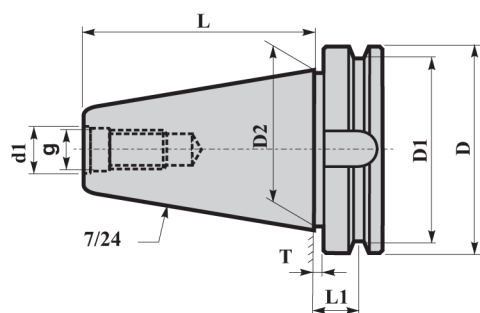
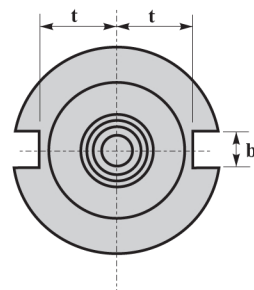




MAS 403

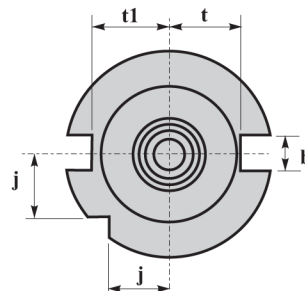
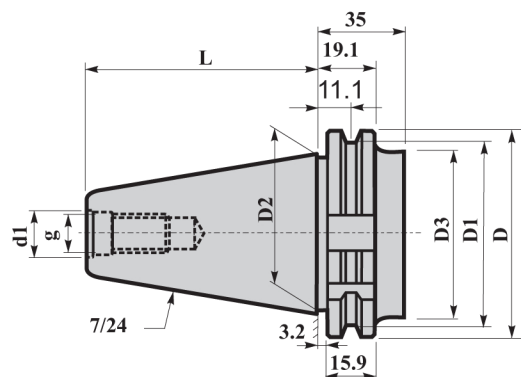
BT



TAPER	D	D1	D2	L	d1	g	t	b	T	L1
30	46	38	31.75	48.4	12.5	M12	16.3	16.1	2	13.6
40	63	53	44.45	65.4	17	M16	22.6	16.1	2	16.6
45	85	73	57.15	82.8	21	M20	29.1	19.3	3	21.2
50	100	85	69.85	101.8	25	M24	35.4	25.7	3	23.2

DIN 69871

ISO



TAPER	D	D1	D2	D3	L	g	d1	t	t1	b	j
30	50.00	44.30	31.75	45	47.80	M12	13	16.4	19	16.1	15
40	63.55	56.25	44.45	50	68.40	M16	17	22.8	25.0	16.1	18.50
50	97.50	91.25	69.85	80	101.75	M24	25	35.5	37.7	25.7	30.0

ANGULAR TOLERANCE OF THE TAPER SHANKS

AT 3

WE MAINTAIN TAPER SHANKS AS PER
AT 3 CLASS OF ANGULAR TOLERANCE,
MEASURED ON ELECTRONIC GAUGES

TOLERANCE ZONES

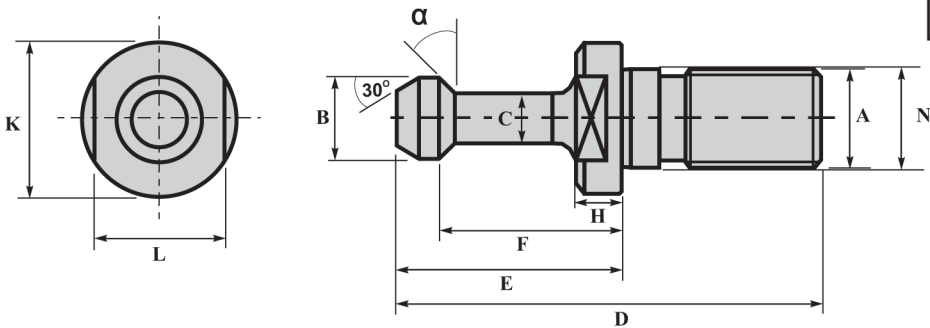
TAPER		HI-SPEED/HI ACCURACY MACHINING			
		AT 2		AT 3	
Size	Length	ATD	ATα	ATD	ATα
30	47.63	0.0015	6"	0.0023	10"
40	68.25	0.0017	5"	0.0028	8"
50	101.60	0.0020	4"	0.0033	6"

BALANCING

TOOL HOLDERS ARE BEING BALANCED TO BALANCE GRADE G6.3 OF ISO 1940

MAS 403

BT



★ =Available in stock

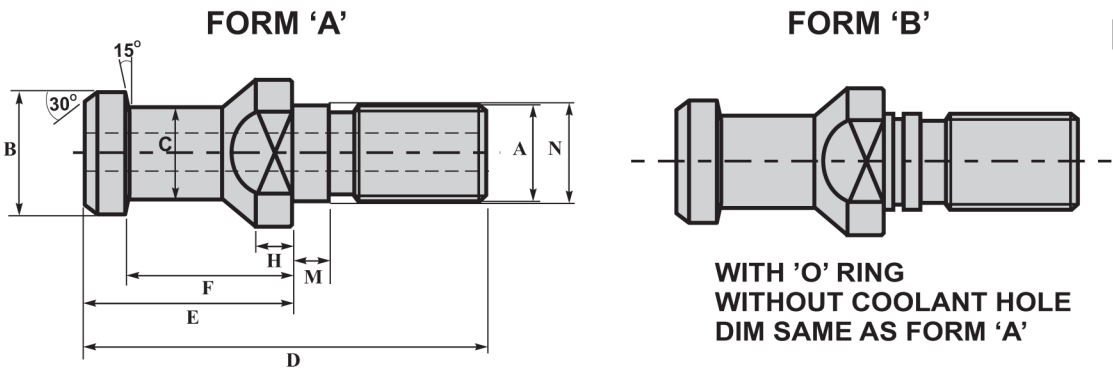
TABLE(1)

ORDERING NO.	α	A	B	C	D	E	F	H	K	L	N
PS-BT30 / α ★	30°/45°	M12	11	7	43	23	18	5	16.5	13	12.5
PS-BT40 / α ★	30°/45°	M16	15	10	60	35	28	6	23	19	17
PS-BT50 / α ★	30°/45°	M24	23	17	85	45	35	10	38	30	25

SPECIFY ANGLE ‘ α ’ ALONG WITH ORDERING NO.

DIN 69872

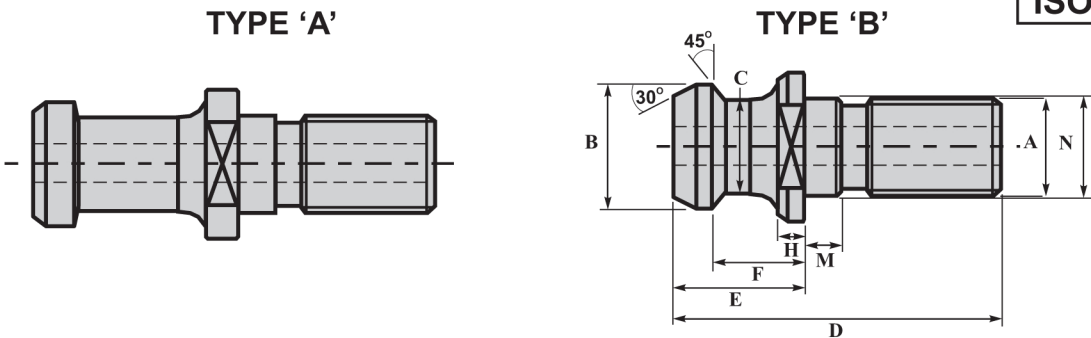
ISO



TABLE(2)

ORDERING NO.	A	B	C	D	E	F	H	K	L	M	N
PS-ISO A/B30	M12	13	9	44	24	19	4	17	14	5	13
PS-ISO A/B40 ★	M16	19	14	54	26	20	4	23	19	7	17
PS-ISO A/B50	M24	28	21	74	34	25	5	36	30	10	25

ISO 7388



DIM AS PER TABLE (2)

TABLE(3)

DIM AS PER TABLE (3)

ORDERING NO.	A	B	C	D	E	F	H	K	L	M	N
PS7388A/B- 40	M16	18.95	12.95	44.50	16.40	11.15	3.25	22.50	18	7	17
PS7388A/B- 50	M24	29.10	19.60	65.50	25.55	17.95	5.25	37.00	30	10	25

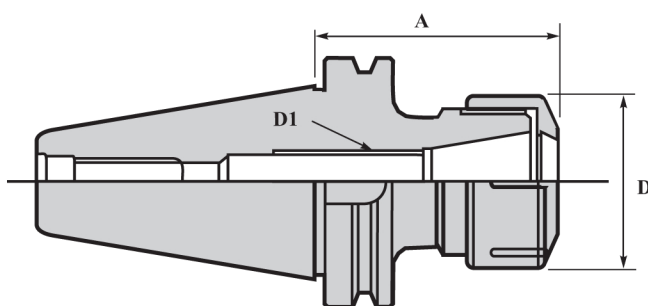


FIG. 1

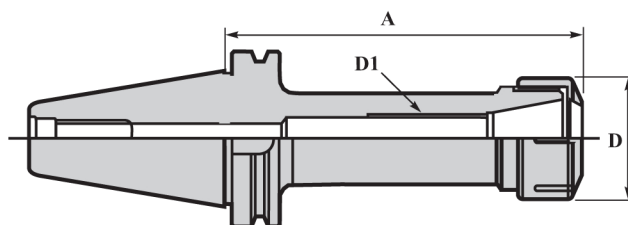
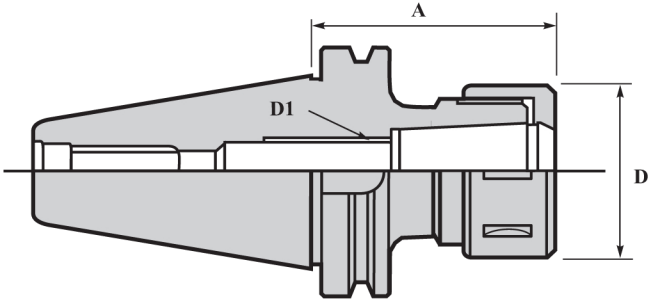


FIG. 2

SLIM COLLET CHUCK WITH MINI NUT

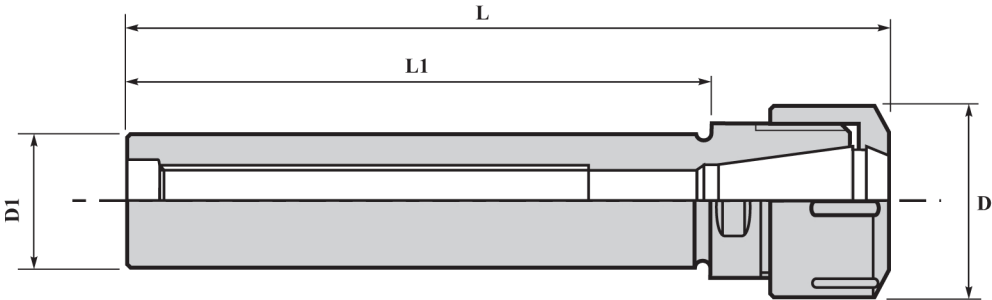
★ = Available in stock

ORDERING NO.	SUITABLE COLLET	CLAMPING CAPACITY	A	D1	NUT (D)	FIG.
BT/ISO 30 ER16-A60 ★	ER16	0.5-10	60	M10x1.5P	28	1
BT/ISO 30 ER20-A60 ★	ER20	1.0-13	60	M12x1.75	34	1
BT/ISO 30 ER25-A60 ★	ER25	1.0-16	60	M18x1.5P	42	1
BT/ISO 30 ER32-A60 ★	ER32	1.0-20	60	M18x1.5P	50	1
BT/ISO 30 ER32-A105 ★	ER32	1.0-20	105	M18x1.5P	50	1
BT/ISO 40 ER16-A70 ★	ER16	0.5-10	70	M10x1.5P	28	1
BT/ISO 40 ER20-A70 ★	ER20	1.0-13	70	M12x1.75	34	1
BT/ISO 40 ER25-A70 ★	ER25	1.0-16	70	M18x1.5P	42	1
BT/ISO 40 ER25-A105	ER25	1.0-16	105	M18x1.5P	42	1
BT/ISO 40 ER32-A70 ★	ER32	1.0-20	70	M22x1.5P	50	1
BT/ISO 40 ER32-A105 ★	ER32	1.0-20	105	M22x1.5P	50	1
BT/ISO 40 ER32-A150	ER32	1.0-20	150	M22x1.5P	50	1
BT/ISO 40 ER40-A80 ★	ER40	3.0-26	80	M22x1.5P	63	1
BT/ISO 40 ER16-A150	ER16	0.5-10	150	M10x1.5P	22 M	2
BT/ISO 40 ER20-A150	ER20	1.0-13	150	M12x1.75	28 M	2
BT/ISO 40 ER25-A150	ER25	1.0-16	150	M18x1.5P	35 M	2
BT/ISO 50 ER25-A80	ER25	1.0-16	80	M18x1.5P	42	1
BT/ISO 50 ER32-A80 ★	ER32	1.0-20	80	M22x1.5P	50	1
BT/ISO 50 ER32-A150 ★	ER32	1.0-20	150	M22x1.5P	50	1
BT/ISO 50 ER32-A200	ER32	1.0-20	200	M22x1.5P	50	1
BT/ISO 50 ER32-A250	ER32	1.0-20	250	M22x1.5P	50	1
BT/ISO 50 ER40-A80 ★	ER40	3.0-26	80	M22x1.5P	63	1
BT/ISO 50 ER50-A100	ER50	10-34	100	M36x1.5P	78	1



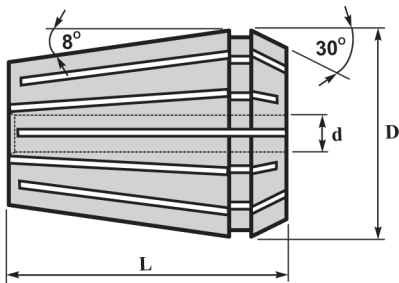
ORDERING NO.	SUITABLE COLLET	CLAMPING CAPACITY	A	D1	NUT (D)	FIG.
BT/ISO 40 OR25-A70	OR25	1.5-16	70	M18x1.5P	43	1
BT/ISO 40 OR35-A70	OR35	1.5-25	70	M22x1.5P	60	1
BT/ISO 50 OR35-A80	OR35	1.5-25	80	M22x1.5P	60	1
BT/ISO 50 OR52-A100	OR52	29.5-40	100	M42x1.5P	85	1

CYLINDRICAL COLLET CHUCKS (BABY CHUCKS)

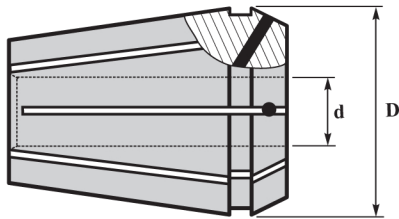


★ =Available in stock

ORDERING NO.	SUITABLE COLLET	CLAMPING CAPACITY	D1	L1	L	NUT (D)
CYL 16-ER16-130 ★	ER16	1.0-10	16	80	130	28
CYL 20-ER16-130	ER16	1.0-10	20	80	130	28
CYL 20-ER20-130 ★	ER20	1.0-13	20	80	130	34
CYL 25-ER20-130	ER20	1.0-13	25	80	130	34
CYL 25-ER25-130 ★	ER25	1.0-16	25	80	130	42
CYL 25-ER32-130	ER32	1.0-20	25	80	130	50
CYL 32-ER25-130	ER25	1.0-16	32	80	130	42
CYL 32-ER32-130 ★	ER32	1.0-20	32	80	130	50
CYL 40-ER20-130	ER20	1.0-13	40	80	130	34

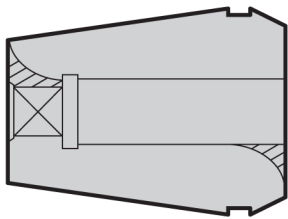


ER TYPE



ERC TYPE

For coolant through application

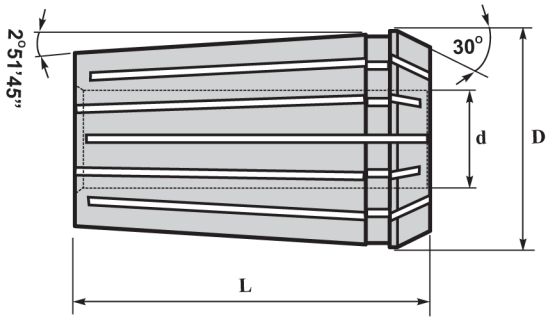


ERT TYPE

Tap collet

★ =Available in stock

ORDERING NO.	BORE RANGE (d)			FULL SET PCS	CLAMPING RANGE	COLLAPSE CAPACITY	L	D
	FROM	TO	IN STEP					
ER/ERC 8	1	5	0.5	9	0.5 ~ 5.0	0.5	13.5	8.5
ER/ERC 11	1	7	0.5	13	0.5 ~ 7.0	0.5	18	11.5
ER/ERC 16 ★	2	10	1	9	0.5 ~ 10	0.5	27.5	17
ER/ERC 20 ★	2	13	1	12	0.5 ~ 13	1.0	31.5	21
ER/ERC 25 ★	2	16	1	15	0.5 ~ 16	1.0	34	26
ER/ERC 32 ★	3	20	1	18	1.5 ~ 20	1.0	40	33
ER/ERC 40 ★	4	26	1	23	3.0 ~ 26	1.0	46	41
ER/ERC 50	10	34	2	25	10 ~ 34	2.0	60	52



'OR' TYPE

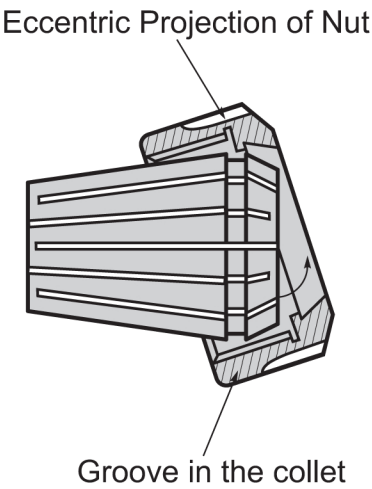
ORDERING NO.	BORE RANGE (d)			FULL SET PCS	CLAMPING RANGE	COLLAPSE CAPACITY	L	D
	FROM	TO	IN STEP					
OR 20	2	12	0.5	21	1.5 ~ 13	0.5	34	19.8
OR 25	2	16	0.5	29	1.5 ~ 16	0.5	40	25.5
OR 30	2	20	0.5	37	1.5 ~ 20	0.5	45	29.8
OR 35	2	25	0.5	47	1.5 ~ 25	0.5	52	35.05
OR 44	4	32	0.5	57	3.5 ~ 32	0.5	60	43.7
OR 52	30	40	1.0	11	29.5 ~ 40	0.5	68	52.2
OR 64	30	50	1.0	21	29.5 ~ 50	0.5	80	63.8

TAP COLLETS - SPECIFY TAP SHANK DIA AND SQUARE SIZE ALONG WITH THE ORDER

TO INSERT COLLET

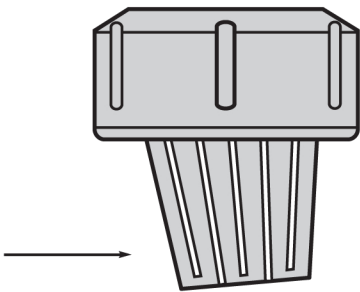
- 1. Insert collet into Nut at an angle as shown to engage eccentric projection of Nut with groove of collet.
- 2. Screw Nut onto collet chuck with collet securely in nut.
- 3. Insert tool to be gripped and lock nut.

PRECAUTION:- Never screw **Nut** onto collet chuck unless collet is properly seated in nut.



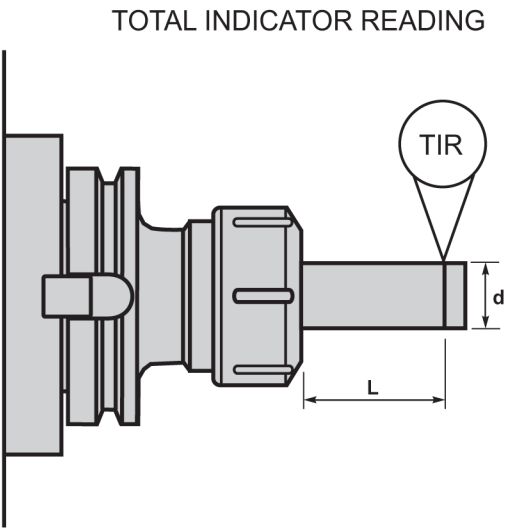
TO RELEASE COLLET

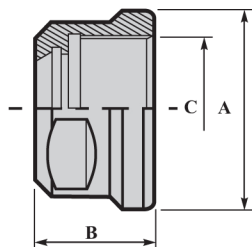
- 1. Unscrew the Nut from collet chuck.
- 2. The collet is withdrawn from collet chuck automatically by the eccentric projection in the nut.
- 3. Hold the nut in one hand and remove collet at an angle by the other hand. As shown in figure.



COLLET RUN-OUT

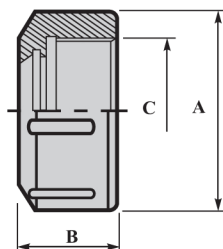
CLAMPING RANGE (d)		L	RUN OUT (TIR)	
ABOVE	UPTO		NORMAL PRECISION	HIGH PRECISION
3.0	6.0	16	0.015	0.010
6.0	10.0	25	0.015	0.010
10.0	18.0	40	0.020	0.015
18.0	26.0	50	0.020	0.015
26.0	34.0	60	0.020	0.015





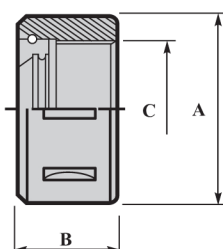
HEXAGONAL NUT FOR 'ER' COLLET CHUCKS

COLLET SIZE	A	B	C	SPANNER TO BE USED
ER11	19	11.5	M14x0.75	DS 17
ER16	28	17.5	M22x1.5	DS 25
ER20	34	19.0	M25x1.5	DS 30



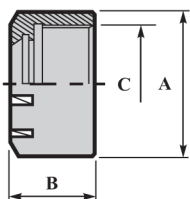
SLOTTED NUT FOR 'ER' COLLET CHUCKS

COLLET SIZE	A	B	C	SPANNER TO BE USED
ER 25	42	20	M32x1.5	CS 25
ER 32	50	22	M40x1.5	CS 32
ER 40	63	25	M50x1.5	CS 40
ER 50	78	35	M64x2.0	CS 50



SLOTTED BEARING NUT FOR 'OR' COLLET CHUCKS

COLLET SIZE	A	B	C	SPANNER TO BE USED
OR25	43	24	M33x1.5	ORS 25
OR35	60	30	M48x2.0	ORS 35
OR52	85	37	M68x2.5	ORS 52

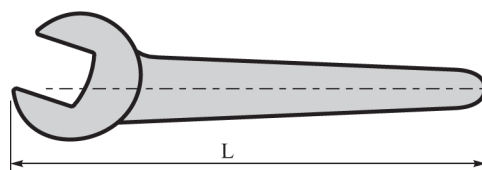


MINI NUT FOR 'ER' COLLET CHUCKS

COLLET SIZE	A	B	C	SPANNER TO BE USED
ER 11	16	11.5	M13x0.75	RS 11
ER 16	22	17.0	M19x1.00	RS 16
ER 20	28	19.0	M24x1.00	RS 20
ER 25	35	20.0	M30x1.00	RS 25

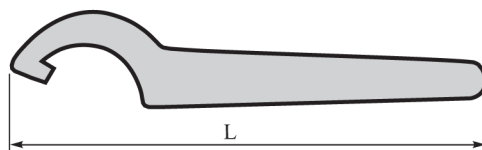
TYPE 'D' FOR HEXAGONAL NUTS

SPANNER DESIGNATION	L	SUITABLE FOR NUT
DS 17	150	ER 11
DS 25	200	ER16
DS 30	220	ER20



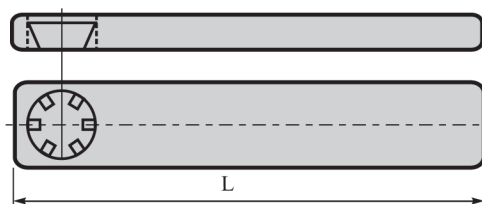
TYPE 'C' FOR SLOTTED NUTS

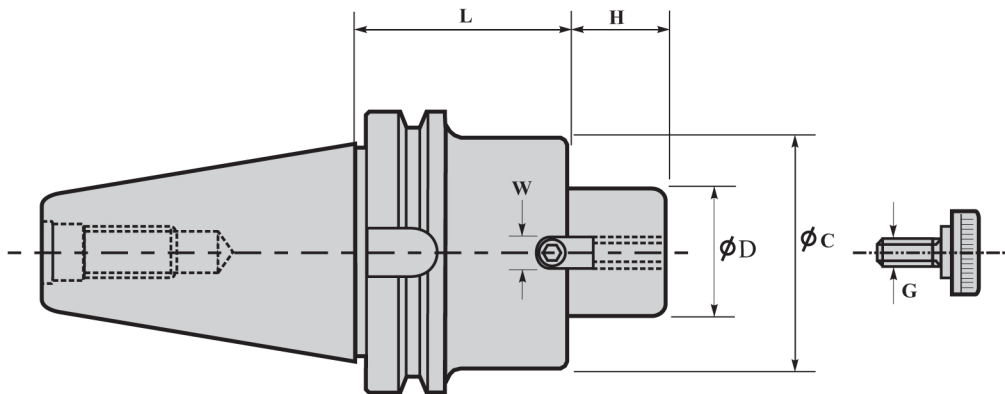
SPANNER DESIGNATION	L	SUITABLE FOR NUT
CS 25	115	ER 25
CS 32	200	ER 32
CS 40	190	ER 40
CS 50	200	ER 50



TYPE 'R' FOR MINI NUTS

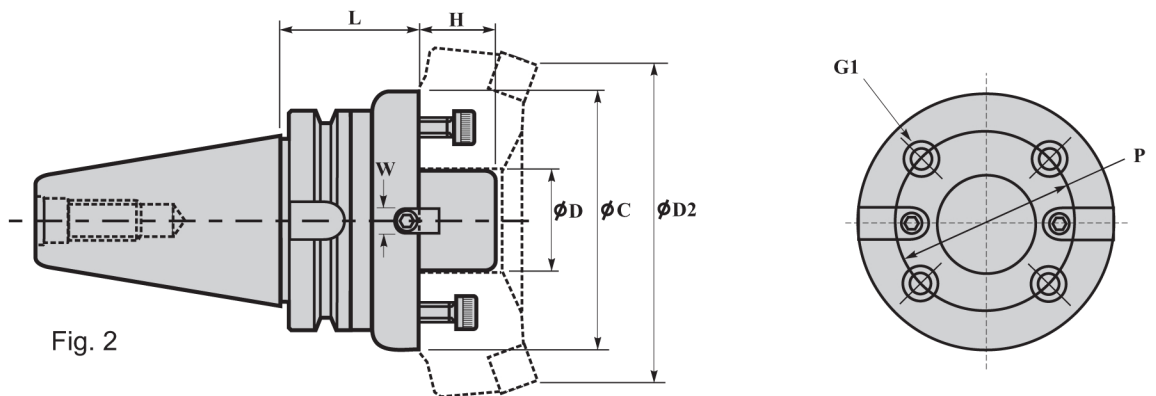
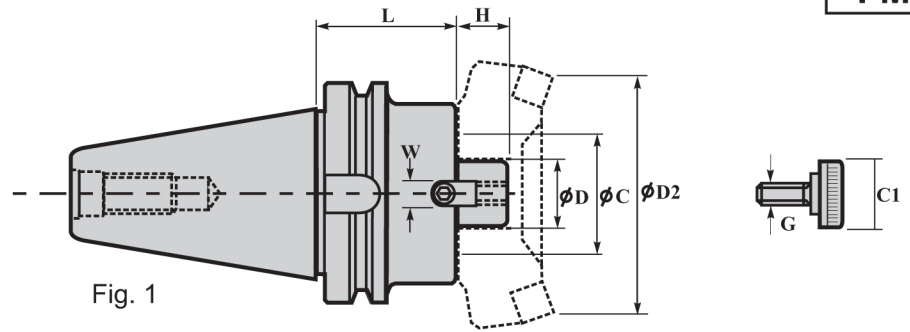
SPANNER DESIGNATION	L	SUITABLE FOR NUT
RS 11	105	ER 11
RS 16	135	ER 16
RS 20	135	ER 20
RS 25	150	ER 25





★ =Available in stock

ORDERING NO.	D	L	H	C	W	G
BT 30-FMC 16-45	16	45	14	34	8	M8
BT 30-FMC 22-45 ★	22	45	18	40	10	M10
BT 30-FMC 27-45 ★	27	45	21	48	12	M12
BT 30-FMC 32-45 ★	32	45	22	58	14	M16
BT 40-FMC 16-60 ★	16	60	14	34	8	M8
BT 40-FMC 16-120	16	120	14	34	8	M8
BT 40-FMC 22-60 ★	22	60	18	40	10	M10
BT 40-FMC 22-90 ★	22	90	18	40	10	M10
BT 40-FMC 22-120 ★	22	120	18	40	10	M10
BT 40-FMC 27-60 ★	27	60	21	48	12	M12
BT 40-FMC 27-90 ★	27	90	21	48	12	M12
BT 40-FMC 32-60 ★	32	60	22	58	14	M16
BT 40-FMC 40-60 ★	40	60	24	70	16	M20
BT 50-FMC 22-75	22	75	18	40	10	M10
BT 50-FMC 22-120	22	120	18	40	10	M10
BT 50-FMC 22-150	22	150	18	40	10	M10
BT 50-FMC 27-90 ★	27	90	21	48	12	M12
BT 50-FMC 27-150	27	150	21	48	12	M12
BT 50-FMC 32-75 ★	32	75	22	58	14	M16
BT 50-FMC 32-105	32	105	22	58	14	M16
BT 50-FMC 40-75 ★	40	75	24	70	16	M20
BT 50-FMC 40-105	40	105	24	70	16	M20



★ = Available in stock

ORDERING NO.	D	L	H	C	W	C1	G	P	Fig.	CUTTER DIA D2
BT 30-FMB 22-45	22	45	18	56	10	28	M10	—	1	63
BT 30-FMB 27-45	27	45	26	80	12	35	M12	—	1	63
BT 40-FMB 27-60 ★	27	60	26	80	12	35	M12	—	1	80
BT 40-FMB 27-90 ★	27	90	26	80	12	35	M12	—	1	80
BT 40-FMB 32-60 ★	32	60	26	80	14	42	M16	—	1	100
BT 40-FMB 32-90	32	90	26	80	14	42	M16	—	1	100
BT 40-FMB 40-60 ★	40	60	26	85	16	52	M20	—	1	125
BT 40-FMB 40F-75 ★	40	75	26	90	16	—	—	66.7	2	160
BT 50-FMB 27-45	27	45	26	80	12	35	M12	—	1	80
BT 50-FMB 27-90	27	90	26	80	12	35	M12	—	1	80
BT 50-FMB 27-150	27	150	26	80	12	35	M12	—	1	80
BT 50-FMB 32-60	32	60	26	80	14	42	M16	—	1	100
BT 50-FMB 32-90	32	90	26	80	14	42	M16	—	1	100
BT 50-FMB 40-45	40	45	26	85	16	52	M20	—	1	125
BT 50-FMB 40-75	40	75	26	85	16	52	M20	—	1	125
BT 50-FMB 40-105	40	105	26	85	16	52	M20	—	1	125
BT 50-FMB 40F-75 ★	40	75	26	108	16	—	—	66.7	2	160
BT 50-FMB 60F-75 ★	60	75	25	140	25.4	—	—	101.6	2	200~500

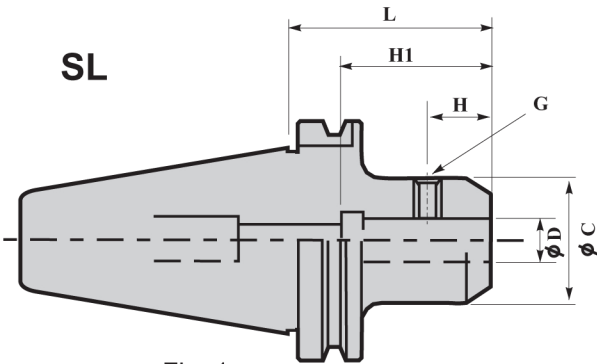


Fig. 1

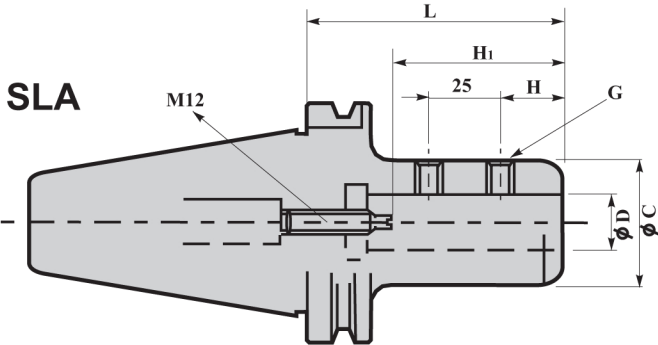
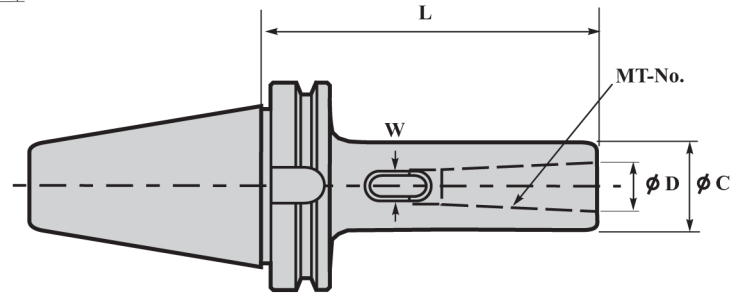
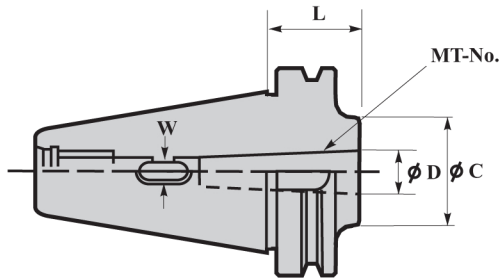


Fig. 2

★ =Available in stock

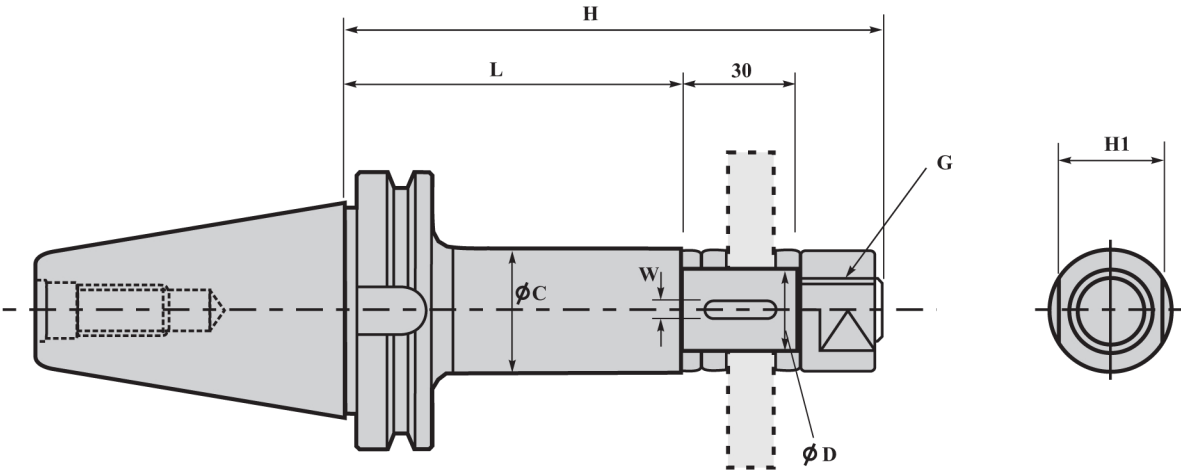
ORDERING NO.	D	L	C	H	H1		G	Fig.
					MIN.	MAX.		
BT 30-SL 8-60 ★	8	60	24	15	35	—	M8	1
BT 30-SL 10-60 ★	10	60	30	15	40	—	M8	1
BT 30-SL 12-60 ★	12	60	35	20	45	—	M10	1
BT 30-SL 16-60 ★	16	60	40	20	52	—	M10	1
BT 30-SLA 20-75 ★	20	75	48	20	55	65	M10	2
BT 30-SLA 25-90 ★	25	90	48	20	55	65	M10	2
BT 30-SLA 32-90 ★	32	90	55	20	55	65	M12	2
BT 40-SL 8-65 ★	8	65	24	15	35	—	M8	1
BT 40-SL 10-65 ★	10	65	30	15	40	—	M8	1
BT 40-SL 12-65 ★	12	65	35	20	45	—	M10	1
BT 40-SL 14-65	14	65	40	20	45	—	M10	1
BT 40-SL 16-65 ★	16	65	40	20	52	—	M10	1
BT 40-SLA 20-90 ★	20	90	50	20	55	70	M10	2
BT 40-SLA 25-90 ★	25	90	55	20	55	70	M10	2
BT 40-SLA 32-90 ★	32	90	60	20	55	70	M12	2
BT 40-SLA 40-90 ★	40	90	68	20	55	70	M16	2
BT 50-SLA 20-105 ★	20	105	50	20	55	70	M10	2
BT 50-SLA 25-105★	25	105	55	20	55	70	M10	2
BT 50-SLA 32-105★	32	105	60	20	55	70	M12	2
BT 50-SLA 40-105★	40	105	80	20	55	70	M16	2



★ = Available in stock

ORDERING NO.	MT. NO.	D	L	C	W	Fig.
BT 30-MTA 1-50 ★	1	12.065	50	25	5.6	1
BT 30-MTA 1-110	1	12.065	110	25	5.6	2
BT 30-MTA 2-60 ★	2	17.780	60	32	6.6	1
BT 30-MTA 2-115	2	17.780	115	32	6.6	2
BT 30-MTA 3-80	3	23.825	80	40	8.4	1
BT 30-MTA 3-130 ★	3	23.825	130	40	8.4	2
BT 40-MTA 1-45 ★	1	12.065	45	25	5.6	1
BT 40-MTA 1-120	1	12.065	120	25	5.6	2
BT 40-MTA 2-60 ★	2	17.780	60	32	6.6	1
BT 40-MTA 2-120	2	17.780	120	32	6.6	2
BT 40-MTA 3-75 ★	3	23.825	75	40	8.4	1
BT 40-MTA 3-135	3	23.825	135	40	8.4	2
BT 40-MTA 4-95 ★	4	31.267	95	50	12.4	1
BT 40-MTA 4-165	4	31.267	165	50	12.4	2
BT 50-MTA 1-45 ★	1	12.065	45	25	5.6	1
BT 50-MTA 1-120	1	12.065	120	25	5.6	2
BT 50-MTA 1-180	1	12.065	180	25	5.6	2
BT 50-MTA 2-45 ★	2	17.780	45	32	6.6	1
BT 50-MTA 2-135	2	17.780	135	32	6.6	2
BT 50-MTA 2-180	2	17.780	180	32	6.6	2
BT 50-MTA 3-45 ★	3	23.825	45	40	8.4	1
BT 50-MTA 3-150	3	23.825	150	40	8.4	2
BT 50-MTA 3-180	3	23.825	180	40	8.4	2
BT 50-MTA 4-75 ★	4	31.267	75	50	12.4	1
BT 50-MTA 4-180	4	31.267	180	50	12.4	2
BT 50-MTA 5-105	5	44.399	105	63	12.4	1

NOTE:- MORSE TAPER ADAPTER WITH DRAW BOLT - TECHNICAL DATA ON REQUEST.



ORDERING NO.	D	L	H	H1	C	W	G
BT 40-SCA 13-75	13	75	120	17	20	3	M12x1.25
BT 40-SCA 13-105	13	105	150	17	20	3	M12x1.25
BT 40-SCA 16-75	16	75	121	23	26	4	M14x1.5
BT 40-SCA 16-105	16	105	151	23	26	4	M14x1.5
BT 40-SCA 22-75	22	75	126	29	34	6	M20x1.5
BT 40-SCA 22-120	22	120	171	29	34	6	M20x1.5
BT 40-SCA 27-75	27	75	130	32	40	7	M24x2.0
BT 40-SCA 27-120	27	120	175	32	40	7	M24x2.0
BT 40-SCA 32-90	32	90	150	41	46	8	M30x2.0
BT 50-SCA 13-75	13	75	120	17	20	3	M12x1.25
BT 50-SCA 13-105	13	105	150	17	20	3	M12x1.25
BT 50-SCA 16-90	16	90	136	23	26	4	M14x1.5
BT 50-SCA 16-120	16	120	166	23	26	4	M14x1.5
BT 50-SCA 22-90	22	90	144	29	34	6	M20x1.5
BT 50-SCA 22-135	22	135	186	29	34	6	M20x1.5
BT 50-SCA 27-90	27	90	145	32	40	7	M24x2.0
BT 50-SCA 27-135	27	135	190	32	40	7	M24x2.0
BT 50-SCA 32-90	32	90	150	41	46	8	M30x2.0
BT 50-SCA 32-135	32	135	195	41	46	8	M30x2.0
BT 50-SCA 40-90	40	90	156	46	55	10	M36x3.0
BT 50-SCA 40-135	40	135	201	46	55	10	M36x3.0

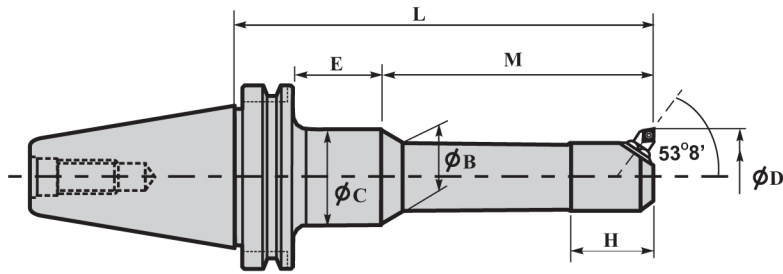


Fig. 1

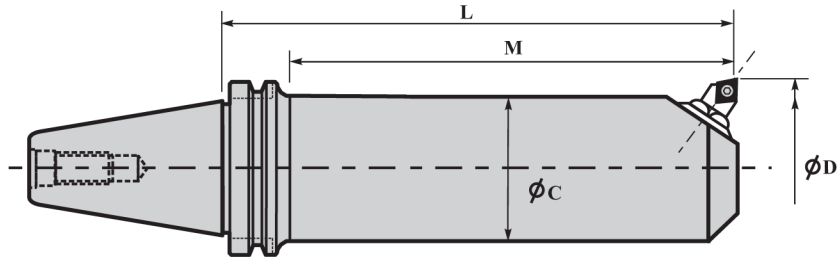


Fig. 2

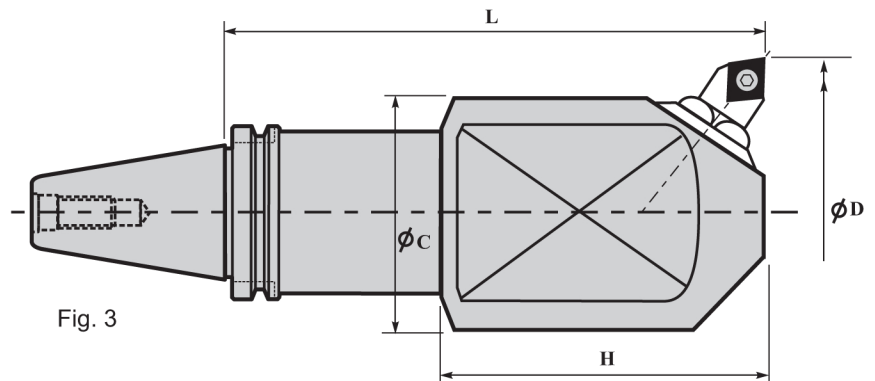


Fig. 3

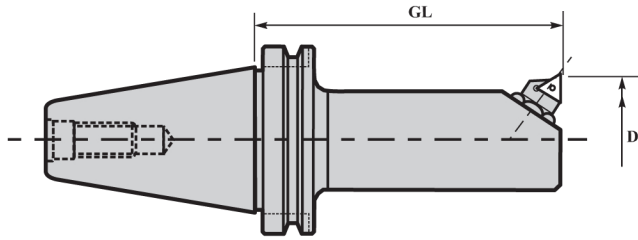
★=Available in stock

ORDERING NO.	ϕD		L	M	H	E	ϕB	ϕC	MICRO BORE UNIT	Fig.
	MIN.	MAX.								
BT 30-BCA13.5-105★	13.5	16	105	65	15	18	13	34	M1B2F40	1
BT 30-BCA14.5-105	14.5	17	105	65	15	18	14	34	M1B2F40	1
BT 30-BCA16-105 ★	16	22.5	105	65	18	18	15	34	M1A2F40	1
BT 30-BCA19-105 ★	19	23	105	75	23	10	18	34	M2B2F40	1
BT 30-BCA23-105 ★	23	29	105	85	24	5	22	34	M3B2C06	1
BT 30-BCA29-105 ★	29	41	105	85	30	5	28	34	M3A2C06	1
BT 40-BCA13.5-105★	13.5	16	105	67	15	8	13	44	M1B2F40	1
BT 40-BCA13.5-165	13.5	16	165	67	15	68	13	44	M1B2F40	1
BT 40-BCA14.5-105	14.5	17	105	67	15	8	14	44	M1B2F40	1
BT 40-BCA14.5-165	14.5	17	165	67	15	68	14	44	M1B2F40	1
BT 40-BCA16-105 ★	16	22.5	105	73	18	4	15	44	M1A2F40	1
BT 40-BCA16-180	16	22.5	180	73	18	77	15	44	M1A2F40	1
BT 40-BCA19-120 ★	19	23	120	86	23	4	18	44	M2B2F40	1
BT 40-BCA19-180	19	23	180	86	23	64	18	44	M2B2F40	1
BT 40-BCA23-135 ★	23	29	135	105	24	4	22	44	M3B2C06	1

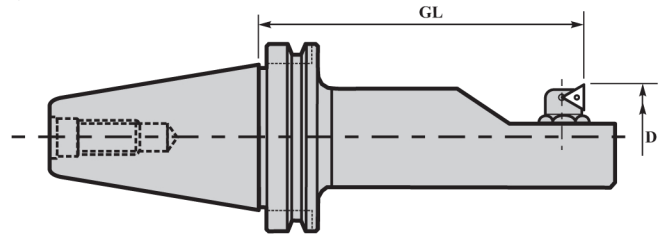
★ =Available in stock

ORDERING NO.	ø D		L	M	H	E	ø B	ø C	MICRO BORE UNIT	Fig.
	MIN.	MAX.								
BT 40-BCA 23-195	23	29	195	105	24	60	22	44	M3B2C06	1
BT 40-BCA 29-150 ★	29	41	150	115	30	5	28	44	M3A2C06	1
BT 40-BCA 29-195	29	41	195	115	30	50	28	44	M3A2C06	1
BT 40-BCA 38-150 ★	38	49	150	115	41	5	35	44	M5B2C06	1
BT 40-BCA 38-210	38	49	210	172	41	8	37	44	M5B2C06	1
BT 40-BCA 46-150 ★	46	66	150	115	45	5	41	55	M5A2C06	1
BT 40-BCA 46-225	46	66	225	182	45	13	44	55	M5A2C06	1
BT 40-BCA 62-165 ★	62	87	165	135	—	—	—	51	M7A2C09	2
BT 40-BCA 62-225	62	87	225	184	60	11	57	62	M7A2C09	1
BT 40-BCA 83-120	83	108	120	—	—	—	—	63	M7A2C09	2
BT 40-BCA 83-165 ★	83	108	165	—	—	—	—	63	M7A2C09	2
BT 40-BCA 83-225	83	108	225	—	—	—	—	63	M7A2C09	2
BT 40-BCA 98-165 ★	98	142	165	—	90	—	—	83	M10A2C09	3
BT 50-BCA 13.5-120	13.5	16	120	67	15	10	13	44	M1B2F40	1
BT 50-BCA 13.5-195	13.5	16	195	67	15	85	13	44	M1B2F40	1
BT 50-BCA 14.5-120	14.5	17	120	67	15	10	14	44	M1B2F40	1
BT 50-BCA 14.5-195	14.5	17	195	67	15	85	14	44	M1B2F40	1
BT 50-BCA 16-120	16	22.5	120	73	18	4	15	44	M1B2F40	1
BT 50-BCA 16-195	16	22.5	195	73	18	79	15	44	M1B2F40	1
BT 50-BCA 19-135	19	23	135	86	23	6	18	44	M2B2F40	1
BT 50-BCA 19-210	19	23	210	86	23	81	18	44	M2B2F40	1
BT 50-BCA 23-150	23	29	150	105	24	2	22	44	M3B2C06	1
BT 50-BCA 23-225	23	29	225	105	24	77	22	44	M3B2C06	1
BT 50-BCA 29-165	29	41	165	115	30	7	28	44	M3A2C06	1
BT 50-BCA 29-225	29	41	225	115	30	67	28	44	M3B2C06	1
BT 50-BCA 38-165	38	49	165	115	41	7	35	55	M5B2C06	1
BT 50-BCA 38-225	38	49	225	172	41	10	35	55	M5B2C06	1
BT 50-BCA 46-165	46	66	165	115	45	7	41	55	M5A2C06	1
BT 50-BCA 46-225	46	66	225	182	45	—	44	—	M5A2C06	1
BT 50-BCA 46-255	46	66	255	206	45	6	22	55	M5A2C06	1
BT 50-BCA 62-180	62	87	180	137	—	—	—	51	M7A2C09	2
BT 50-BCA 62-240	62	87	240	184	60	13	57	70	M7A2C09	1
BT 50-BCA 62-330	62	87	330	280	60	7	59	70	M7A2C09	1
BT 50-BCA 83-165	83	108	165	122	—	—	—	63	M7A2C09	2
BT 50-BCA 83-240	83	108	240	190	70	7	70	90	M7A2C09	1
BT 50-BCA 83-345	83	108	345	302	70	—	76	—	M7A2C09	1
BT 50-BCA 98-165	98	142	165	122	—	—	—	83	M10A2C09	2
BT 50-BCA 98-240	98	142	240	197	—	—	—	83	M10A2C09	2
BT 50-BCA 98-345	98	142	345	302	85	—	92	—	M10A2C09	1
BT 50-BCA132-210	132	176	210	—	65	—	—	108	M10A2C09	3
BT 50-BCA132-315	132	176	315	—	65	—	—	108	M10A2C09	3
BT 50-BCA166-225	166	210	225	—	70	—	—	142	M10A2C09	3
BT 50-BCA166-315	166	210	315	—	70	—	—	142	M10A2C09	3
BT 50-BCA200-210	200	244	210	—	75	—	—	176	M10A2C09	3

FINE BORING BAR

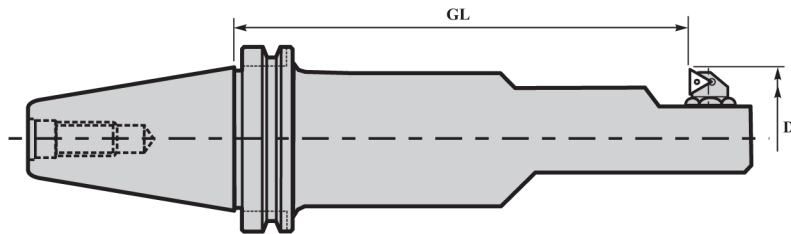


ANGULAR MOUNTING

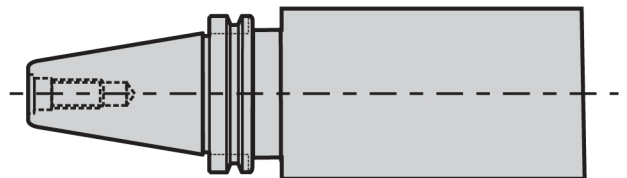
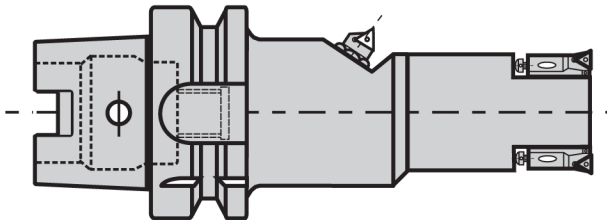


STRAIGHT MOUNTING

BACK BORING BAR



COMBINATION BORING BAR



SPECIAL CUSTOM BUILT BORING BARS

We are highly experienced in designing and manufacturing of special Boring Bars as per Customers requirements Various type of boring units such as Fine Boring, Micro Boring, Rough Boring Units and Cartridges are used in special boring bars.

Best solutions with least cycle time can be offered against customer's drawings.

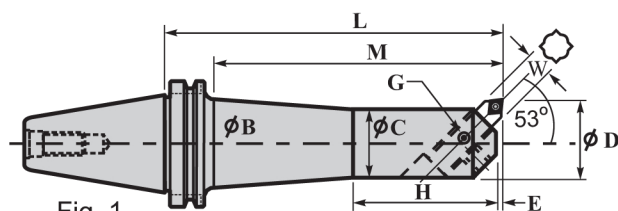
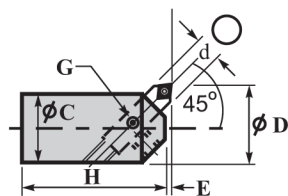


Fig. 1



BRA Fig. 1A

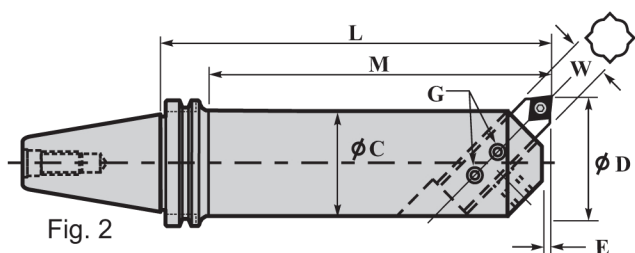


Fig. 2

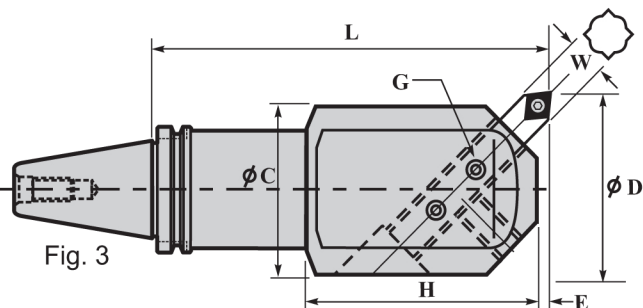
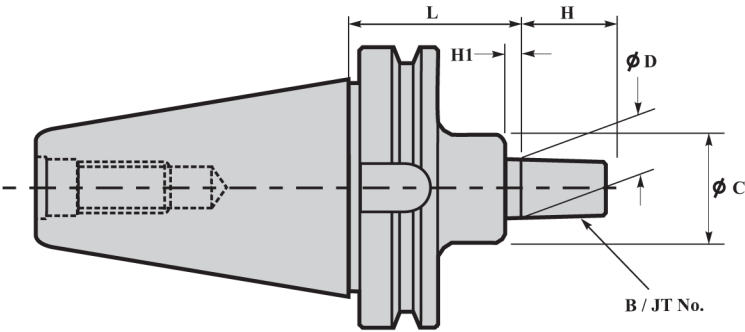


Fig. 3

★ = Available in stock

ORDERING NO.	φ D		L	M	G	d	φ C	φ B	H	E	TOOL (WIDIA)	Fig.
	MIN.	MAX.										
BT 40-BRA 20-120	20	25	120	95	M6	8	18	22	35	1.0	S08XSCDCL06	1A
BT 40-BRA 25-120	25	32	120	95	M6	8	22	24	35	1.0	S08XSCDCL06	1A
BT 40-BRA 30-150	30	38	150	125	M6	10	25	28	40	1.6	S10XSCDCL06	1A
						W						
BT 40-BSA 25-135 ★	25	38	135	105	M6	8	20	22	35	1.0	L6948789620	1
BT 40-BSA 30-150 ★	30	42	150	120	M6	8	24	26	40	1.6	L6948789620	1
BT 40-BSA 38-165 ★	38	52	165	135	M8	10	30	33	50	2.6	L6948789720	1
BT 40-BSA 50-165 ★	50	65	165	135	M10	10	40	44	65	3.0	L6948789720	1
BT 40-BSA 50-210	50	65	210	180	M10	10	40	44	65	3.0	L6948789720	1
BT 40-BSA 62-165	62	90	165	135	M10	16	50	—	—	2.0	L6948789820	2
BT 40-BSA 62-225	62	90	225	195	M10	16	50	56	80	2.0	L6948789820	1
BT 40-BSA 72-165	72	110	165	135	M10	16	60	—	—	2.4	L6948789920	2
BT 40-BSA 72-225	72	110	225	195	M10	16	60	—	—	2.4	L6948789920	2
BT 40-BSA 90-165	90	125	165	—	M12	16	75	—	110	4.0	L6948790020	3
BT 40-BSA 90-210	90	125	210	—	M12	16	75	—	110	4.0	L6948790020	3
BT 50-BSA 25-135	25	38	135	92	M6	8	20	22	35	1.0	L6948789620	1
BT 50-BSA 30-135	30	42	135	122	M6	8	24	26	40	1.6	L6948789620	1
BT 50-BSA 38-180	38	52	180	137	M8	10	30	33	50	2.6	L6948789720	1
BT 50-BSA 42-210	42	56	210	167	M8	10	34	37	60	2.0	L6948789720	1
BT 50-BSA 50-180	50	65	180	137	M10	10	40	44	65	3.0	L6948789720	1
BT 50-BSA 50-240	50	65	240	197	M10	10	40	44	65	3.0	L6948789720	1
BT 50-BSA 62-195	62	90	195	152	M10	16	50	56	80	2.0	L6948789820	1
BT 50-BSA 62-270	62	90	270	227	M10	16	50	56	80	2.0	L6948789820	1
BT 50-BSA 72-195	72	110	195	152	M10	16	60	66	95	2.4	L6948789920	1
BT 50-BSA 72-285	72	110	285	242	M10	16	60	66	95	2.4	L6948789920	1
BT 50-BSA 90-210	90	125	210	167	M12	16	75	80	110	4.0	L6948790020	1
BT 50-BSA 90-300	90	125	300	257	M12	16	75	80	110	4.0	L6948790020	1
BT 50-BSA 105-195	105	160	195	152	M12	16	90	—	—	3.0	L6948790020	2
BT 50-BSA 105-285	105	160	285	242	M12	16	90	94	130	3.0	L6948790020	1
BT 50-BSA 130-255	130	190	255	—	M12	16	108	—	85	6.0	L6948790020	3



★ =Available in stock

ORDERING NO.	B.No.	KEY LESS CHUCK CLAMPING RANGE	L	ϕD	ϕC	H1	H
BT30-B12-45	B12	0-6	45	12.065	30	3	18.5
BT30-B16-45 ★	B16	1-13	45	15.733	30	5	24.5
BT40-B12-45	B12	0-6	45	12.065	30	3	18.5
BT40-B16-45 ★	B16	1-13	45	15.733	30	5	24.5
BT50-B12-45	B12	0-6	45	12.065	30	3	18.5
BT50-B16-45 ★	B16	1-13	45	15.733	30	5	24.5

ADAPTER FOR DRILL CHUCK WITH JTA TAPER CAN BE SUPPLIED ON REQUEST.

INSPECTION MANDRELS

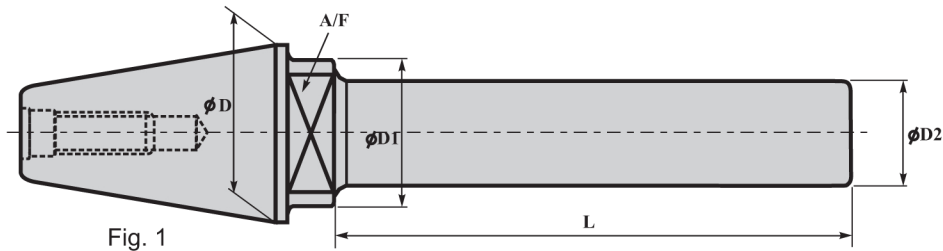


Fig. 1

BT/ISO SHANKS

HSK SHANKS

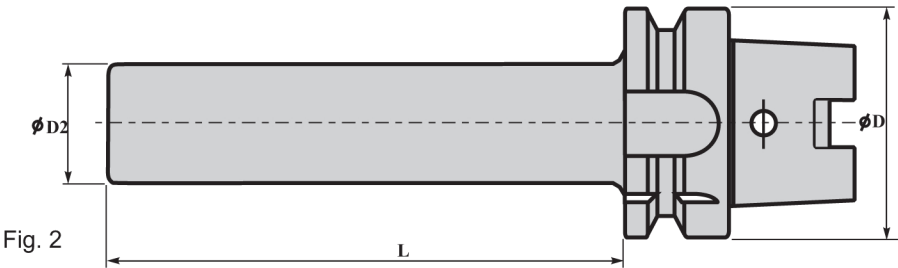
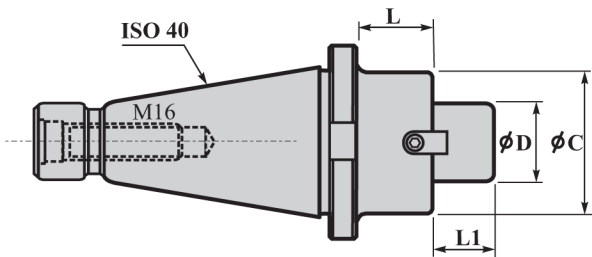


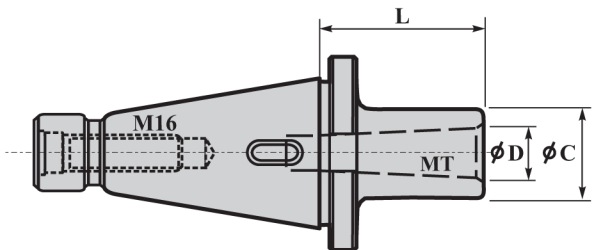
Fig. 2

ORDERING NO.		ϕD	$\phi D1$	$\phi D2$	A/F	L	Fig.
BT / ISO 30	★	32	30	28	26	250	1
BT / ISO 40	★	45	40	35	36	300	1
BT / ISO 50	★	70	50	45	46	350	1
HSK 50A		50	—	32	—	200	2
HSK 63A		63	—	40	—	275	2
HSK 100A		100	—	40	—	325	2



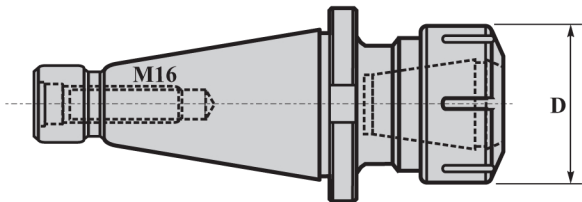
SHOULDER & FACE MILL ADAPTERS

ORDERING NO.	ISO	D	C	L	L1
ISO40-FMC16	40	16	34	25	17
ISO40-FMC22	40	22	40	25	19
ISO40-FMC27	40	27	48	25	21
ISO40-FMC32	40	32	58	25	24
ISO40-FMC40	40	40	70	25	27



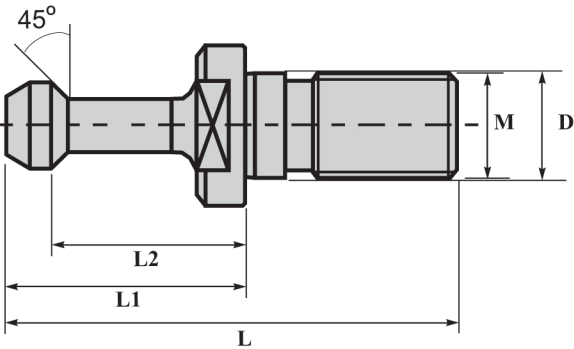
MORSE TAPER ADAPTERS

ORDERING NO.	ISO	L	C	D	MT
ISO40-MTA1-50	40	50	25	12.065	1
ISO40-MTA2-50	40	50	32	17.780	2
ISO40-MTA3-65	40	65	40	23.825	3
ISO40-MTA4-95	40	95	48	31.267	4



COLLET CHUCKS

ORDERING NO.	ISO	D	ER COLLET
ISO40-ER32	40	50	ER32
ISO40-ER40	40	63	ER40



PULL STUD (MAS 403)

ORDERING NO.	D	L	L1	L2	M
PS40-M	18	60	35	28	M16

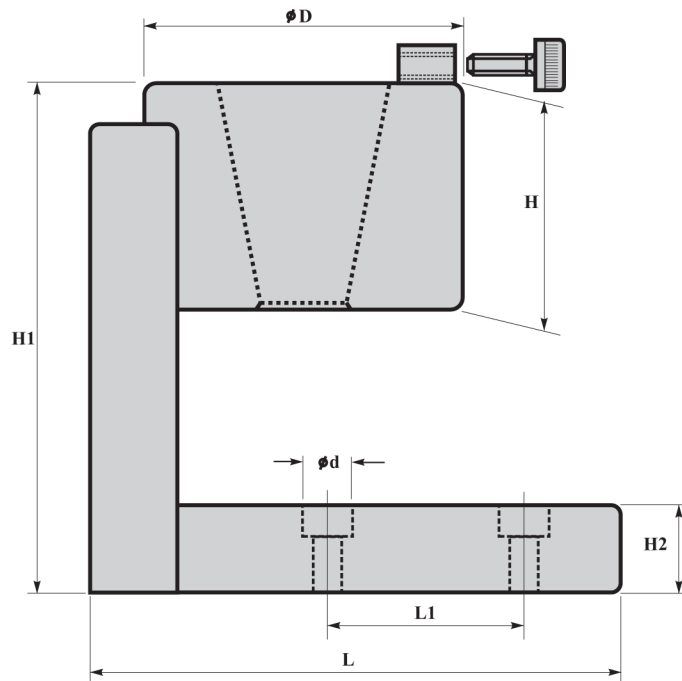


Fig. 1

BT/ISO SHANKS

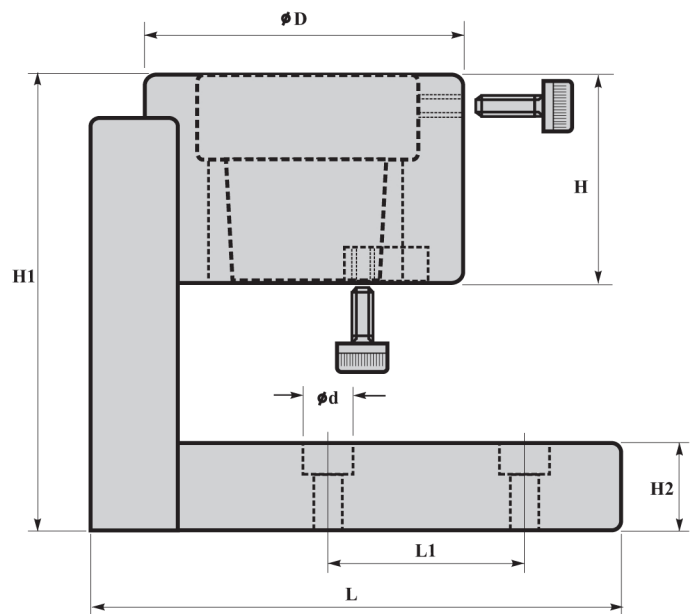


Fig. 2

HSK SHANKS

★ = Available in stock

ORDERING NO.	D	H	H1	H2	L	L1	d	Fig.
TCF BT30 ★	68	45	125	20	120	50	10.5	1
TCF BT40 ★	88	50	170	20	145	75	14.5	1
TCF BT50 ★	108	70	218	20	190	100	14.5	1
TCF HSK50	88	51	125	20	120	50	10.5	2
TCF HSK63	98	58	170	20	145	75	14.5	2
TCF HSK100	135	79	170	20	190	100	14.5	2