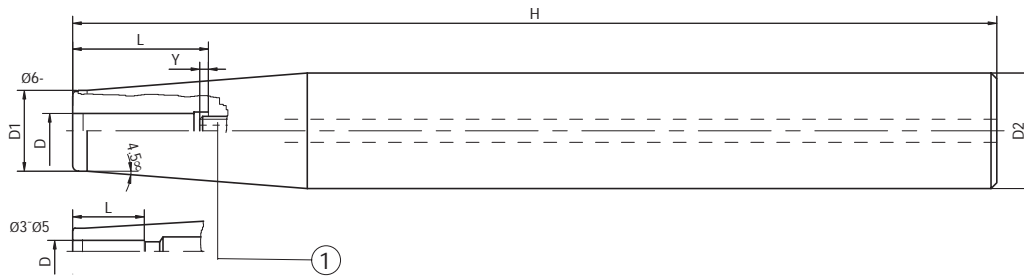
SCHRUMPFUTTER MAS BT50 FORM AD/B MANDRINS DE FRETTAGE MAS BT50 TYPE AD/B
SHRINK FIT CHUCKS MAS BT50 AD/B MANDRINI A CALETTAMENTO MAS BT50 TIPO AD/B

MAS BT AD/B



	Code N.	Description	D	H	L	Ymax	D1	D2	G6,3 15000
STANDARD	251-21522	BT50H100K03-HTT	3	100	-	-	10	20	•
	251-21523	BT50H100K04-HTT	4	100	-	-	15	25	•
	251-21524	BT50H100K05-HTT	5	100	-	-	15	25	•
	251-11548	BT50H100K06-HTT	6	100	36	10	21	27	•
	251-11549	BT50H100K08-HTT	8	100	36	10	21	27	•
	251-11550	BT50H100K10-HTT	10	100	41	10	24	32	•
	251-11517	BT50H100K12-HTT	12	100	47	10	24	32	•
	251-11551	BT50H100K14-HTT	14	100	47	10	27	34	•
	251-11552	BT50H100K16-HTT	16	100	50	10	27	42	•
	251-11553	BT50H100K18-HTT	18	100	50	10	33	42	•
	251-11554	BT50H110K20-HTT	20	100	52	10	33	42	•
	251-11555	BT50H110K25-HTT	25	110	58	10	44	53	•
251-21525	BT50H110K32-HTT	32	110	62	10	44	53	•	
H120	251-21526	BT50H120K03-HTT	3	120	-	-	10	20	•
	251-21527	BT50H120K04-HTT	4	120	-	-	15	25	•
	251-21528	BT50H120K05-HTT	5	120	-	-	15	25	•
	251-11556	BT50H120K06-HTT	6	120	36	10	21	27	•
	251-11557	BT50H120K08-HTT	8	120	36	10	21	27	•
	251-11558	BT50H120K10-HTT	10	120	41	10	24	32	•
	251-11559	BT50H120K12-HTT	12	120	47	10	24	32	•
	251-11560	BT50H120K14-HTT	14	120	47	10	27	34	•
	251-11561	BT50H120K16-HTT	16	120	50	10	27	34	•
	251-11562	BT50H120K18-HTT	18	120	50	10	33	42	•
	251-11563	BT50H120K20-HTT	20	120	52	10	33	42	•
	251-21529	BT50H120K25-HTT	25	120	58	10	44	53	•
251-21530	BT50H120K32-HTT	32	120	62	10	33	53	•	
H160	251-21531	BT50H160K03-HTT	3	160	-	-	10	20	•
	251-21532	BT50H160K04-HTT	4	160	-	-	15	25	•
	251-21533	BT50H160K05-HTT	5	160	-	-	15	25	•
	251-21534	BT50H160K06-HTT	6	160	36	10	21	27	•
	251-21535	BT50H160K08-HTT	8	160	36	10	21	27	•
	251-21536	BT50H160K10-HTT	10	160	41	10	24	32	•
	251-21537	BT50H160K12-HTT	12	160	47	10	24	32	•
	251-21538	BT50H160K14-HTT	14	160	47	10	27	34	•
	251-21539	BT50H160K16-HTT	16	160	50	10	27	34	•
	251-21540	BT50H160K18-HTT	18	160	50	10	33	42	•
	251-21541	BT50H160K20-HTT	20	160	52	10	33	42	•
	251-21542	BT50H160K25-HTT	25	160	58	10	44	53	•
251-21543	BT50H160K32-HTT	32	160	62	10	33	53	•	

SCHRUMPFVERLÄNGERUNGEN RALLONGES DE FRETAGE
SHRINKING EXTENSIONS PROLUNGHE PER CALETTAMENTO



Code N.	Description	D	H	L	Ymax	D1	D2
251-15110	D12H150K03-HTT	3	150	-	-	8	12
251-15111	D12H150K04-HTT	4	150	-	-	8	12
251-15133	D12H150K05-HTT	5	150	-	-	10	12
251-15134	D12H150K06-HTT	6	150	36	10	10	12
251-15112	D16H150K03-HTT	3	150	-	-	10	16
251-15113	D16H150K04-HTT	4	150	-	-	10	16
251-15114	D16H150K05-HTT	5	150	-	-	10	16
251-15115	D16H150K06-HTT	6	150	36	10	10	16
251-15139	D16H150K08-HTT	8	150	36	10	12	16
251-15140	D20H150K03-HTT	3	150	-	-	10	20
251-15141	D20H150K04-HTT	4	150	-	-	10	20
251-15116	D20H150K05-HTT	5	150	-	-	10	20
251-15117	D20H150K06-HTT	6	150	36	10	10	20
251-15118	D20H150K08-HTT	8	150	36	10	12	20
251-15145	D20H150K10-HTT	10	150	42	10	14	20
251-15146	D20H150K12-HTT	12	150	47	10	16	20
251-15147	D25H150K03-HTT	3	150	-	-	10	25
251-15148	D25H150K04-HTT	4	150	-	-	10	25
251-15149	D25H150K05-HTT	5	150	-	-	15	25
251-15150	D25H150K06-HTT	6	150	36	10	20	25
251-15119	D25H150K08-HTT	8	150	36	10	20	25
251-15120	D25H150K10-HTT	10	150	42	10	20	25
251-15121	D25H150K12-HTT	12	150	47	10	20	25
251-15122	D25H150K14-HTT	14	150	47	10	20	25
251-15123	D25H150K16-HTT	16	150	50	10	22	25
251-15156	D32H150K06-HTT	6	150	36	10	20	32
251-15157	D32H150K08-HTT	8	150	36	10	20	32
251-15124	D32H150K10-HTT	10	150	42	10	24	32
251-15125	D32H150K12-HTT	12	150	47	10	24	32
251-15126	D32H150K14-HTT	14	150	47	10	27	32
251-15127	D32H150K16-HTT	16	150	50	10	27	32
251-15162	D32H150K18-HTT	18	150	50	10	27	32
251-15128	D32H150K20-HTT	20	150	52	10	27	32

