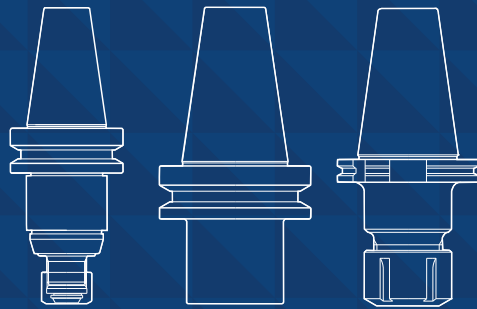


YE24
EUROPE
2024 / 2025

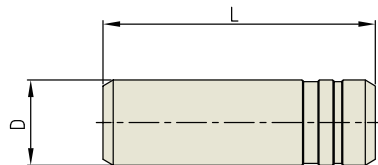


CUTTING TOOLS



TOOLING SYSTEM

YG-1 CO., LTD.

TOOLING SYSTEM			TP	
SK (DIN 69871)	TEST PIECE  			
CBT (BT DUAL CONTACT)				
BT (JIS B6339/ MAS 403)				
HSK (DIN 69893/ ISO 12164)				
STRAIGHT				
ISO, NT, MTA/MTB, GOST				
TOOL HOLDER SET				
BORING SYSTEM	STANDARD HYDRAULIC CHUCK Unit : mm		POWER E HYDRO Unit : mm	
ACCESSORY & PARTS	DESCRIPTIONS	EDP No.	D	L
	TP6	P2801201	6	70
	TP8	P2801202	8	70
	DESCRIPTIONS	EDP No.	D	L
	TP12P	P2801211	12	80
	TP20P	P2801212	20	100

HYDRAULIC CHUCK

HK

COLLET (REDUCTION SLEEVE : OPEN TYPE)

HYDRAULIK SPANNFUTTER SPANNZANGE

MANDRIN HYDRAULIQUE PINCE DE SERRAGE

MANDRINI IDRAULICI PINZA DI SERRAGGIO

PORTAHERRAMIENTAS HIDRAULICO PINZA PORTAPIEZAS

Hydraulic Chuck Collet

Unit : mm

TOOLING
SYSTEM

SK
(DIN 69871)

CBT
(BT DUAL
CONTACT)

BT
(JIS B6339/
MAS 403)

HSK
(DIN 69893/
ISO 12164)

STRAIGHT

ISO, NT,
MTA/MTB,
GOST

TOOL
HOLDER
SET

BORING
SYSTEM

ACCESSORY
& PARTS

MODEL No.

3

EDP No.

P2569022

d

3

D1

12

D2

19

L

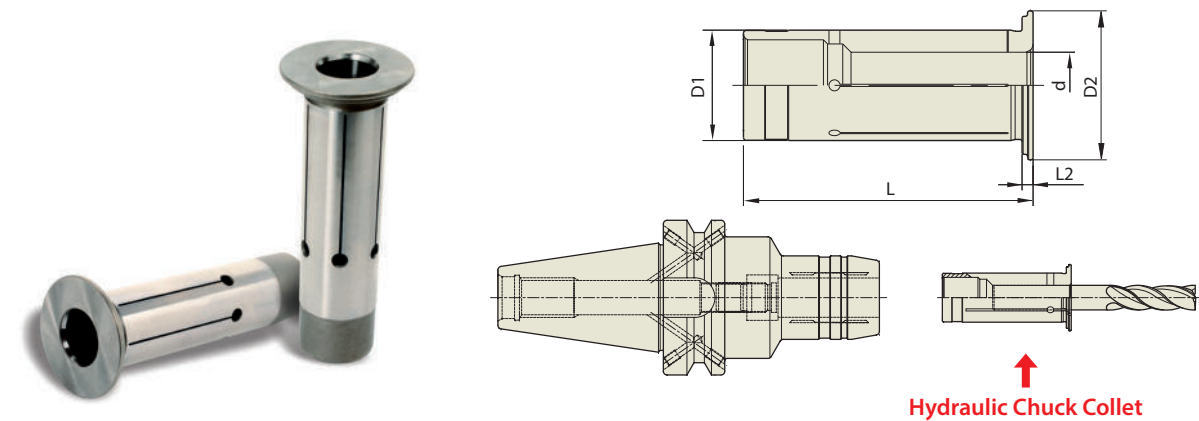
47

L2

2

COLLET (REDUCTION SLEEVE : CLOSED TYPE)

HYDRAULIK SPANNFUTTER SPANNZANGE
MANDRIN HYDRAULIQUE PINCE DE SERRAGE
MANDRINI IDRAULICI PINZA DI SERRAGGIO
PORTAHERRAMIENTAS HIDRAULICO PINZA PORTAPIEZAS



							Unit : mm
MODEL No.		EDP No.	d	D1	D2	L	L2
HS12	3	P2771101	3	12	19	47	2
	4	P2771102	4	12	19	47	2
	5	P2771103	5	12	19	47	2
	6	P2771104	6	12	19	47	2
	7	P2771105	7	12	19	47	2
	8	P2771106	8	12	19	47	2
HS20	3	P2771107	3	20	27	52.5	2
	4	P2771108	4	20	27	52.5	2
	5	P2771109	5	20	27	52.5	2
	6	P2771110	6	20	27	52.5	2
	7	P2771111	7	20	27	52.5	2
	8	P2771112	8	20	27	52.5	2
	9	P2771113	9	20	27	52.5	2
	10	P2771114	10	20	27	52.5	2
	11	P2771115	11	20	27	52.5	2
	12	P2771116	12	20	27	52.5	2
	13	P2771117	13	20	27	52.5	2
	14	P2771118	14	20	27	52.5	2
	15	P2771119	15	20	27	52.5	2
16	P2771120	16	20	27	52.5	2	
HS32	6	P2771121	6	32	39	63.5	3
	8	P2771122	8	32	39	63.5	3
	10	P2771123	10	32	39	63.5	3
	12	P2771124	12	32	39	63.5	3
	14	P2771125	14	32	39	63.5	3
	16	P2771126	16	32	39	63.5	3
	18	P2771127	18	32	39	63.5	3
	20	P2771128	20	32	39	63.5	3
	25	P2771129	25	32	39	63.5	3

- ▶ Inch type products are available.
- ▶ Other special sizes of Hydraulic Chuck collets could be produced and supplied.

Feature

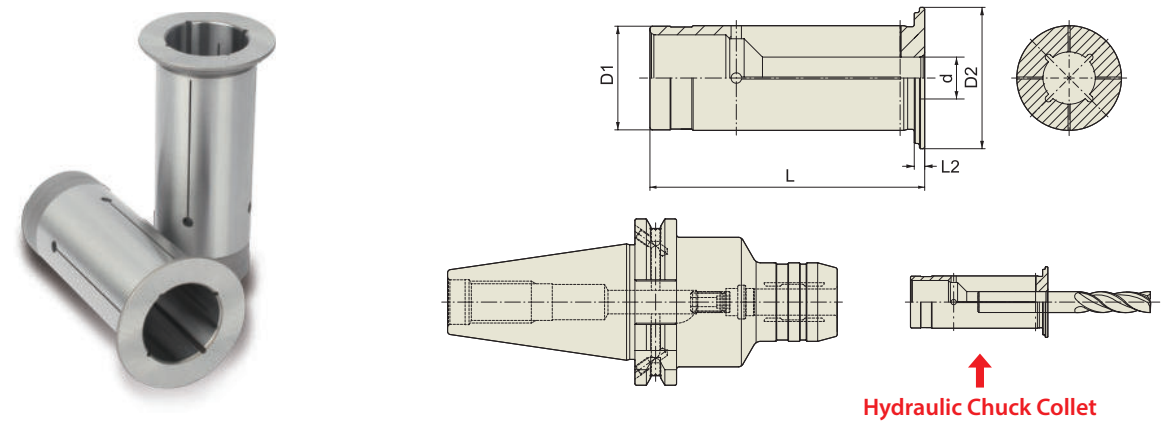
HS Hydraulic Chuck collet (reduction sleeve) is cut into trisection by high precision cutting to guarantee precise I.D and strong clamping power.

Chuckling Method

Please assemble cutting tool with collet firstly, and then insert collet into Hydraulic Chuck.

COLLET (REDUCTION SLEEVE : COOLANT FLUSH TYPE)

HYDRAULIK SPANNFUTTER SPANNZANGE
MANDRIN HYDRAULIQUE PINCE DE SERRAGE
MANDRINI IDRAULICI PINZA DI SERRAGGIO
PORTAHERRAMIENTAS HIDRAULICO PINZA PORTAPIEZAS



MODEL No.							Unit : mm
EDP No.		d	D1	D2	L	L2	
HF12	3	P2771201	3	12	19	47	2
	4	P2771202	4	12	19	47	2
	5	P2771203	5	12	19	47	2
	6	P2771204	6	12	19	47	2
	7	P2771205	7	12	19	47	2
	8	P2771206	8	12	19	47	2
HF20	3	P2771207	3	20	27	52.5	2
	4	P2771208	4	20	27	52.5	2
	5	P2771209	5	20	27	52.5	2
	6	P2771210	6	20	27	52.5	2
	7	P2771211	7	20	27	52.5	2
	8	P2771212	8	20	27	52.5	2
	9	P2771213	9	20	27	52.5	2
	10	P2771214	10	20	27	52.5	2
	11	P2771215	11	20	27	52.5	2
	12	P2771216	12	20	27	52.5	2
	13	P2771217	13	20	27	52.5	2
	14	P2771218	14	20	27	52.5	2
HF32	15	P2771219	15	20	27	52.5	2
	16	P2771220	16	20	27	52.5	2
	6	P2771221	6	32	39	63.5	3
	8	P2771222	8	32	39	63.5	3
	10	P2771223	10	32	39	63.5	3
	12	P2771224	12	32	39	63.5	3
	14	P2771225	14	32	39	63.5	3
	16	P2771226	16	32	39	63.5	3
	18	P2771227	18	32	39	63.5	3
	20	P2771228	20	32	39	63.5	3
	25	P2771229	25	32	39	63.5	3

- ▶ Inch type products are available.
- ▶ Other special sizes of Hydraulic Chuck collets could be produced and supplied.

Feature

HF Hydraulic Chuck collet (reduction sleeve) is for internal coolant flush.

Chuckling Method

Please assemble cutting tool with collet firstly, and then insert collet into Hydraulic Chuck.

TOOLING
SYSTEM

HYDRAULIC
CHUCK

HR

COLLET (REDUCTION SLEEVE : For HIGH PRESSURE COOLANT)

HYDRAULIK SPANNFUTTER SPANNZANGE

MANDRIN HYDRAULIQUE PINCE DE SERRAGE

MANDRINI IDRAULICI PINZA DI SERRAGGIO

PORTAHERRAMIENTAS HIDRAULICO PINZA PORTAPIEZAS

Hydraulic Chuck Collet

MODEL No.	EDP No.	d	D1	D2	L	L2
3	P2771201	3	12	19	47	2

Unit : mm

TOOLING
SYSTEM

SK
(DIN 69871)

CBT
(BT DUAL
CONTACT)

BT
(JIS B6339/
MAS 403)

HSK
(DIN 69893/
ISO 12164)

STRAIGHT

ISO, NT,
MTA/MTB,
GOST

TOOL
HOLDER
SET

BORING
SYSTEM

ACCESSORY
& PARTS



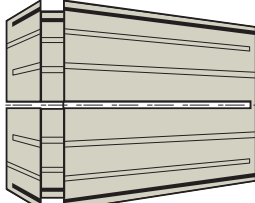
ER COLLET
CHUCK

ER UF

ER COLLET - UF

ER SPANNZANGE - UF
ER PINCE DE SERRAGE - UF
ER PINZA DI SERRAGGIO - UF
ER PINZA PORTAPIEZAS - UF





◇ T.I.R : ≤0.015mm at 3D (I.D 1.0 ~ 10.0mm)
◇ T.I.R : ≤0.020mm at 3D (I.D >10mm)

Unit : mm

ER 25			ER 32			ER 40			ER 50		
CLAMPING RANGE	CODE No.	EDP No.	CLAMPING RANGE	CODE No.	EDP No.	CLAMPING RANGE	CODE No.	EDP No.	CLAMPING RANGE	CODE No.	EDP No.
2.0 - 1.0	225020	P2506212	3.0 - 2.0	232030	P2506233	4.0 - 3.0	240040	P2506264	12.0 - 10.0	250120	P2506352
3.0 - 2.0	225030	P2506213	4.0 - 3.0	232040	P2506234	5.0 - 4.0	240050	P2506265	14.0 - 12.0	250140	P2506354
4.0 - 3.0	225040	P2506214	5.0 - 4.0	232050	P2506235	6.0 - 5.0	240060	P2506266	16.0 - 14.0	250160	P2506356
5.0 - 4.0	225050	P2506215	6.0 - 5.0	232060	P2506236	7.0 - 6.0	240070	P2506267	18.0 - 16.0	250180	P2506358
6.0 - 5.0	225060	P2506216	7.0 - 6.0	232070	P2506237	8.0 - 7.0	240080	P2506268	20.0 - 18.0	250200	P2506360
7.0 - 6.0	225070	P2506217	8.0 - 7.0	232080	P2506238	9.0 - 8.0	240090	P2506269	22.0 - 20.0	250220	P2506362
8.0 - 7.0	225080	P2506218	9.0 - 8.0	232090	P2506239	10.0 - 9.0	240100	P2506270	24.0 - 22.0	250240	P2506364
9.0 - 8.0	225090	P2506219	10.0 - 9.0	232100	P2506240	11.0 - 10.0	240110	P2506271	26.0 - 24.0	250260	P2506366
10.0 - 9.0	225100	P2506220	11.0 - 10.0	232110	P2506241	12.0 - 11.0	240120	P2506272	28.0 - 26.0	250280	P2506368
11.0 - 10.0	225110	P2506221	12.0 - 11.0	232120	P2506242	13.0 - 12.0	240130	P2506273	30.0 - 28.0	250300	P2506370
12.0 - 11.0	225120	P2506222	13.0 - 12.0	232130	P2506243	14.0 - 13.0	240140	P2506274	32.0 - 30.0	250320	P2506372
13.0 - 12.0	225130	P2506223	14.0 - 13.0	232140	P2506244	15.0 - 14.0	240150	P2506275	34.0 - 32.0	250340	P2506374
14.0 - 13.0	225140	P2506224	15.0 - 14.0	232150	P2506245	16.0 - 15.0	240160	P2506276	6.0 - 4.0	250060	P2778515
15.0 - 14.0	225150	P2506225	16.0 - 15.0	232160	P2506246	17.0 - 16.0	240170	P2506277	8.0 - 6.0	250080	P2778516
16.0 - 15.0	225160	P2506226	17.0 - 16.0	232170	P2506247	18.0 - 17.0	240180	P2506278	10.0 - 8.0	250100	P2778517
1.0 - 0.5	225010	P2506227	18.0 - 17.0	232180	P2506248	19.0 - 18.0	240190	P2506279	25.0 - 23.0	250250	P2778518
1.5 - 1.0	225015	P2506228	19.0 - 18.0	232190	P2506249	20.0 - 19.0	240200	P2506280			
2.5 - 2.0	225025	P2506229	20.0 - 19.0	232200	P2506250	21.0 - 20.0	240210	P2506281			
			2.0 - 1.0	232020	P2506251	22.0 - 21.0	240220	P2506282			
			2.5 - 2.0	232025	P2506252	23.0 - 22.0	240230	P2506283			
						24.0 - 23.0	240240	P2506284			
						25.0 - 24.0	240250	P2506285			
						26.0 - 25.0	240260	P2506286			
						3.0 - 2.0	240030	P2506287			
						27.0 - 26.0	240270	P2506288			
						28.0 - 27.0	240280	P2506289			
						29.0 - 28.0	240290	P2506290			
						30.0 - 29.0	240300	P2506291			
STANDARD SET	225000	P2506305	STANDARD SET	232000	P2506306	STANDARD SET	240000	P2506307	STANDARD SET	250000	P2506308
Ø2.0 - 16.0mm			Ø3.0 - 20.0mm			Ø4.0 - 26.0mm			Ø12.0 - 34.0mm		
15pcs			18pcs			23pcs			12pcs		
WOODEN TRAY ZWT 25	025110		WOODEN TRAY ZWT 32	032110		WOODEN TRAY ZWT 40	040110		WOODEN TRAY ZWT 50	050110	

► Inch type collets are available.

D300

phone:+82-32-526-0909, www.yg1.solutions, E-mail:yg1@yg1.solutions

 YG-1 CO., LTD.

TOOLING
SYSTEM

SK
(DIN 69871)

CBT
(BT DUAL
CONTACT)

BT
(JIS B6339/
MAS 403)

HSK
(DIN 69893/
ISO 12164)

STRAIGHT

ISO, NT,
MTA/MTB,
GOST

TOOL
HOLDER
SET

BORING
SYSTEM

ACCESSORY
& PARTS



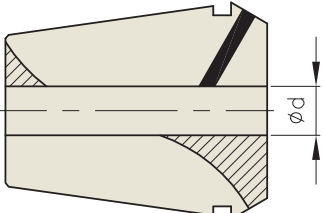
ER COLLET
CHUCK

ERS

SEALED ER COLLET

VERSIEGELT ER SPANNZANGE
SCELLÉ ER PINCE DE SERRAGE
SIGILLATO ER PINZA DI SERRAGGIO
SELLADO ER PINZA PORTAPIEZAS





◇ Rubber Sealed

Unit : mm

ER 11S		ER 16S		ER 20S	
CLAMPING RANGE	EDP No.	CLAMPING RANGE	EDP No.	CLAMPING RANGE	EDP No.
3.0	P2506315S	3.0	P2506203S	3.0	P2506333S
3.5	P2506316S	4.0	P2506204S	4.0	P2506334S
4.0	P2506317S	5.0	P2506205S	5.0	P2506335S
4.5	P2506318S	6.0	P2506206S	6.0	P2506336S
5.0	P2506319S	7.0	P2506207S	7.0	P2506337S
5.5	P2506320S	8.0	P2506208S	8.0	P2506338S
6.0	P2506321S	9.0	P2506209S	9.0	P2506339S
6.5	P2506322S	10.0	P2506210S	10.0	P2506340S
7.0	P2506323S	-		11.0	P2506341S
-		-		12.0	P2506342S
-		-		13.0	P2506343S
-		-		-	
-		-		-	
STANDARD SET	P2506302S	STANDARD SET	P2506303S	STANDARD SET	P2506304S
Ø3.0 - 7.0mm		Ø3.0 - 10.0mm		Ø3.0 - 13.0mm	
9pcs		8pcs		11pcs	
WOODEN TRAY ZWT 11		WOODEN TRAY ZWT 16		WOODEN TRAY ZWT 20	

► Inch type collets are available.

D301

phone:+82-32-526-0909, www.yg1.solutions, E-mail:yg1@yg1.solutions

 YG-1 CO., LTD.

YG ER COLLET
CHUCK

PART

ER NUT

ER NUSS
ER ÉCROU
ER DADO
ERTUERCA



■ XSQ-RT (Sealing Disk Type : Hex.)

Unit : mm

MODEL No.	EDP No.	THREAD	Dia.	LENGTH
XSQ-RT16	P2777009	M22×1.50	28.0	22.5
XSQ-RT20	P2777010	M25×1.50	34.0	24.0



■ XSQ-RUT (Sealing Disk Type : Round)

Unit : mm

MODEL No.	EDP No.	THREAD	Dia.	LENGTH
XSQ-RUT16	P2777011	M22×1.50	32.0	22.5
XSQ-RUT20	P2777012	M25×1.50	35.0	24.0
XSQ-RUT25	P2777013	M32×1.50	42.0	25.0
XSQ-RUT32	P2777014	M40×1.50	50.0	27.5
XSQ-RUT40	P2777015	M50×1.50	63.0	30.5



■ XSQ-RSU (Sleeve Bearing Type)

Unit : mm

MODEL No.	EDP No.	THREAD	Dia.	LENGTH
XSQ-RSU16	P2777016	M22×1.50	32.0	18.0
XSQ-RSU20	P2777017	M25×1.50	35.0	20.0
XSQ-RSU25	P2777018	M32×1.50	42.0	20.5
XSQ-RSU32	P2777019	M40×1.50	50.0	23.0
XSQ-RSU40	P2777020	M50×1.50	63.0	26.0



■ XSQ-RST (Sleeve Bearing / Sealing Disk Type : Hex.)

Unit : mm

MODEL No.	EDP No.	THREAD	Dia.	LENGTH
XSQ-RST16	P2777021	M22×1.50	28.0	22.5
XSQ-RST20	P2777022	M25×1.50	34.0	24.5



■ XSQ-RSUT (Sleeve Bearing / Sealing Disk Type : Round)

Unit : mm

MODEL No.	EDP No.	THREAD	Dia.	LENGTH
XSQ-RSUT16	P2777023	M22×1.50	32.0	22.5
XSQ-RSUT20	P2777024	M25×1.50	35.0	24.5
XSQ-RSUT25	P2777025	M32×1.50	42.0	25.0
XSQ-RSUT32	P2777026	M40×1.50	50.0	27.5
XSQ-RSUT40	P2777027	M50×1.50	63.0	30.5

YG ER COLLET
CHUCK

PART

ER NUT

ER NUSS
ER ÉCROU
ER DADO
ERTUERCA



■ XSQ-RM (Mini Nut : Standard Type)

Unit : mm

MODEL No.	EDP No.	THREAD	Dia.	LENGTH
XSQ-R08M	P2777038	M10×0.75	12.0	11.0
XSQ-R11M	P2777039	M13×0.75	16.0	12.0
XSQ-R16M	P2777040	M19×1.00	22.0	18.0
XSQ-R20M	P2777041	M24×1.00	28.0	19.5
XSQ-R25M	P2777042	M30×1.00	35.0	20.5



■ XSQ-RTM (Mini Nut : Sealing Disk Type)

Unit : mm

MODEL No.	EDP No.	THREAD	Dia.	LENGTH
XSQ-RT16M	P2777043	M19×1.00	22.0	22.5
XSQ-RT20M	P2777044	M24×1.00	28.0	24.0
XSQ-RT25M	P2777045	M30×1.00	35.0	25.0

TOOLING
SYSTEM

SK
(DIN 69871)

CBT
(BT DUAL
CONTACT)

BT
(JIS B6339/
MAS 403)

HSK
(DIN 69893/
ISO 12164)

STRAIGHT

ISO, NT,
MTA/MTB,
GOST

TOOL
HOLDER
SET

BORING
SYSTEM

ACCESSORY
& PARTS



ER COLLET
CHUCK

PART/DS

ER NUT & SEALING DISK

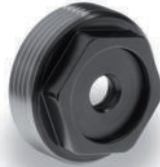
ER NUSS
ER ÉCROU
ER DADO
ERTUERCA



■ XSQ-RA (External Thread Type)

Unit : mm

MODEL No.	EDP No.	THREAD	Dia.	LENGTH
XSQ-RA11	P2777046	M18×1.00	18.0	6.0
XSQ-RA16	P2777047	M24×1.00	24.0	8.0
XSQ-RA20	P2777048	M28×1.50	28.0	11.0
XSQ-RA25	P2777049	M32×1.50	32.0	12.5



■ XSQ-RAT (External Thread / Sealing Disk Type)

Unit : mm

MODEL No.	EDP No.	THREAD	Dia.	LENGTH
XSQ-RAT16	P2777052	M24×1.00	24.0	11.0
XSQ-RAT20	P2777053	M28×1.50	28.0	12.5
XSQ-RAT25	P2777054	M32×1.50	32.0	14.0
XSQ-RAT32	P2777001	M40×1.50	40.0	17.5

* Without sealing disk



■ SEALING DISK

Unit : mm

MODEL No.	EDP No.	Dia.	INNER DIA. (Step : 0.5mm)	THICKNESS
DS16	P2777055	13.0	2.5 - 10	4.0
DS20	P2777056	16.0	2.5 - 13.0	4.0
DS25	P2777057	21.0	2.5 - 16.0	4.0
DS32	P2777058	27.0	2.5 - 20.0	4.0
DS40	P2777059	33.5	2.5 - 26.0	4.0
DS50	P2777060	31.0	3.5 - 25.0	4.0



■ SEALING DISK SET

Unit : mm

MODEL No.	EDP No.	Dia.	THICKNESS	INNER DIA. RANGE	SEALING DISKS / SET
DS16S2	P2777061	13.0	4.0	4.0 ~ 10.0	7pcs / set
DS20S2	P2777062	16.0	4.0	4.0 ~ 13.0	10pcs / set
DS25S2	P2777063	21.0	4.0	4.0 ~ 16.0	13pcs / set
DS32S2	P2777064	27.0	4.0	4.0 ~ 20.0	17pcs / set
DS40S2	P2777065	33.5	4.0	4.0 ~ 26.0	23pcs / set
DS50S2	P2777066	31.0	4.0	4.0 ~ 25.0	22pcs / set

D308

phone:+82-32-526-0909, www.yg1.solutions, E-mail:yg1@yg1.solutions

 YG-1 CO., LTD.

TOOLING
SYSTEM

SK
(DIN 69871)

CBT
(BT DUAL
CONTACT)

BT
(JIS B6339/
MAS 403)

HSK
(DIN 69893/
ISO 12164)

STRAIGHT

ISO, NT,
MTA/MTB,
GOST

TOOL
HOLDER
SET

BORING
SYSTEM

ACCESSORY
& PARTS



ER COLLET
CHUCK

SP

ER SPANNER / WRENCH

ER MAULSCHLÜSEL
ER CL
ER CHIAVE
ER LLAVE



■ FOR ER / SKN NUT

Unit : mm

MODEL No.	EDP No.	A	B	APPLICABLE NUT
ER11SP	P2772601	-	-	ER11
ER16SP	P2772602	50	160	ER16
ER20SP	P2772603	55	180	ER20 (FIG.1)
ER25SP	P2772604	65	210	ER25
ER32SP	P2772605	75	250	ER32 (FIG.2)
ER40SP	P2772606	90	290	ER40 (FIG.2)
ER50SP	P2772612	110	350	ER50 (FIG.2)

► Design and shape could be changed without prior notice.



■ FOR ER Mini NUT

Unit : mm

MODEL No.	EDP No.	A	B	APPLICABLE NUT
GE8M	P2772608	12.4	70	ER8M
GE11M	P2772609	16.8	90	ER11M
GE16M	P2772610	22.5	110	ER16M
GE20M	P2772611	29.0	120	ER20M
GE25M	P2772607	36.0	130	ER25M

► Design and shape could be changed without prior notice.

D309

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 YG-1 CO., LTD.

TOOLING SYSTEM

SK (DIN 69871)
CBT (BT DUAL CONTACT)
BT (JIS B6339/ MAS 403)
HSK (DIN 69893/ ISO 12164)
STRAIGHT
ISO, NT, MTA/MTB, GOST
TOOL HOLDER SET
BORING SYSTEM
ACCESSORY & PARTS

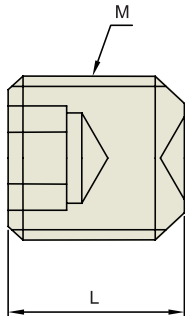
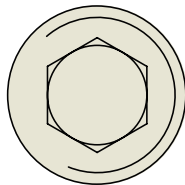


END MILL HOLDER & SIDE LOCK ARBOR

PART

SIDE LOCK BOLT

ER NUSS
ER ÉCROU
ER DADO
ERTUERCA



Unit : mm

EMH & SLA ID	EMH			SLA		
	M	EDP No.	L	M	EDP No.	L
6	M6x1.0	P2778088	10.5	M5x0.8	P2778079	8
8	M8x1.25	P2778089	10.5	M6x1.0	P2778080	10
10	M10x1.5	P2778090	12.5	M8x1.25	P2778081	12
12	M12x1.75	P2778091	16.5	M10x1.5	P2778082	14
14	M12x1.75	P2778092	15	M10x1.5	P2778082	14
16	M14x2.0	P2778093	16.5	M12x1.75	P2778083	12
18	M14x2.0	P2778093	16.5	-	-	-
20	M16x2.0	P2778094	16.5	M12x1.75	P2778084	16
25	M18x2.0	P2778095	20.5	M14x2.0	P2778085	14
32	M20x2.0	P2778096	20.5	M16x2.0	P2778086	16
40	M20x2.0	P2778096	20.5	M16x2.0	P2778086	16
42	-	-	-	M16x2.0	P2778086	16
50	M24x2.0	P2778098	25.5	-	-	-
50.8	-	-	-	M20x2.5	P2778087	25

D310

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 YG-1 CO., LTD.

TOOLING SYSTEM

SK (DIN 69871)
CBT (BT DUAL CONTACT)
BT (JIS B6339/ MAS 403)
HSK (DIN 69893/ ISO 12164)
STRAIGHT
ISO, NT, MTA/MTB, GOST
TOOL HOLDER SET
BORING SYSTEM
ACCESSORY & PARTS



SHELL MILL ARBOR

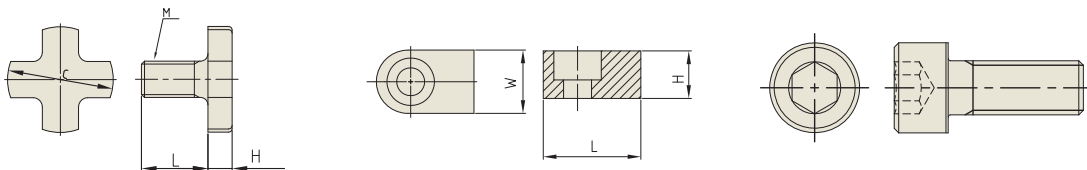
PART

COLLAR BOLT & DRIVE KEY

COLLAR BOLT

DRIVE KEY

KEY BOLT



■ ACCESSORIES (Standard SMA)

Unit : mm

SPIGOT Dia.	COLLAR BOLT			DRIVE KEY		KEY BOLT	
	SPEC.	EDP No.	Head Dia.(C)	SPEC.(W x H x L)	EDP No.	SPEC.	EDP No.
16	M8 x 1.25 x 16L	P2514051	20	8 x 7 x 12.8	P2778857	M3x0.5x10L	P2778875
22	M10 x 1.5 x 18L	P2514052	28	10 x 7.8 x 15.5	P2778858	M4x0.7x10L	P2778864
27	M12 x 1.75 x 22L	P2514053	35	12 x 9 x 18.5	P2778859	M5x0.8x12L	P2778865
32	M16 x 2.0 x 26L	P2514054	42	14 x 11.5 x 20.5	P2778860	M6x1.0x15L	P2778866
40	M20 x 2.5 x 30L	P2514055	52	16 x 13.5 x 23.5	P2778861	M6x1.0x15L	P2778866
50	M24 x 3.0 x 36L	P2514056	63	18 x 18 x 28.5	P2778862	M6x1.0x20L	P2778868

■ ACCESSORIES (Large Face SMA)

Unit : mm

SPIGOT Dia.	COLLAR BOLT			DRIVE KEY		KEY BOLT	
	SPEC.	EDP No.	Head Dia.(C)	SPEC.(W x H x L)	EDP No.	SPEC.	EDP No.
16	M8 x 1.25 x 16L	P2514051	20	8 x 9.7 x 10	P2778876	M3x0.5x12L	P2778881
22	M10 x 1.5 x 18L	P2514052	28	10 x 10.8 x 11.2	P2778877	M4x0.7x12L	P2778882
27	M12 x 1.75 x 22L	P2514053	35	12 x 12.6 x 13.6	P2778878	M5x0.8x15L	P2778883
32	M16 x 2.0 x 26L	P2514054	42	14 x 14 x 21	P2778879	M6x1.0x15L	P2778866
40	M20 x 2.5 x 30L	P2514055	52	16 x 16 x 21	P2778880	M6x1.0x15L	P2778866

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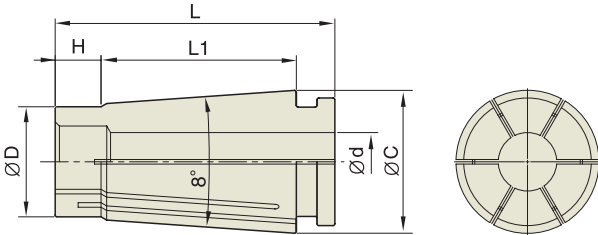
D311

TOOLING
SYSTEM

SK COLLET

SK SCHLANKE FUTTER
MANDRIN TYPE SK MINCE
SK MANDRINI SOTTILI
PORTAHERRAMIENTAS SK EJE REDUCIDO

SKC



◇ T.I.R : ≤0.005mm at 3D

SKC16				SKC20				SKC25			
TYPE	MODEL No.	EDP No.	CLAMPING RANGE (d)	TYPE	MODEL No.	EDP No.	CLAMPING RANGE (d)	TYPE	MODEL No.	EDP No.	CLAMPING RANGE (d)
	SKC16-3	P2730810	2.75 - 3.0		SKC20-4	P2730830	3.5 - 4.0		SKC25-16.5	P2773677	16.0 - 16.5
	SKC16-3.5	P2773613	3.0 - 3.5		SKC20-4.5	P2773632	4.0 - 4.5		SKC25-17	P2773678	16.5 - 17.0
	SKC16-4	P2730812	3.5 - 4.0		SKC20-5	P2773633	4.5 - 5.0		SKC25-17.5	P2773679	17.0 - 17.5
	SKC16-4.5	P2773614	4.0 - 4.5		SKC20-5.5	P2773634	5.0 - 5.5		SKC25-18	P2773680	17.5 - 18.0
	SKC16-5	P2773615	4.5 - 5.0		SKC20-6	P2730832	5.5 - 6.0		SKC25-18.5	P2773681	18.0 - 18.5
	SKC16-5.5	P2773616	5.0 - 5.5		SKC20-6.5	P2773635	6.0 - 6.5		SKC25-19	P2773682	18.5 - 19.0
	SKC16-6	P2730814	5.5 - 6.0		SKC20-7	P2773636	6.5 - 7.0		SKC25-19.5	P2773683	19.0 - 19.5
	SKC16-6.5	P2773617	6.0 - 6.5		SKC20-7.5	P2773637	7.0 - 7.5		SKC25-20	P2773684	19.5 - 20.0
	SKC16-7	P2773618	6.5 - 7.0		SKC20-8	P2730834	7.5 - 8.0		SKC25-20.5	P2773685	20.0 - 20.5
	SKC16-7.5	P2773619	7.0 - 7.5		SKC20-8.5	P2773638	8.0 - 8.5	SKC25	SKC25-21	P2773686	20.5 - 21.0
	SKC16-8	P2730816	7.5 - 8.0		SKC20-9	P2773639	8.5 - 9.0		SKC25-21.5	P2773687	21.0 - 21.5
	SKC16-8.5	P2773620	8.0 - 8.5		SKC20-9.5	P2773640	9.0 - 9.5		SKC25-22	P2773688	21.5 - 22.0
	SKC16-9	P2773621	8.5 - 9.0		SKC20-10	P2730836	9.5 - 10.0		SKC25-22.5	P2773689	22.0 - 22.5
	SKC16-9.5	P2773622	9.0 - 9.5		SKC20-10.5	P2773641	10.0 - 10.5		SKC25-23	P2773690	22.5 - 23.0
	SKC16-10	P2730818	9.5 - 10.0		SKC20-11	P2773642	10.5 - 11.0		SKC25-23.5	P2773691	23.0 - 23.5
	SKC16-10.5	P2773623	10.0 - 10.5		SKC20-11.5	P2773643	11.0 - 11.5		SKC25-24	P2773692	23.5 - 24.0
	SKC16-11	P2773624	10.5 - 11.0		SKC20-12	P2730838	11.5 - 12.0		SKC25-24.5	P2773693	24.0 - 24.5
	SKC16-11.5	P2773625	10.0 - 11.5		SKC20-12.5	P2773644	12.0 - 12.5		SKC25-25	P2773694	24.5 - 25.0
	SKC16-12	P2730820	11.5 - 12.0		SKC20-13	P2773645	12.5 - 13.0		SKC25-25.4	P2773695	25.0 - 25.4
	SKC16-12.5	P2773626	12.0 - 12.5		SKC20-13.5	P2773646	13.0 - 13.5				
	SKC16-13	P2773627	12.5 - 13.0		SKC20-14	P2730840	13.5 - 14.0				
	SKC16-13.5	P2773628	13.0 - 13.5		SKC20-14.5	P2773647	14.0 - 14.5				
	SKC16-14	P2773822	13.5 - 14.0		SKC20-15	P2773648	14.5 - 15.0				
	SKC16-14.5	P2773629	14.0 - 14.5		SKC20-15.5	P2773649	15.0 - 15.5				
	SKC16-15	P2773630	14.5 - 15.0		SKC20-16	P2730842	15.5 - 16.0				
	SKC16-15.5	P2773631	15.0 - 15.5		SKC20-16.5	P2773650	16.0 - 16.5				
	SKC16-16	P2730824	15.5 - 16.0		SKC20-17	P2773651	16.5 - 17.0				
					SKC20-17.5	P2773652	17.0 - 17.5				
					SKC20-18	P2730844	17.5 - 18.0				
					SKC20-18.5	P2773653	18.0 - 18.5				
					SKC20-19	P2773654	18.5 - 19.0				
					SKC20-19.5	P2773655	19.0 - 19.5				
					SKC20-20	P2730846	19.5 - 20.0				

Unit : mm

TOOLING
SYSTEM

SK NUT & SPANNER

SKN NUSS
SKN ÉCROU
SKN DADO
SKN TUERCA

PART

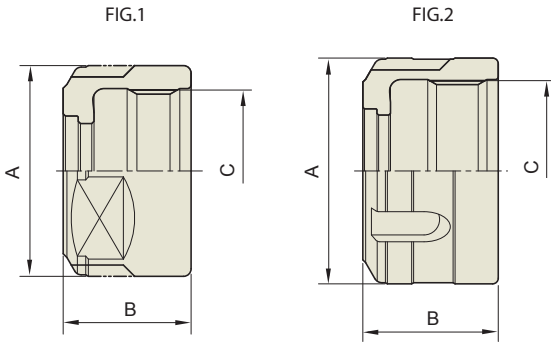


FIG.1
FIG.2

Unit : mm						
TYPE	MODEL No.	A	B	C	FIG.	WEIGHT (Kg)
SKN06	P2773581	20	15	M15.5 x 1.0	1	0.02
SKN10	P2773582	28	17	M21.5 x 1.0	1	0.04
SKN13	P2773583	33	21	M27 x 1.0	2	0.05
SKN16	P2773584	40	24	M32 x 1.5	2	0.06
SKN20	P2773585	48.5	24	M40 x 1.0	2	0.08
SKN25	P2773586	55	30	M45 x 1.5	2	0.10



MODEL No.	MODEL No.
TSK6	P2773588
TSK10	P2773589
TSK13	P2773590
TSK16	P2773591
TSK20	P2773587
TSK25	P2773592

► Design and shape could be changed without prior notice.

Unit : mm

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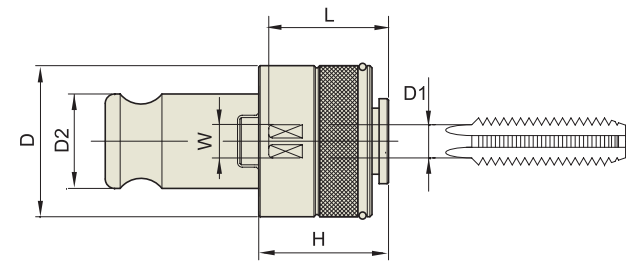
D317



TC

TAP ADAPTOR (DIN)

SCHNELLWECHSEL-EINSATZ
 ADAPTATEUR CHANGEMENT RAPIDE
 BUSSOLA A INNESTO RAPIDO
 INSERTO DE CAMBIO RAPIDO



■ Below standard Tap Adaptor conforms to DIN.

Unit : mm

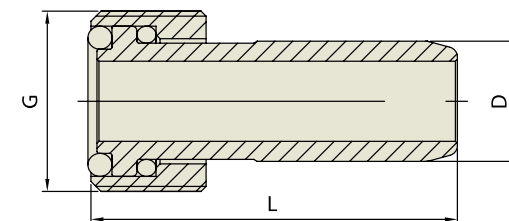
TAPER No.	MODEL No.	EDP No.	D	D1 (Ø)	D2	H	W(□)	L	DIN No.	WEIGHT (Kg)
TSC12D	TCS12D-2821	P2774601	32	2.8	19	25	2.1	24	371	0.20
	TCS12D-3527	P2774602	32	3.5	19	25	2.7	24	371	0.20
	TCS12D-4534	P2774603	32	4.5	19	25	3.4	24	371	0.20
	TCS12D-43	P2774604	32	4	19	25	3	24	371	0.20
	TCS12D-5543	P2774605	32	5.5	19	25	4.3	25	376	0.20
	TCS12D-649	P2774606	32	6	19	25	4.9	25	371	0.20
	TCS12D-755	P2774607	32	7	19	25	5.5	25	376	0.20
	TCS12D-862	P2774608	32	8	19	25	6.2	25	371	0.20
	TCS12D-97	P2774609	32	9	19	25	7	26	376	0.20
	TCS12D-108	P2774610	32	10	19	25	8	26	371	0.20
	TCS12D-119	P2774611	32	11	19	25	9	26	376	0.20
TCS24D	TCS24D-649	P2774612	52	6	31	33	4.9	38	371	0.60
	TCS24D-755	P2774613	52	7	31	33	5.5	38	376	0.60
	TCS24D-862	P2774614	52	8	31	33	6.2	38	371	0.60
	TCS24D-97	P2774615	52	9	31	33	7	38	376	0.60
	TCS24D-108	P2774616	52	10	31	33	8	39	371	0.60
	TCS24D-119	P2774617	52	11	31	33	9	41	376	0.60
	TCS24D-129	P2774618	52	12	31	33	9	43	376	0.60
	TCS24D-1411	P2774619	52	14	31	33	11	43	376	0.60
	TCS24D-1612	P2774620	52	16	31	33	12	46	376	0.60
	TCS24D-18145	P2774621	52	18	31	33	14.5	46	376	0.60
TCS38D	TCS38D-119	P2774622	72	11	48	45	9	43	376	1.80
	TCS38D-129	P2774623	72	12	48	45	9	43	376	1.80
	TCS38D-1411	P2774624	72	14	48	45	11	45	376	1.80
	TCS38D-1612	P2774625	72	16	48	45	12	45	376	1.80
	TCS38D-18145	P2774626	72	18	48	45	14.5	62	376	1.80
	TCS38D-2016	P2774627	72	20	48	45	16	64	376	1.80
	TCS38D-2218	P2774628	72	22	48	45	18	66	376	1.80
	TCS38D-2520	P2774629	72	25	48	45	20	68	376	1.80
	TCS38D-2822	P2774630	72	28	48	45	22	68	376	1.80

- ▶ Feature : Quick Change Type with Built-in Torque Safety Device.
- ▶ For Pipe Type Tap, please discuss separately.



COOLANT TUBE (For HSK TAPER)

ANZUGBOLZEN
BOULONS DE SERRAGE
TIRANTI PER MANDRINI UNIVERSALI
TIRANTES PARA PORTAHERRAMIENTAS



Unit : mm

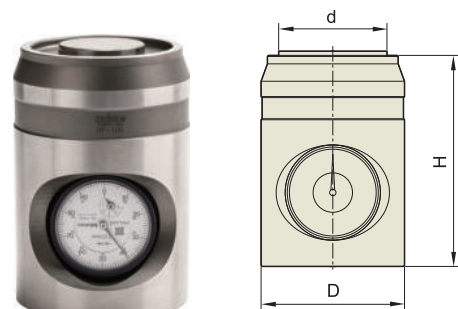
TAPER No.	EDP No.	D	G
HSK32	P2775078	6	M10
HSK40	P2775079	8	M12
HSK50	P2775080	10	M16
HSK63	P2775081	12	M18
HSK80	P2775106	14	M20
HSK100	P2775082	16	M24

CTS



COOLANT TUBE SPANNER (For HSK TAPER)

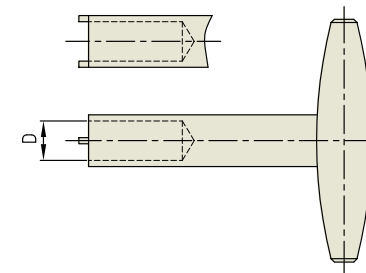
- HEIGHT PRESETTER



- Exclusively for vertical

Unit : mm

► Design and shape could be changed without prior notice.



TAPER No.	EDP No.	D
HSK32	P2775103	6
HSK40	P2775104	8
HSK50	P2775089	10
HSK63	P2775087	12
HSK80	P2775105	14
HSK100	P2775090	16

► Design and shape could be changed without prior notice.

TOOLING
SYSTEM

SK
(DIN 69871)

CBT
(BT DUAL
CONTACT)

BT
(JIS B6339/
MAS 403)

HSK
(DIN 69893/
ISO 12164)

STRAIGHT

ISO, NT,
MTA/MTB,
GOST

TOOL
HOLDER
SET

BORING
SYSTEM

ACCESSORY
& PARTS



AB

ADJUST BOLT (For HSK MQL1)



FIG 1

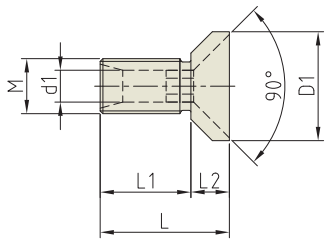
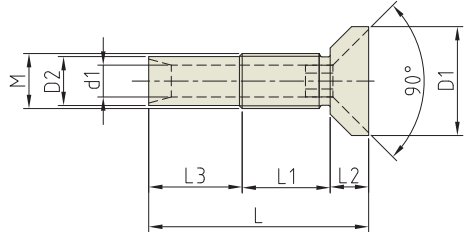


FIG 2

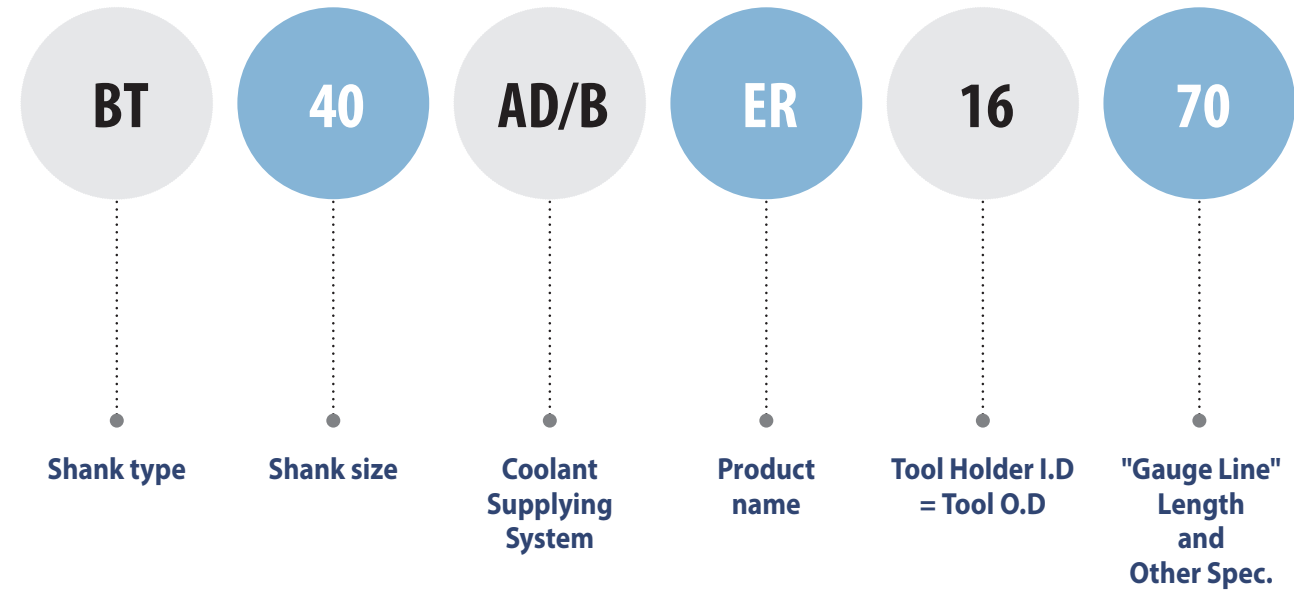


Unit : mm

DESCRIPTIONS	HOLDER I.D	EDP No.	L	L1	L2	L3	d1	D1	D2	M	FIG.
SHORT	6	P2775112	17.0	15.5	1.5	-	3.0	5.8	-	M5x0.8	1
	8	P2775113	18.0	15.5	2.5	-	3.5	7.8	-	M6x1.0	1
	10	P2775114	18.0	15.0	3.0	-	4.7	9.8	-	M8x1.0	1
	12	P2775115	18.0	15.0	3.0	-	5.8	11.8	-	M10x1.0	1
	14	P2775116	19.5	15.5	4.0	-	5.8	13.8	-	M10x1.0	1
	16	P2775117	22.0	17.0	5.0	-	5.8	15.8	-	M10x1.0	1
	18	P2775118	22.0	16.0	6.0	-	5.8	17.8	-	M10x1.0	1
	20	P2775119	23.5	16.5	7.0	-	5.8	19.8	-	M10x1.0	1
	25	P2775120	27.5	18.0	9.5	-	5.8	24.8	-	M10x1.0	1
	32	P2775121	30.5	17.5	13.0	-	5.8	31.8	-	M10x1.0	1
LONG	6	P2775122	34.0	32.5	1.5	15.0	3.0	5.8	4.1	M5x0.8	2
	8	P2775123	34.0	31.5	2.5	15.0	3.5	7.8	4.9	M6x1.0	2
	10	P2775124	35.0	32.0	3.0	15.0	4.7	9.8	6.9	M8x1.0	2
	12	P2775125	35.0	32.0	3.0	15.0	5.8	11.8	8.9	M10x1.0	2
	14	P2775126	35.5	31.5	4.0	15.0	5.8	13.8	8.9	M10x1.0	2
	16	P2775127	37.0	32.0	5.0	15.0	5.8	15.8	8.9	M10x1.0	2
	18	P2775128	37.5	31.5	6.0	15.0	5.8	17.8	8.9	M10x1.0	2
	20	P2775129	40.0	33.0	7.0	15.0	5.8	19.8	8.9	M10x1.0	2
	25	P2775130	44.0	34.5	9.5	15.0	5.8	24.8	8.9	M10x1.0	2
	32	P2775131	45.0	32.0	13.0	14.0	5.8	31.8	8.9	M10x1.0	2

MODEL NUMBERING SYSTEM & SURFACE FINISH

▶ Model Numbering System

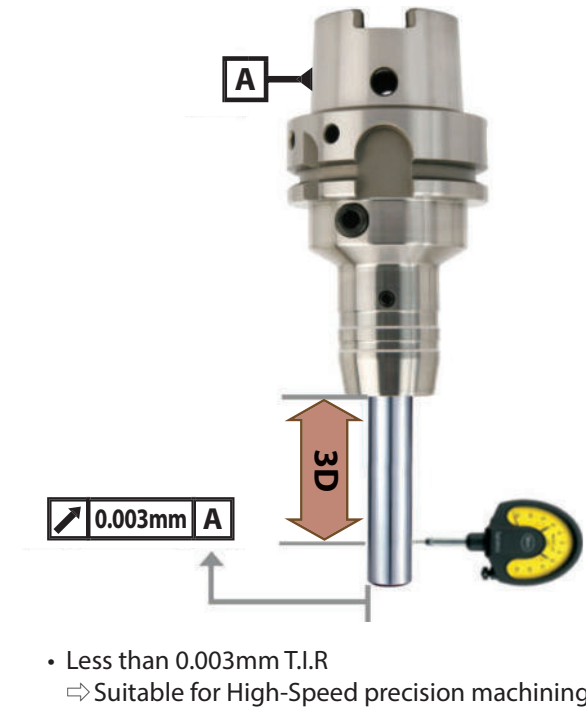


▶ Surface Finish

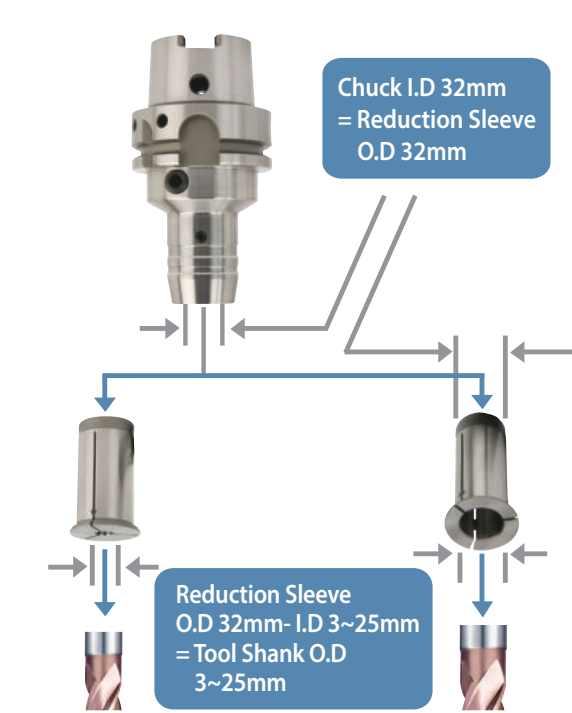


HYDRAULIC CHUCK

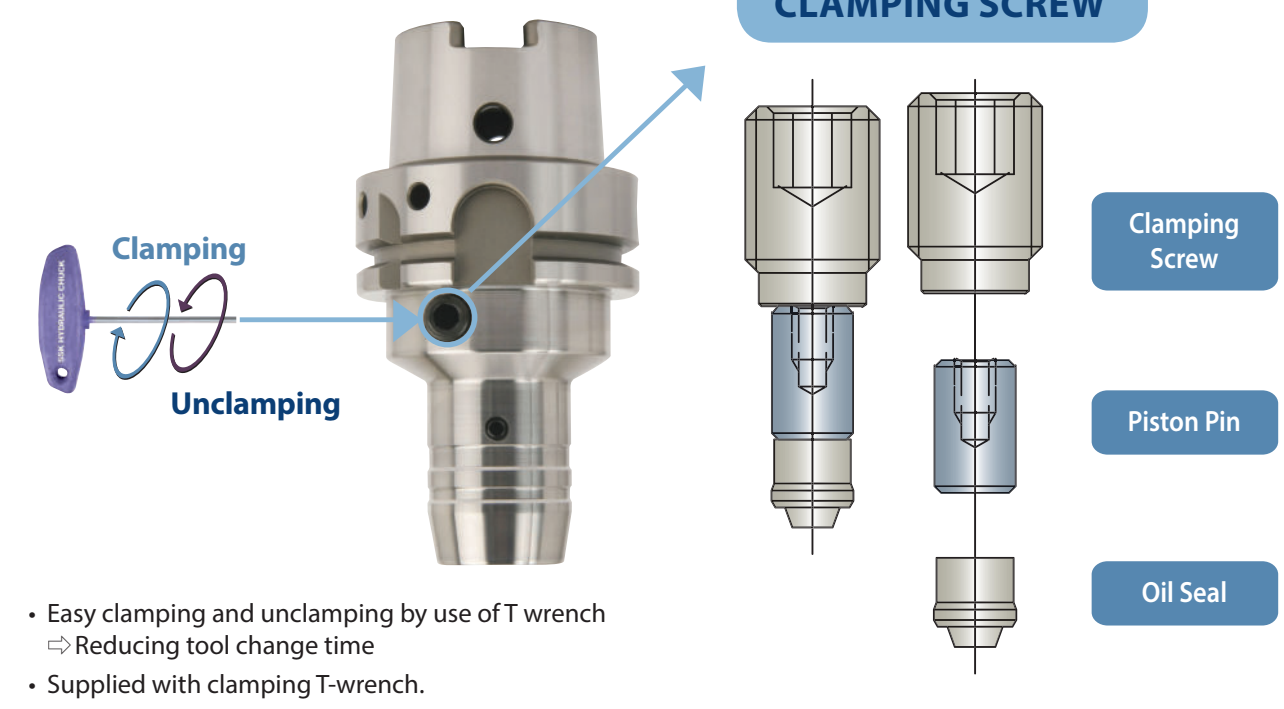
▶ High precision T.I.R :
≤ 0.003mm (Without Reduction Sleeve)



▶ Flexible use of cutting tools by using of reduction sleeves



▶ Easy Tool Change



HYDRAULIC CHUCK

► Strong Torque Power

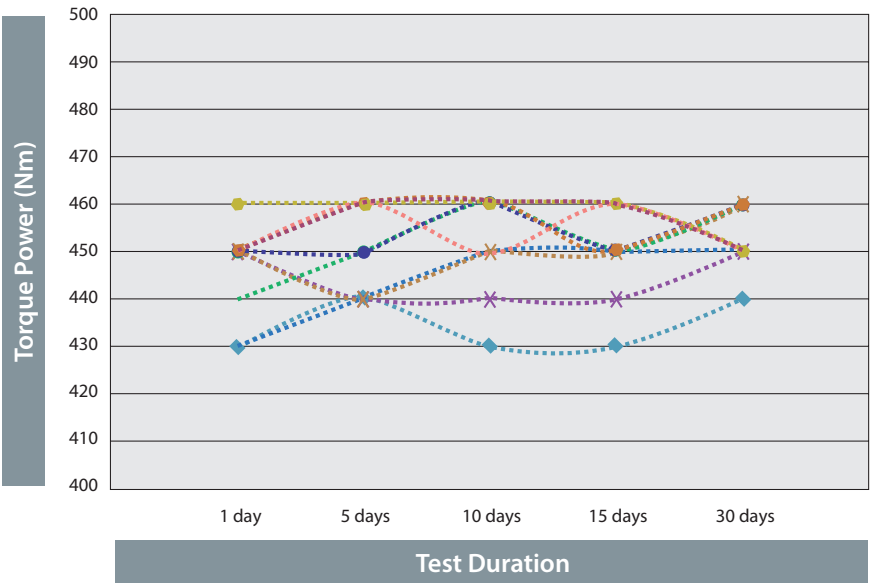
Hydraulic Chuck I.D (mm)	Tool Shank O.D (mm)	Applicable RPM	Minimum Clamping Depth (mm)		Min. Torque Power (Nm)	
			Standard	Power E Hydro	Standard	Power E Hydro
6	6	40,000	27		16	
8	8	40,000	27		23	
10	10	40,000	32		45	
12	12	40,000	37	41	90	110
14	14	40,000	37		110	
16	16	40,000	42		185	
18	18	40,000	42		240	
20	20	40,000	42	48	330	520
25	25	25,000	48		400	
32	32	25,000	55	57	650	900

- Tool Holder I.D Tolerance : H6
- Operating Temperature : 20~25℃
- Maximum pressure of coolant oil : 80bar



► Test of Torque Power and Hydraulic Oil Leakage

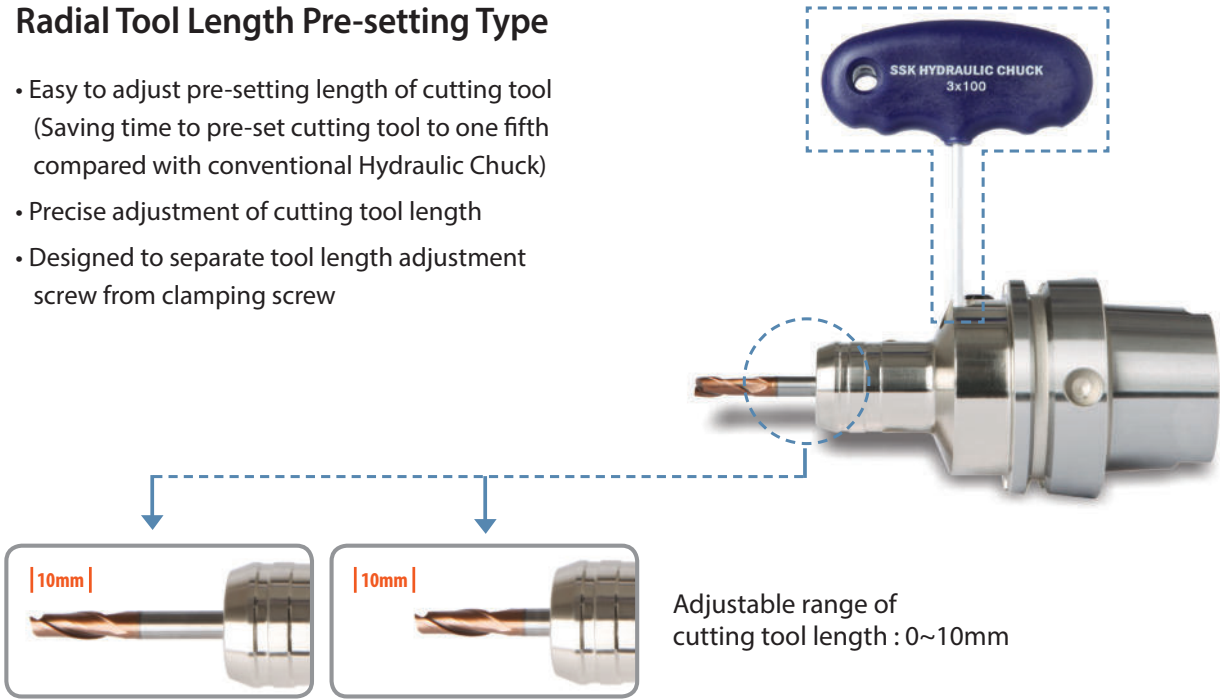
- Test Model : BT40 AD/B-HC 20-90
- No oil leakage for long period ⇒ Maintaining stable torque power



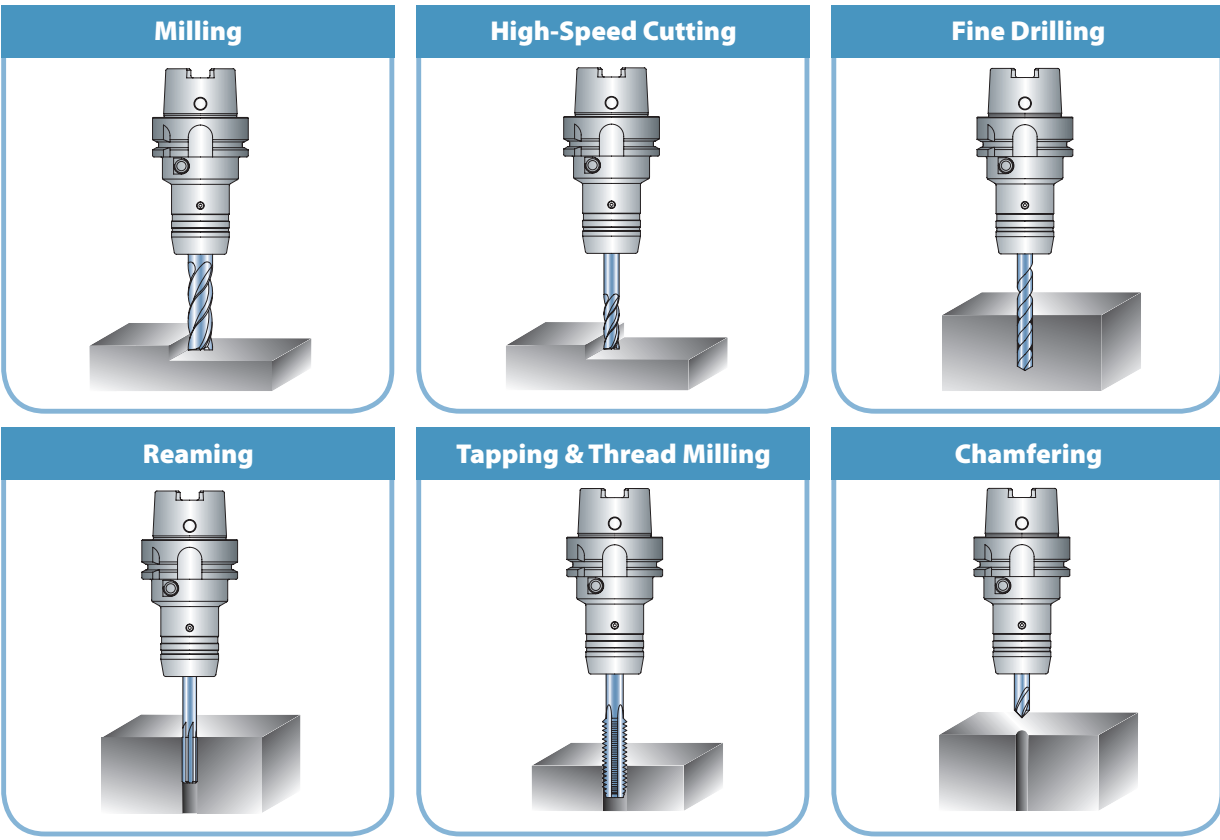
HYDRAULIC CHUCK

► Radial Tool Length Pre-setting Type

- Easy to adjust pre-setting length of cutting tool (Saving time to pre-set cutting tool to one fifth compared with conventional Hydraulic Chuck)
- Precise adjustment of cutting tool length
- Designed to separate tool length adjustment screw from clamping screw

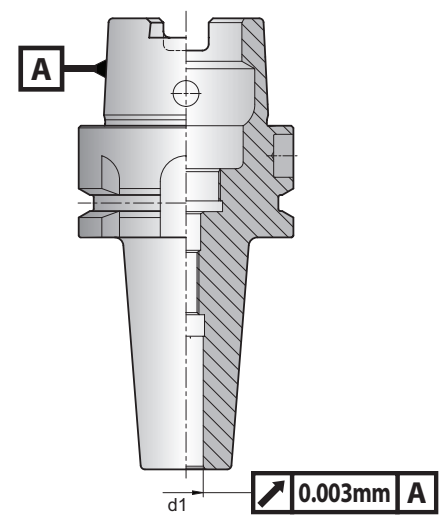


► Application



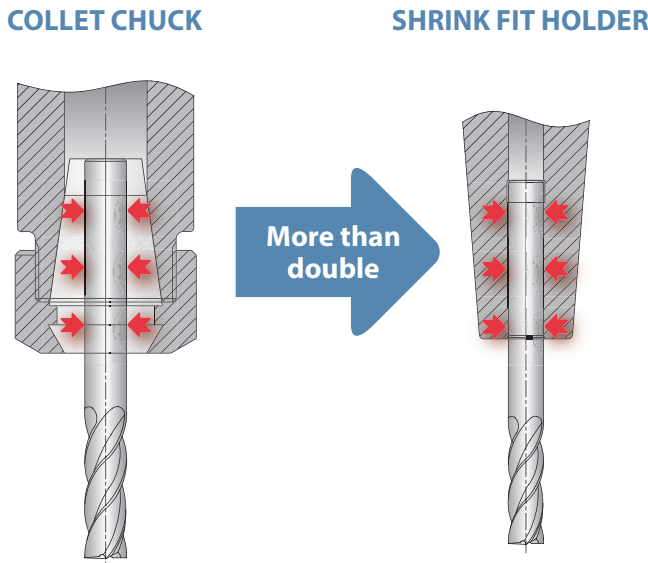
SHRINK FIT HOLDER

- ▶ High Precision I.D
Run-Out : $\leq 0.003\text{mm}$



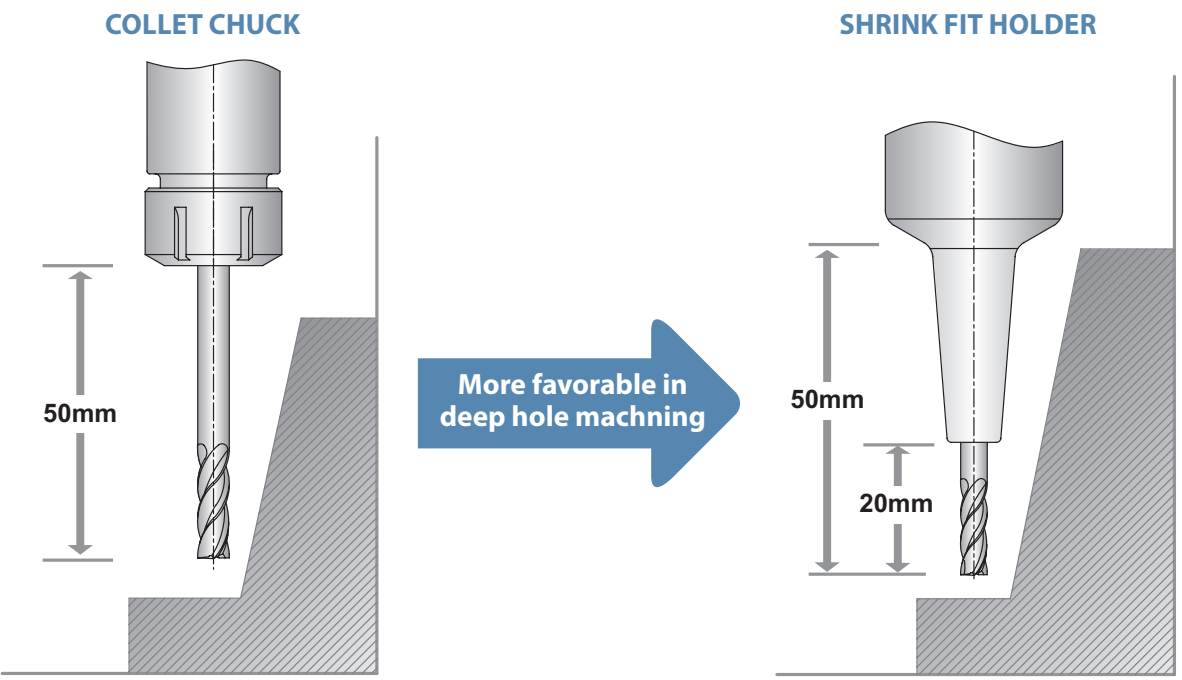
- Less than 0.003mm of Tool Holder accuracy at I.D

- ▶ Strong and Consistent Torque Power



- Achieving strong torque power by integration of chuck and tool

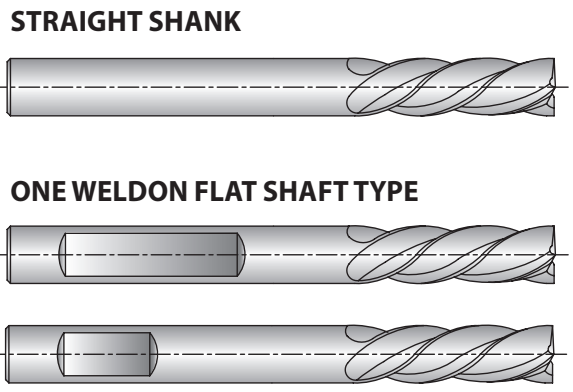
- ▶ Deep hole Machining



- Suitable for High-Speed precision deep hole machining

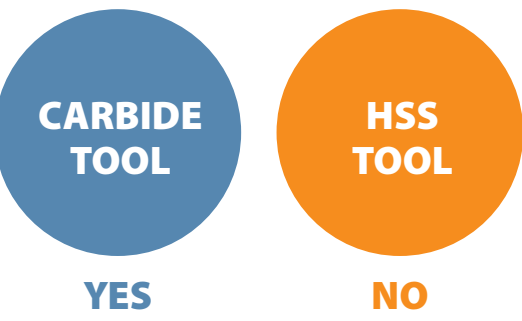
SHRINK FIT HOLDER

- ▶ Shank Type of Cutting Tool

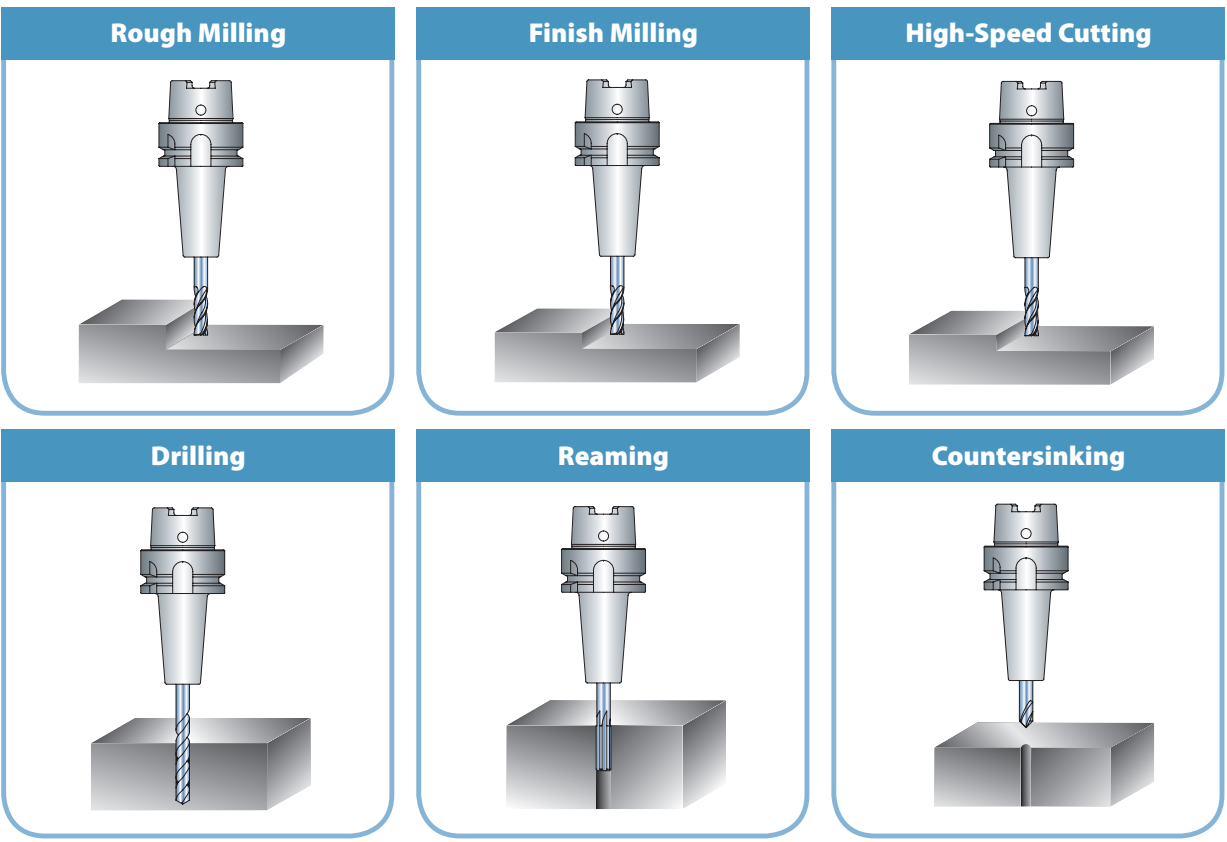


- One Weldon flat shaft type tool is usable, but there is a possibility that the I.D of Shrink Fit Holder may be deformed.

- ▶ Material of Cutting Tool



- ▶ Application



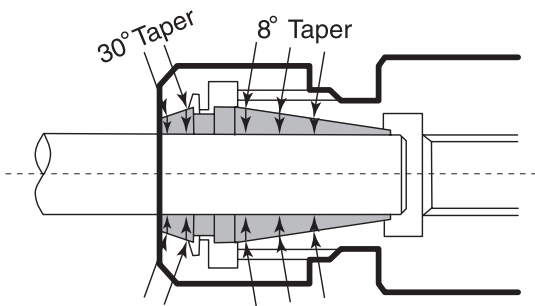
ER COLLET CHUCK

► Feature

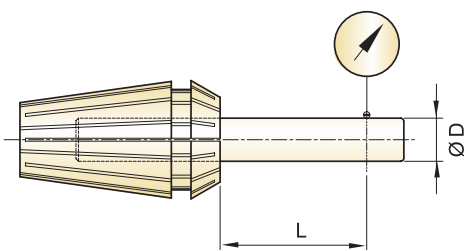
- Powerful chucking, high precision and easy operation
- Precise machining is stably maintained without chattering in High-Speed rotation.
- Due to nut designed with small bore, interference with work piece can be minimized and it enables speedy operation.
- Various nuts can be selected and used according to usage.
- Unlike single taper, double taper has long chucking part providing excellent torque power.

► Strong Torque Power

- Longer clamping part of double taper collet provides stronger torque power.
- Stronger torque power can be achieved if ball bearing nut is used.



► Standard Precision



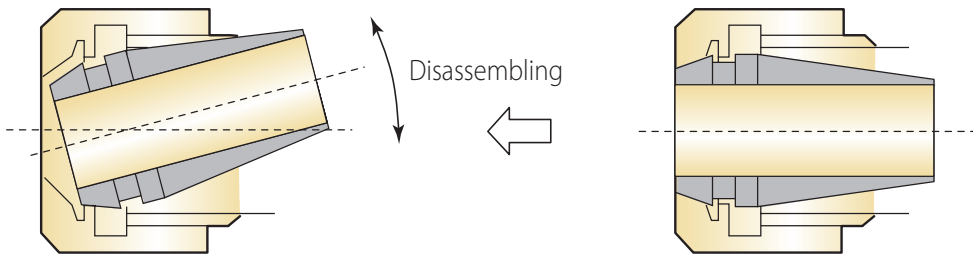
Unit : mm		
D	L	Max. T.I.R (STD.)
Ø1 ~ Ø1.6	6	0.015
Ø1.6 ~ Ø3	10	0.015
Ø3 ~ Ø6	16	0.015
Ø6 ~ Ø10	25	0.015
Ø10 ~ Ø18	40	0.020
Ø18 ~ Ø26	50	0.020
Ø26 ~ Ø34	60	0.020

- By using high precision collet, excellent T.I.R can be achievable
- With fine cutting of 16 sections, it has excellent contractile force, which makes higher precision can be achieved

ER COLLET CHUCK

► Easy Assembling & Disassembling

- For assembling or disassembling of collet, first gently insert groove part of collet into eccentric portion inside nut, and fasten it to same direction as screw or loosen it reversely.
- Notice : In case of Ø12.2mm tool, don't use Ø12~11mm collet.
But use collet with Ø12.5~11.5mm. (In case of general cutting process, Ø13~12mm collet is usable)



► Recommended Tightening Torque for the Collet Nut

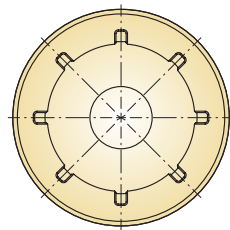
Collet Chuck Size	Clamping Range (mm)	Max. Tightening Torque (Nm)	Collet Chuck Size	Clamping Range (mm)	Max. Tightening Torque (Nm)
ER11	1.0 ~ 2.9	8	ER25	1.0 ~ 3.5	24
	3.0 ~ 7.0	24		4.0 ~ 4.5	56
ER16	1.0	8		5.0 ~ 7.5	80
	1.5 ~ 3.5	20	ER32	8.0 ~ 17.0	104
	4.0 ~ 4.5	40		2.0 ~ 2.5	24
	5.0 ~ 10.0	56	ER40	3.0 ~ 22.0	136
ER20	1.0	16		3.0 ~ 26.0	176
	1.5 ~ 6.5	32	ER50	6.0 ~ 36.0	240
	7.0 ~ 13.0	80			

► Recommended Tightening Torque for the Collet Nut (Slim Type)

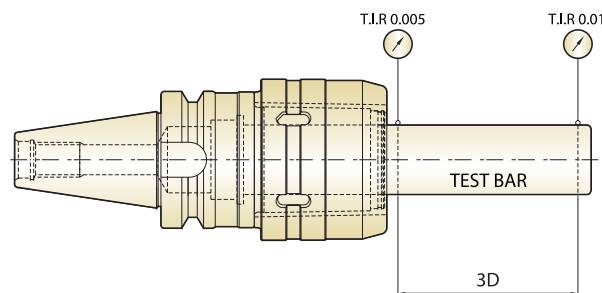
Collet Chuck Size	Clamping Range (mm)	Max. Tightening Torque (Nm)	Collet Chuck Size	Clamping Range (mm)	Max. Tightening Torque (Nm)
ER8M	0.2 ~ 5.0	6	ER20M	1.0	16
ER11M	0.2 ~ 2.9	8		1.5 ~ 13.0	28
	3.0 ~ 7.0	16	ER25M	1.0 ~ 3.5	18
ER16M	0.2 ~ 1.0	8		4.0 ~ 17.0	24
	1.5 ~ 3.5	20			
	4.0 ~ 10.0	24			

POWER MILLING CHUCK

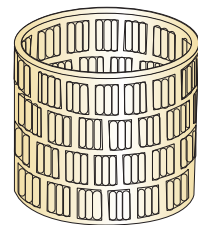
- Rigidity is strengthened through slot made at inside milling chuck, which prevents deformation of milling chuck. Smooth cutting is achieved by maximizing end mill clamping power.
- Enough thickness of clamping part prevents chattering and ensures durability.



- High precision can be achieved through accurate roundness of clamping part, deburred surface and rigidity. (deviation of concentricity : below 2, roughness : below RZ B1.0~1.5)
- Maintaining T.I.R not exceeding 0.01mm at 3D from nose part.



- 160% more of bearings are used in needle roller than other make's chucks, which provides strong clamping power and high durability by dispersing surface pressure even in case strong load is applied.



- ▶ In order to improve durability, YG-1 Milling Chuck is passed through following processes.
- "Normalizing" treatment for unifying material composition and removal internal stress.
 - Ultralow temperature (-90°C) treatment called "Sub-Zero treatment" after carburizing heat treatment for prior removal of any deformation of milling chuck after use for long periods of time.

POWER MILLING CHUCK

▶ Feature

High-Speed POWER MILLING CHUCK

- Achieving optimum cutting for High-Speed heavy duty cutting and finishing with strong torque power
- Perfect clamping from 3mm depth of I.D entrance
- Achieving stability when exchanging and setting tools by stable fastening and unfastening torque

To use ordinary spanner

- No need for expensive Ratchet spanner ⇒ Using ordinary spanner

Lots of needle bearings

- Strong load during clamping
- Dispersing surface pressure through needle bearing

Balancing grade

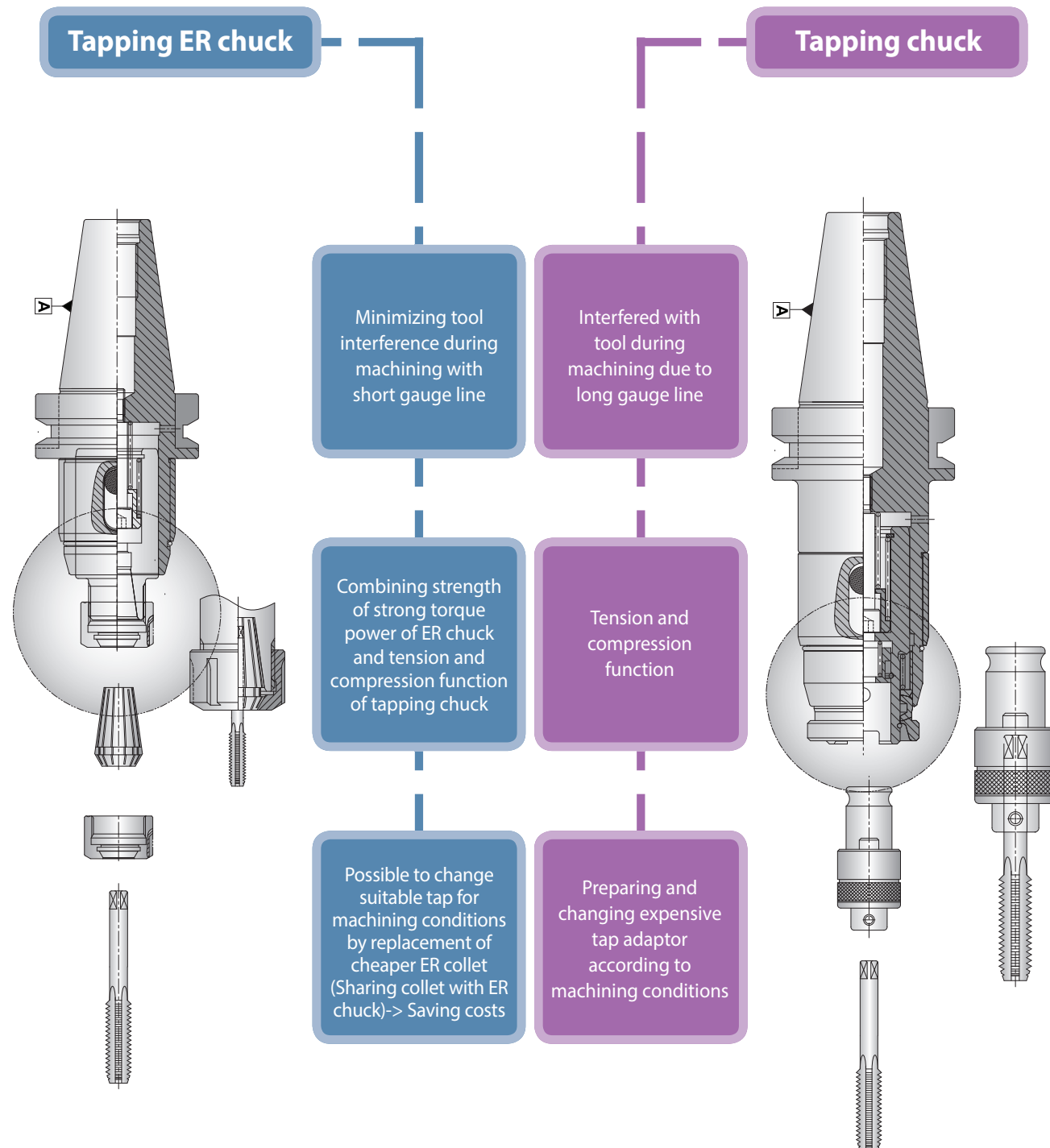
- G 6.3 / 20,000 RPM
- ⇒ Optimizing cutting effect during High-Speed heavy duty cutting and finishing

Slot design at inside milling chuck

- Strengthening body rigidity
- Preventing deformation during cutting
- Maximizing torque power
- Preventing chattering and ensuring durability

▶ Strong Torque Power

Milling chuck (I.D)	Standard	Tolerance (Taper shank)	Run-Out	Clamping torque
C20	AT3	ISO 30 (0~+0.002) ISO 40 (0~+0.003) ISO 50 (0~+0.004)	0.01mm at 3D	980Nm
C25				1,760Nm
C32				3,430Nm
C42				4,900Nm

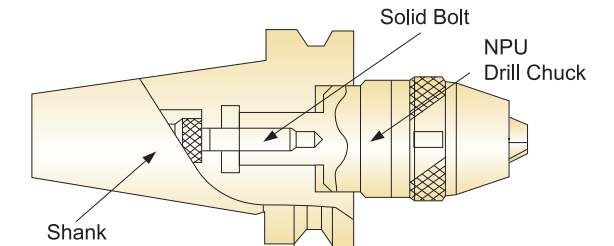


▶ Feature

YG-1 Drill Chuck is completely tightened with solid bolt, and there is no danger of falling during rotating or cutting.

▶ High Precision

- Drill chuck with excellent high precision (T.I.R 0.05mm) and shank are integrated, which guarantees excellent T.I.R



▶ Strong Chucking Power

Drill may be damaged due to reverse thrust during perforation, but with YG-1 Drill Chuck strongly tightened with wrench, there is no possibility of damage to drill.

▶ Safety

YG-1 NC Drill Chuck with strong rigidity contributes to factory automation by unmanned operation by preventing accident from occurring during operation.

- Falling of drill occurring by sudden stopping
- Falling of drill occurring by rapid rotation
- Damage to drill caused by reverse thrust during perforation process

▶ Clamping Method



▲ Keyless Type



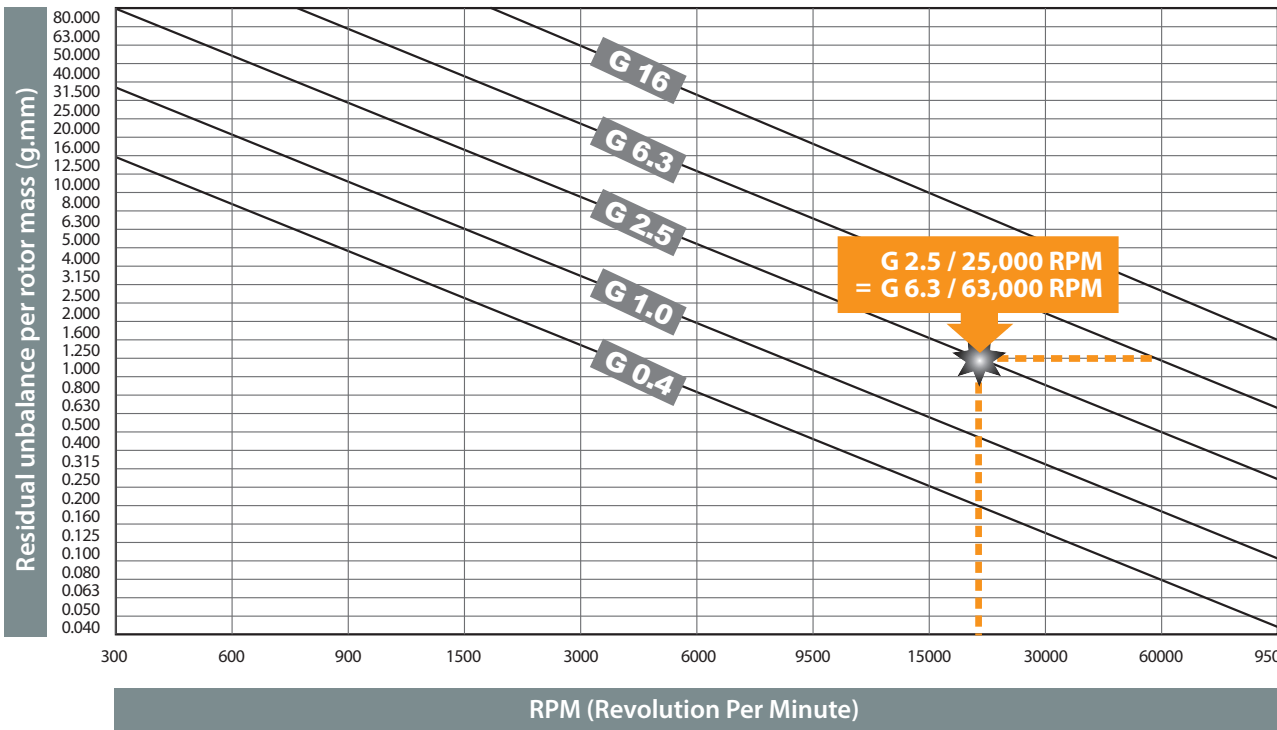
▲ Hex. Key Type

BALANCING

► Definition of Balancing and Unbalancing

If the rotor(tool holder) is rotated around the axis, centrifugal forces generate in all parts. If these centrifugal forces are distributed symmetrically against the rotation axis, the centrifugal forces generating in the opposite direction are offset by one another, resulting in no forces to the rotation axis eventually. Therefore bearings are not vibrated. In this case tool holder is in the balanced state. On the contrary, if centrifugal forces are distributed asymmetrically against the rotation axis, or if the force of one part is greater than that of the opposite part, the forces equivalent to differences are added to the rotation axis, causing the rotor(tool holder) to vibrate. The imbalance of distribution of rotor mass is called "Unbalance". In other words, "Unbalance" is mass existing unevenly in the rotor(tool holder).

► Balancing Grade Quality According to DIN ISO 1940



Calculation of G $\frac{G \times m}{RPM} \times 9549 = U$

G : Balancing grade or circumference speed
m : Rotor(Holder) weight ⇒ Unit : kg
9549 : Conversion constant
U : Degree of unbalance (Permissable unbalance) ⇒ Unit : g.mm
RPM : Revolutions Per Minute

► Merits of Balanced Machining

Recently, rotating machines are more sophisticated and operated at High-Speed with the technical advance. Also, they require more efficiency and more stable functions which are stricter conditions than ever before. In High-Speed machining, one of the largest factors which degrade performance of machines is chattering. It causes workers to suffer displeasure, noise, and fatigue which are main problems affecting productivity. Balancing of the rotor(tool holder) is the essential and effective factor in order to prevent vibration of the machine. It is widely recognized as the indispensable process in manufacturing rotation machinery. YG-1 manufactures tool holders with various balancing grades meeting the needs of users.

► Balancing Grade Standard

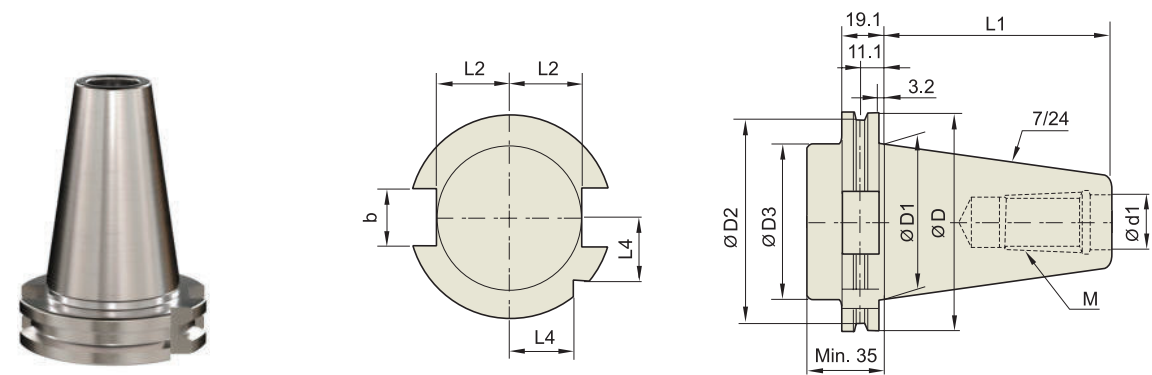


► Balancing Specification for Balancing Design Products

PRODUCT	SHANK	GRADE	RPM
HYDRAULIC CHUCK	BT/CBT 30/40/50 SK 30/40/50 HSK 32/40/50/63/80/100	G 2.5	25,000
SHRINK FIT HOLDER	BT/CBT 30/40/50 SK 30/40/50 HSK 25/32/40/50/63/80/100 ISO 25	G 2.5	25,000
OTHER CHUCKS & TOOL HOLDERS	BT/CBT 30/40/50 SK 30/40/50 HSK 25/32/40/50/63/80/100 ISO 20/25	G 6.3 G 2.5	15,000 25,000

※ Higher Balancing Grade Product Could Be Supplied Upon Customer's Request.

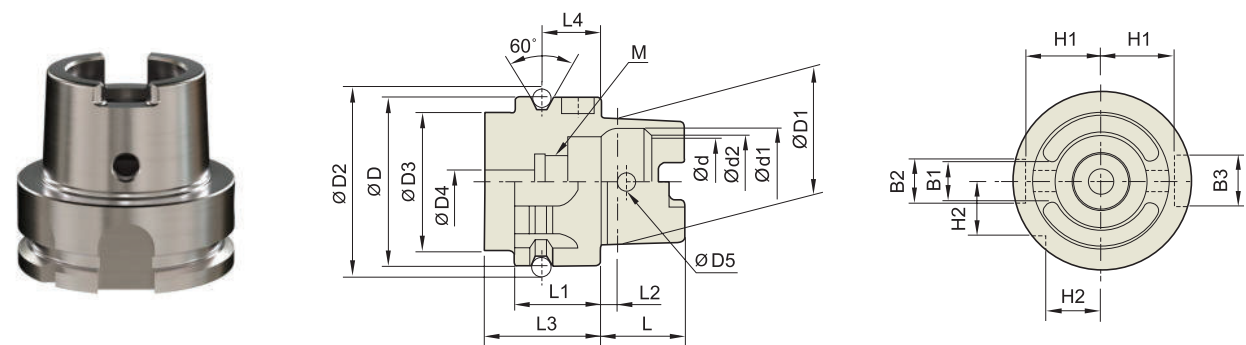
SHANK DATA - DIN 69871 (ISO 7388-1)



Unit : mm

TAPER No.	ØD	ØD1	ØD2	ØD3	Ød1	L1	L2	L3	L4	b	M
SK30	50	31.75	44.3	45	13	47.8	16.4	19	15	16.1	M12×1.75
SK40	63.55	44.45	56.25	50	17	68.4	22.8	25	18.5	16.1	M16×2.0
SK50	97.5	69.85	91.25	80	25	101.75	35.5	37.7	30	25.7	M24×3.0

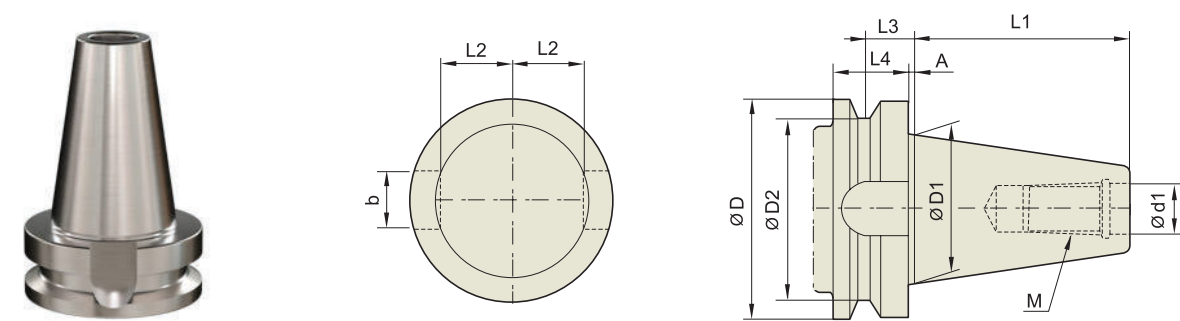
SHANK DATA - DIN 69893/ISO 12164



Unit : mm

TAPER No.	ØD	ØD1	ØD2	ØD3	ØD4	ØD5	L	L1	L2	L3	L4
HSK32A	32	24	37.00	26	4.2	4.0	16	20	3.2	35	16
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
HSK80A	80	60	88.8	68	10.2	8.5	40	26	8	42	18
HSK100A	100	75	109.75	88	12.0	12.0	50	29	10.0	45	20

SHANK DATA - JIS B6339/MAS 403 (ISO 7388-2)



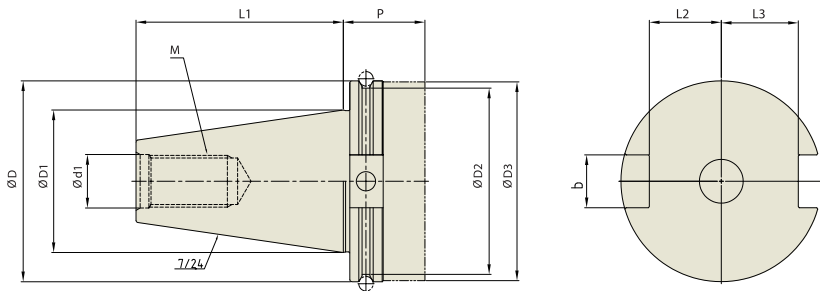
Unit : mm

TAPER No.	ØD	ØD1	ØD2	Ød1	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	65.4	22.6	16.6	25	2	16.1	M16×2
BT50	100	69.85	85	25	101.8	35.4	23.2	35	3	25.7	M24×3
BT60	155	107.95	135	31	161.8	60.1	28.2	45	3	25.7	M30×3.5

Unit : mm

TAPER No.	Ød	Ød1	Ød2	B1	B2	B3	H1	H2	L4
HSK32A	17	20.5	19	7.05	7	9	13.0	9.5	M10×1.0
HSK40A	21	25.5	23	8.05	9	11	17.0	12.0	M12×1.0
HSK50A	26	32.0	29	10.54	12	14	21.0	15.5	M16×1.0
HSK63A	34	40.0	37	12.54	16	18	26.5	20.0	M18×1.0
HSK80A	42	50	46	16.04	18	20	34	25	M20×1.5
HSK100A	53	63.0	58	20.02	20	22	44.0	31.5	M24×1.5

ASME B5.50



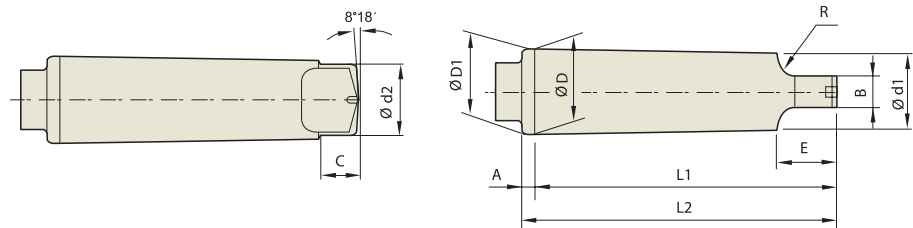
ASME B5.50-CAT (OLD : 1978)

Unit : mm											
TAPER No.	ØD	ØD1	ØD2	ØD3	Ød1	L1	L2	L3	b	P	M
CAT30	50	31.75	44.3	31.75	13	47.625	16.25	18.67	16.1	-	UNC1/2-13
CAT40	63.55	44.45	56.25	44.45	17	68.25	22.6	25	16.1	-	UNC5/8-11
CAT50	97.5	69.85	91.25	70.1	25	101.6	35.3	37.7	25.7	-	UNC1-18
CAT60	155	107.95	132.56	108	32	161.93	54	59.3	25.7	-	UNC1 1/4-7

ASME B5.50-CAT (NEW : Revision 2009)

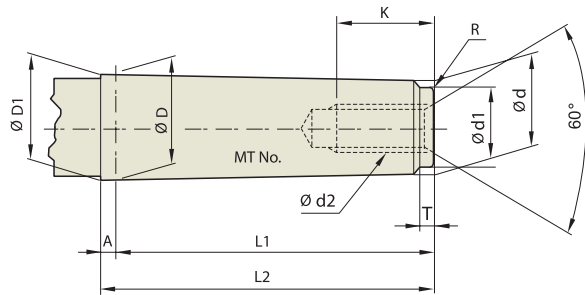
Unit : mm											
TAPER No.	ØD	ØD1	ØD2	ØD3	Ød1	L1	L2	L3	b	P	M
CAT30	46.02	31.75	38.89	46.02	13	47.625	16.25	18.67	16.1	-	UNC1/2-13
CAT40	63.5	44.45	56.36	63.5	17	68.25	22.6	25	16.1	-	UNC5/8-11
CAT50	98.43	69.85	91.29	98.43	25	101.6	35.3	37.7	25.7	-	UNC1-18
CAT60	139.7	107.95	132.56	139.7	32	161.93	54	59.3	25.7	-	UNC1 1/4-7

DIN 228



DIN 228 (MORSE TAPER) TANG TYPE (MTA)

Unit : mm													
TAPER No.	TAPER RATIO (Rad)	TAPER ANGLE (α)	ØD	A	ØD1	Ød1	L1	L2	Ød2	B	C	E	R
MT0	1/19.212	1°29' 27"	9.045	3	9.045	6.104	56.5	59.5	6.0	3.9	6.5	10.5	4
MT1	1/20.047	1°25' 43"	12.065	3.5	12.065	8.972	62.0	65.5	8.7	5.2	8.5	13.5	5
MT2	1/20.020	1°25' 50"	17.780	5	17.780	14.034	75.0	80.0	13.5	6.3	10	16	6
MT3	1/19.922	1°26' 16"	23.825	5	23.825	19.107	94.0	99.0	18.5	7.9	13	20	7
MT4	1/19.254	1°29' 15"	31.267	6.5	31.267	25.164	117.5	124.0	24.5	11.9	16	24	8
MT5	1/19.002	1°30' 26"	44.399	6.5	44.399	36.531	149.5	156.0	35.7	15.9	19	29	10
MT6	1/19.180	1°29' 36"	63.348	8	63.348	52.399	210.0	218.0	51.0	19.0	27	40	13
MT7	1/19.231	1°29' 22"	83.058	10	83.058	68.186	286.0	296.0	66.8	28.6	35	54	19

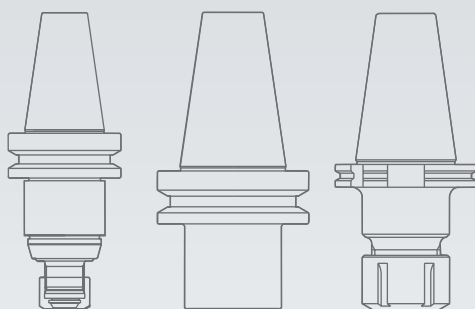


DIN 228 (MORSE TAPER) SCREW TYPE (MTB)

Unit : mm													
TAPER No.	TAPER RATIO (Rad)	TAPER ANGLE (α)	ØD	A	ØD1	d	L1	L2	Ød1	d2	K	T	R
MT0	1/19.212	1°29' 27"	9.045	3	9.201	6.442	50	53	6.4	-	-	4	0.2
MT1	1/20.047	1°25' 43"	12.065	3.5	12.230	9.396	53.5	57	9.4	M6	16	5	0.2
MT2	1/20.020	1°25' 50"	17.780	5	18.030	14.583	64	69	14.6	M10	24	5	0.2
MT3	1/19.922	1°26' 16"	23.825	5	24.076	19.759	81	86	19.8	M12	28	7	0.6
MT4	1/19.254	1°29' 15"	31.267	6.5	31.605	25.943	102.5	109	25.9	M16	32	9	1
MT5	1/19.002	1°30' 26"	44.399	6.5	44.741	37.584	129.5	136	37.6	M20	40	9	2.5
MT6	1/19.180	1°29' 36"	63.348	8	63.765	53.859	182	190	53.9	M24	50	12	4
MT7	1/19.231	1°29' 22"	83.058	10	83.578	70.058	250	260	70.0	M33	80	18.5	5



Global Cutting Tool Leader **YG-1**



TOOLING SYSTEM