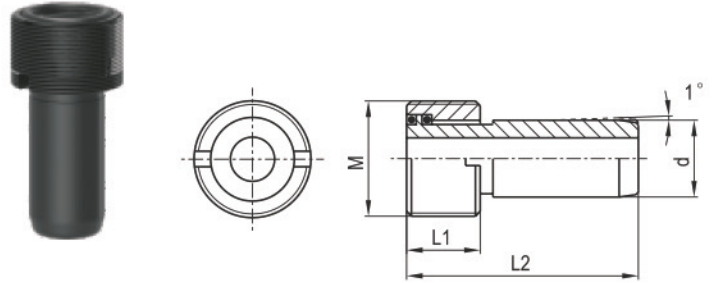


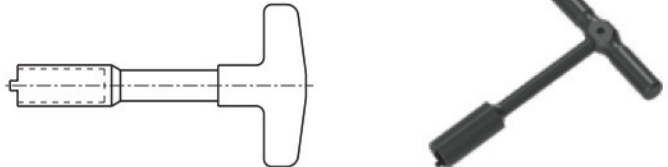
HSK COOLANT TUBES

Order No.	Modle	shank	Size(mm)			
			M	d	L1	L2
100-00-001	TU-HSK63	HSK63	M18x1	12	11.5	36.6
100-00-002	TU-HSK100	HSK100	M24x1.5	16	15.5	44.2



HSK COOLANT TUBE WRENCH

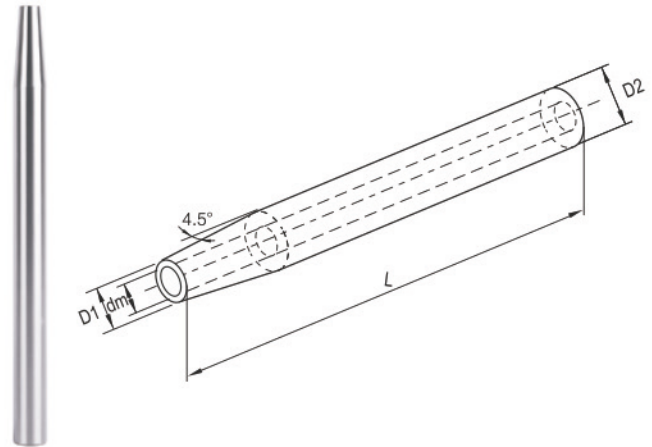
Order No.	Modle	shank
100-00-003	W-HSK63	HSK63
100-00-004	W-HSK100	HSK100



SHRINK FIT CHUCK EXTENSION

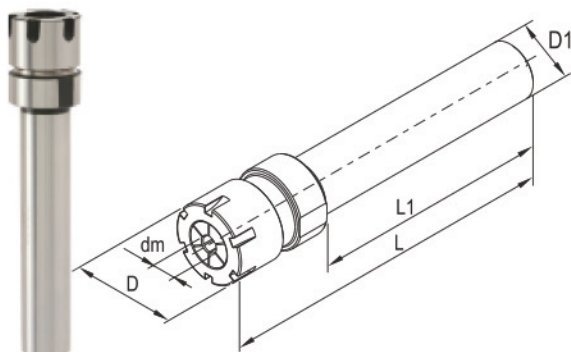
- Used in shrink fit chuck,hydraulic chuck and power milling chuck.
- For clamping cutting tools with cylindric shank tolerance h6.
- Fit for high frequency heating maching.
- Avoid vibrations in the clamping system,resulting in increasing surface quality and tool life time.

Order No.	Modle	Size(mm)			
		dm	D	D1	L
100-00-005	C12-SFX03-160	3	12	8	160
100-00-006	C12-SFX04-160	4	12	8	160
100-00-007	C16-SFX03-160	3	16	10	160
100-00-008	C16-SFX04-160	4	16	10	160
100-00-009	C16-SFX05-160	5	16	10	160
100-00-010	C20-SFX05-160	5	20	14	160
100-00-011	C16-SFX06-160	6	16	10	160
100-00-012	C20-SFX06-160	6	20	14	160
100-00-013	C20-SF08-160	8	20	14	160
100-00-014	C25-SF08-160	8	25	19	160
100-00-015	C25-SF10-160	10	25	20	160
100-00-016	C25-SF12-160	12	25	20	160
100-00-017	C25-SF14-160	14	25	20	160
100-00-018	C25-SF16-160	16	25	22	160
100-00-019	C32-SF10-160	10	32	24	160
100-00-020	C32-SF12-160	12	32	24	160
100-00-021	C32-SF14-160	14	32	27	160
100-00-022	C32-SF16-160	16	32	27	160
100-00-023	C32-SF18-160	18	32	27	160
100-00-024	C32-SF20-160	20	32	27	160



ER COLLET CHUCK EXTENTION

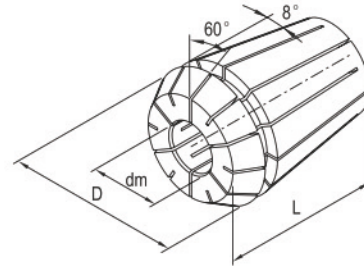
- Used in ER collet chuck,power milling chuck.
- For clamping cutting tools with cylindric shank.



Order No.	Model	Size(mm)					Nuts	Screw	for Collets	Wrench
		dm	D	D1	L1	L				
100-00-025	C16-ER11-50(M)	0.5-7	16	16	50	77	CNM11	S006014C	ER11	WM11
100-00-026	C16-ER11-100(M)	0.5-7	16	16	100	127	CNM11	S006014C	ER11	WM11
100-00-027	C20-ER16-50(M)	0.5-10	23	20	50	85	CNM16	S006014C	ER16	WM16
100-00-028	C20-ER16-100(M)	0.5-10	23	20	100	135	CNM16	S006014C	ER16	WM16
100-00-029	C20-ER16-150(M)	0.5-10	23	20	150	185	CNM16	S006014C	ER16	WM16
100-00-030	C20-ER20-50(M)	1.0-13	28	20	50	88	CNM20	S008014C	ER20	WM20
100-00-031	C20-ER20-100(M)	1.0-13	28	20	100	138	CNM20	S008014C	ER20	WM20
100-00-032	C20-ER20-150(M)	1.0-13	28	20	150	188	CNM20	S008014C	ER20	WM20
100-00-033	C25-ER20-50(M)	1.0-13	28	25	50	88	CNM20	S008014C	ER20	WM20
100-00-034	C25-ER20-100(M)	1.0-13	28	25	100	138	CNM20	S008014C	ER20	WM20
100-00-035	C25-ER20-150(M)	1.0-13	28	25	150	188	CNM20	S008014C	ER20	WM20

ER COLLET

- Exactly according to DIN 6499.
- Wide holding range of 1mm each collet (ER 11 is 0.5mm)
- True double angle for extreme concentricity.



ER11 L/D: 18.5mm/11.5mm

Order No.	Capacity dm(mm)
100-04-001	2.5-2.0
100-04-002	3.0-2.5
100-04-003	3.5-3.0
100-04-004	4.0-3.5
100-04-005	4.5-4.0
100-04-006	5.0-4.5
100-04-007	5.5-5.0
100-04-008	6.0-5.5
100-04-009	6.5-6.0
100-04-010	7.0-6.5

ER16 L/D: 27.5mm/17mm

Order No.	Capacity dm(mm)
100-04-011	3.0-2.0
100-04-012	4.0-3.0
100-04-013	5.0-4.0
100-04-014	6.0-5.0
100-04-015	7.0-6.0
100-04-016	8.0-7.0
100-04-017	9.0-8.0
100-04-018	10.0-9.0

ER20 L/D: 31.5mm/21.0mm

Order No.	Capacity dm(mm)
100-04-019	3.0-2.0
100-04-020	4.0-3.0
100-04-021	5.0-4.0
100-04-022	6.0-5.0
100-04-023	7.0-6.0
100-04-024	8.0-7.0
100-04-025	9.0-8.0
100-04-026	10.0-9.0
100-04-027	11.0-10.0
100-04-028	12.0-11.0
100-04-029	13.0-12.0

ER25 L/D: 34.0mm/26.0mm

Order No.	Capacity dm(mm)
100-04-030	3.0-2.0
100-04-031	4.0-3.0
100-04-032	5.0-4.0
100-04-033	6.0-5.0
100-04-034	7.0-6.0
100-04-035	8.0-7.0
100-04-036	9.0-8.0
100-04-037	10.0-9.0
100-04-038	11.0-10.0
100-04-039	12.0-11.0
100-04-040	13.0-12.0
100-04-041	14.0-13.0
100-04-042	15.0-14.0
100-04-043	16.0-15.0

ER32 L/D: 40.0mm/33.0mm

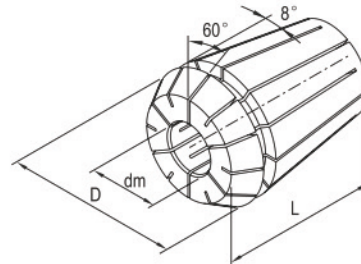
Order No.	Capacity dm(mm)
100-04-044	3.0-2.0
100-04-045	4.0-3.0
100-04-046	5.0-4.0
100-04-047	6.0-5.0
100-04-048	7.0-6.0
100-04-049	8.0-7.0
100-04-050	9.0-8.0
100-04-051	10.0-9.0
100-04-052	11.0-10.0
100-04-053	12.0-11.0
100-04-054	13.0-12.0
100-04-055	14.0-13.0
100-04-056	15.0-14.0
100-04-057	16.0-15.0
100-04-058	17.0-16.0
100-04-059	18.0-17.0
100-04-060	19.0-18.0
100-04-061	20.0-19.0

ER40 L/D: 46.0mm/41.0mm

Order No.	Capacity dm(mm)
100-04-062	4.0-3.0
100-04-063	5.0-4.0
100-04-064	6.0-5.0
100-04-065	7.0-6.0
100-04-066	8.0-7.0
100-04-067	9.0-8.0
100-04-068	10.0-9.0
100-04-069	11.0-10.0
100-04-070	12.0-11.0
100-04-071	13.0-12.0
100-04-072	14.0-13.0
100-04-073	15.0-14.0
100-04-074	16.0-15.0
100-04-075	17.0-16.0
100-04-076	18.0-17.0
100-04-077	19.0-18.0
100-04-078	20.0-19.0
100-04-079	21.0-20.0
100-04-080	22.0-21.0
100-04-081	23.0-22.0
100-04-082	24.0-23.0
100-04-083	25.0-24.0
100-04-084	26.0-25.0

PRECISION ER COLLET

- Precision 0.005mm.
- Wide holding range of 1mm each collet (ER 11 is 0.5mm).
- True double angle for extreme concentricity.



ER11 L/D: 18.5mm/11.5mm

Order No.	Capacity dm(mm)
100-04-P01	2.5-2.0
100-04-P02	3.0-2.5
100-04-P03	3.5-3.0
100-04-P04	4.0-3.5
100-04-P05	4.5-4.0
100-04-P06	5.0-4.5
100-04-P07	5.5-5.0
100-04-P08	6.0-5.5
100-04-P09	6.5-6.0
100-04-P10	7.0-6.5

ER16 L/D: 27.5mm/17mm

Order No.	Capacity dm(mm)
100-04-P11	3.0-2.0
100-04-P12	4.0-3.0
100-04-P13	5.0-4.0
100-04-P14	6.0-5.0
100-04-P15	7.0-6.0
100-04-P16	8.0-7.0
100-04-P17	9.0-8.0
100-04-P18	10.0-9.0

ER20 L/D: 31.5mm/21.0mm

Order No.	Capacity dm(mm)
100-04-P19	3.0-2.0
100-04-P20	4.0-3.0
100-04-P21	5.0-4.0
100-04-P22	6.0-5.0
100-04-P23	7.0-6.0
100-04-P24	8.0-7.0
100-04-P25	9.0-8.0
100-04-P26	10.0-9.0
100-04-P27	11.0-10.0
100-04-P28	12.0-11.0
100-04-P29	13.0-12.0

ER25 L/D: 34.0mm/26.0mm

Order No.	Capacity dm(mm)
100-04-P30	3.0-2.0
100-04-P31	4.0-3.0
100-04-P32	5.0-4.0
100-04-P33	6.0-5.0
100-04-P34	7.0-6.0
100-04-P35	8.0-7.0
100-04-P36	9.0-8.0
100-04-P37	10.0-9.0
100-04-P38	11.0-10.0
100-04-P39	12.0-11.0
100-04-P40	13.0-12.0
100-04-P41	14.0-13.0
100-04-P42	15.0-14.0
100-04-P43	16.0-15.0

ER32 L/D: 40.0mm/33.0mm

Order No.	Capacity dm(mm)
100-04-P44	3.0-2.0
100-04-P45	4.0-3.0
100-04-P46	5.0-4.0
100-04-P47	6.0-5.0
100-04-P48	7.0-6.0
100-04-P49	8.0-7.0
100-04-P50	9.0-8.0
100-04-P51	10.0-9.0
100-04-P52	11.0-10.0
100-04-P53	12.0-11.0
100-04-P54	13.0-12.0
100-04-P55	14.0-13.0
100-04-P56	15.0-14.0
100-04-P57	16.0-15.0
100-04-P58	17.0-16.0
100-04-P59	18.0-17.0
100-04-P60	19.0-18.0
100-04-P61	20.0-19.0

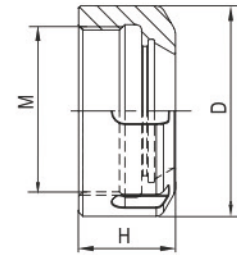
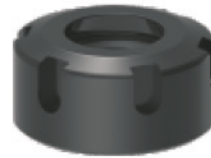
ER40 L/D: 46.0mm/41.0mm

Order No.	Capacity dm(mm)
100-04-P62	4.0-3.0
100-04-P63	5.0-4.0
100-04-P64	6.0-5.0
100-04-P65	7.0-6.0
100-04-P66	8.0-7.0
100-04-P67	9.0-8.0
100-04-P68	10.0-9.0
100-04-P69	11.0-10.0
100-04-P70	12.0-11.0
100-04-P71	13.0-12.0
100-04-P72	14.0-13.0
100-04-P73	15.0-14.0
100-04-P74	16.0-15.0
100-04-P75	17.0-16.0
100-04-P76	18.0-17.0
100-04-P77	19.0-18.0
100-04-P78	20.0-19.0
100-04-P79	21.0-20.0
100-04-P80	22.0-21.0
100-04-P81	23.0-22.0
100-04-P82	24.0-23.0
100-04-P83	25.0-24.0
100-04-P84	26.0-25.0

ER NUT

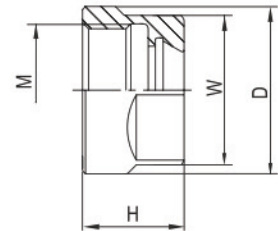
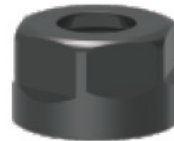
Style B

Order No.	Model	Size(mm)			Wrench	For Collet
		D	M	H		
100-04-085	CN25B	42	M32x1.5	20	YER25B	ER25
100-04-086	CN32B	50	M40x1.5	23	YER32B	ER32
100-04-087	CN40B	60	M50x1.5	26	YER40B	ER40

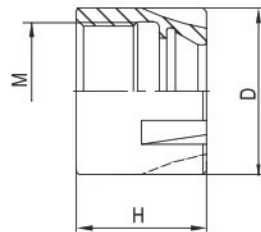


Style HS

Order No.	Model	Size(mm)				Wrench	For Collet
		D	M	H	W		
100-04-088	CN11HS	19	M14x0.75	11.3	17	W17D	ER11
100-04-089	CN16HS	28	M22x1.5	17.5	25	W25D	ER16
100-04-090	CN20HS	34	M25x1.5	19	30	W30D	ER20

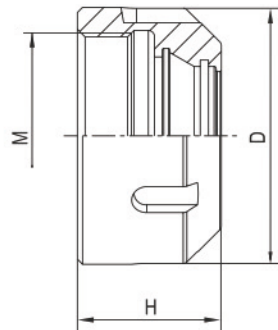
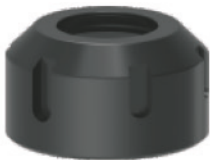


Style M



Order No.	Model	Size(mm)			Wrench	For Collet
		D	M	H		
100-04-091	CNM11	16	M13x0.75	12	WM11	ER11
100-04-092	CNM16	23	M19x1.0	18	WM16	ER16
100-04-093	CNM20	28	M24x1.0	19	WM20	ER20

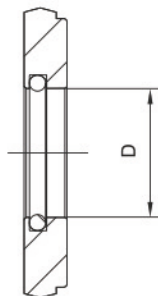
Style Coolant



Order No.	Model	Size(mm)			Wrench	For Collet
		D	M	H		
100-04-094	CN20C	34	M25x1.5	24	W30D	ER20
100-04-095	CN32C	50	M40x1.5	28	YER32B	ER32

SEALING DISK

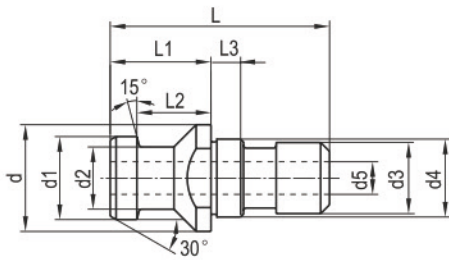
• Used together with ER collet or ER tap collet.



Order No.	Model	D	For Collet
100-04-096	DER20C-6	6	ER20
100-04-097	DER20C-6.5	6.5	ER20
100-04-098	DER20C-7	7	ER20
100-04-099	DER20C-8	8	ER20
100-04-100	DER20C-8.5	8.5	ER20
100-04-101	DER20C-9	9	ER20
100-04-102	DER20C-10	10	ER20
100-04-103	DER32C-6	6	ER32
100-04-104	DER32C-6.5	6.5	ER32
100-04-105	DER32C-7	7	ER32
100-04-106	DER32C-8	8	ER32
100-04-107	DER32C-8.5	8.5	ER32
100-04-108	DER32C-9	9	ER32
100-04-109	DER32C-10	10	ER32
100-04-110	DER32C-12	12	ER32
100-04-111	DER32C-12.5	12.5	ER32
100-04-112	DER32C-14	14	ER32
100-04-113	DER32C-15	15	ER32
100-04-114	DER32C-16	16	ER32

PULL STUDS

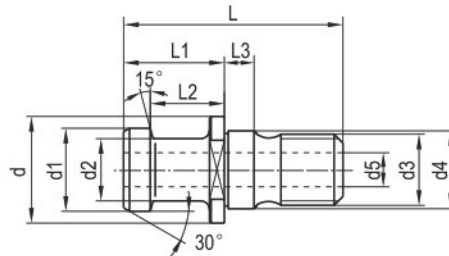
According to DIN69872



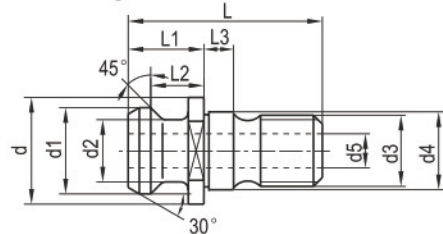
Order No.		For Taper Shank	Model	Size(mm)										
without hole	with hole			L	L1	L2	L3	d	d1	d2	d3	d4	d5	
100-00-036	-	SK30	D30	44	24	19	5	17	13	9	M12	13	-	
100-00-038	100-00-037	SK40	D40	54	26	20	7	23	19	14	M16	17	7	
100-00-040	100-00-039	SK50	D50	74	34	25	10	36	28	21	M24	25	11.5	

According to ISO7388/2 A

Order No.		For Taper Shank	Model	Size(mm)										
without hole	with hole			L	L1	L2	L3	d	d1	d2	d3	d4	d5	
100-00-056	-	ISO/SK30	LDA30	44	24	19	5	17	12	8	M12	13	-	
100-00-058	100-00-059	ISO/SK40	LDA40	54	26	20	7	23	19	14	M16	17	7	
100-00-060	100-00-061	ISO/SK50	LDA50	74	34	25	10	36	28	21	M24	25	11.5	



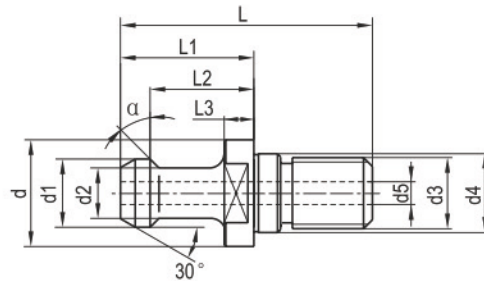
According to ISO7388/2 B



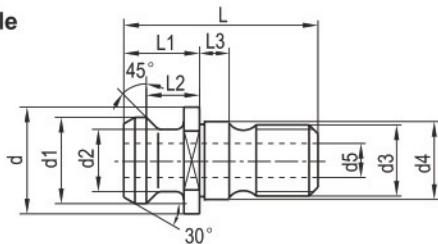
Order No.		For Taper Shank	Model	Size(mm)										
without hole	with hole			L	L1	L2	L3	d	d1	d2	d3	d4	d5	
100-00-062	-	ISO/SK30	LDB30	31.8	11.8	8.1	5	16.5	13.3	9.3	M12	13	-	
100-00-064	100-00-065	ISO/SK40	LDB40	44.5	16.4	11.2	7	22.5	19	13	M16	17	7	
100-00-066	100-00-067	ISO/SK50	LDB50	66.5	25.6	18	10	36	29.1	19.6	M24	25	11.5	

According to MAS403

Order No.		For Taper Shank	Model	Size(mm)										
without hole	with hole			L	L1	L2	L3	d	d1	d2	d3	d4	α	d5
100-00-042	-	BT30	P30T-I	43	23	18	4.5	16.5	11	7	M12	12.5	45°	-
100-00-044	-	BT30	P30T-II	43	23	18	4.5	16.5	11	7	M12	12.5	30°	-
100-00-046	100-00-041	BT40	P40T-I	60	35	28	6	23	15	10	M16	17	45°	4
100-00-048	100-00-043	BT40	P40T-II	60	35	28	6	23	15	10	M16	17	30°	4
100-00-050	100-00-045	BT50	P50T-I	85	45	35	10	38	23	17	M24	25	45°	7
100-00-052	100-00-047	BT50	P50T-II	85	45	35	10	38	23	17	M24	25	30°	7



MAZAK/BT style

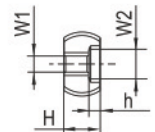
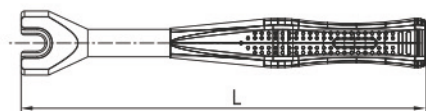


Order No.		For Taper Shank	Model	Size(mm)										
without hole	with hole			L	L1	L2	L3	d	d1	d2	d3	d4	d5	
100-00-068	100-00-069	BT40	MAZAK/BT40	44.1	19.1	14	5	22	18.8	12.5	M16	17	7	
100-00-070	100-00-071	BT50	MAZAK/BT50	65.2	25.2	17.6	8	37	29	20.8	M24	25	10	

PULL STUDS WRENCH

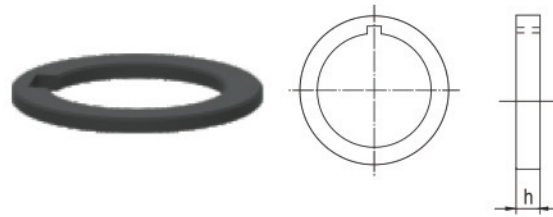


Order No.	For Taper Shank	Model	Size(mm)					Torque (N.m)	Weight(Kg)
			L	H	h	W1	W2		
100-00-053	BT30	PW-8T30	210	16	5	13	7	<80	0.31
100-00-054	BT40	PW-8T40	230	25	6	19	10	<150	0.43
100-00-055	BT50	PW-8T50	250	33	10	30	17	<280	0.84



WASHERS FOR SLOTTING CUTTER HOLDER

Order No.	Model	h(mm)	Description
100-10-S01	SD13	3,5,7,8,10,12	suitable for XS13 series holder
100-10-S02	SD16	3,5,7,8,10,12	suitable for XS16 series holder
100-10-S03	SD22	3,5,7,8,10,12	suitable for XS22 series holder
100-10-S04	SD27	3,5,7,8,10,12	suitable for XS27 series holder
100-10-S05	SD32	3,5,7,8,10,12	suitable for XS32 series holder
100-10-S06	SD40	3,5,7,8,10,12	suitable for XS40 series holder
100-10-S07	SD50	3,5,7,8,10,12	suitable for XS50 series holder

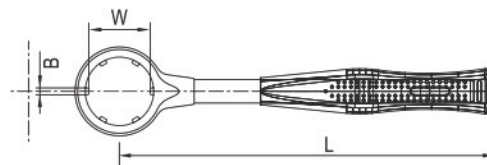


ER NUT WRENCH

For B style nut



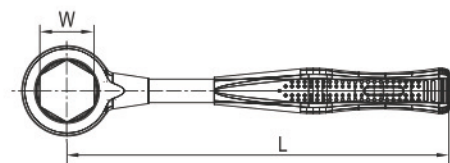
Order No.	Model	Size(mm)			For Collet
		L	W	B	
100-04-115	PW-ER25B	250	35	5	ER25
100-04-116	PW-ER32B	270	45	5	ER32
100-04-117	PW-ER40B	300	57	5	ER40



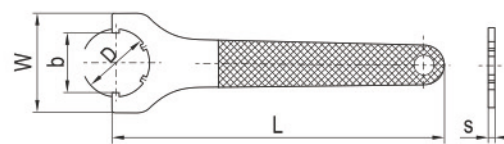
For HS style nut



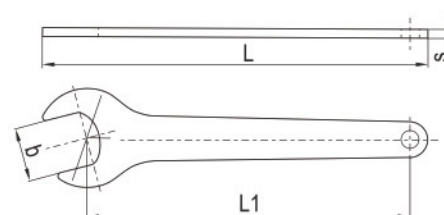
Order No.	Model	Size(mm)		For Collet
		L	W	
100-04-118	PW-ER16HS	225	25	ER16
100-04-119	PW-ER20HS	240	30	ER20



Order No.	Model	Size(mm)				
		L	L1	D	b	s
100-04-120	W17D	176.8	150	40	17	5
100-04-121	W25D	194.2	160	52	25	5
100-04-122	W30D	215	180	55	30	5



Order No.	Model	Size(mm)				
		L	L1	D	b	s
100-04-123	YER25B	210	38	43	63	5
100-04-124	YER32B	250	45	51	75	5
100-04-125	YER40B	290	58	64	90	5



DIGITAL ZERO SETTING DEVICE

- Special hardened steel, No damage to cutting edge of tool during setting; No feeler gauge or edge finder necessary

Technical Data:

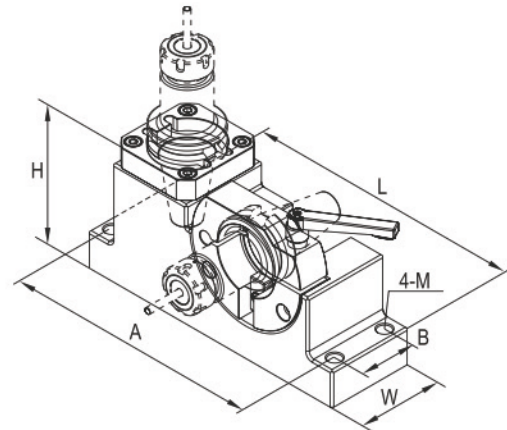
- Height of body-reference face: 49mm;
- Indicator display: 0.01mm;
- Spring-mounted contact face: 52.5mm;

Order No.	Height	Graduation
1801-0605	50mm	0.01mm/0.0005"



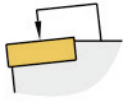
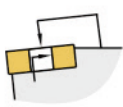
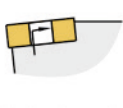
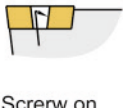










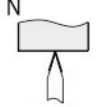
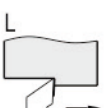
TOOLING SETUP FIXTURE

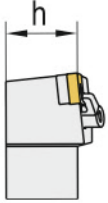
- Made of quality aluminium alloy steel.



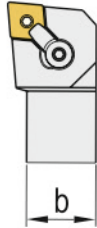
Order No.	Model	For Taper Shank	Size(mm)					
			L	H	W	A	B	M
100-00-072	T-M/BT30	#30	200	96	64	184	40	M8
100-00-073	T-M/BT40	#40	272	133	85	248	55	M12
100-00-074	T-M/BT50	#50	364	168	125	338	85	M12
100-00-075	T-M/HSK63	HSK63	272	135	85	248	55	M12
100-00-076	T-M/HSK100	HSK100	364	170	125	338	85	M12

ISO NAMENCLATURE FOR EXTERNAL TOOLHOLDER

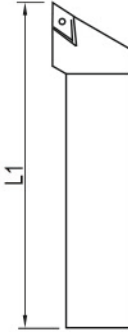
<p>C  Top Clamping</p> <p>M  Top and hole clamping</p> <p>P  Hole clamping</p> <p>S  Screw on</p>	<p>C </p> <p>D </p> <p>K </p> <p>L </p> <p>R </p> <p>S </p> <p>T </p> <p>V </p> <p>W </p>	<p>90° A</p> <p>75° B</p> <p>90° C</p> <p>45° D</p> <p>60° E</p> <p>90° F</p> <p>90° G</p> <p>107.5° H</p> <p>93° J</p> <p>75° K</p> <p>95° L</p> <p>50° M</p> <p>63° N</p> <p>75° R</p> <p>45° S</p> <p>60° T</p> <p>93° U</p> <p>72.5° V</p> <p>60° W</p> <p>85° Y</p>	<p>B 5°</p> <p>C 7°</p> <p>D 15°</p> <p>E 20°</p> <p>F 25°</p> <p>N 0°</p> <p>P 11°</p>	<p>R </p> <p>N </p> <p>L </p>
S	C	L	C	R
Clamping Method	Insert shape	Style & lead angle	Clearance angle	Cutting Direction



height of cutting edge
"h" in mm

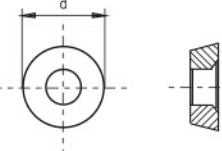


Width of shank
"b" in mm

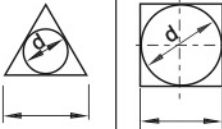


L1 in mm

A = 32
B = 40
C = 50
D = 60
E = 70
F = 80
G = 90
H = 100
J = 110
K = 125
L = 140
M = 150
N = 160
P = 170
Q = 180
R = 200
S = 250
T = 300
U = 350
V = 400
W = 450
Y = 500



d (mm)
06
08
10
12
16
20
25
32



d			
(mm)	(inch)	(mm)	(mm)
06	5/32	3.96	03
09	7/32	5.55	05
11	1/4	6.35	06
16	3/8	9.52	09
22	1/2	12.7	12
27	5/8	15.8	15
33	3/4	19.0	19
44	1	25.4	25

F: straight style
S: single positioning
D: with shim and positive rake angle

25

25

M

16

F

Nose height

Width of shank

Length of toolholder

Length of cutting edge

Defined by the manufacturer