C

Chuck

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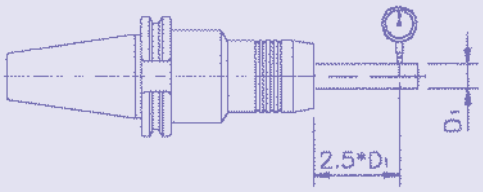
PRODUCTS INFORMATION

1. Apply Tools

Endmill, Drill, Reamer, High accuracy tools, etc.

2. High roundness within 3μm.

Fine roundness assures longer tool life.



3. Over limit bore size, various size of collet can be applied.

4. Easy to clamp and unclamp with a T-wrench.

5. Good for high speed.

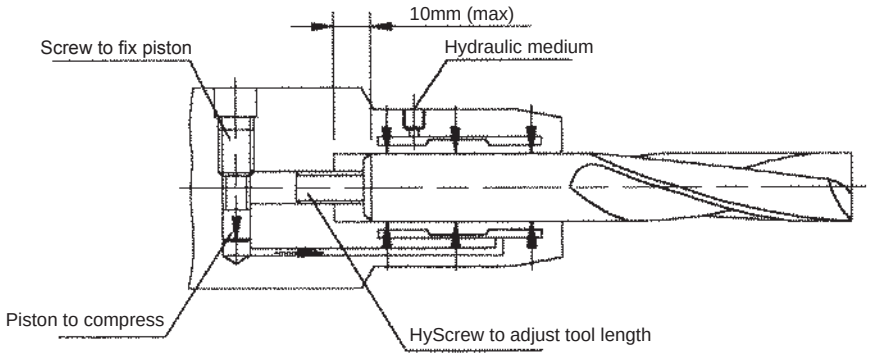
Even under high speed, it works very fast without vibration and makes sure of fine process and safety.

6. Coolant System.

Coolant can be supplied to the center through internal and external shank.

DIN69871 AD+B type.

Basic plan of Hydraulic Expansion Chuck



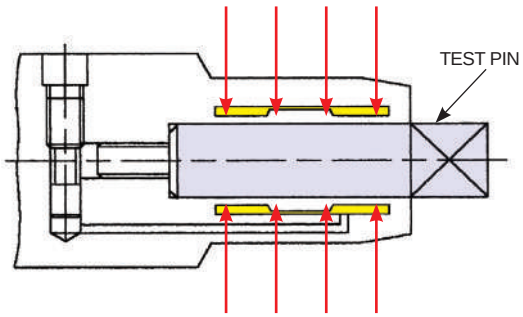
Advantages of Hydraulic Expansion Chuck

- High T.I.R. accuracy and repeatability of ≤3μm guarantee to have a precise interference between tool cutting edge and workpeice, rendering less tool wear.
- Balance (option)
  Good balance of Hydraulic Chuck enables fine working under high speed and safety.
- The advanced system of Hydraulic Chuck completely prevents penetration of oil, grease, coolant or chips.
- Excellent output is expected when clamping with straight cylindrical shanks.

Advantages of Collet

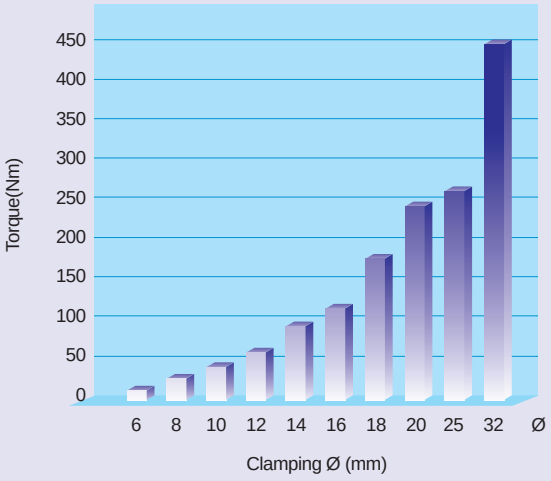
- Collets can save costs by clamping with variety of shank diameter.
- Shanks with recesses may also be clamped by using a collet.

Torque (Hydraulic Chuck)



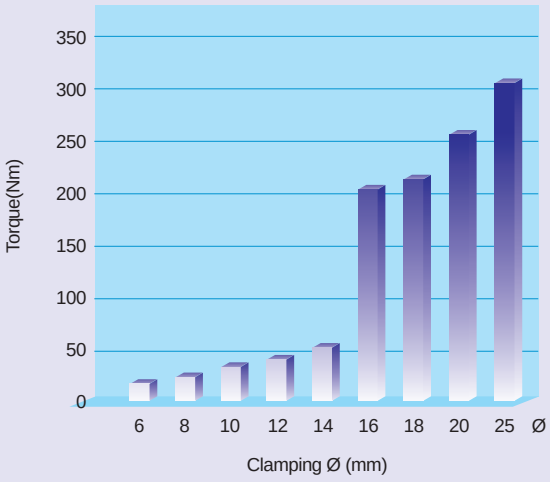
※Torque(Nm) when clamping with straight cylindrical shanks

No Sleeves



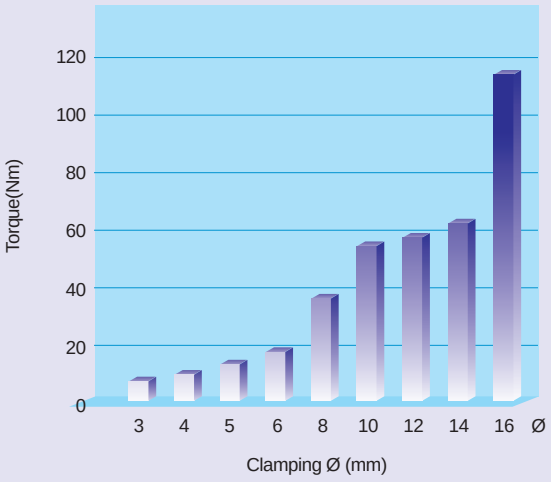
※Torque(Nm) of Hydraulic Chuck with direct clamping of Ø 6-32mm.

32mm dia. Chuck with Sleeves



※Torque(Nm) of Hydraulic Chuck clamping Ø 32mm with HK collet.

20mm dia. Chuck with Sleeves

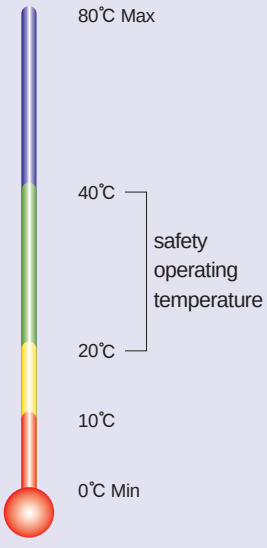


※Torque(Nm) of Hydraulic Chuck clamping Ø 20mm with HK collet.

R · P · M / Balance

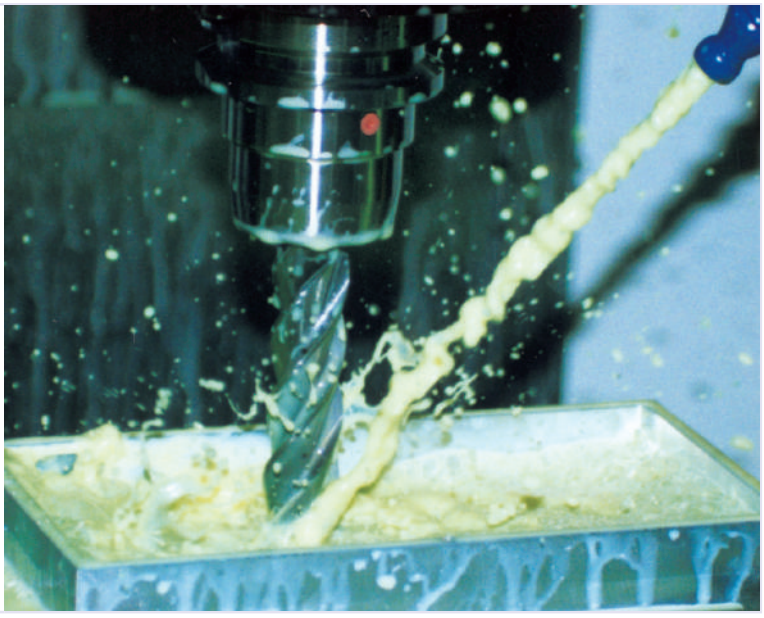
Special Balanced	25,000 rpm
Fine Balanced	10,000 rpm

Temperature



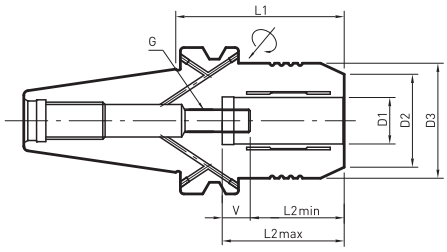
Operating Temperature

Generally, the normal operating temperature of Hydraulic Chuck is between 20℃ ~ 40℃. When operating temperature isn't the normal range, pls ask technical information.



HYDRAULIC EXPANSION CHUCK

MAS 403 – BT Short & Heavy Design



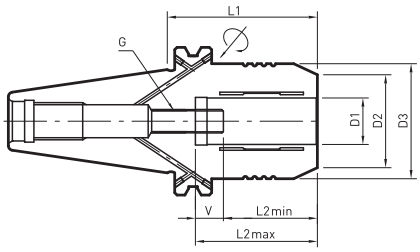
Taper	T.I.R	Bal./rpm	Coolant	HRc
AT3	≥5μm 2.5×D	G2.5 20000	AD/B	48~50

mm

CODE NO			D_1	D_2	D_3	L_1	L_{2max}	L_{2min}	V	G
23.30.111	**BT30**	**SHC 20P-85**	20	40	44	85	52.5	42.5	10	M8×1.0
24.40.211	**BT40**	**SHC 20P-72.5**			49.5	72.5				
27.50.311	**BT50**	**SHC 32P-90**	32	60	72	90	65	55		M16×1.0

Note BT50 : Balancing grade G2.5 / 15000rpm

DIN 69871 – SK Short & Heavy Design



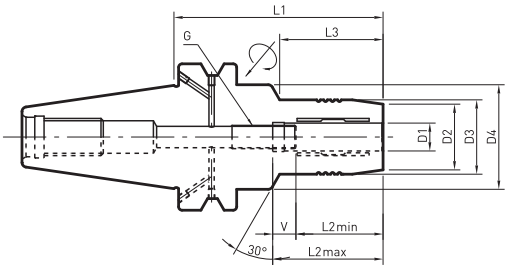
Taper	T.I.R	Bal./rpm	Coolant	HRc
AT3	≥5μm 2.5×D	G2.5 20000	AD/B	48~50

mm

CODE NO			D_1	D_2	D_3	L_1	L_{2max}	L_{2min}	V	G
26.40.411	**SK40**	**SHC 20P-64.5**	20	40	49.5	64.5	52.5	42.5	10	M8×1.0
27.50.511	**SK50**	**SHC 32P-81**	32	60	72	81	65	55		M16×1.0

Note SK50 : Balancing grade G2.5 / 15000rpm

MAS 403 - BT30



Taper	T.I.R	Bal./rpm	Coolant	HRc
AT3	≥5μm 2.5×D	G2.5 20000	AD/B	48~50

mm

CODE NO			D_1	D_2	D_3	D_4	L_1	L_{2max}	L_{2min}	V	L_3	G
23.30.211	BT30	SHC 6-70	6	25	28	45	70	37.5	27.5	10	28	M5×0.8
23.30.212		SHC 8-70	8	27	30							M6×1.0
23.30.213		SHC 10-75	10	29	32		75	42.5	32.5		38	M8×1.0
23.30.214		SHC 12-75	12	31	34		85	47.5	37.5		34	
23.30.215		SHC 14-85	14	33	36						44	
23.30.216		SHC 16-90	16	35	38		90	52.5	42.5		46	
23.30.217		SHC 18-90	18	38	41							
23.30.218		SHC 20-90	20	40	43	-					-	

Note Reducing tool shank OD(chuck ID) through Reduction Sleeve

HYDRAULIC EXPANSION CHUCK

MAS 403 - BT40

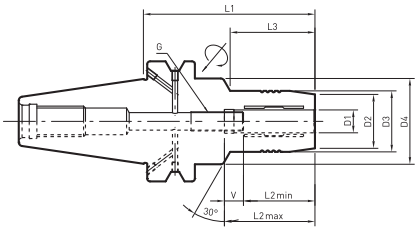


Fig1

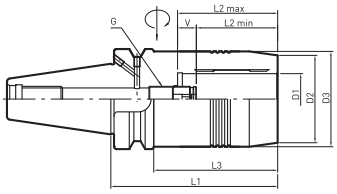


Fig2

Taper	T.I.R	Bal./rpm	Coolant	HRc
AT3	≥5μm 2.5×D	G2.5 20000	AD/B	48~50

mm

CODE NO			D_1	D_2	D_3	D_4	L_1	L_{2max}	L_{2min}	V	L_3	G	Type
24.40.225	BT40	SHC 6-65	6	25	28	50	65	37.5	27.5	10	23	M5×0.8	Fig1
24.40.212		SHC 6-90					90				44		
24.40.226		SHC 8-65	8	27	30		65				23	M6×1.0	
24.40.213		SHC 8-90					90				44		
24.40.227		SHC 10-65	10	29	32		65	42.5	32.5		23		
24.40.214		SHC 10-90					90				44		
24.40.228		SHC 12-65	12	31	34		65	47.5	37.5		23		
24.40.215		SHC 12-90					90				44		
24.40.233		SHC 14-65	14	33	36		65				23		
24.40.234		SHC 14-90					90				44		
24.40.229		SHC 16-65	16	35	38		65	52.5	42.5		23	M8×1.0	
24.40.216		SHC 16-90					90				48		
24.40.235		SHC 18-75	18	38	41		75				30		
24.40.236		SHC 18-90					90				48		
24.40.230		SHC 20-75	20	40	43		75				30		
24.40.217		SHC 20-90					90				48		
24.40.231		SHC 25-100	25	53	57	-	100	61	51		73	M16×1.0	Fig2
24.40.232		SHC 32-105	32	58	63		105	65	55		78		

Note Reducing tool shank OD(chuck ID) through Reduction Sleeve

HYDRAULIC EXPANSION CHUCK

MAS 403 - BT50

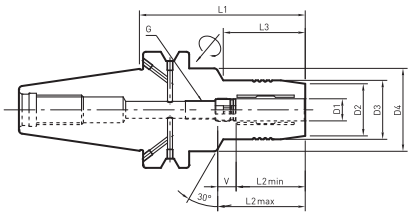


Fig1

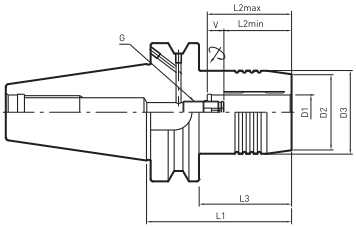


Fig2

Taper	T.I.R	Bal./rpm	Coolant	HRc
AT3	≥5μm 2.5×D	G2.5 20000	AD/B	48~50

mm

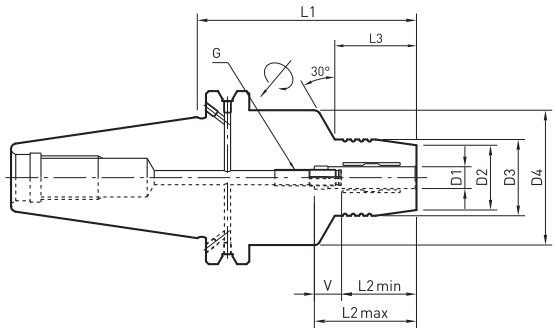
CODE NO			D_1	D_2	D_3	D_4	L_1	L_{2max}	L_{2min}	V	L_3	G	Type
25.50.316	BT50	SHC 6-90	6	25	28	50	90	37.5	27.5	10	32	M5×0.8	Fig1
25.50.411		SHC 6-120					120				38		
20.50.317		SHC 8-90	8	27	30		90				32	M6×1.0	
25.50.412		SHC 8-120					120				40		
25.50.318		SHC 10-90	10	29	32		90	42.5	32.5		32		
25.50.413		SHC 10-120					120				42		
25.50.319		SHC 12-90	12	31	34		90	47.5	37.5		32		
25.50.414		SHC 12-120					120				44		
25.50.324		SHC 14-90	14	33	36		90				32		
25.50.415		SHC 14-120					120				44		
25.50.320		SHC 16-90	16	35	38		90	52.5	42.5		32	M8×1.0	
25.50.416		SHC 16-120					120				46		
25.50.325		SHC 18-90	18	38	41		90				32		
25.50.417		SHC 18-120					120				46		
25.50.321		SHC 20-90	20	40	43		90				32		
25.50.418		SHC 20-120					120				48		
25.50.322		SHC 25-105	25	53	57	-	105	61	51		67	M16×1.0	Fig2
25.50.323		SHC 32-115	32	-	63		115	65	55		77		

Note Reducing tool shank OD(chuck ID) through Reduction Sleeve

SSANGYONG

HYDRAULIC EXPANSION CHUCK

DIN 69871 – SK40



Taper	T.I.R	Bal./rpm	Coolant	HRc
AT3	≥5μm 2.5×D	G2.5 20000	AD/B	48~50

mm

CODE NO			D_1	D_2	D_3	D_4	L_1	L_{2max}	L_{2min}	V	L_3	G
26.40.426	SK40	SHC 6-65	6	25	28	50	65	37.5	27.5	10	23	M5×0.8
26.40.412		SHC 6-80.5					80.5				44	
26.40.420		SHC 6-110					110					
26.40.427		SHC 8-65	8	27	30		65				23	M6×1.0
26.40.413		SHC 8-80.5					80.5				44	
26.40.421		SHC 8-110					110					
26.40.248		SHC 10-65	10	29	32		65	42.5	32.5		23	M8×1.0
26.40.414		SHC 10-80.5					80.5				44	
26.40.422		SHC 10-110					110					
26.40.429		SHC 12-65	12	31	34		65	47.5	37.5		23	
26.40.415		SHC 12-80.5					80.5				44	
26.40.423		SHC 12-110					110					
26.40.431		SHC 14-65	14	33	36		65				23	
26.40.434		SHC 14-80.5					80.5				44	
26.40.436		SHC 14-110					110					
26.40.430		SHC 16-75	16	35	38		75	52.5	42.5		30	M10×1.0
26.40.416		SHC 16-80.5					80.5				48	
26.40.424		SHC 16-110					110					
26.40.432		SHC 18-75	18	38	41		75				30	
26.40.435		SHC 18-80.5					80.5				48	
26.40.437		SHC 18-110					135					
26.40.433		SHC 20-75	20	40	43		75				30	
26.40.417		SHC 20-80.5					80.5				48	
26.40.425		SHC 20-110					110					
26.40.418		SHC 25-80.5	25	53	57	66	80.5	61.0	51.0		26	M16×1.0
26.40.419		SHC 32-80.5	32	60	63	80		65.0	55.0			

Note Reducing tool shank OD(chuck ID) through Reduction Sleeve

DIN 69871 - SK50

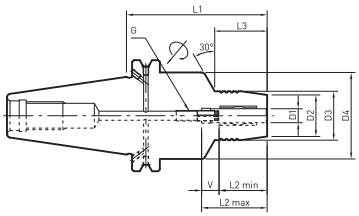


Fig1

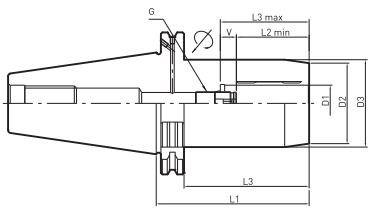


Fig2

Taper	T.I.R	Bal./rpm	Coolant	HRc
AT3	≥5μm 2.5×D	G2.5 20000	AD/B	48~50

mm

CODE NO			D_1	D_2	D_3	D_4	L_1	L_{2max}	L_{2min}	V	L_3	G	Type
27.50.514	SK50	SHC 6-90	6	25	28	50	90	37.5	27.5	10	44	M5×0.8	Fig1
27.50.515		SHC 8-90	8	27	30						44	M6×1.0	
27.50.516		SHC 10-90	10	29	32			42.5	32.5		44	M8×1.0	
27.50.517		SHC 12-90	12	31	34			47.5	37.5		44		
27.50.520		SHC 14-90	14	33	36						44		
27.50.518		SHC 16-90	16	35	38			52.5	42.5		48		
27.50.521		SHC 18-90	18	38	41						48		
27.50.519		SHC 20-90	20	40	43						48		
27.50.522		SHC 25-105	25	53	57	-	105	61.0	51.0		85.9	M16×1.0	Fig2
27.50.523		SHC 32-115	32	58	63		115	65.0	55.0		95.8		

Note Reducing tool shank OD(chuck ID) through Reduction Sleeve

HYDRAULIC EXPANSION CHUCK

DIN 69893 - HSK Type A

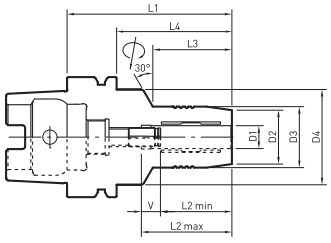


Fig1

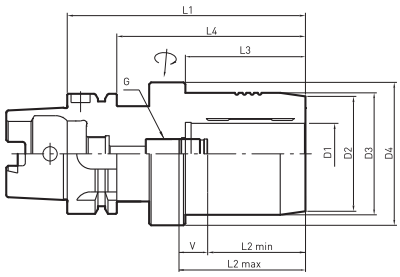


Fig2

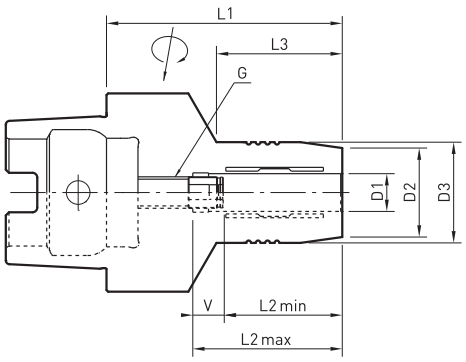
Taper	T.I.R	Bal./rpm	Coolant	HRc
AT3	≥5μm 2.5×D	G2.5 20000	AD	48~50

mm

CODE NO			D1	D2	D3	D4	L1	L2max	L2min	V	L3	L4	G	Type
28.40.611	HSK40A	SHC 6-70	6	25	28	34	70	37.5	27.5	10	28	50	M5×0.8	Fig1
28.40.612		SHC 8-70	8	27	30								M6×1.0	
28.40.613		SHC 10-75	10	29	32		75	42.5	32.5		34	55		
28.40.614		SHC 12-85	12	31	34		85	47.5	37.5		40	60		
29.50.711	HSK50A	SHC 6-70	6	25	28	40	70	37.5	27.5		28	44	M5×0.8	
29.50.712		SHC 8-70	8	27	30									
29.50.713		SHC 10-80	10	29	32		80	42.5	32.5		34	49		
29.50.714		SHC 12-85	12	31	34		85	47.5	37.5		44	59	M8×1.0	
29.50.715		SHC 14-85	14	33	36									
29.50.716		SHC 16-90	16	35	38	60	90	52.5	42.5		30	64		Fig2
29.50.717		SHC 18-90	18	38	41	62								
29.50.718		SHC 20-90	20	40	43									
30.63.811	HSK63A	SHC 6-70	6	25	28	50	70	37.5	27.5		24	44	M5×0.8	Fig1
30.63.812		SHC 8-70	8	27	30								M6×1.0	
30.63.813		SHC 10-80	10	29	32		80	42.5	32.5		35	54	M8×1.0	
30.63.814		SHC 12-85	12	31	34		85	47.5	37.5		40	59		
30.63.815		SHC 14-85	14	33	36									
30.63.816		SHC 16-90	16	35	38		90	52.5	42.5		46	64		
30.63.817		SHC 18-90	18	38	41						47			
30.63.818		SHC 20-90	20	40	43						48			
30.63.819		SHC 25-120	25	53	57	63	120	61	51		59	94	M16×1.0	Fig2
30.63.820		SHC 32-125	32	58	63	75	125	65	55		63	99		
31.10.911	HSK100A	SHC 6-75	6	25	28	50	75	37.5	27.5		26	46	M5×0.8	Fig1
31.10.912		SHC 8-75	8	27	30								M6×1.0	
31.10.913		SHC 10-90	10	29	32		90	42.5	32.5		42	61	M8×1.0	
31.10.914		SHC 12-95	12	31	34		95	47.5	37.5		47	66		
31.10.915		SHC 14-95	14	33	36									
31.10.916		SHC 16-100	16	35	38		100	52.5	42.5		53	71		
31.10.917		SHC 18-100	18	38	41									
31.10.918		SHC 20-105	20	40	43		105				59	76		
31.10.919		SHC 25-110	25	53	57	63	110	61	51		62	81		
31.10.920		SHC 32-110	32	58	63	75		65	56					

Note Reducing tool shank OD(chuck ID) through Reduction Sleeve

DIN 69893 - HSK Type C



Taper	T.I.R	Bal./rpm	Coolant	HRc
AT3	≥5μm 2.5×D	G2.5 20000	AD	48~50

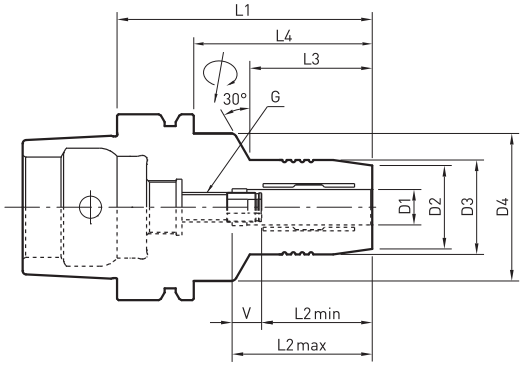
mm

CODE NO			D_1	D_2	D_3	L_1	L_{2max}	L_{2min}	V	L_3	G
28.40.615	HSK40C	SHC 6-60	6	25	28	60	37.5	27.5	10	35	M5×0.8
28.40.616		SHC 8-60	8	27	30					36	M6×1.0
28.40.617		SHC 10-65	10	29	32	65	42.5	32.5		41	
28.40.618		SHC 12-70	12	31	34	70	47.5	37.5		47	M8×1.0
29.50.719	HSK50C	SHC 6-60	6	25	28	60	37.5	27.5		30	M5×0.8
29.50.720		SHC 8-60	8	27	30					30	M6×1.0
29.50.721		SHC 10-65	10	29	32	65	42.5	32.5		35	
29.50.722		SHC 12-75	12	31	34	75	47.5	37.5		44	
29.50.723		SHC 14-75	14	33	36					46	
29.50.724		SHC 16-80	16	35	38	80	52.5	42.5		51	M8×1.0
29.50.725		SHC 18-80	18	38	41					51	
29.50.726		SHC 20-80	20	40	43					52	

Note Reducing tool shank OD(chuck ID) through Reduction Sleeve

HYDRAULIC EXPANSION CHUCK

DIN 69893 - HSK Type E



Taper	T.I.R	Bal./rpm	Coolant	HRc
AT3	≥5μm 2.5×D	G2.5 20000	AD	48~50

mm

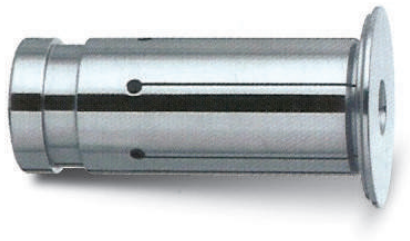
CODE NO			D_1	D_2	D_3	L_1	L_{2max}	L_{2min}	V	L_3	G
28.40.619	HSK40E	SHC 6-75	6	25	28	75	37.5	27.5	10	28	M5×0.8
28.40.620		SHC 8-70	8	27	30	70				28	M6×1.0
28.40.621		SHC 10-75	10	29	32	75	42.5	32.5		34	
28.40.622		SHC 12-85	12	31	34	85	47.5	37.5		-	
29.50.727	HSK50E	SHC 6-70	6	25	28	70	37.5	27.5		28	M5×0.8
29.50.728		SHC 8-70	8	27	30					34	M6×1.0
29.50.729		SHC 10-80	10	29	32	80	42.5	32.5		44	M8×1.0
29.50.730		SHC 12-85	12	31	34	85	47.5	37.5		44	
29.50.733		SHC 14-90	14	33	36	90				44	
29.50.731		SHC 16-90	16	35	38		52.5	42.5		30	
29.50.734		SHC 18-90	18	38	41					30	
29.50.732		SHC 20-90	20	40	43					30	

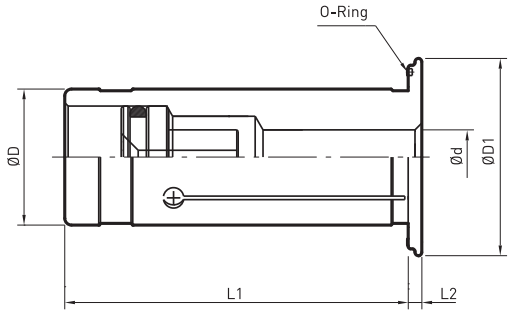
Note Reducing tool shank OD(chuck ID) through Reduction Sleeve

HYDRAULIC EXPANSION CHUCK

Reduction Sleeve - Coolant Waterproof Type

OD





100% Coolant Waterproof

- Using for center through coolant system
- Reducing Tool Shank OD(=Chuck ID)

T.I.R ≥5μm 2.5×D

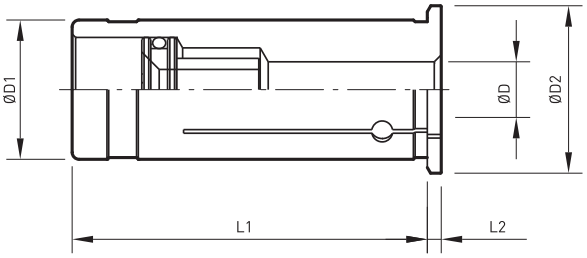
mm

CODE NO		d	D	D_1	L_1	L_2
OHK12	3	3	12	12	45	2
	4	4				
	5	5				
	6	6				
	8	8				
OHK20	3	3	20	29	50.5	2
	4	4				
	5	5				
	6	6				
	8	8				
	10	10				
	12	12				
	14	14				
	16	16				
OHK32	6	6	32	39	60.5	3
	8	8				
	10	10				
	12	12				
	14	14				
	16	16				
	18	18				
	20	20				
	25	25				

HYDRAULIC EXPANSION CHUCK

Reduction Sleeve - Standard

D



Reducing Tool Shank OD(=Chuck ID)

T.I.R ≥5μm 2.5×D

mm

CODE NO			D	D_1	D_2	L_1	L_2
21.12.003	HK12	3	3	12	16	44.5	2
21.12.004		4	4				
21.12.005		5	5				
21.12.006		6	6				
21.12.008		8	8				
22.20.003	HK20	3	3	20	24	50.5	2
22.20.004		4	4				
22.20.005		5	5				
22.20.006		6	6				
22.20.008		8	8				
22.20.010		10	10				
22.20.012		12	12				
22.20.014		14	14				
22.20.016		16	16				
23.32.006	HK32	6	6	32	36	60.5	3
23.32.008		8	8				
23.32.010		10	10				
23.32.012		12	12				
23.32.014		14	14				
23.32.016		16	16				
23.32.018		18	18				
23.32.020		20	20				
23.32.025		25	25				


SHRINK FIT CHUCK
Easy Tool Changer
Strong Torque Power
High Speed and High Precision Machining

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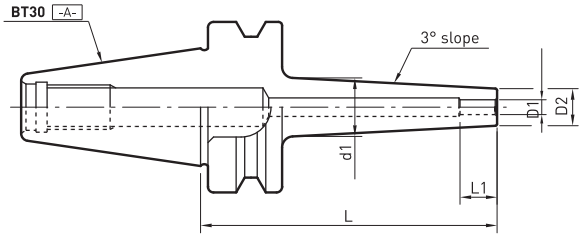
SHRINK FIT CHUCK

Slim Design

MAS 403 - BT30



Taper	T.I.R	Bal./rpm	Coolant	HRc	For
AT3	≥3μm 2.5×D	G2.5 25000	AD/B	52~55	Solid Carbide

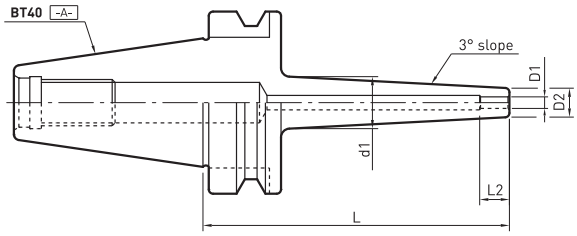
mm

CODE NO		Ød1	D1	D2	L1	L
BT30	SHR 3-80	14.8	3	9	9	80
	SHR 4-80	15.8	4	10	12	80
	SHR 5-80	16.8	5	11	15	80
	SHR 6-80	17.8	6	12	25	80
	SHR 8-80	19.8	8	14	25	80
	SHR 10-80	21.8	10	16	32	80
	SHR 12-80	23.8	12	18	38	80
	SHR 14-80	25.8	14	20	40	80
	SHR 16-90	27.8	16	22	40	90
	SHR 18-90	29.8	18	24	42	90
	SHR 20-90	31.8	20	26	44	90

h6 Tolerance Data of Tool Shank OD

TOOL SHANK OD (Ø)	3.0~6.0	6.1~10.0	10.1~14.0	14.1~18.0	18.1~24.0	24.1~30.0	30.1~40.0
h6 Tolerance	0~8μm	0~9μm	0~11μm	0~11μm	0~13μm	0~13μm	0~16μm

MAS 403 - BT40



Taper	T.I.R	Bal./rpm	Coolant	HRc	For
AT3	≥3μm 2.5×D	G2.5 25000	AD/B	52~55	Solid Carbide

mm

CODE NO		Ød1	D1	D2	L1	L
BT40	SHR 3-90	17	3	9	9	90
	SHR 4-90	18	4	10	12	90
	SHR 5-90	19	5	11	15	90
	SHR 6-90	20	6	12	25	90
	SHR 8-90	22	8	14	25	90
	SHR 10-90	24	10	16	32	90
	SHR 12-90	26	12	18	38	90
	SHR 14-90	28	14	20	4	90
	SHR 16-90	30	16	22	40	90
	SHR 18-95	32	18	24	42	95
	SHR 20-95	34	20	26	44	95
	SHR 25-100	39	25	31	50	100

h6 Tolerance Data of Tool Shank OD

TOOL SHANK OD (Ø)	3.0~6.0	6.1~10.0	10.1~14.0	14.1~18.0	18.1~24.0	24.1~30.0	30.1~40.0
h6 Tolerance	0~8μm	0~9μm	0~11μm	0~11μm	0~13μm	0~13μm	0~16μm

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SHRINK FIT CHUCK

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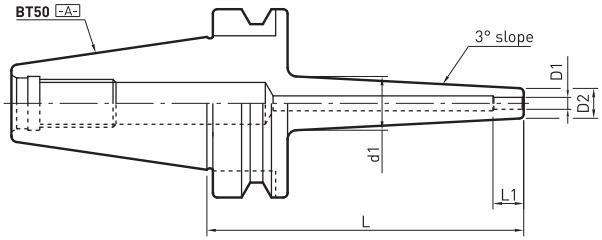
MAS 403 - BT50



Taper	T.I.R	Bal./rpm	Coolant	HRc	For
AT3	≥3μm 2.5×D	G2.5 25000	AD/B	52~55	Solid Carbide

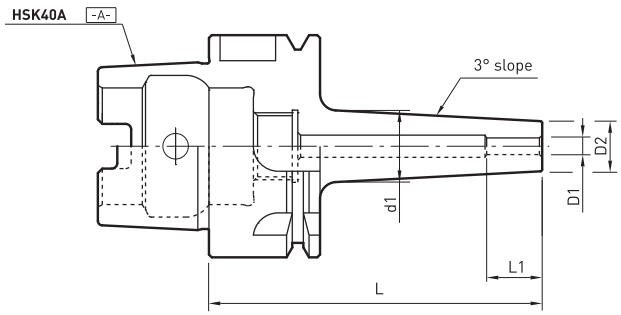
mm

CODE NO		Ød1	D1	D2	L1	L
BT50	SHR 6-100	20.4	6	12	25	100
	SHR 8-100	22.4	8	14		
	SHR 10-100	24.4	10	16	32	
	SHR 12-100	26.4	12	18	38	
	SHR 14-100	28.4	14	20	40	
	SHR 16-100	30.4	16	22		
	SHR 18-100	32.4	18	24	42	
	SHR 20-100	34.4	20	26	44	
	SHR 25-100	39.4	25	31	50	
	SHR 32-100	46.4	32	38		

h6 Tolerance Data of Tool Shank OD

TOOL SHANK OD (Ø)	3.0~6.0	6.1~10.0	10.1~14.0	14.1~18.0	18.1~24.0	24.1~30.0	30.1~40.0
h6 Tolerance	0~8μm	0~9μm	0~11μm	0~11μm	0~13μm	0~13μm	0~16μm

DIN 69893 HSK40 - Form A



Taper	T.I.R	Bal./rpm	Coolant	HRc	For
AT3	≥3μm 2.5×D	G2.5 25000	AD	52~55	Solid Carbide

mm

CODE NO		Ød1	D1	D2	L1	L
HSK40A	SHR 3-60	19	3	9	9	60
	SHR 3-120					120
	SHR 4-60	20	4	10	12	60
	SHR 4-120					120
	SHR 5-60	21	5	11	15	60
	SHR 5-120					120
	SHR 6-80	22	6	12	25	80
	SHR 6-120					120
	SHR 8-80	24	8	14		80
	SHR 8-120					120
	SHR 10-80	26	10	16	32	80
	SHR 10-120					120
	SHR 12-90	28	12	18	38	90
	SHR 12-120					120

h6 Tolerance Data of Tool Shank OD

TOOL SHANK OD (Ø)	3.0~6.0	6.1~10.0	10.1~14.0	14.1~18.0	18.1~24.0	24.1~30.0	30.1~40.0
h6 Tolerance	0~8μm	0~9μm	0~11μm	0~11μm	0~13μm	0~13μm	0~16μm

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SHRINK FIT CHUCK

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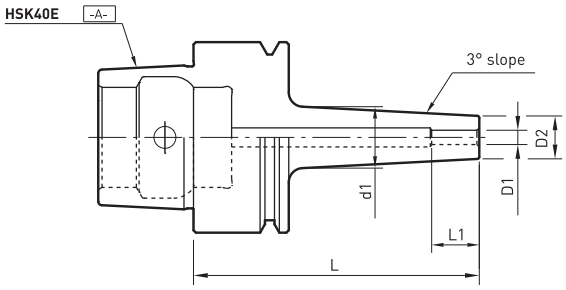
DIN 69893 HSK40 - Form E



Taper	T.I.R	Bal./rpm	Coolant	HRc	For
AT3	≥3μm 2.5×D	G2.5 25000	AD	52~55	Solid Carbide

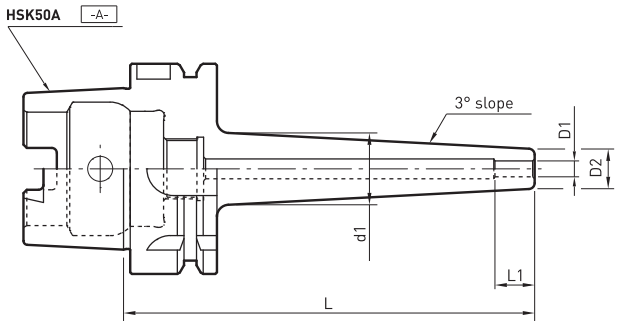
mm

CODE NO		Ød1	D1	D2	L1	L
HSK40E	SHR 3-60	19	3	9	9	120
	SHR 3-120					60
	SHR 4-60	20	4	10	12	120
	SHR 4-120					60
	SHR 5-60	21	5	11	15	120
	SHR 5-120					80
	SHR 6-80	22	6	12	25	120
	SHR 6-120					80
	SHR 8-80	24	8	14		120
	SHR 8-120					80
	SHR 10-80	26	10	16	32	120
	SHR 10-120					90
	SHR 12-90	28	12	18	38	120
	SHR 12-120					

h6 Tolerance Data of Tool Shank OD

TOOL SHANK OD (Ø)	3.0~6.0	6.1~10.0	10.1~14.0	14.1~18.0	18.1~24.0	24.1~30.0	30.1~40.0
h6 Tolerance	0~8μm	0~9μm	0~11μm	0~11μm	0~13μm	0~13μm	0~16μm

DIN 69893 HSK50 - Form A



Taper	T.I.R	Bal./rpm	Coolant	HRc	For
AT3	≥3μm 2.5×D	G2.5 25000	AD	52~55	Solid Carbide

mm

CODE NO		Ød1	D1	D2	L1	L
HSK50A	SHR 4-60	18.6	4	9	12	60
	SHR 5-60	19.6	5	10	15	
	SHR 6-60		6	11	25	
	SHR 8-80	21.6	8	12		80
	SHR 8-120					120
	SHR 10-80	23.6	10	14	32	80
	SHR 10-120					120
	SHR 12-85	25.6	12	16	38	85
	SHR 12-120					120
	SHR 14-90	27.6	14	18		90
	SHR 14-120					120
	SHR 16-90	29.6	16	20	40	90
	SHR 16-120					120
	SHR 18-95	31.6	18	22	42	95
	SHR 18-120					120
	SHR 20-100		20		44	100
	SHR 20-120					120

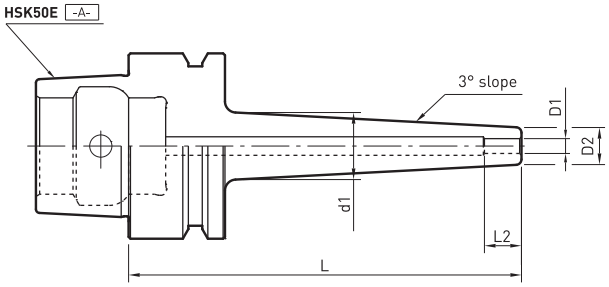
h6 Tolerance Data of Tool Shank OD

TOOL SHANK OD (Ø)	3.0~6.0	6.1~10.0	10.1~14.0	14.1~18.0	18.1~24.0	24.1~30.0	30.1~40.0
h6 Tolerance	0~8μm	0~9μm	0~11μm	0~11μm	0~13μm	0~13μm	0~16μm

SHRINK FIT CHUCK

Slim Design

DIN 69893 HSK50 - Form E



Taper	T.I.R	Bal./rpm	Coolant	HRc	For
AT3	≥3μm 2.5×D	G2.5 25000	AD	52~55	Solid Carbide

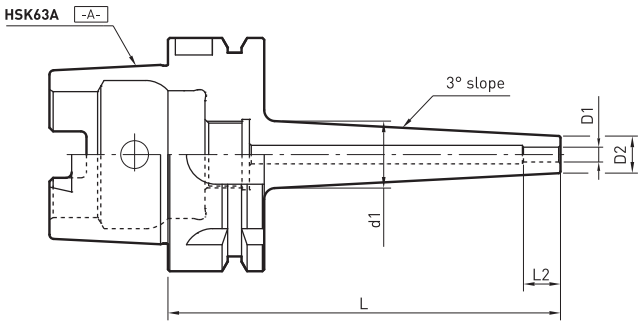
mm

CODE NO		Ød1	D1	D2	L1	L
HSK50E	SHR 4-60	18.6	4	9	12	60
	SHR 5-60	19.6	5	10	15	
	SHR 6-60		6	11	25	
	SHR 8-80	21.6	8	12		80
	SHR 8-120					120
	SHR 10-80	23.6	10	14		80
	SHR 10-120					120
	SHR 12-85	25.6	12	16	38	85
	SHR 12-120					120
	SHR 14-90	27.6	14	18		90
	SHR 14-120					120
	SHR 16-90	29.6	16	20	40	90
	SHR 16-120					120
	SHR 18-95	31.6	18	22	42	95
	SHR 18-120					120
	SHR 20-100		20		44	100
	SHR 20-120					120

h6 Tolerance Data of Tool Shank OD

TOOL SHANK OD (Ø)	3.0~6.0	6.1~10.0	10.1~14.0	14.1~18.0	18.1~24.0	24.1~30.0	30.1~40.0
h6 Tolerance	0~8μm	0~9μm	0~11μm	0~11μm	0~13μm	0~13μm	0~16μm

DIN 69893 HSK63 - Form A



Taper	T.I.R	Bal./rpm	Coolant	HRc	For
AT3	≥3μm 2.5×D	G2.5 25000	AD	52~55	Solid Carbide

mm

CODE NO		Ød1	D1	D2	L2	L
HSK63A	SHR 3-80	17.1	3	9	9	80
	SHR 4-80	18.1	4	10	12	80
	SHR 5-80	19.1	5	11	15	80
	SHR 6-80	20.1	6	12	25	80
	SHR 6-120					120
	SHR 8-80	22.1	8	14		80
	SHR 8-120					120
	SHR 10-85	24.1	10	16	32	85
	SHR 10-120					120
	SHR 12-90	26.1	12	18	38	90
	SHR 12-120					120
	SHR 14-90	28.1	14	20		90
	SHR 14-120					120
	SHR 16-95	30.1	16	22	40	95
	SHR 16-120					120
	SHR 18-95	32.1	18	24	42	95
	SHR 18-120					120
	SHR 20-100	34.1	20	26	44	100
	SHR 20-120					120
	SHR 25-115	39.1	25	31	50	115
	SHR 25-130					130
	SHR 32-120	46.1	32	38		120
	SHR 32-130					130

h6 Tolerance Data of Tool Shank OD

TOOL SHANK OD (Ø)	3.0~6.0	6.1~10.0	10.1~14.0	14.1~18.0	18.1~24.0	24.1~30.0	30.1~40.0
h6 Tolerance	0~8μm	0~9μm	0~11μm	0~11μm	0~13μm	0~13μm	0~16μm

SHRINK FIT CHUCK

Slim Design

DIN 69893 HSK100 - Form A

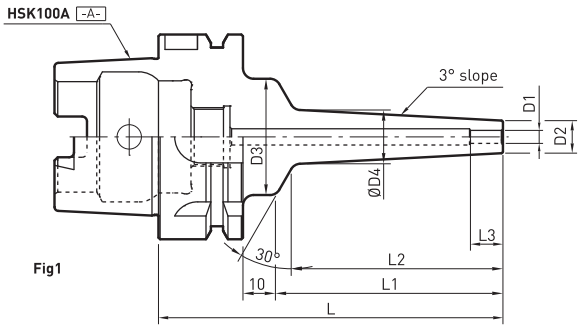


Fig1

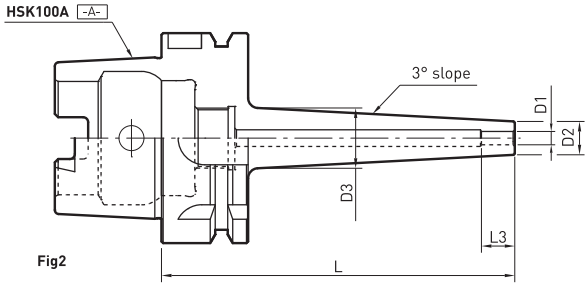


Fig2

HSK100A Form.

- Heat resistant hot-working steel
- Hardened 54-2 HRC
- For HSS and solid carbide tools
- Shank tolerance h6

Certificate of Quality

- Chuck body fine balanced
- G2.5 25,000 RPM
- All functional surfaces machined
- More accurate than DIN

Taper	T.I.R	Bal./rpm	Coolant	HRc	For
AT3	≥3μm 2.5×D	G2.5 25000	AD	52~55	Solid Carbide

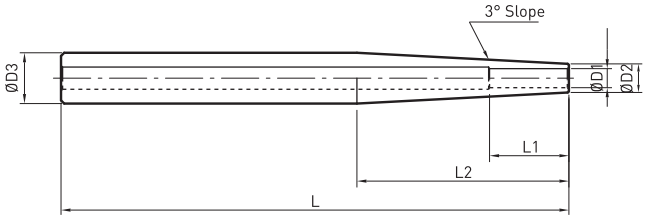
mm

CODE NO		D_1	D_2	D_3	D_4	L_1	L_2	L_3	L	TYPE
HSK100A	SHR 6-85	6	12	50	24.8	91	83.84	25	80	Fig 1
	SHR 8-85	8	14						85	
	SHR 10-90	10	16					32	90	
	SHR 12-95	12	18					38	95	
	SHR 14-95	14	20							
	SHR 16-100	16	22					40	100	
	SHR 18-100	18	24	-	39.2	-	-	42	100	Fig 2
	SHR 20-105	20	26	-		-	-	44	105	
	SHR 25-115	25	31	-		-	-	50	115	
	SHR 32-120	32	38	-		-	-		120	

h6 Tolerance Data of Tool Shank OD

TOOL SHANK OD (Ø)	3.0~6.0	6.1~10.0	10.1~14.0	14.1~18.0	18.1~24.0	24.1~30.0	30.1~40.0
h6 Tolerance	0~8μm	0~9μm	0~11μm	0~11μm	0~13μm	0~13μm	0~16μm

Extension Sleeve



Taper	T.I.R	Coolant	HRc	For
AT3	≥3μm 2.5×D	AD	52~55	Solid Carbide

(STANDARD) mm

CODE NO		D_1	D_2	D_3	L_1	L_2	L	Shank Tolerance
SR12	SHR 3-160	3	6	12	9	28.6	160	h4
	SHR 4-160	4	7		12			
	SHR 5-160	5	8		15			
	SHR 6-160	6	9		25			
SR16	SHR 3-160	3	6	16	9	66.8		h6
	SHR 4-160	4	7		12			
	SHR 5-160	5	8		15			
	SHR 6-160	6	9		25			
	SHR 8-160	8	11					
	SHR 10-160	10	13		32			
SR20	SHR 6-160	6	9	20	25	105		
	SHR 8-160	8	11					
	SHR 10-160	10	13		32			
	SHR 12-160	12	15		38			

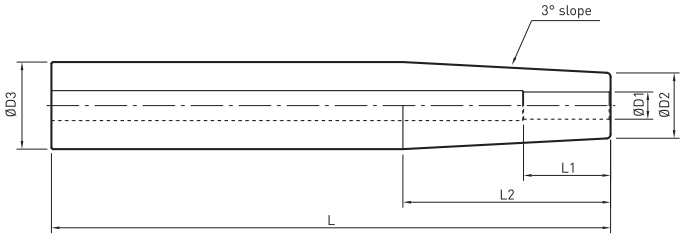
h6 Tolerance Data of Tool Shank OD

TOOL SHANK OD (Ø)	3.0~6.0	6.1~10.0	10.1~14.0	14.1~18.0	18.1~24.0	24.1~30.0	30.1~40.0
h6 Tolerance	0~8μm	0~9μm	0~11μm	0~11μm	0~13μm	0~13μm	0~16μm

SHRINK FIT EXTENSION CHUCK

Slim Design

Extension Sleeve



Taper	T.I.R	Coolant	HRc	For
AT3	≥3μm 2.5×D	AD	52~55	Solid Carbide

mm

CODE NO		D_1	D_2	D_3	L_1	L_2	L	Shank Tolerance
SR20	SHR 6-300	6	12	20	25	76.3	300	h6
	SHR 8-300	8	14					
SR25	SHR 8-300	8	14	25	25	124		
	SHR 10-300	10	16		32			
	SHR 12-300	12	18		38			
	SHR 14-300	14	20					
	SHR 16-300	16	22		40			
SR32	SHR 10-300	10	16	32	32	190.8		
	SHR 12-300	12	18		38			
	SHR 14-300	14	20					
	SHR 16-300	16	22		40			
	SHR 20-300	20	26		42			

h6 Tolerance Data of Tool Shank OD

TOOL SHANK OD (Ø)	3.0~6.0	6.1~10.0	10.1~14.0	14.1~18.0	18.1~24.0	24.1~30.0	30.1~40.0
h6 Tolerance	0~8μm	0~9μm	0~11μm	0~11μm	0~13μm	0~13μm	0~16μm

SINGLE MILLING CHUCK

C

Durability

- Milling chuck will guarantee long life through retainer that contains 300pcs of needle bearing with minimized friction on its rolling side.
- The retainer made of special steel is semi-permanent.

Slot

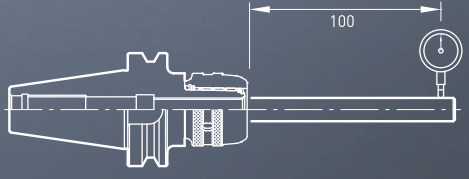
- 6 slot eliminate oil and dregs, and improve chucking ability by preventing slips.

Needle Roller Bearing

- The Needle roller bearing high precision & high strength works softly without friction, noise, and hard load.

T.I.R Accuracy

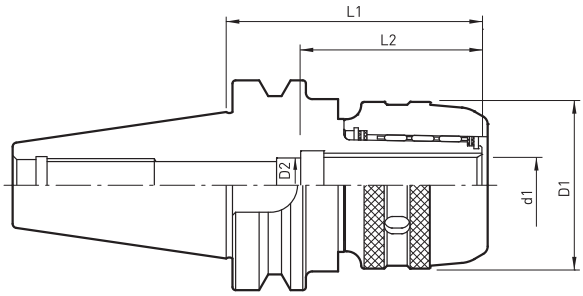
- Below 0.01mm at 2.5D



SSANGYONG

SINGLE MILLING CHUCK

MAS 403 - BT



COOLANT

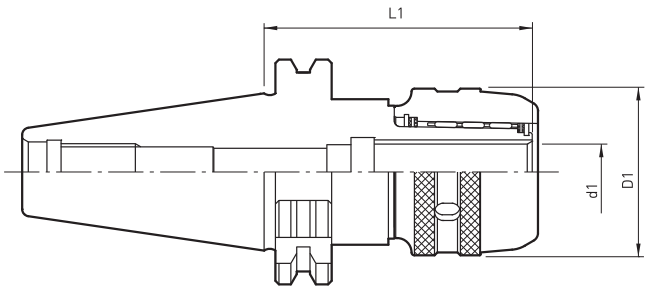
• It is possible to use center through coolant.
Apply the ONK collet.

Taper	T.I.R	Coolant	HRc
AT3	≥10μm 2.5×D	AD	58~60

mm

CODE NO		d_1	D_2	D_1	L_1	L_2	COLLET
BT30	C20-75	20	19	59	75	65	K20
	C20-90				90		
BT40	C20-80				80		
	C20-90				90		
	C20-135				135		
	C25-90	25	25	62	90	70	K25
	C25-135				135		
	C32-90	32	25	75	90	75	K32
	C32-105				105		
	C32-135				135		
BT50	C20-105	20	19	59	105	65	K20
	C20-150				150		
	C25-105	25	25	62	105	70	K25
	C25-135				135		
	C32-110	32	25	75	110	75	K32
	C32-135				135		
	C32-165				165		
	C42-110	42	25	94	110	85	K42
	C42-135				135		
	C42-165				165		

DIN 69871 - SK



Taper	T.I.R	Coolant	HRc
AT3	≥10μm 2.5×D	AD	58~60

mm

CODE NO		d_1	D_1	L_1	COLLET
SK40	C20-105	20	59	105	K20
	C25-105	25	62		K25
	C32-105	32	75		K32
	C32-135			135	
SK50	C20-105	20	59	105	K20
	C25-105	25	62		K25
	C32-105	32	75		K32
	C32-135			135	
	C32-165			165	
	C42-115	42	94	115	K42
	C42-135			135	
	C42-165			165	

SSANGYONG

SINGLE MILLING CHUCK

DIN 69893 - HSK

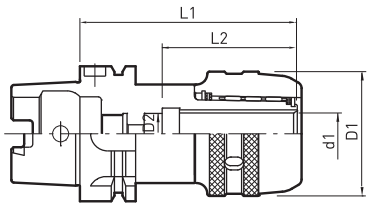


Fig.1

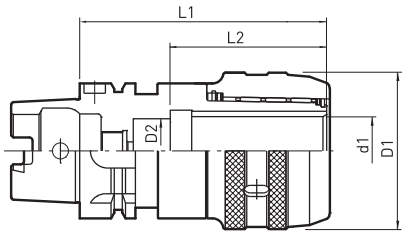


Fig.2

COOLANT

• It is possible to use center through coolant. Apply the ONK collet.

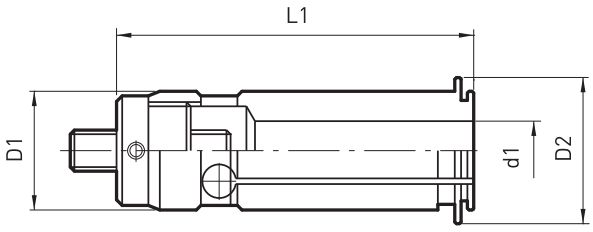
Taper	T.I.R	Coolant	HRc
AT3	≥10μm 2.5×D	AD	58~60

mm

CODE NO		FIG	d_1	D_2	D_1	L_1	L_2
HSK50A	C20-100	1	20	19	59	100	65
HSK63A	C20-105					105	
	C32-130	2	32	25	75	130	75
HSK100A	C20-110	1	20	19	59	110	65
	C32-135		32	25	75	135	75
	C42-135		42		94	135	85

MILLING CHUCK COLLET

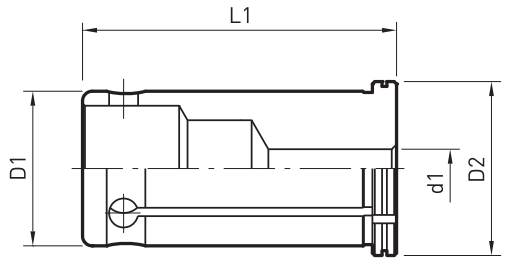
NK (Length adjustable)



mm

CODE NO (d1)		D1	D2	L1
NK20	6, 8, 10, 12, 16	20	24	66
NK32	6, 8, 10, 12, 16, 20, 25	32	37	80
NK42	6, 8, 10, 12, 16, 20, 25, 32	42	48	87

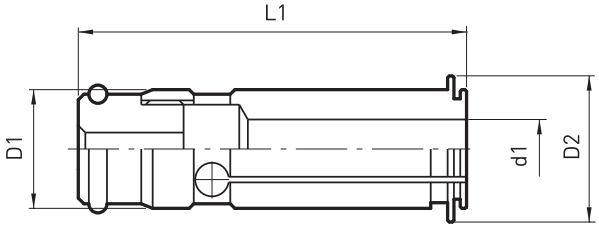
K (STRAIGHT COLLET)



mm

CODE NO (d1)		D1	D2	L1
K20	6, 8, 10, 12, 16	20	24	50
K32	6, 8, 10, 12, 16, 20, 25	32	36	65
K42	6, 8, 10, 12, 16, 20, 25, 32	42	48	75

ONK (For Center Through Coolant)



mm

CODE NO (d1)		D1	D2	L1
ONK20	6, 8, 10, 12, 16	20	24	77
ONK32	6, 8, 10, 12, 16, 20, 25	32	37	90
ONK42	6, 8, 10, 12, 16, 20, 25, 32	42	48	97

SSANGYONG

ER COLLET CHUCK

MAS 403 - BT30

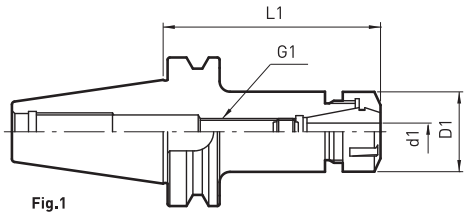


Fig.1

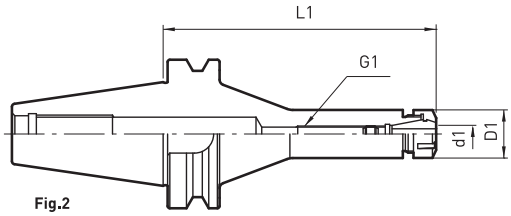


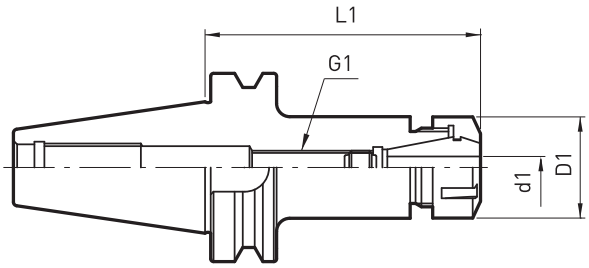
Fig.2

Taper	T.I.R	Bal./rpm	Coolant	HRc
AT3	≥5μm 2.5×D	G6.3 12000	AD	58~60

mm

CODE NO		FIG	d_1	D_1	L_1	G_1	WEIGHT(kg)	NUT	SPANNER
BT30	ER11-60	1	0.5 ~ 7	19	60	M8×1.0	0.5	ERN11	ERS11
	ER11-90				90		0.6		
	ER16-60		1.0 ~ 1.0	28	60	M11×1.0	0.5	ERN16	ERS16
	ER16-90				90		0.6		
	ER20-60		1.0 ~ 13	34	60	M14×1.0	0.6	ERN20	ERS20
	ER20-90				90		0.7		
	ER25-75		1.0 ~ 16	42	75	M18×1.5	1.0	ERN25	ERS25
	ER25-105				105		1.1		
	ER32-75		2.0 ~ 20	50	75	M8×1.25	1.1	ERN32	ERS32
	ER32-105				105	M24×1.5	1.2		

MAS 403 - BT40



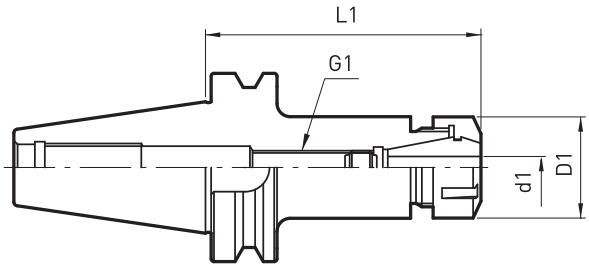
Taper	T.I.R	Bal./rpm	Coolant	HRc
AT3	≥5μm 2.5×D	G6.3 12000	AD	58~60

mm

CODE NO		d_1	D_1	L_1	G_1	WEIGHT(kg)	NUT	SPANNER
BT40	ER11-60	0.5 ~ 7	19	60	M8×1.0	1.0	ERN11	ERS11
	ER16-60	1.0 ~ 10	28	60	M11×1.0	1.1	ERN16	ERS16
	ER16-90			90		1.3		
	ER20-80	1.0 ~ 13	34	80	M14×1.0	1.2	ERN20	ERS20
	ER20-105			105		1.4		
	ER25-80	1.0 ~ 16	42	80	M18×1.5	1.3	ERN25	ERS25
	ER25-105			105		1.5		
	ER32-80	2.0 ~ 20	50	80	M24×1.5	1.4	ERN32	ERS32
	ER32-105			105		1.7		
	ER40-80	3.0 ~ 26	63	80	M12×1.75	1.6	ERN40	ERS40
	ER40-105			105	M28×1.5	2.2		
	ER50-105	5.0 ~ 34	78	105	M36×2.0	2.7	ERN50	ERS50

ER COLLET CHUCK

MAS 403 - BT50

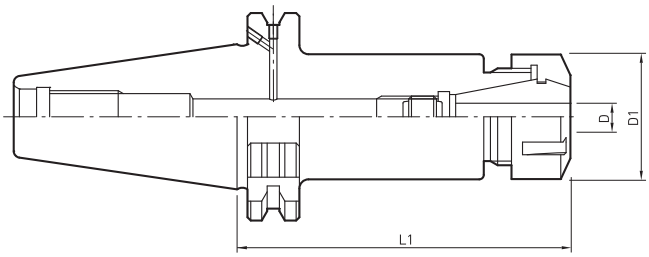


Taper	T.I.R	Bal./rpm	Coolant	HRc
AT3	≥5μm 2.5×D	G6.3 12000	AD	58~60

mm

CODE NO		d_1	D_1	L_1	G_1	WEIGHT(kg)	NUT	SPANNER
BT50	ER16-90	1.0 ~ 10	28	90	M11×1.0	3.9	ERN16	ERS16
	ER16-120			120		4.1		
	ER20-90	1.0 ~ 13	34	90	M14×1.0	4.0	ERN20	ERS20
	ER20-120			120		4.2		
	ER25-105	1.0 ~ 16	42	105	M18×1.5	4.0	ERN25	ERS25
	ER25-135			135		4.3		
	ER32-105	2.0 ~ 20	50	105	M24×1.5	4.1	ERN32	ERS32
	ER32-135			135		4.4		
	ER40-105	3.0 ~ 26	63	105	M28×1.5	4.3	ERN40	ERS40
	ER40-135			135		4.7		
	ER50-105	5.0 ~ 34	78	105	M36×2.0	4.8	ERN50	ERS50
	ER50-135			135		5.5		

DIN 69871 - SK



Taper	T.I.R	Bal./rpm	Coolant	HRc
AT3	≥5μm 2.5×D	G6.3 12000	AD	58~60

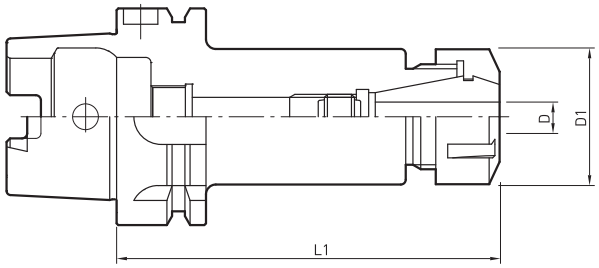
mm

CODE NO		CHUCKING(D)	D_1	L_1	COLLET	NUT	SPANNER
SK40	ER16-70	1.0 ~ 10	28	70	ER16	ERN16	ERS16
	ER16-100			100			
	ER20-70	1.0 ~ 13	34	70	ER20	ERN20	ERS20
	ER20-100			100			
	ER25-70	1.0 ~ 16	42	70	ER25	ERN25	ERS25
	ER25-100			100			
	ER32-70	1.5 ~ 20	50	70	ER32	ERN32	ERS32
	ER32-100			100			
SK50	ER16-70	1.0 ~ 10	28	70	ER16	ERN16	ERS16
	ER16-100			100			
	ER20-70	1.0 ~ 13	34	70	ER20	ERN20	ERS20
	ER20-100			100			
	ER25-70	1.0 ~ 16	42	70	ER25	ERN25	ERS25
	ER25-100			100			
	ER32-70	1.5 ~ 20	50	70	ER32	ERN32	ERS32
	ER32-100			100			
	ER40-70	2.5 ~ 26	63	70	ER40	ERN40	ERS40
	ER40-100			100			

Note SK30 shank ER collet chuck are avaialble depend on buyer request

ER COLLET CHUCK

DIN 69893 - HSK

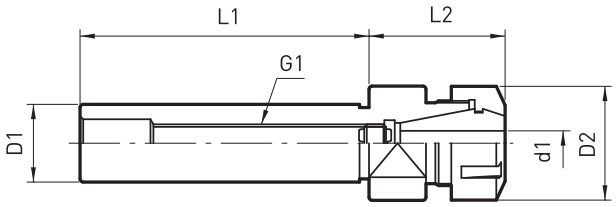


Taper	T.I.R	Bal./rpm	Coolant	HRc
AT3	≥5μm 2.5×D	G6.3 12000	AD	58~60

mm

CODE NO		CHUCKING(D)	D_1	L_1	COLLET	NUT	SPANNER
HSK50A	ER11-60	0.5 ~ 7	19	60	ER11	ERN11	ERS11
	ER16-60	0.5 ~ 10	28	60	ER16	ERN16	ERS16
	ER16-100	0.5 ~ 10	28	100	ER16	ERN16	ERS16
	ER20-70	1.0 ~ 13	34	70	ER20	ERN20	ERS20
	ER20-100	1.0 ~ 13	34	100	ER20	ERN20	ERS20
	ER25-70	1.0 ~ 16	42	70	ER25	ERN25	ERS25
	ER25-100	1.0 ~ 16	42	100	ER25	ERN25	ERS25
	ER32-80	1.5 ~ 20	50	80	ER32	ERN32	ERS32
	ER32-100	1.5 ~ 20	50	100	ER32	ERN32	ERS32
HSK63A	ER11-75	0.5 ~ 7	19	75	ER11	ERN11	ERS11
	ER11-100	0.5 ~ 7	19	100	ER11	ERN11	ERS11
	ER16-75	0.5 ~ 10	28	75	ER16	ERN16	ERS16
	ER16-100	0.5 ~ 10	28	100	ER16	ERN16	ERS16
	ER20-75	1.0 ~ 13	34	75	ER20	ERN20	ERS20
	ER20-100	1.0 ~ 13	34	100	ER20	ERN20	ERS20
	ER25-75	1.0 ~ 16	42	75	ER25	ERN25	ERS25
	ER25-100	1.0 ~ 16	42	100	ER25	ERN25	ERS25
	ER32-75	1.5 ~ 20	50	75	ER32	ERN32	ERS32
	ER32-100	1.5 ~ 20	50	100	ER32	ERN32	ERS32
	ER40-75	1.5 ~ 20	63	75	ER40	ERN40	ERS40
	ER40-120	1.5 ~ 20	63	120	ER40	ERN40	ERS40
HSK100A	ER16-100	0.5 ~ 10	28	100	ER16	ERN16	ERS16
	ER20-100	1.0 ~ 13	34	100	ER20	ERN20	ERS20
	ER25-100	1.0 ~ 16	42	100	ER25	ERN25	ERS25
	ER32-100	1.5 ~ 20	50	100	ER32	ERN32	ERS32
	ER40-120	1.5 ~ 20	63	120	ER40	ERN40	ERS40

Straight shank ER collet chuck (Standard design)



Taper	T.I.R	Bal./rpm	Coolant	HRc
AT3	≥5μm 2.5×D	G6.3 12000	AD	58~60

mm

CODE NO		d_1	D_1	D_2	L_1	L_2	G_2	SPANNER
K16	ER11-75	0.5 ~ 7	16	19	40	35	M8×1.0	ERS11
	ER11-110				70	40		
K20	ER11-100		20		60			
	ER11-130				90			
	ER16-105	1.0 ~ 10		28	60		M11×1.0	ERS16
	ER16-135				90	45		
	ER20-120	1.0 ~ 13		34	70		M14×1.0	ERS20
	ER20-150				100	50		
K25	ER16-130	1.0 ~ 10	25	28	80		M11×1.0	ERS16
	ER16-160				110			
	ER20-130	1.0 ~ 13		34	80		M14×1.0	ERS20
	ER20-160				110			
	ER25-135	1.0 ~ 16		42	80	55	M18×1.5	ERS25
K32	ER20-130	1.0 ~ 13	32	34	80	50	M14×1.0	ERS20
	ER20-160				110			
	ER25-135	1.0 ~ 16		42	80	55	M18×1.5	ERS25
	ER25-165				110			
K42	ER32-170	2.0 ~ 20	42	50	110	60	M24×1.5	ERS32
	ER32-210				150			
	ER50-185	5.0 ~ 34		78	100	85	M16×2.0	ERS50
	ER50-225				140			

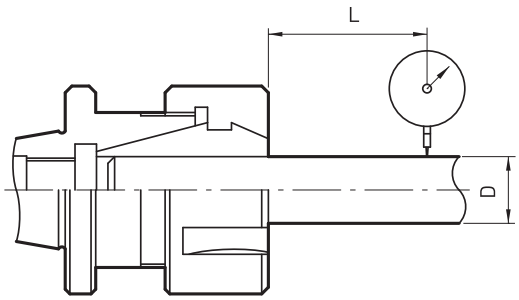
K - ER / M

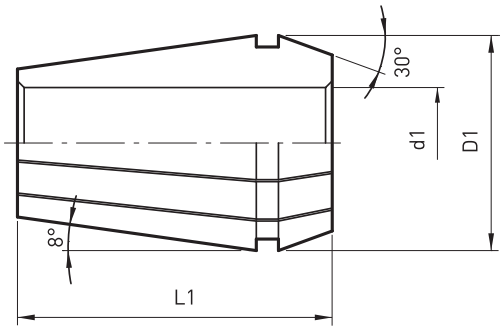
mm

CODE NO		d_1	D_1	D_2	L_1	L_2	G_1	SPANNER
K16	ER11M-140	0.5 ~ 7	16	16	140	30	M8×1.0	ERS11M
K20	ER16M-140	1.0 ~ 10	20	22	140	40	M11×1.0	ERS16M

ER COLLET CHUCK

ER collet





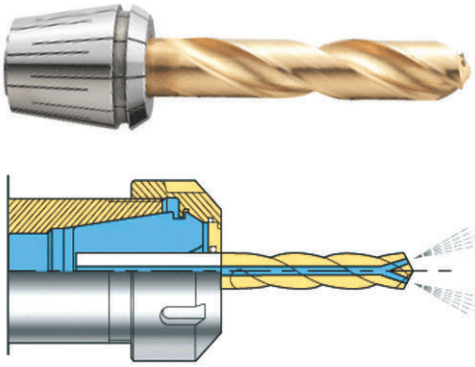
L	D	RUNOUT(T.I.R)
6	1.0 ~ 1.4	0.015
10	1.5 ~ 2.9	0.015
16	3.0 ~ 5.9	0.015
25	6.0 ~ 9.9	0.015
40	10.0 ~ 17.9	0.02
50	18.0 ~ 26.9	0.02
60	27.0 ~ 34.0	0.02

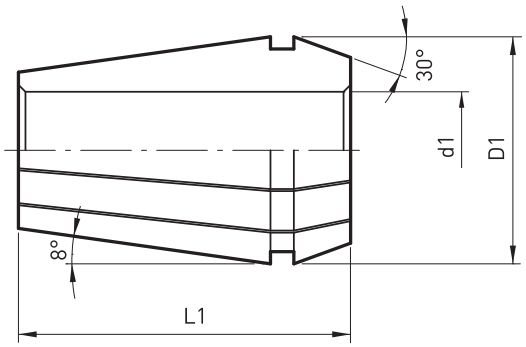
mm

CODE NO	d_1	D_1	L_1	CHUCK	NUT
ER11	0.5 ~ 7	11.5	18.0	ER11	ERN11
ER16	1.0 ~ 10	17.0	27.5	ER16	ERN16
ER20	1.0 ~ 13	21.0	31.5	ER20	ERN20
ER25	1.0 ~ 16	26.0	34.0	ER25	ERN25
ER32	2.0 ~ 20	33.0	40.0	ER32	ERN32
ER40	3.0 ~ 26	41.0	46.0	ER40	ERN40
ER50	5.0 ~ 34	52.0	60.0	ER50	ERN50

	ER COLLET CODE NO (d_1)	NUT
ER11	1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0, 4.5, 5.0, 5.5, 6.0, 6.5, 7.0	13PCS
ER16	1, 2, 3, 4, 5, 6, 7, 8, 9, 10	10PCS
ER20	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13	12PCS
ER25	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16	15PCS
ER32	3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20	18PCS
ER40	4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26	23PCS
ER50	6, 7, 8, 9, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34	17PCS

ERC (For center through coolant)





mm

CODE NO	d_1	D_1	L_1	CHUCK	NUT
ERC16	1.0 ~ 10	17.0	27.5	ER16	ERN16
ERC20	1.0 ~ 13	21.0	31.5	ER20	ERN20
ERC25	1.0 ~ 16	26.0	34.0	ER25	ERN25
ERC32	2.0 ~ 20	33.0	40.0	ER32	ERN32
ERC40	3.0 ~ 26	41.0	46.0	ER40	ERN40

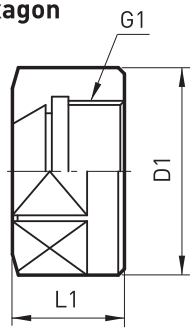
	ER COLLET CODE NO (d_1)	NUT
ERC16	4, 5, 6, 7, 8, 9, 10	7PCS
ERC20	6, 7, 8, 9, 10, 11, 12, 13	8PCS
ERC25	6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16	11PCS
ERC32	8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20	13PCS
ERC40	10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26	17PCS

Note Collet set to be supplied with wooden tray

ER NUT / ER SPANNER

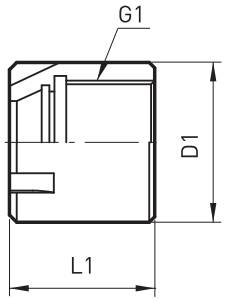
ERN

Hexagon



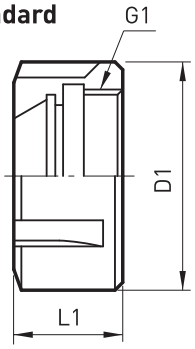
A Type

Mini



M Type

Standard

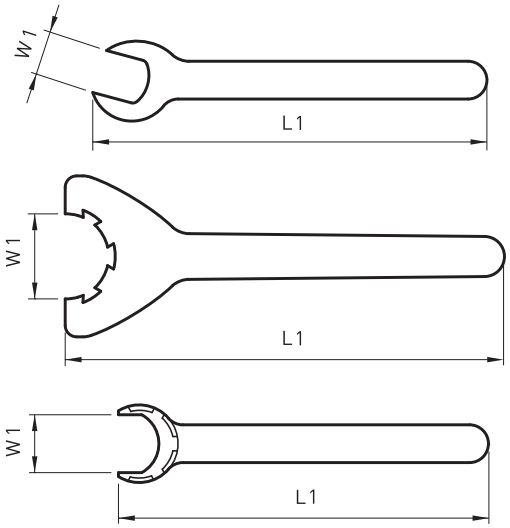


UM/RD Type

mm

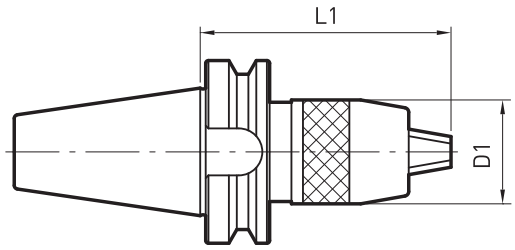
CODE NO	D_1	L_1	G_1	COLLET	CHUCK
ERN11-A	19	11.3	M28 1.5	ER11	ER11
ERN16-A	28	17.5	M22 1.5	ER16	ER16
ERN20-A	34	19.0	M25 1.5	ER20	ER20
ERN11-M	16	12.0	M13 0.75	ER11	ER11
ERN16-M	22	18.0	M19 1.0	ER16	ER16
ERN20-M	28	19.0	M24 1.0	ER20	ER20
ERN25-M	35	20.0	M30 1.0	ER25	ER25
ERN25-UM/RD	42	20.0	M32 1.5	ER25	ER25
ERN32-UM/RD	50	22.5	M40 1.5	ER32	ER32
ERN40-UM/RD	63	22.5	M50 1.5	ER40	ER40
ERN50-UM/RD	78	35.5	M64 2.0	ER50	ER50

ERS



CODE NO	W_1	L_1
ERS11-A	17.0	155
ERS16-A	25.0	210
ERS20-A	30.0	250
ERS25-UM.KM/RD	37.0	206
ERS32-UM.KM/RD	46.5	253
ERS40-UM.KM/RD	58.0	289
ERS50-UM.KM/RD	74.0	351
ERS11-M	11.5	95
ERS16-M	15.0	117
ERS20-M	19.5	129
ERS25-M	25.0	142

MAS 403 - BT

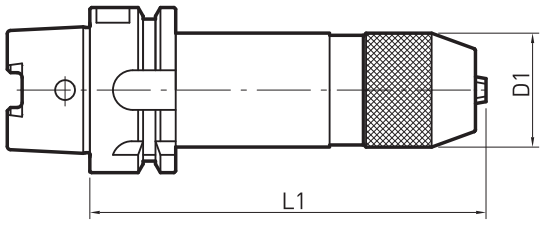


Taper AT3 | T.I.R ≥30μm 2.5×D | HRc 58~60

mm

CODE NO		CHUCKING	D_1	L_1	
				MIN	MAX
BT30	NPU8-70	1.0 ~ 8	38	72	78
	NPU13-105	1.0 ~ 13	50.5	97	108
BT40	NPU8-70	1.0 ~ 8	38	72	78
	NPU8-110			111	117
	NPU13-100	1.0 ~ 13	50.5	100	111
	NPU13-130			132	143
BT50	NPU8-85	1.0 ~ 8	38	83	89
	NPU8-110			111	117
	NPU13-100	1.0 ~ 13	50.5	100	111
	NPU13-130			132	143

DIN 69893 - HSK



Taper AT3 | T.I.R ≥30μm 2.5×D | HRc 58~60

mm

CODE NO		CHUCKING	D_1	L_1	
				MIN	MAX
HSK50A	NPU8-140	1.0 ~ 8	34.5	141	147
HSK63A	NPU8-140	1.0 ~ 8	34.5		
	NPU13-140	1.0 ~ 13	46.0	142	153
HSK100A	NPU8-150	1.0 ~ 8	34.5	151	157
	NPU13-170	1.0 ~ 13	46.0	172	183

END MILL HOLDER

MAS 403 - BT

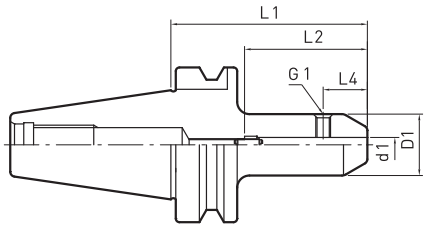


Fig1

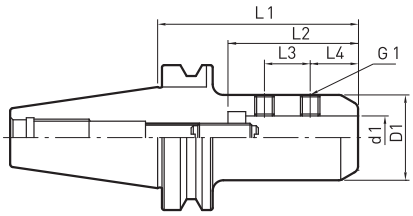


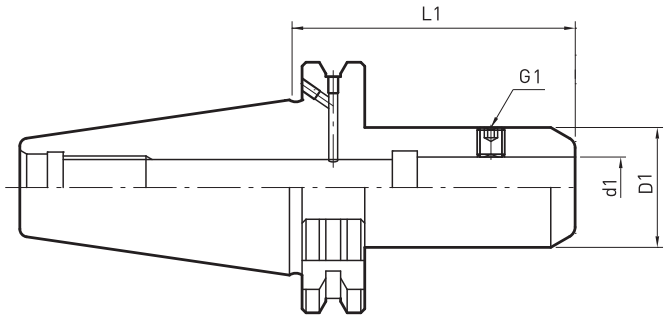
Fig2

Taper	T.I.R	Bal./rpm	Coolant	HRc
AT3	≥5μm 2.5×D	G6.3 12000	AD	58~60

mm

CODE NO		d_1	D_1	L_1	L_2	L_3	L_4	G_1	FIG
BT30	EMH6-60	6	25	60	50	-	18	M6×0.75	1
	EMH8-60	8	28					M8×1.0	
	EMH10-60	10	35	60	54		20	M10×1.25	
	EMH12-60	12	37	60	59		22.5		
	EMH16-75	16	40	75	62	20	24		2
	EMH20-75	20	43	75	64				
	EMH25-75	25	48	75	69	20	20		
BT40	EMH6-80	6	25	80	50	-	18	M6×0.75	1
	EMH8-80	8	28					M8×1.0	
	EMH10-80	10	35		54		20	M10×1.25	
	EMH12-80	12	42		59		22.5	M12×1.5	
	EMH16-80	16	48		62	20	24		2
	EMH20-90	20	52	90	69			M16×1.5	
	EMH25-90	25	55		74	25			
	EMH32-105	32	60	105	78	28			
BT50	EMH6-90	6	25	90	50	-	18	M6×0.75	1
	EMH8-90	8	28					M8×1.0	
	EMH10-90	10	35	90	54		20	M10×1.25	
	EMH12-90	12	42		59		22.5	M12×1.5	
	EMH16-105	16	48	105	62	20	24		2
	EMH20-105	20	52		69			M16×1.5	
	EMH25-105	25	62		74	25			
	EMH32-105	32	75		78	28			
	EMH40-120	40	80	120	88	32	30	M20×1.5	
	EMH42-120	42							
	EMH50-120	50	100		98	35	35		

DIN 69871 - SK40



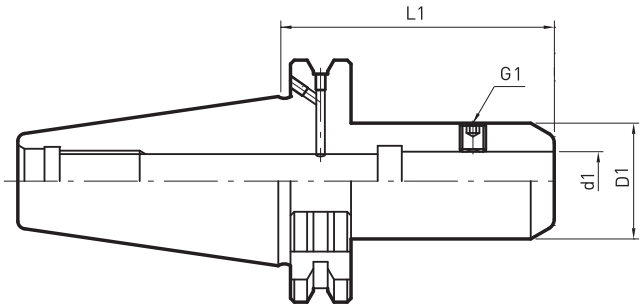
Taper	T.I.R	Bal./rpm	Coolant	HRc
AT3	≥5μm 2.5×D	G6.3 12000	AD	58~60

mm

CODE NO		d_1	D_1	L_1	G_1
SK40	EMH6-50	6	25	50	M6
	EMH6-100			100	
	EMH8-50	8	28	50	M8
	EMH8-100			100	
	EMH10-50	10	35	50	M10
	EMH10-100			100	
	EMH12-50	12	42	50	M12
	EMH12-100			100	
	EMH14-50	14	44	50	M12
	EMH14-100			100	
	EMH16-63	16	48	63	M14
	EMH16-100			100	
	EMH18-63	18		63	
	EMH18-100			100	
	EMH20-63	20	52	63	M16
	EMH20-100			100	
	EMH25-100	25	55	100	M18
	EMH32-100	32	60	100	M20

END MILL HOLDER

DIN 69871 - SK50

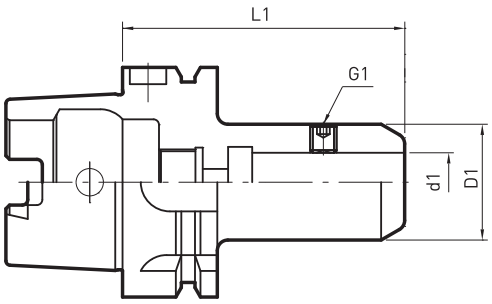


Taper	T.I.R	Bal./rpm	Coolant	HRc
AT3	≥5μm 2.5×D	G6.3 12000	AD	58~60

mm

CODE NO		d_1	D_1	L_1	G_1
SK50	EMH6-63	6	25	63	M6
	EMH6-100			100	
	EMH8-63	8	28	63	M8
	EMH8-100			100	
	EMH10-63	10	35	63	M10
	EMH10-100			100	
	EMH12-63	12	42	63	M12
	EMH12-100			100	
	EMH14-63	14	44	63	
	EMH14-100			100	
	EMH16-63	16	48	63	M14
	EMH16-100			100	
	EMH18-63	18		63	
	EMH18-100			100	
	EMH20-63	20	52	63	M16
	EMH20-100			100	
	EMH25-80	25	62	80	
	EMH25-100			100	
	EMH32-100	32	75	100	M20
	EMH40-100	40	80		

DIN 69893 - HSK



Taper	T.I.R	Bal./rpm	Coolant	HRc
AT3	≥5μm 2.5×D	G6.3 12000	AD	58~60

mm

CODE NO		d_1	D_1	L_1	G_1
HSK50A	EMH6-65	6	25	65	M6
	EMH8-65	8	28	65	M8
	EMH10-65	10	35	65	M10
	EMH12-80	12	42	80	M12
	EMH16-80	16	48	80	M14
	EMH20-80	20	52	80	M16
HSK63A	EMH6-65	6	25	65	M6
	EMH8-65	8	28	65	M8
	EMH10-65	10	35	65	M10
	EMH12-80	12	42	80	M12
	EMH14-80	14	44	80	M12
	EMH16-80	16	48	80	M14
	EMH18-80	18	50	80	M14
	EMH20-80	20	52	80	M16
	EMH25-110	25	62	110	M16
	EMH32-110	32	75	110	M20
HSK100A	EMH6-80	6	25	80	M6
	EMH8-80	8	28	80	M8
	EMH10-80	10	35	80	M10
	EMH12-80	12	42	80	M12
	EMH14-80	14	44	80	M12
	EMH16-100	16	48	100	M14
	EMH18-100	18	50	100	M14
	EMH20-100	20	52	100	M16
	EMH25-100	25	62	100	M18
	EMH32-100	32	75	100	M20

FACE MILL ARBOR - FMA

FMA

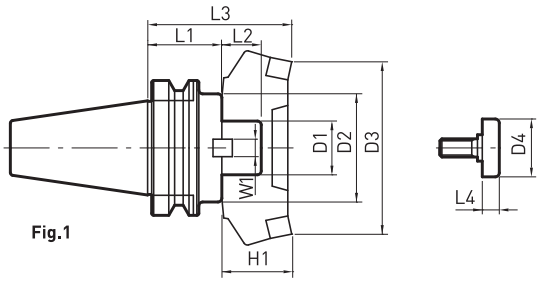


Fig.1

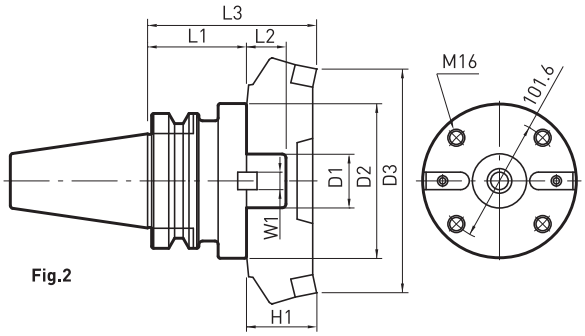


Fig.2

Taper AT3 | HRc 58~60

mm

CODE NO			FIG	L_2	D_2	W_1	D_4	L_4	WEIGHT (kg)	After assembling cutter		
TAPER	D_1	L_1								L_3	D_3	H_1
BT30	**FMA25.4**	45	1	22	50	9.5	33	10	1.3	95	80	50
									1.5			
BT40	**FMA31.75**	45		30	60	12.7	40		1.7	105	100	60
	FMA38.1	60		34	80	15.9	50	14	2.9	120	125	
BT50	**FMA25.4**	45		22	50	9.5	33	10	3.7	95	80	50
		90							4.6	140		
	FMA31.75	45		30	60	12.7	40		4.5	105	100	60
		75							5.3	135		
	FMA38.1	45		34	80	15.9	50	14	4.3	105	125	
		75							5.6	135		
	FMA50.8	45		36	98	19	65		4.9	105	160	
		75							6.8	135		
	FMA47.625		2	38	128.57	25.4	-	-	7.7		200	

DIN 69893 - HSK

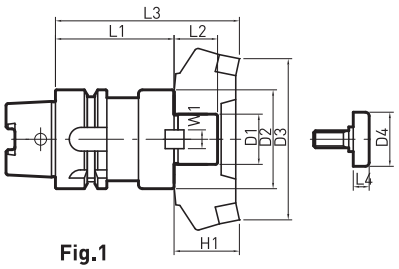


Fig.1

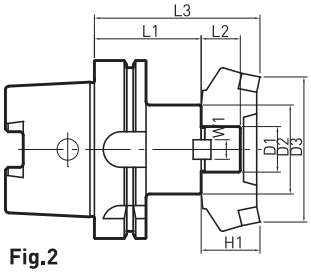


Fig.2

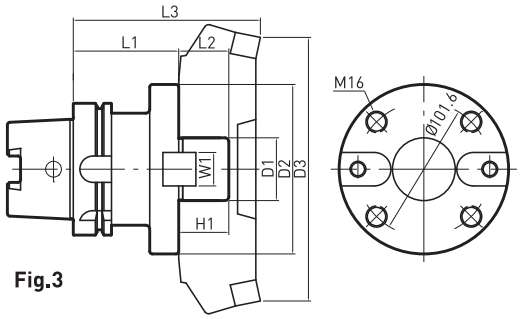


Fig.3

Taper AT3 | HRc 58~60

mm

CODE NO			FIG	L_2	D_2	W_1	D_4	L_4	After assembling cutter		
TAPER	D_1	L_1							L_3	D_3	H_1
HSK50A	**FMA25.4**	60	1	22	50	9.5	33	10	110	80	50
HSK63A	**FMA31.75**	65		30	60	12.7	40		125	100	60
	FMA38.1			34	80	15.9	50	14		125	
HSK100A	**FMA25.4**	60	2	22	50	9.5	33	10	110	80	50
	FMA31.75	65		30	60	12.7	40		125	100	60
	FMA38.1			34	80	15.9	50	14	125	125	
	FMA50.8	75		36	98	19	65		135	160	
	FMA47.625	80	3	38	128.57	25.4	-	-	140	200	

FACE MILL ARBOR - FMB

FMB

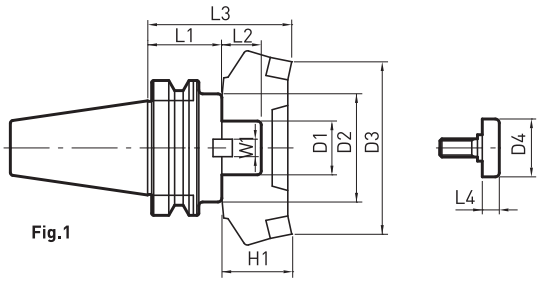


Fig.1

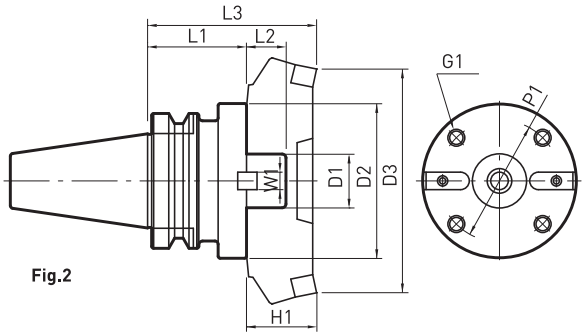


Fig.2

Taper AT3 | HRc 58~60

mm

INCH TYPE															METRIC TYPE		
CODE NO			Fig	L_2	D_2	W_1		G_1	P_1	D_4	L_4	WEIGHT (kg)	L_3	D_3	H_1	CODE NO		
TAPER	D_1	L_1				INCH	METRIC									TAPER	D_1	L_1
BT30	**FMB25.4**	45	1	26	80	9.5	12	-	-	33	10	1.7	95	80	50	**BT30**	**FMB27**	45
BT40		60										2.5	110			**BT40**		60
		90										4.7	140					90
	FMB38.1	60			85	15.9	16	-	-	50	14	7.4	123	125	63		**FMB40**	60
BT50	**FMB25.4**	45			80	9.5	12	-	-	33	10	40	95	80	50	**BT50**	**FMB27**	45
		90										5.8	140					90
																		150
	FMB38.1	45			85	15.9	16	-	-	50	14	4.7	108	125	63		**FMB40**	45
		75										6.1	138					75
		105										8.7	168					105
	-	-	2	25	140		25.4	M16	101.6	-	-	7.9	138	200			**FMB40F**	75
																	FMB60	

FMC

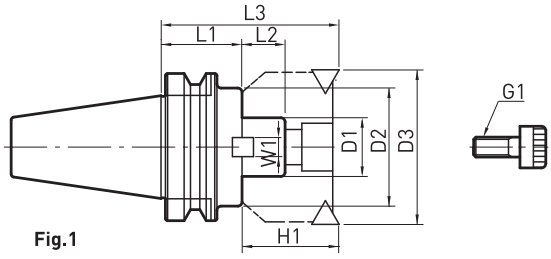


Fig.1

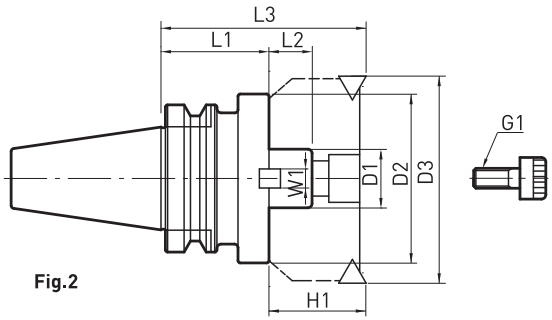


Fig.2

Taper AT3 | HRc 58~60

mm

INCH TYPE													METRIC TYPE		
CODE NO			Fig	L_2	D_2	W_1		G_1	WEIGHT (kg)	L_3	D_3	H_1	CODE NO		
TAPER	D_1	L_1				INCH	METRIC						TAPER	D_1	L_1
BT30	**-**	-	1	18	45	-	10	M10×30	1.4	80	50	40	**BT30**	**FMC22**	40
									1.3	85					45
									2.0	130					90
BT40	**FMC25.4**	60	2	20	70	9.5	12	M12×35	1.5	110	80	50	**BT40**	**FMC27**	60
		90							2.2	140					90
	FMC38.1	60		22	85	15.9	14	M16×35	2.3	110	100			**FMC32**	60
		75							2.6	125					75
BT50	**-**	-	1	18	45	-	10	M10×30	4.2	100	50	40	**BT50**	**FMC22**	60
									4.7	145					105
									5.3	190					150
	FMC25.4	45		20	70	9.5	12	M12×35	4.1	95	80	50		**FMC27**	45
		90							5.5	140					90
															150
	FMC38.1	45		22	85	15.9	14	M16×35	4.2	95	100			**FMC32**	45
		75							5.5	125					75
		105							7.0	155					105

FACE MILL ARBOR - FMC

DIN 69893 - HSK

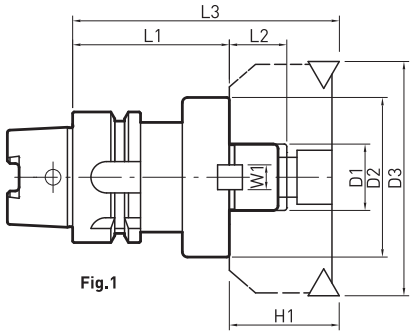
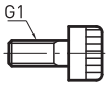


Fig.1



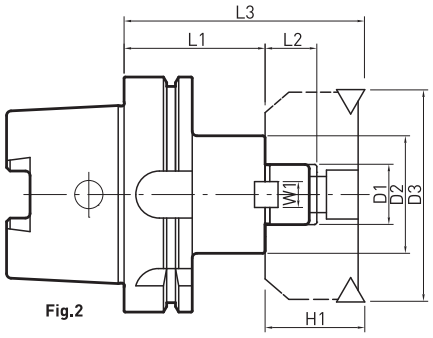


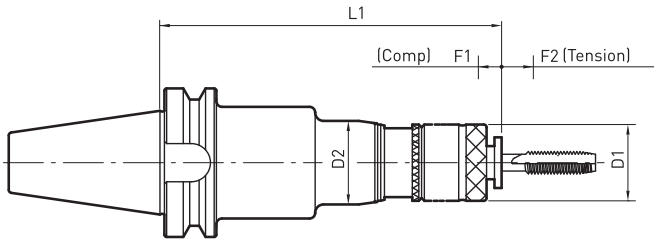
Fig.2

Taper AT3 | HRc 58~60

mm

METRIC TYPE										
CODE NO			FIG	L_2	D_2	W_1	G_1	After assembling cutter		
TAPER	D_1	L_1				METRIC		L_3	D_3	H_1
HSK40A	**FMC16**	45	1	17	38	8	M8×3.0	85	40	40
	FMC22	45		18	45	10	M10×3.0		50	
HSK50A	**FMC16**	45	2	17	38	8	M8×3.0		40	
	FMC22	50	1	18	45	10	M10×3.0	90	50	
	FMC27	50		20	70	12	M12×3.5	100	80	50
	FMC32	50		22	85	14	M16×3.5		100	
HSK63A	**FMC16**	60	2	17	38	8	M8×3.0		40	40
	FMC22	60		18	45	10	M10×3.0		50	
	FMC27	60	1	20	70	12	M12×3.5	110	80	50
	FMC32	60		22	85	14	M16×3.5		100	
HSK100A	**FMC16**	75	2	17	38	8	M8×3.0	115	40	40
	FMC22	75		18	45	10	M10×3.0		50	
	FMC27	75		20	70	12	M12×3.5	125	80	50
	FMC32	75		22	85	14	M16×3.5		100	

MAS 403 - BT



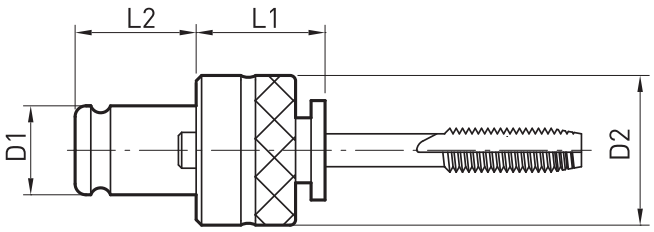
Taper AT3 | HRc 58~60

mm

CODE NO		Tapping Range			D_1	D_2	L_1	F_1	F_2	WEIGHT (kg)	Collet
		M	U	P							
BT30	TC0312-130	3 ~ 12	1/4 ~ 1/2	1/8	32	45	130	635	12	1.5	SES1
BT40	TC0312-135						135			1.8	
	TC0822-160	8 ~ 25	5/16 ~ 7/8	1/8 ~ 1/2	50	62	160	14.5	13	2.6	SES2
BT50	TC0312-150	3 ~ 12	1/4 ~ 1/2	1/8	32	45	150	6.5	12	4.2	SES1
	TC0822-175	8 ~ 25	5/16 ~ 7/8	1/8 ~ 1/2	50	62	175	14.5	13	5.4	SES2
	TC1638-240	16 ~ 38	5/8 ~ 1 3/8	1/4 ~ 1 3/8	72	88	240	20	20	7.8	SES3

TAPPING CHUCK

SES



HRc 58~60

mm

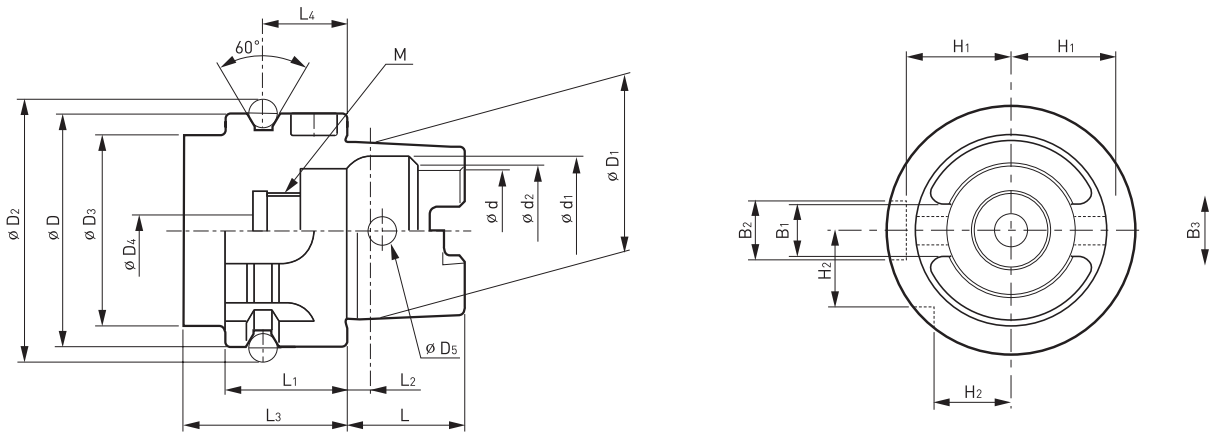
CODE NO	Tapping Range			D_1	D_2	L_1	L_2	CHUCK CODE
	M	U	P					
SES-1	3 ~ 12	1/4 ~ 1/2	1/8	19	32	25	21.5	TC0312
SES-2	8 ~ 25	5/16 ~ 7/8	1/8 ~ 1/2	31	50	33	35.5	TC0822
SES-3	16 ~ 38	5/8 ~ 1 3/8	1/4 ~ 1 1/8	48	72	45	55.5	TC1638

Tap collet size	Tap size					
	METRIC			UNC	SHANK Ø	SHANK ☒
SES-1	M3			NO 5, 6	4.0	3.2
	M4	M4.5			5.0	4.0
	M5	M5.5			5.5	4.5
	M6			U1/4	6.0	
				U5/16	6.1	5.0
	M8	M7			6.2	
	M10	M9		U3/8	7.0	5.5
		M11		U7/16	8.0	6.0
	M12				8.5	6.5
				U1/2	9.0	7.0
SES-2		M14	M15	U9/16	10.5	8.0
				U5/8	12.0	9.0
	M16				12.5	10.0
		M17			13.0	
		M18		U3/4	14.0	11.0
	M20				15.0	12.0
		M22		U7/8	17.0	13.0
	M24	M25			19.0	15.0
SES-3		M27	M26	U1	20.0	
		M28			21.0	17.0
				U1 1/8	22.0	
	M30				23.0	17.0
		M32		U1 1/4	24.0	19.0
		M33			25.0	
		M35	M34	U1 3/8	26.0	21.0
	M36	M38			28.0	

Tap collet size	Tap size			
	PT	PF	SHANK Ø	SHANK ☒
SES-1	1/8	1/8	8	6
SES-2	1/4	1/4	11	9
	3/8	3/8	14	11
	1/2	1/2	18	14
SES-3		5/8	19	15
	3/4	3/4	23	17
		7/8	24	19
	1	1	26	21
		1 1/8	28	

Note
M : Metric threads
UNC : Unified coarse threads
PT : Pipe taper threds
PF : Pipe straight threads

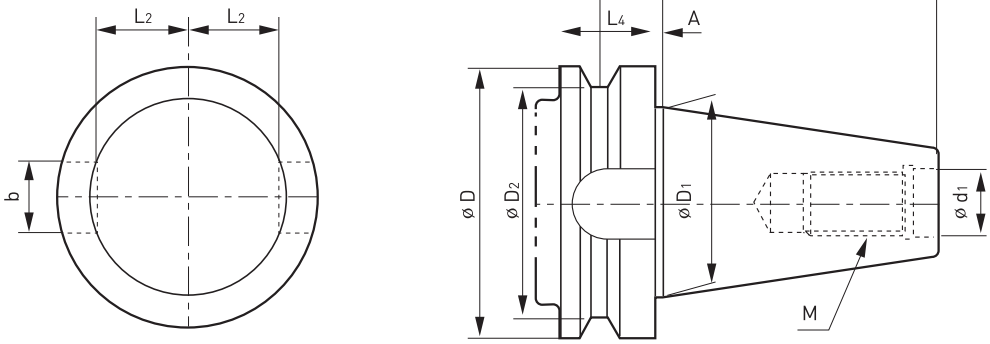
HSK shank DIN 69893-1, ISO 12164-1 : 2001



TAPER	D	D1	D2	D3	D4	D5	L	L1	L2	L3	L4
HSK40A	40	30	45.00	34	5.0	4.6	20	20	4.0	35	16
HSK50A	50	38	59.30	42	6.8	6.0	25	26	5.0	42	18
HSK63A	63	48	72.30	53	8.4	7.5	32	26	6.3	42	18
HSK100A	100	75	109.75	82	12.0	12.0	50	29	10.0	45	20

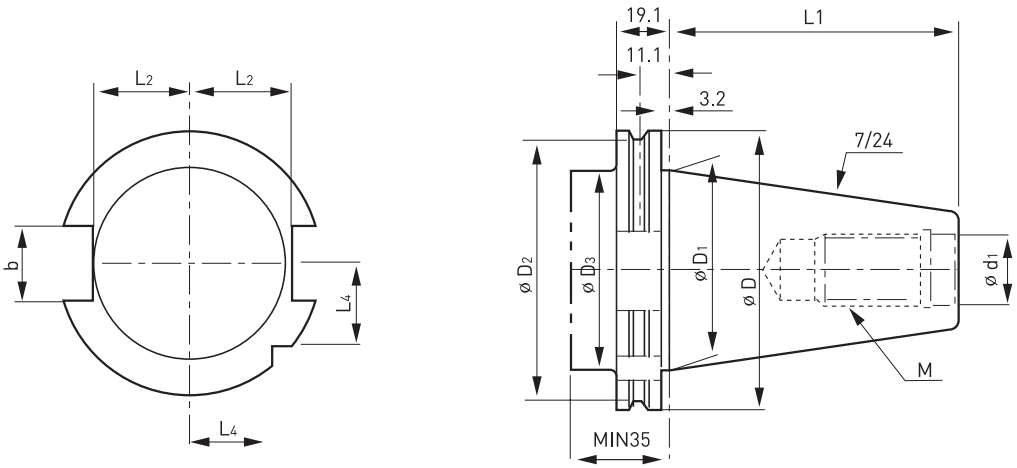
TAPER	D	D1	D2	B1	B2	B3	H1	H2	M
HSK40A	21	25.5	23	8.05	11	9	17.0	12.0	M12×1.0
HSK50A	26	32.0	29	10.54	14	12	21.0	15.5	M16×1.0
HSK63A	34	40.0	37	12.54	18	16	26.5	20.0	M18×1.0
HSK100A	53	63.0	58	20.02	22	20	44.0	31.5	M24×15

Bottle Grip Taper MAS 403 - BT



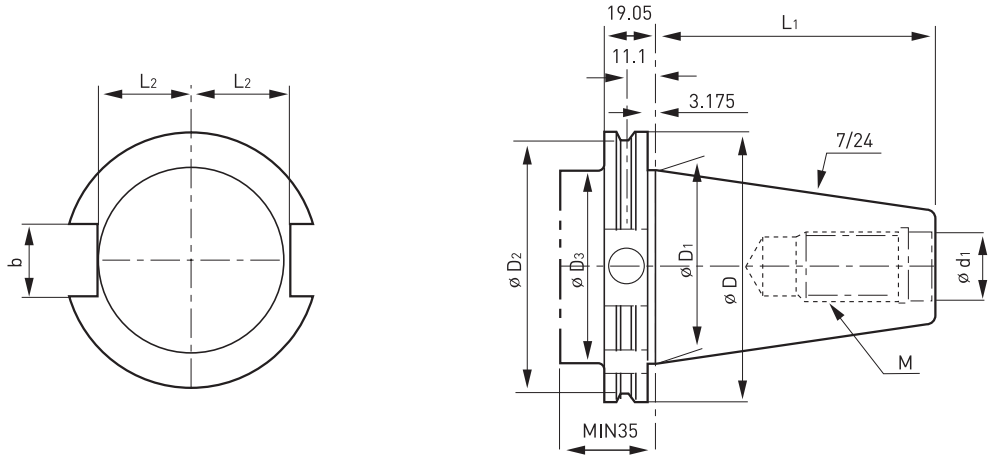
TAPER	D	D1	D2	d1	L1	L2	L3	L4	A	B	M
BT30	46	31.75	38	12.5	48.4	16.3	13.6	20	2	16.1	M12×1.75
BT40	63	44.45	53	17.0	65.4	22.6	16.6	25	2	16.1	M16×2.0
BT50	100	69.85	85	25.0	101.8	35.4	23.2	35	3	25.7	M24×3.0
BT60	155	107.95	135	31.0	161.8	60.1	28.2	45	3	25.7	M30×3.5

DIN 69871-1 A/B, 7388/1 : 1983(E)



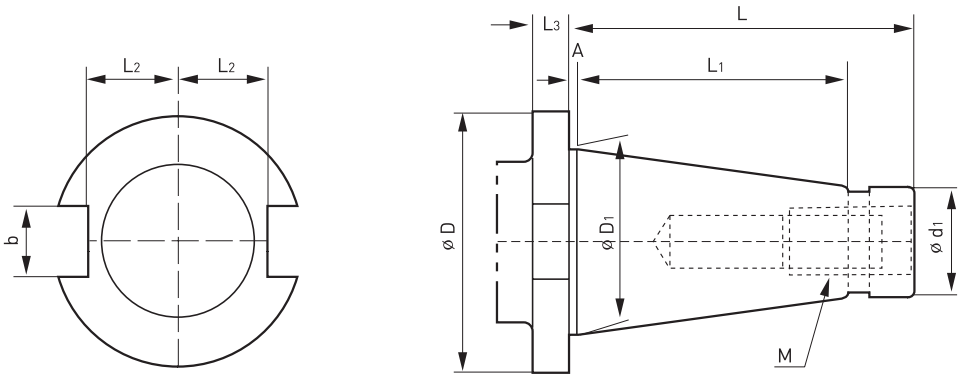
TAPER	D	D1	D2	d1	L1	L2	L3	L4	A	B	M
SK30	50.00	31.75	44.30	45	13	47.8	16.4	19.0	15.0	16.1	M12×1.75
SK40	63.55	44.45	56.25	50	17	68.4	22.8	25.0	18.5	16.1	M16×2.0
SK50	97.50	69.85	91.25	80	25	101.75	35.5	37.7	30.0	25.7	M24×3.0

CAT Shank (ANSI/ASME B5.50 - 1985)



TAPER	D	D1	D2	D3	d1	L1	L2	L3	B	M
CAT30	50.00	31.75	44.30	31.75	13.0	47.625	16.25	18.67	16.1	UNC 1/2 ~ 13
CAT40	63.55	44.45	56.25	44.45	17.0	68.250	22.60	25.00	16.1	UNC 5/8 ~ 11
CAT50	97.50	69.85	91.25	70.10	25.0	101.600	35.30	37.70	25.7	UNC 1 ~ 18
CAT60	15.50	107.95	135.26	32.00	161.8	161.930	54.00	59.30	25.7	UNC C1, 1/4 ~ 7

DIN 2080, JIS B 6101, ISO 297 : 1988(E)



TAPER	D	D1	d1	L	L1	L2	L3	A	B	M
NT30	46	31.75	17.4	68.4	48.4	16.2	10	1.6	16.1	UNC 1/2 ~ 13
NT40	63	44.45	25.3	93.4	65.4	22.5	10	1.6	16.1	UNC 5/8 ~ 11
NT50	100	69.85	39.6	126.8	101.8	35.3	12	3.2	25.7	UNC 1 ~ 18
NT60	155	107.95	60.2	206.8	161.8	60.0	15	3.2	25.7	UNC C1, 1/4 ~ 7