



2018 yılında hayata geçirmiş olduğumuz **HOFFEN** markası artan iş hacmi ile birlikte, talaşlı imalat alanında maksimum verim sağlamak adına öncelikli olarak parmak freze grubunda faaliyete başlamıştır.

HOFFEN son olarak artan iş gücüne, yenilikçi ve destekçi yaklaşımı ile INSERT uçları ürün grubuna dahil edilmiştir. Müşterilerin ihtiyaçlarını belirleyip birim maliyetlerini düşürmede yardımcı olacak çözümler sunmayı temel ilke olarak benimsemiştir.



INDEX



END MILLS

3

3

End Mills	5	Ball Nose End Mills 65 Hrc Z2	18
Micro End Mills	6	Ball Nose End Mills 65 Hrc (Long Shank) Z2.....	19
Micro Boll Rose	7	Corner Radius End Mills Z4.....	20
Corner Radius (Long Neek) Z2.....	8	Corner Radius End Mills (Long Shank) Z4	21
Boll Nose (Long Neek) Z2	9	Chatter Fee End Mills Z4	22
End Mills Z4	10	Auminyum End Mills Z3	23
End Mills (Long Shank) Z4.....	11	Aluminum Corner Radius End Mills Z2.....	24
Ball Nose End Mills Z2	12	Alüminum Corner Radius End Mills Z3.....	25
Ball Nose End Mills (Long Shank) Z2.....	13	Threodng End Mills Z3 / Z4	26
Corner Radius End Mills Z4.....	14	Threodng End Mills Z3.....	27
Corner Radius End Mills (Long Shank) Z4	15	3d Carbide Drills Z2.....	28
End Mills 65 Hrc Z4	16	5d Carbide Drills Z2.....	30
End Mills 65 Hr (Long Shank) Z4.....	17	8d Carbide Drills Z2	32

MILLING INSERTS

33-37

TOOL HOLDERS

39-44

CARBIDE SHAFT

45

TURNING

47-52

THREADING INSERTS

53-56

SHRINK HOLDERS

57

57

HSK TYPE - BT TYPE - BBT TYPE - SHRINK MODULLAR.....	59
SF SHRINK TYPE HOLDERS.....	60
SFS SHRINK TYPE HOLDERS	61
BT30 - SF/SFS TYPE SHRINK HOLDERS.....	62
BT40 - SFS TYPE SHRINK HOLDERS.....	63
BT50 - SF TYPE SHRINK HOLDERS.....	64

HSK HOLDERS

67

67

HIGH SPEED SLIM CHUCK.....	68	TOPPING HEAD	72
SUPER COLLET CHUCK	69	SCREW END MILL HOLDERS.....	73
ER COLLETS CHUCK.....	70	HIGH POWER MILLING CHUCK	74
FACE MILL ARBOR.....	71	SIDE ROCK HOLDERS	75

BT HOLDERS

77

77

HIGH SPEED SLIM CHUCK.....	78	KEYLESS DRILL CHUCK.....	84
SUPER COLLET CHUCK	79	CHUCK ARBOR	85
ER COLLETS CHUCK.....	80	OZ 462 COLLETS CHUCK.....	85
FACE MILL ARBOR.....	81	HYDROLIC GRIPPER	86
TAPPING HEAD	82	HIGH - POWER - MILLING CHUCK.....	87
SCREW END MILL HOLDER	83	SIDE LOCK HOLDER	88

BBT HOLDERS

89

89

HIGH SPEED SLIM CHUCK.....	90	KEYLESS DRILL CHUCK.....	96
SUPER COLLET CHUCK	91	CHUCK ARBOR	97
ER COLLETS CHUCK.....	92	OZ 462 COLLETS CHUCK.....	97
FOCE MILL ARBAN	93	HYDROLIC GRIPPER	98
TOPPING HEAD	94	HIGH - POWER MILLING CHUCK.....	99
SCREW END MILL HOLDERS.....	95	SIDE LOCK HOLDER	100

ISO TYPE HOLDERS

101

101

ER COLLETS CHUCK.....	102	KEYLESS DRILL CHUCK.....	105
462 COLLETS CHUCK	103	SIDE LOCK HOLDER	106
FACE MILL ARBOR.....	104		

SK TYPE HOLDERS

107

107

ER COLLETS CHUCK.....	108	TAPPING HEAD	112
FACE MILL ARBOR.....	109	KEYLESS DRILL CHUCK.....	112
SIDE LOCK HOLDER	110	EXTENSION BARHOLDERS	113
SCREWED END MILL HOLDER.....	111	TAPPING ADAPTER.....	114

SPARE PARTS

115

115

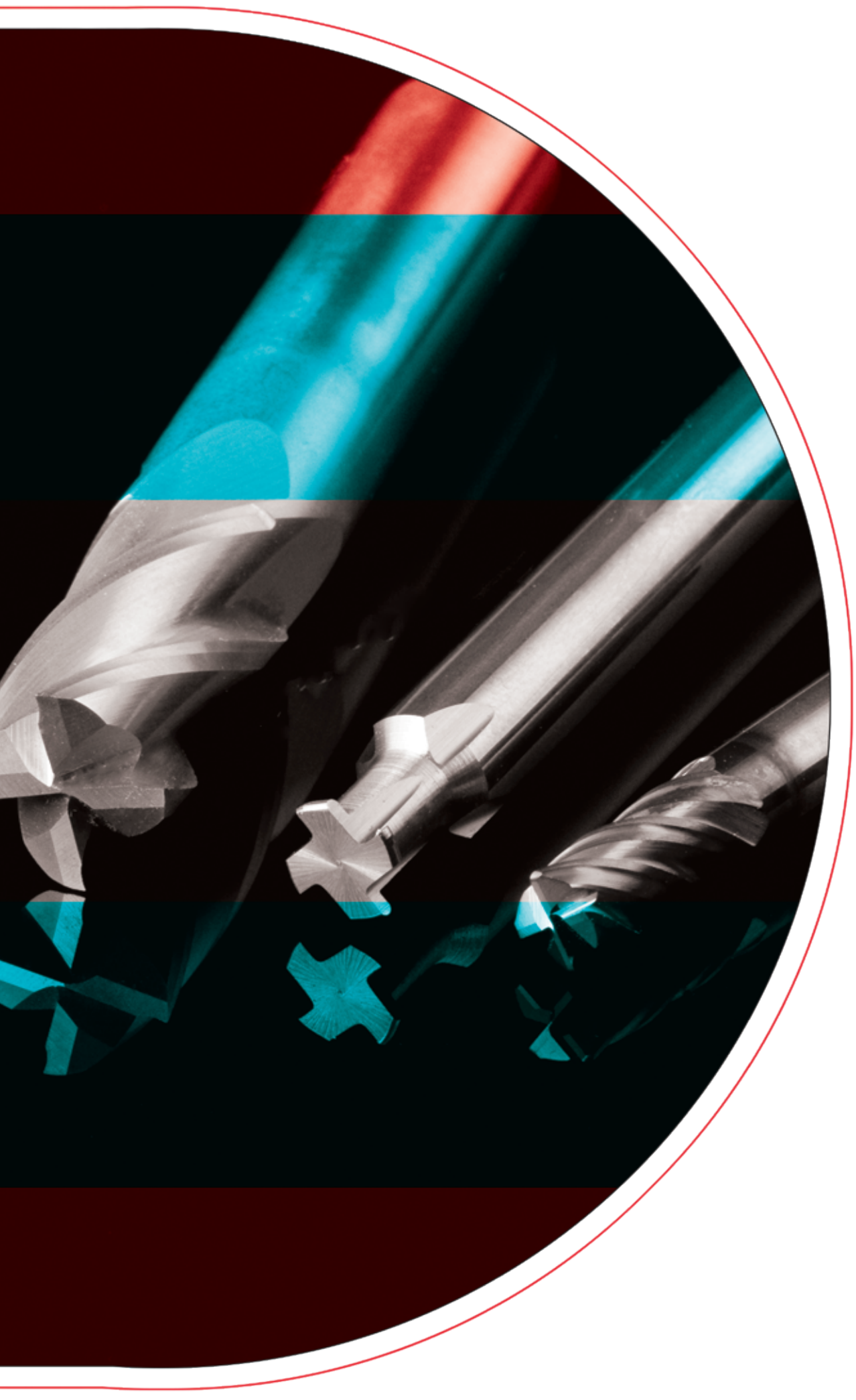
SDC COLLECT.....	116	OZ TYPE SNAPPER.....	125
SK COLLET	117	BEARING TYPE SNAPPER	125
ER COLLET	118	ER/UM TYPE SNAPPER	125
ER COLLET	119	SK TYPE SNAPPER	125
RPC COLLET.....	120	BT PULSTAD.....	126
HPHC COLLET.....	121	BT COOLING PULSTAD.....	126
OZ TYPE COLLET.....	122	MAZAK PULSTAD	126
COLLET SETS.....	123	OKUMA COOLING PULSTAD	127
ER NUT.....	124	OKUMA PULSTAD	127
ER-MINI NUT.....	124	SK PULSTAD	127
ER-UM NUT	124	CASTING TOOL HOLDER DEVICE.....	128
SK NUT.....	124	STEEL TOOL HOLDER DEVICE.....	128
ER MINI TYPE SPANNER.....	125		

TECHNICAL DATA

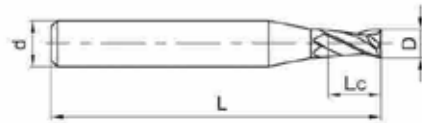
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END MILLS



MICRO END MILLS



	Stock Code	D	Lc	d	L	Z
	HOF55E-01-2003	0,30	0,60	4,00	50	2
	HOF55E-01-2004	0,40	0,80	4,00	50	2
	HOF55E-01-2005	0,50	1,00	4,00	50	2
	HOF55E-01-2006	0,60	1,20	4,00	50	2
	HOF55E-01-2007	0,70	1,40	4,00	50	2
	HOF55E-01-2008	0,80	1,60	4,00	50	2
	HOF55E-01-2009	0,90	1,80	4,00	50	2

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$d_1 < 6$
0.000
-0.020

$6 \leq d_1 < 12$
0.000
-0.030

$12 \leq d_1$
0.000
-0.035

MICRO BALL NOSE



	Stock Code	D	Lc	d	L	Z	R
	HOF55E-02-2003	0,30	0,50	4,00	50	2	0,15
	HOF55E-02-2004	0,40	0,60	4,00	50	2	0,20
	HOF55E-02-2005	0,50	0,80	4,00	50	2	0,25
	HOF55E-02-2006	0,60	0,90	4,00	50	2	0,30
	HOF55E-02-2007	0,70	1,00	4,00	50	2	0,35
	HOF55E-02-2008	0,80	1,20	4,00	50	2	0,40
	HOF55E-02-2009	0,90	1,30	4,00	50	2	0,45

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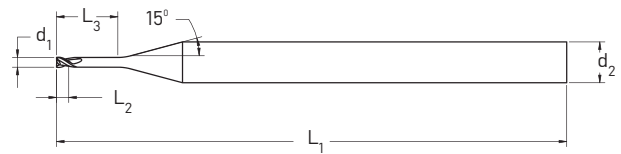
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$d_1 < 6$
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-0.020

$6 \leq d_1 < 12$
0.000
-0.030

$12 \leq d_1$
0.000
-0.035

CORNER RADIUS (LONG NECK) Z2



Stock Code	d ₁	L ₂	L ₃	L ₁	d ₂ h5	Z	r
HOF65-03L-2010L06	1	1,5	6	50	4	2	0,2
HOF65-03L-2010L08	1	1,5	8	50	4	2	0,2
HOF65-03L-2010L10	1	1,5	10	50	4	2	0,2
HOF65-03L-2010L12	1	1,5	12	50	4	2	0,2
HOF65-03L-2010L16	1	1,5	16	50	4	2	0,2
HOF65-03L-2015L06	1,5	2,3	6	50	4	2	0,2
HOF65-03L-2015L08	1,5	2,3	8	50	4	2	0,2
HOF65-03L-2015L10	1,5	2,3	10	50	4	2	0,2
HOF65-03L-2015L12	1,5	2,3	12	50	4	2	0,2
HOF65-03L-2015L16	1,5	2,3	16	50	4	2	0,2
HOF65-03L-2015L20	1,5	2,3	20	50	4	2	0,2
HOF65-03L-2020L06	2	3	6	50	4	2	0,2
HOF65-03L-2020L08	2	3	8	50	4	2	0,2
HOF65-03L-2020L10	2	3	10	50	4	2	0,2
HOF65-03L-2020L12	2	3	12	50	4	2	0,2
HOF65-03L-2020L16	2	3	16	50	4	2	0,2
HOF65-03L-2020L20	2	3	20	50	4	2	0,2
HOF65-03L-2020L25	2	3	25	50	4	2	0,2
HOF65-03L-2025L10	2,5	3,7	10	50	4	2	0,2
HOF65-03L-2025L12	2,5	3,7	12	50	4	2	0,2
HOF65-03L-2025L16	2,5	3,7	16	50	4	2	0,2
HOF65-03L-2025L20	2,5	3,7	20	50	4	2	0,2
HOF65-03L-2025L25	2,5	3,7	25	50	4	2	0,2
HOF65-03L-2025L30	2,5	3,7	30	50	4	2	0,2
HOF65-03L-2030L10	3	4,5	10	50	4	2	0,2
HOF65-03L-2030L12	3	4,5	12	50	4	2	0,2
HOF65-03L-2030L16	3	4,5	16	50	4	2	0,2
HOF65-03L-2030L20	3	4,5	20	50	4	2	0,2
HOF65-03L-2030L25	3	4,5	25	50	4	2	0,2
HOF65-03L-2030L30	3	4,5	30	50	4	2	0,2
HOF65-03L-2030L35	3	4,5	35	60	4	2	0,2
HOF65-03L-2030L40	3	4,5	40	60	4	2	0,2
HOF65-03L-2040L12	4	6	12	50	6	2	0,2
HOF65-03L-2040L16	4	6	16	50	6	2	0,2
HOF65-03L-2040L20	4	6	20	50	6	2	0,2
HOF65-03L-2040L25	4	6	25	50	6	2	0,2
HOF65-03L-2040L30	4	6	30	50	6	2	0,2
HOF65-03L-2040L35	4	6	35	60	6	2	0,2
HOF65-03L-2040L40	4	6	40	60	6	2	0,2

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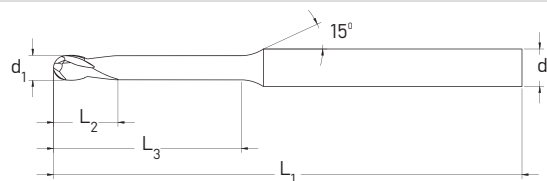
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-0.020

6 ≤ d ₁ < 12
0.000
-0.030

12 ≤ d ₁
0.000
-0.035



BALL NOSE (LONG NECK) Z2



Stock Code	d ₁	L ₂	L ₁	L ₃	d ₂ h5	Z	r
HOF65-02L-2010L06	1	1,5	50	6	4	2	0,5
HOF65-02L-2010L08	1	1,5	50	8	4	2	0,5
HOF65-02L-2010L10	1	1,5	50	10	4	2	0,5
HOF65-02L-2010L12	1	1,5	50	12	4	2	0,5
HOF65-02L-2010L16	1	1,5	50	16	4	2	0,5
HOF65-02L-2010L20	1	1,5	50	20	4	2	0,5
HOF65-02L-2015L06	1,5	2,3	50	6	4	2	0,75
HOF65-02L-2015L08	1,5	2,3	50	8	4	2	0,75
HOF65-02L-2015L10	1,5	2,3	50	10	4	2	0,75
HOF65-02L-2015L12	1,5	2,3	50	12	4	2	0,75
HOF65-02L-2015L16	1,5	2,3	50	16	4	2	0,75
HOF65-02L-2015L20	1,5	2,3	50	20	4	2	0,75
HOF65-02L-2020L06	2	3	50	6	4	2	1
HOF65-02L-2020L08	2	3	50	8	4	2	1
HOF65-02L-2020L10	2	3	50	10	4	2	1
HOF65-02L-2020L12	2	3	50	12	4	2	1
HOF65-02L-2020L16	2	3	50	16	4	2	1
HOF65-02L-2020L20	2	3	50	20	4	2	1
HOF65-02L-2020L25	2	3	50	25	4	2	1
HOF65-02L-2025L06	2,5	3,7	50	6	4	2	1,25
HOF65-02L-2025L08	2,5	3,7	50	8	4	2	1,25
HOF65-02L-2025L10	2,5	3,7	50	10	4	2	1,25
HOF65-02L-2025L12	2,5	3,7	50	12	4	2	1,25
HOF65-02L-2025L16	2,5	3,7	50	16	4	2	1,25
HOF65-02L-2025L20	2,5	3,7	50	20	4	2	1,25
HOF65-02L-2025L25	2,5	3,7	50	25	4	2	1,25
HOF65-02L-2025L30	2,5	3,7	50	30	4	2	1,25
HOF65-02L-2030L10	3	4,5	50	10	4	2	1,5
HOF65-02L-2030L12	3	4,5	50	12	4	2	1,5
HOF65-02L-2030L16	3	4,5	50	16	4	2	1,5
HOF65-02L-2030L20	3	4,5	50	20	4	2	1,5
HOF65-02L-2030L25	3	4,5	50	25	4	2	1,5
HOF65-02L-2030L30	3	4,5	50	30	4	2	1,5
HOF65-02L-2030L35	3	4,5	50	35	4	2	1,5
HOF65-02L-2030L40	3	4,5	50	40	4	2	1,5
HOF65-02L-2040L12	4	6	50	12	6	2	2
HOF65-02L-2040L16	4	6	50	16	6	2	2
HOF65-02L-2040L20	4	6	50	20	6	2	2
HOF65-02L-2040L25	4	6	50	25	6	2	2
HOF65-02L-2040L30	4	6	60	30	6	2	2
HOF65-02L-2040L35	4	6	60	35	6	2	2
HOF65-02L-2040L40	4	6	60	40	6	2	2

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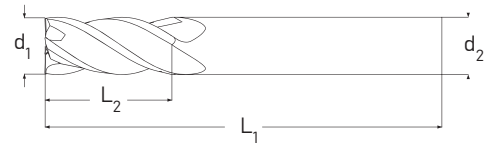
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d₁ < 6
0.000
-0.020

6 ≤ d₁ < 12
0.000
-0.030

12 ≤ d₁
0.000
-0.035

END MILLS Z4



	Stock Code	d_1	L_2	L_1	$d_2 \text{ h5}$	Z
	HOF55E-01-4010	1	3	50	4	4
	HOF55E-01-4015	1,5	4	50	4	4
	HOF55E-01-4020	2	6	50	4	4
	HOF55E-01-4025	2,5	8	50	4	4
	HOF55E-01-4030D3	3	8	50	3	4
	HOF55E-01-4030D4	3	8	50	4	4
	HOF55E-01-4030D6	3	8	57	6	4
	HOF55E-01-4035	3,5	8	50	4	4
	HOF55E-01-4040	4	10	50	4	4
	HOF55E-01-4040D6	4	11	57	6	4
	HOF55E-01-4045	4,5	11	50	5	4
	HOF55E-01-4050	5	13	50	5	4
	HOF55E-01-4060	6	15	57	6	4
	HOF55E-01-4080	8	20	63	8	4
	HOF55E-01-4100	10	22	72	10	4
	HOF55E-01-4120	12	26	83	12	4
	HOF55E-01-4130	13	26	83	13	4
	HOF55E-01-4140	14	26	83	14	4
	HOF55E-01-4150	15	32	93	15	4
	HOF55E-01-4160	16	32	92	16	4
	HOF55E-01-4180	18	32	92	18	4
	HOF55E-01-4200	20	45	100	20	4

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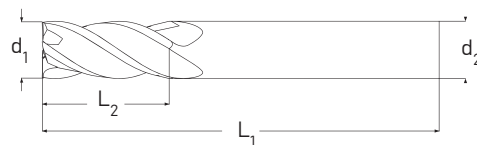
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-0.020

$6 \leq d_1 < 12$
0.000
-0.030

$12 \leq d_1$
0.000
-0.035



END MILLS (LONG SHANK) Z4



	Stock Code	d_1	L_2	L_1	$d_2 \text{ h5}$	Z
	HOF55E-01-4030D3L	3	8	75	3	4
	HOF55E-01-4030D4L	3	8	75	4	4
	HOF55E-01-4040L	4	15	75	4	4
	HOF55E-01-4050L	5	13	100	5	4
	HOF55-01-4050L	5	25	100	5	4
	HOF55E-01-4060L	6	20	75	6	4
	HOF55-01-4060L	6	30	100	6	4
	HOF55-01-4060L150	6	50	150	6	4
	HOF55-01-4080L	8	40	100	8	4
	HOF55-01-4080L150	8	50	150	8	4
	HOF55-01-4100L	10	45	100	10	4
	HOF55-01-4100L150	10	65	150	10	4
	HOF55-01-4120L	12	45	100	12	4
	HOF55-01-4120L150	12	65	150	12	4
	HOF55-01-4140L	14	65	150	14	4
	HOF55-01-4160L	16	75	150	16	4
	HOF55-01-4200L	20	75	150	20	4

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$d_1 < 6$

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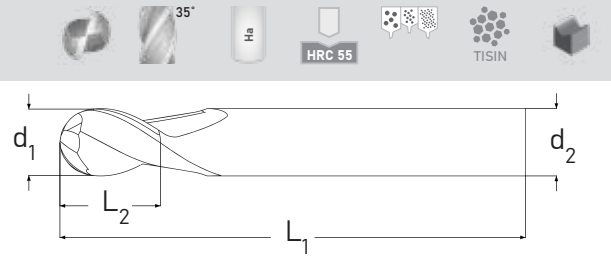
$6 \leq d_1 < 12$

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-0.030

$12 \leq d_1$

0.000
-0.035

BALL NOSE END MILLS Z2



	Stock Code	d_1	L_2	L_1	r	$d_{2\ h5}$	Z
	HOF55E-02-2010	1	2	50	0,5	4	2
	HOF55E-02-2015	1,5	4	50	0,75	4	2
	HOF55E-02-2020	2	4	50	1	4	2
	HOF55E-02-2025	2,5	5	50	1,25	4	2
	HOF55E-02-2030D3	3	6	50	1,5	3	2
	HOF55E-02-2030D4	3	6	50	1,5	4	2
	HOF55E-02-2030D6	3	3,2	57	1,5	6	2
	HOF55E-02-2040	4	8	50	2	4	2
	HOF55E-02-2040D6	4	8	57	2	6	2
	HOF55E-02-2050	5	7	50	2,5	5	2
	HOF55E-02-2060	6	9	57	3	6	2
	HOF55E-02-2080	8	10	63	4	8	2
	HOF55E-02-2100	10	15	72	5	10	2
	HOF55E-02-2120	12	17	83	6	12	2
	HOF55E-02-2140	14	19	83	7	14	2
	HOF55E-02-2160	16	21	92	8	16	2

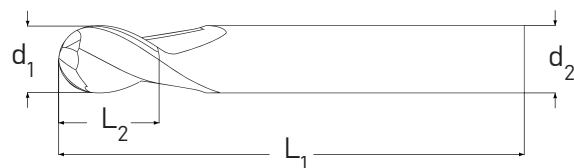
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Tolerans Tablosu

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-0.020
$6 \leq d_1 < 12$
0.000
-0.030
$12 \leq d_1$
0.000
-0.035



BALL NOSE END MILLS (LONG SHANK) Z2



Stock Code	d_1	L_2	L_1	r	$d_{2\ h5}$	Z
HOF55E-02-2030D3L	3	6	75	1,5	3	2
HOF55E-02-2030D4L	3	6	75	1,5	4	2
HOF55E-02-2040L	4	8	75	2	4	2
HOF55-02-2050L	5	10	100	2,5	5	2
HOF55-02-2060L	6	11	100	3	6	2
HOF55-02-2060L150	6	16	150	3	6	2
HOF55-02-2080L	8	13	100	4	8	2
HOF55-02-2080L150	8	18	150	4	8	2
HOF55-02-2100L	10	15	100	5	10	2
HOF55-02-2100L150	10	20	150	5	10	2
HOF55-02-2120L	12	17	100	6	12	2
HOF55-02-2120L150	12	22	150	6	12	2
HOF55-02-2140L	14	25	150	7	14	2
HOF55-02-2160L	16	26	150	8	16	2

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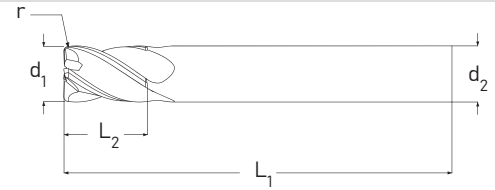
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$d_1 < 6$
0.000
-0.020

$6 \leq d_1 < 12$
0.000
-0.030

$12 \leq d_1$
0.000
-0.035

CORNER RADIUS END MILLS Z4



Stock Code	d ₁	L ₂	L ₁	r	d _{2 h5}	Z
HOF55E-03-4010R02	1	3	50	0,2	4	4
HOF55E-03-4015R02	1,5	4	50	0,2	4	4
HOF55E-03-4015R05	1,5	4	50	0,5	4	4
HOF55E-03-4020R02	2	6	50	0,2	4	4
HOF55E-03-4020R05	2	6	50	0,5	4	4
HOF55E-03-4025R02	2,5	8	50	0,2	4	4
HOF55E-03-4025R05	2,5	8	50	0,5	4	4
HOF55E-03-4030R02	3	8	50	0,2	4	4
HOF55E-03-4030R05D3	3	8	50	0,5	3	4
HOF55E-03-4030R05D4	3	8	50	0,5	4	4
HOF55E-03-4030R1D3	3	8	50	1	4	4
HOF55E-03-4030R1D4	3	8	50	1	4	4
HOF55E-03-4040R02	4	11	50	0,2	4	4
HOF55E-03-4040R05	4	11	50	0,5	4	4
HOF55E-03-4040R1	4	11	50	1	4	4
HOF55E-03-4050R05	5	13	50	0,5	5	4
HOF55E-03-4050R1	5	13	50	1	5	4
HOF55-03-4060R02	6	15	57	0,2	6	4
HOF55-03-4060R05	6	15	57	0,5	6	4
HOF55-03-4060R1	6	15	57	1	6	4
HOF55-03-4080R02	8	20	63	0,2	8	4
HOF55-03-4080R05	8	20	62	0,5	8	4
HOF55-03-4080R1	8	20	63	1	8	4
HOF55-03-4080R2	8	20	63	2	8	4
HOF55-03-4100R02	10	22	72	0,2	10	4
HOF55-03-4100R05	10	22	72	0,5	10	4
HOF55-03-4100R1	10	22	72	1	10	4
HOF55-03-4100R2	10	22	72	2	10	4
HOF55-03-4100R3	10	22	72	3	10	4
HOF55-03-4120R05	12	26	83	0,5	12	4
HOF55-03-4120R1	12	26	83	1	12	4
HOF55-03-4120R3	12	26	83	3	14	4
HOF55-03-4160R1	16	21	92	1	16	4
HOF55-03-4160R2	16	21	92	2	16	4
HOF55-03-4200R1	20	25	100	1	20	4
HOF55-03-4200R2	20	25	100	2	20	4

●	P
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○	K
○	N
○	S
○	H

Tolerans
Tablosu

d ₁ < 6
0.000
-0.020

6 ≤ d ₁ < 12
0.000
-0.030

12 ≤ d ₁
0.000
-0.035



CORNER RADIUS END MILLS (LONG SHANK) Z4



	Stock Code	d ₁	L ₂	L ₁	r	d _{2 h5}	Z
	HOF55E-03-4030R05D3L	3	8	75	0,5	3	4
	HOF55E-03-4030R05D4L	3	8	75	0,5	4	4
	HOF55E-03-4040R05L	4	15	75	0,5	4	4
	HOF55-03-4050R05L	5	15	100	0,5	5	4
	HOF55-03-4050R1L	5	15	100	1	5	4
	HOF55-03-4060R05L	6	17	100	0,5	6	4
	HOF55-03-4060R05L150	6	17	150	0,5	6	4
	HOF55-03-4060R1L	6	17	100	1	6	4
	HOF55-03-4060R1L150	6	17	150	1	6	4
	HOF55-03-4080R05L	8	22	100	0,5	8	4
	HOF55-03-4080R05L150	8	22	150	0,5	8	4
	HOF55-03-4080R1L	8	22	100	1	8	4
	HOF55-03-4080R1L150	8	22	150	1	8	4
	HOF55-03-4080R2L	8	22	100	2	8	4
	HOF55-03-4100R05L	10	25	100	0,5	10	4
	HOF55-03-4100R05L150	10	25	150	0,5	10	4
	HOF55-03-4100R1L	10	20	100	1	10	4
	HOF55-03-4100R1L150	10	25	150	1	10	4
	HOF55-03-4100R2L	10	25	100	2	10	4
	HOF55-03-4120R05L	12	30	100	0,5	12	4
	HOF55-03-4120R05L150	12	30	150	0,5	12	4
	HOF55-03-4120R1L	12	30	100	1	12	4
	HOF55-03-4120R1L150	12	30	150	1	12	4
	HOF55-03-4120R2L	12	30	100	2	12	4
	HOF55-03-4160R1L	16	31	150	1	16	4
	HOF55-03-4160R2L	16	31	150	2	16	4
	HOF55-03-4200R1L	20	35	150	1	20	4



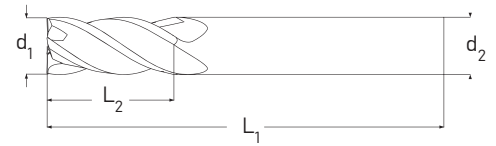
Tolerans
Tablosu

d₁ < 6
0.000
-0.020

6 ≤ d₁ < 12
0.000
-0.030

12 ≤ d₁
0.000
-0.035

END MILLS 65 HRC Z4



Stock Code	d_1	L_2	L_1	d_2 h5	Z
HOF65E-01-4010	1	3	50	4	4
HOF65E-01-4015	1,5	4	50	4	4
HOF65E-01-4020	2	6	50	4	4
HOF65E-01-4025	2,5	8	50	4	4
HOF65E-01-4030D3	3	8	50	3	4
HOF65E-01-4030D4	3	8	50	4	4
HOF65E-01-4040	4	10	50	4	4
HOF65E-01-4050	5	13	50	5	4
HOF65-01-4060	6	15	57	6	4
HOF65-01-4080	8	20	63	8	4
HOF65-01-4100	10	22	72	10	4
HOF65-01-4120	12	26	83	12	4
HOF65-01-4140	14	26	83	14	4
HOF65-01-4160	16	32	92	16	4
HOF65-01-4200	20	45	100	20	4

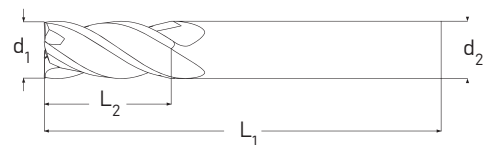
●	P
○	M
■	K
■	N
●	S
●	H

Tolerans Tablosu

$d_1 < 6$
0.000
-0.020
$6 \leq d_1 < 12$
0.000
-0.030
$12 \leq d_1$
0.000
-0.035



END MILLS 65 HRC (LONG SHANK) Z4



Stock Code	d_1	L_2	L_1	d_2 h5	Z
HOF65-01-4060L	6	30	100	6	4
HOF65-01-4080L	8	30	100	8	4
HOF65-01-4100L	10	45	100	10	4
HOF65-01-4120L	12	45	100	12	4
HOF65-01-4140L	14	65	150	14	4
HOF65-01-4160L	16	75	150	16	4
HOF65-01-4200L	20	75	150	20	4

●	P
○	M
■	K
■	N
●	S
●	H

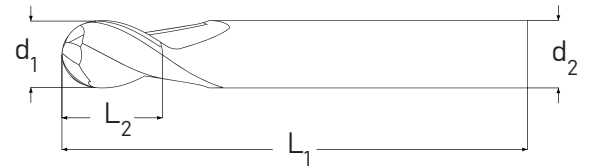
Tolerans Tablosu

$d_1 < 6$
0.000
-0.020

$6 \leq d_1 < 12$
0.000
-0.030

$12 \leq d_1$
0.000
-0.035

BALL NOSE END MILLS 65 HRC Z2



	Stock Code	d_1	L_2	L_1	d_2 h5	Z	r
	HOF65E-02-2010	1	2	50	4	2	0,5
	HOF65E-02-2015	1,5	3	50	4	2	0,75
	HOF65E-02-2020	2	4	50	4	2	1
	HOF65E-02-2025	2,5	5	50	4	2	1,25
	HOF65E-02-2030D3	3	6	50	3	2	1,5
	HOF65E-02-2030D4	3	6	50	4	2	1,5
	HOF65-02-2030D6	3	3,2	57	6	2	1,5
	HOF65E-02-2040	4	8	50	4	2	2
	HOF65-02-2040D6	4	8	57	6	2	2
	HOF65-02-2050	5	7	50	5	2	2,5
	HOF65-02-2060	6	9	57	6	2	3
	HOF65-02-2080	8	10	63	8	2	4
	HOF65-02-2100	10	15	72	10	2	5
	HOF65-02-2120	12	17	83	12	2	6
	HOF65-02-2140	14	19	83	14	2	7
	HOF65-02-2160	16	21	92	16	2	8

●	P
○	M
■	K
■	N
●	S
●	H

Tolerans
Tablosu

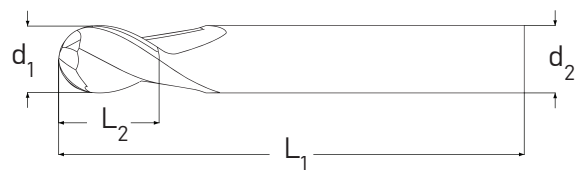
$d_1 < 6$
0.000
-0.020

$6 \leq d_1 < 12$
0.000
-0.030

$12 \leq d_1$
0.000
-0.035



BALL NOSE END MILLS 65 HRC (LONG SHANK) Z2



Stock Code	d_1	L_2	L_1	$d_{2\ h5}$	Z	r
HOF65-02-2050L	5	10	75	5	2	2,5
HOF65-02-2060L	6	11	100	6	2	3
HOF65-02-2080L	8	13	100	8	2	4
HOF65-02-2100L	10	15	100	10	2	5
HOF65-02-2120L	12	17	100	12	2	6
HOF65-02-2160L	16	26	150	16	2	8

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■	N
●	S
●	H

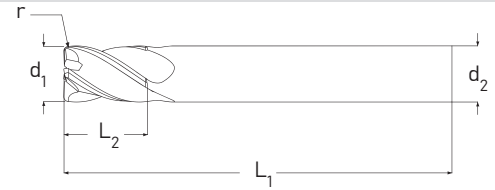
**Tolerans
Tablosu**

$d_1 < 6$
0.000
-0.020

$6 \leq d_1 < 12$
0.000
-0.030

$12 \leq d_1$
0.000
-0.035

CORNER RADIUS END MILLS Z4



	Stock Code	d ₁	L ₂	L ₁	r	d ₂ h5	Z
	HOF65E-03-4010R02	1	3	50	0,2	4	4
	HOF65E-03-4015R02	1,5	4	50	0,2	4	4
	HOF65E-03-4020R02	2	6	50	0,2	4	4
	HOF65E-03-4020R05	2	6	50	0,5	4	4
	HOF65E-03-4025R02	2,5	8	50	0,2	4	4
	HOF65E-03-4025R05	2,5	8	50	0,5	4	4
	HOF65E-03-4030R02D3	3	8	50	0,2	3	4
	HOF65E-03-4030R02D4	3	8	50	0,2	4	4
	HOF65E-03-4030R05D3	3	8	50	0,5	3	4
	HOF65E-03-4030R05D4	3	8	50	0,5	4	4
	HOF65-03-4030R05D6	3	8	50	0,5	6	4
	HOF65E-03-4030R1D3	3	8	50	1	3	4
	HOF65E-03-4030R1D4	3	8	50	1	4	4
	HOF65E-03-4040R02	4	11	50	0,2	4	4
	HOF65E-03-4040R05	4	11	50	0,5	4	4
	HOF65E-03-4040R1	4	11	50	1	4	4
	HOF65-03-4050R05	5	13	50	0,5	5	4
	HOF65-03-4050R1	5	13	50	1	5	4
	HOF65-03-4060R02	6	15	57	0,2	6	4
	HOF65-03-4060R05	6	15	57	0,5	6	4
	HOF65-03-4060R1	6	15	57	1	6	4
	HOF65-03-4080R05	8	20	63	0,5	8	4
	HOF65-03-4080R1	8	20	63	1	8	4
	HOF65-03-4080R2	8	20	63	2	8	4
	HOF65-03-4100R05	10	22	72	0,5	10	4
	HOF65-03-4100R1	10	22	72	1	10	4
	HOF65-03-4100R2	10	22	72	2	10	4
	HOF65-03-4120R05	12	26	83	0,5	12	4
	HOF65-03-4120R1	12	26	83	1	12	4

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Tolerans
Tablosu

d ₁ < 6
0.000
-0.020

6 ≤ d ₁ < 12
0.000
-0.030

12 ≤ d ₁
0.000
-0.035



CORNER RADIUS END MILLS (LONG SHANK) Z4



	Stock Code	d_1	L_2	L_1	r	$d_{2\ h5}$	Z
	HOF65E-03-4030R05D3L	3	8	75	0,5	3	4
	HOF65E-03-4050R05L	3	8	75	0,5	4	4
	HOF65E-03-4040R05L	4	15	75	0,5	4	4
	HOF65-03-4050R05L	5	15	75	0,5	5	4
	HOF65-03-4060R05L	6	17	100	0,5	6	4
	HOF65-03-4060R1L	6	17	100	1	6	4
	HOF65-03-4080R05L	8	22	100	0,5	8	4
	HOF65-03-4080R1L	8	22	100	1	8	4
	HOF65-03-4100R05L	10	25	100	0,5	10	4
	HOF65-03-4100R1L	10	25	100	1	10	4
	HOF65-03-4100R2L	10	25	100	2	10	4
	HOF65-03-4120R05L	12	30	100	0,5	12	4
	HOF65-03-4120R1L	12	30	100	1	12	4
	HOF65-03-4120R2L	12	30	100	2	12	4

●	P
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■	N
●	S
●	H

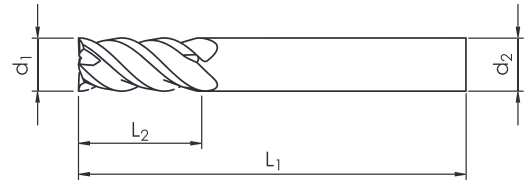
Tolerans
Tablosu

$d_1 < 6$
0.000
-0.020

$6 \leq d_1 < 12$
0.000
-0.030

$12 \leq d_1$
0.000
-0.035

CHATTER FREE END MILLS Z4



Stock Code	d_1	L_2	L_3	L_1	$d_{2\ h5}$	Z	pah
HOFCTR-01-4040	4	11	18	57	4	4	0,10
HOFCTR-01-4060	6	13	21	57	6	4	0,15
HOFCTR-01-4080	8	19	27	63	8	4	0,20
HOFCTR-01-4100	10	22	32	72	10	4	0,25
HOFCTR-01-4120	12	26	38	83	12	4	0,30
HOFCTR-01-4140	14	26	38	83	14	4	0,35
HOFCTR-01-4160	16	32	44	92	16	4	0,40
HOFCTR-01-4180	18	32	44	92	18	4	0,45
HOFCTR-01-4200	20	38	54	100	20	4	0,50

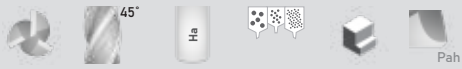
	P
	M
	K
	N
	S
	H

Tolerans
Tablosu

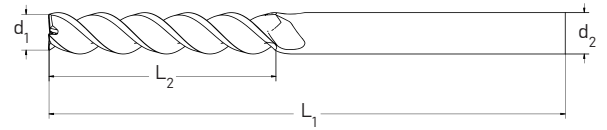
$d_1 < 6$
0.000
-0.020

$6 \leq d_1 < 12$
0.000
-0.030

$12 \leq d_1$
0.000
-0.035



AUMINYUM END MILLS Z3



Stock Code	d_1	L_2	L_1	$d_2 \text{ h5}$	Z	pah
HOFAL-01-3030	3	8	50	3	3	0,09
HOFAL-01-3030D6	3	8	57	6	3	0,09
HOFAL-01-3040	4	11	50	4	3	0,12
HOFAL-01-3040D6	4	11	57	6	3	0,12
HOFAL-01-3050	5	13	50	5	3	0,15
HOFAL-01-3050D6	5	13	57	6	3	0,15
HOFAL-01-3060	6	15	57	6	3	0,18
HOFAL-01-3080	8	20	63	8	3	0,24
HOFAL-01-3100	10	22	72	10	3	0,30
HOFAL-01-3120	12	26	83	12	3	0,36
HOFAL-01-3140	14	26	83	14	3	0,42
HOFAL-01-3160	16	32	92	16	3	0,48
HOFAL-01-3180	18	32	92	18	3	0,54
HOFAL-01-3200	20	45	100	20	3	0,60

P
M
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Tolerans Tablosu

$d_1 < 6$

0.000
-0.020

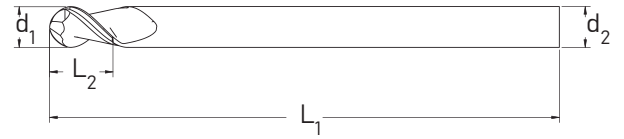
$6 \leq d_1 < 12$

0.000
-0.030

$12 \leq d_1$

0.000
-0.035

ALUMINUM CORNER RADIUS END MILLS Z2



	Stock Code	d_1	L_2	L_3	L_1	$d_{2\ h5}$	Z
	HOFAL-02-2030	3	5	8	50	3	2
	HOFAL-02-2040	4	6	9	50	4	2
	HOFAL-02-2050	5	7	10	50	5	2
	HOFAL-02-2060	6	8	12	50	6	2
	HOFAL-02-2080	8	12	25	63	8	2
	HOFAL-02-2100	10	15	30	72	10	2
	HOFAL-02-2120	12	17	36	83	12	2
	HOFAL-02-2140	14	19	38	83	14	2
	HOFAL-02-2160	16	21	42	92	16	2
	HOFAL-02-2180	18	23	46	92	18	2
	HOFAL-02-2200	20	25	50	100	20	2

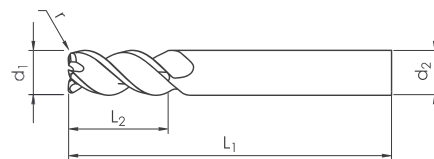
	P
	M
	K
	N
	S
	H

Tolerans Tablosu

$d_1 < 6$
0.000
-0.020
$6 \leq d_1 < 12$
0.000
-0.030
$12 \leq d_1$
0.000
-0.035



ALUMINUM CORNER RADIUS END MILLS Z3



Stock Code	d ₁	L ₂	L ₁	d ₂ h5	Z	r
HOFAL-03-3030R05	3	8	50	3	3	0,5
HOFAL-03-3030R1	3	8	50	3	3	1,0
HOFAL-03-3040R05	4	11	50	4	3	0,5
HOFAL-03-3040R1	4	11	50	4	3	1,0
HOFAL-03-3050R05	5	13	50	5	3	0,5
HOFAL-03-3050R1	5	13	50	5	3	1,0
HOFAL-03-3060R05	6	15	57	6	3	0,5
HOFAL-03-3060R05L	6	50	150	6	3	0,5
HOFAL-03-3080R05	8	20	63	8	3	0,5
HOFAL-03-3080R05L	8	50	150	8	3	0,5
HOFAL-03-3100R05	10	22	72	10	3	0,5
HOFAL-03-3100R05L	10	65	150	10	3	0,5
HOFAL-03-3100R1L	10	65	150	10	3	1,0
HOFAL-03-3100R2L	10	65	150	10	3	2,0
HOFAL-03-3120R1	12	26	83	12	3	1,0
HOFAL-03-3120R1L	12	65	150	12	3	1,0
HOFAL-03-3120R2	12	26	83	12	3	2,0
HOFAL-03-3160R1	16	32	92	16	3	1,0
HOFAL-03-3160R2	16	32	92	16	3	2,0

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M
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Tolerans
Tablosu

d₁ < 6

0.000
-0.020

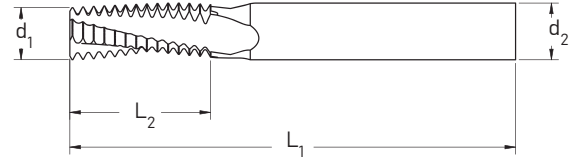
6 ≤ d₁ < 12

0.000
-0.030

12 ≤ d₁

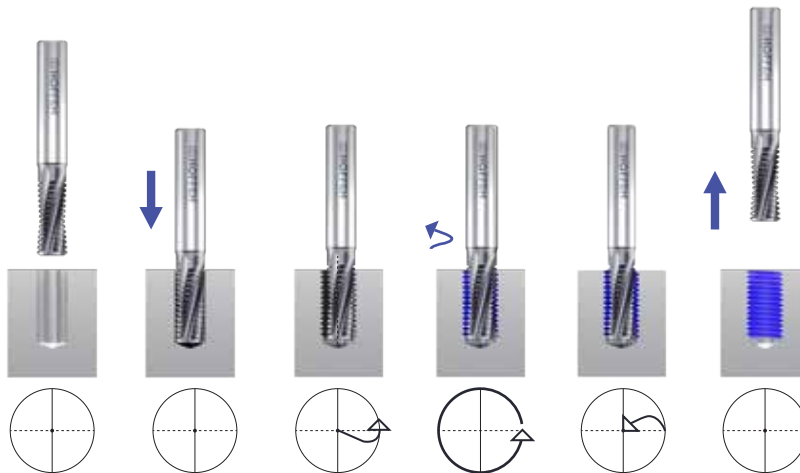
0.000
-0.035

THREADING END MILLS Z3 / Z4



M	P	d ₁	Matkap Çapı	L ₂	L ₁	d ₂ h5	Z
M3	0,5	2,20	2,50	6	50	4	3
M4	0,7	3,10	3,30	8	57	6	3
M5	0,8	3,60	4,20	10	57	6	3
M6	1	4,00	5,00	12	57	6	3
M8	1,25	5,00	6,80	16	57	6	3
M10	1,5	7,00	8,50	20	63	8	3
M12	1,75	9,00	10,20	24	72	10	4
M14	2	11,00	12,00	28	83	12	4
M16	2	12,00	14,00	32	83	12	4
M18	2,5	14,00	15,50	36	83	14	4
M20	2,5	14,00	17,50	40	100	14	4
M22	2,5	14,00	19,50	44	100	14	4

Başlama Noktası Merkez Pozisyon Dış Açma Başlangıç Dış Açma Bitiş Delik Merkezi Bitiş Noktası



O	P
M	K
N	S
H	

Tolerans Tablosu

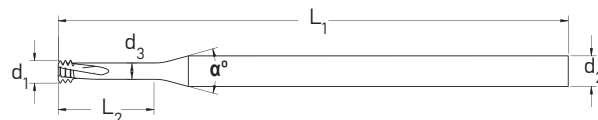
d ₁ < 6
0.000
-0.020

6 ≤ d ₁ < 12
0.000
-0.030

12 ≤ d ₁
0.000
-0.035



THREADING END MILLS Z3



M	P	d ₁	L ₂	L ₁	d ₂ h5	Z
M1	0.25	0.72	50	2,5	3	3
M1.2	0.25	0.90	50	3	3	3
M1.4	0.30	1,05	50	4	3	3
M1.6	0.35	1,2	50	5	3	3
M2.0	0.40	1,53	57	4,5	6	3
M2.0	0.40	1,53	50	6	3	3
M2.2	0.45	1,65	50	7	3	3
M2.2	0.45	1,65	57	5	6	3
M2.5	0.45	1,95	57	5,5	6	3
M2.5	0.45	1,95	100	5,5	6	3
M2.5	0.45	1,95	50	7,5	3	3
M2.5	0.45	1,95	57	7,5	6	3
M3.0	0.50	2,37	57	6,5	6	3
M3.0	0.50	2,37	50	9,5	3	3
M3.0	0.50	2,37	57	9,5	6	3
M3.0	0.50	2,37	100	9,5	6	3
M3.0	0.50	2,37	50	12,5	3	3
M3.0	0.50	2,4	50	15,5	3	3
M3.5	0.60	2,75	50	7,5	4	3
M3.5	0.60	2,75	57	7,5	6	3
M3.5	0.60	2,75	57	10,5	6	3
M4.0	0.70	3,1	57	9	6	3
M4.0	0.70	3,1	50	12,5	4	3
M4.0	0.70	3,1	57	12,5	6	3
M4.0	0.70	3,1	100	12,5	6	3
M4.0	0.70	3,1	50	17	4	3
M4.0	0.70	3,1	57	17	6	3
M5.0	0.80	3,8	50	12,5	4	3
M5.0	0.80	3,8	57	12,5	6	3
M5.0	0.80	3,8	57	16	6	3
M5.0	0.80	3,8	100	16	6	3
M5.0	0.80	3,8	50	21	4	3
M5.0	0.80	4	57	21	6	3
M6.0	1.0	4,65	57	15	6	3
M6.0	1.0	4,65	57	22	6	3
M6.0	1.0	4,65	100	22	6	3
M6.0	0.50	5,35	57	20	6	4
M8.0	1.25	6	57	18	6	3
M8.0	1.25	6	57	25	6	3
M8.0	1.25	6	100	24,6	6	3
M10	1.50	7,8	63	25	8	3
M10	1.50	7,8	63	32	8	3
M10	0.75	8	63	25	8	4
M12	1.75	9	72	25	10	3
M12	1.75	9	72	35	10	3
M12	1.75	9	72	38	10	3
M16	2.0	11,8	83	35	12	4
M16	2.0	11,8	100	50	12	4

○	P
■	M
■	K
●	N
■	S
■	H

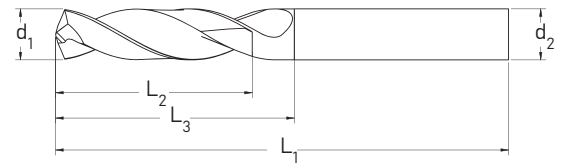
Tolerans
Tablosu

d₁ < 6
0.000
-0.020

6 ≤ d₁ < 12
0.000
-0.030

12 ≤ d₁
0.000
-0.035

3D CARBIDE DRILLS Z2



	Stock Code	$d_1 m_7$	L_2	L_3	L_1	$d_2 h_5$	Z
	HOF3D-010	1	4,5	6	50	4	2
	HOF3D-011	1,1	5	6,6	50	4	2
	HOF3D-012	1,2	5,4	7,2	50	4	2
	HOF3D-013	1,3	5,9	7,8	50	4	2
	HOF3D-014	1,4	6,3	8,4	50	4	2
	HOF3D-015	1,5	6,8	9	50	4	2
	HOF3D-016	1,6	7,2	9,6	50	4	2
	HOF3D-017	1,7	7,7	10,2	50	4	2
	HOF3D-018	1,8	8,1	10,8	50	4	2
	HOF3D-019	1,9	8,6	11,4	50	4	2
	HOF3D-020	2	9	12	50	4	2
	HOF3D-021	2,1	9,5	12,6	50	4	2
	HOF3D-022	2,2	9,9	13,2	50	4	2
	HOF3D-023	2,3	10,4	13,8	50	4	2
	HOF3D-024	2,4	10,8	14,4	50	4	2
	HOF3D-025	2,5	11,3	15	50	4	2
	HOF3D-026	2,6	11,7	15,6	50	4	2
	HOF3D-027	2,7	12,2	16,2	50	4	2
	HOF3D-028	2,8	12,6	16,8	50	4	2
	HOF3D-029	2,9	13,1	17,4	50	4	2
	HOF3D-030	3	14	20	62	6	2
	HOF3D-031	3,1	14	20	62	6	2
	HOF3D-032	3,2	14	20	62	6	2
	HOF3D-033	3,3	14	20	62	6	2
	HOF3D-034	3,4	14	20	62	6	2
	HOF3D-035	3,5	14	20	62	6	2
	HOF3D-036	3,6	14	20	62	6	2
	HOF3D-037	3,7	14	20	62	6	2
	HOF3D-038	3,8	14	20	62	6	2
	HOF3D-039	3,9	14	20	62	6	2
	HOF3D-040	4	17	24	66	6	2
	HOF3D-041	4,1	17	24	66	6	2
	HOF3D-042	4,2	17	24	66	6	2
	HOF3D-043	4,3	17	24	66	6	2
	HOF3D-044	4,4	17	24	66	6	2
	HOF3D-045	4,5	17	24	66	6	2
	HOF3D-046	4,6	17	24	66	6	2
	HOF3D-047	4,7	17	24	66	6	2
	HOF3D-048	4,8	17	24	66	6	2
	HOF3D-049	4,9	17	24	66	6	2
	HOF3D-050	5	20	28	66	6	2
	HOF3D-051	5,1	20	28	66	6	2
	HOF3D-052	5,2	20	28	66	6	2
	HOF3D-053	5,3	20	28	66	6	2
	HOF3D-054	5,4	20	28	66	6	2
	HOF3D-055	5,5	20	28	66	6	2
	HOF3D-056	5,6	20	28	66	6	2

●	P
○	M
○	K
○	N
○	S
○	H

Tolerans
Tablosu

$d_1 \leq 6$
0.000
-0.020

$6 \leq d_1 < 12$
0.000
-0.030

$12 \leq d_1$
0.000
-0.035

Stock Code	$d_1 m_7$	L_2	L_3	L_1	d_{2h5}	Z
HOF3D-057	5,7	20	28	66	6	2
HOF3D-058	5,8	20	28	66	6	2
HOF3D-059	5,9	20	28	66	6	2
HOF3D-060	6	20	28	66	6	2
HOF3D-061	6,1	24	34	79	8	2
HOF3D-062	6,2	24	34	79	8	2
HOF3D-063	6,3	24	34	79	8	2
HOF3D-064	6,4	24	34	79	8	2
HOF3D-065	6,5	24	34	79	8	2
HOF3D-066	6,6	24	34	79	8	2
HOF3D-067	6,7	24	34	79	8	2
HOF3D-068	6,8	24	34	79	8	2
HOF3D-069	6,9	24	34	79	8	2
HOF3D-070	7	24	34	79	8	2
HOF3D-071	7,1	29	41	79	8	2
HOF3D-072	7,2	29	41	79	8	2
HOF3D-073	7,3	29	41	79	8	2
HOF3D-074	7,4	29	41	79	8	2
HOF3D-075	7,5	29	41	79	8	2
HOF3D-080	8	29	41	79	8	2
HOF3D-085	8,5	35	47	89	10	2
HOF3D-090	9	35	47	89	10	2
HOF3D-095	9,5	35	47	89	10	2
HOF3D-100	10	35	47	89	10	2
HOF3D-105	10,5	40	55	102	12	2
HOF3D-110	11	40	55	102	12	2
HOF3D-115	11,5	40	55	102	12	2
HOF3D-120	12	40	55	102	12	2
HOF3D-125	12,5	43	60	107	14	2
HOF3D-130	13	43	60	107	14	2
HOF3D-135	13,5	43	60	107	14	2
HOF3D-140	14	43	60	107	14	2
HOF3D-145	14,5	45	65	115	16	2
HOF3D-150	15	45	65	115	16	2
HOF3D-155	15,5	45	65	115	16	2
HOF3D-160	16	45	65	115	16	2
HOF3D-165	16,5	51	73	123	18	2
HOF3D-170	17	51	73	123	18	2
HOF3D-175	17,5	51	73	123	18	2
HOF3D-180	18	51	73	123	18	2
HOF3D-185	18,5	55	79	131	20	2
HOF3D-190	19	55	79	131	20	2
HOF3D-195	19,5	55	79	131	20	2
HOF3D-200	20	55	79	131	20	2



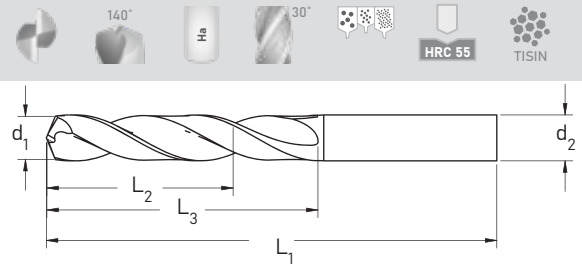
Tolerans
Tablosu

$d_1 < 6$
0.000
-0.020

$6 \leq d_1 < 12$
0.000
-0.030

$12 \leq d_1$
0.000
-0.035

5D CARBIDE DRILLS Z2



	Stock Code	$d_1 m_7$	L_2	L_3	L_1	$d_2 h_5$	Z
	HOF5D-010	1	6,5	8	50	4	2
	HOF5D-011	1,1	7,2	8,8	50	4	2
	HOF5D-012	1,2	7,8	9,6	50	4	2
	HOF5D-013	1,3	8,5	10,4	50	4	2
	HOF5D-014	1,4	9,1	11,2	50	4	2
	HOF5D-015	1,5	9,8	12	50	4	2
	HOF5D-016	1,6	10,4	12,8	50	4	2
	HOF5D-017	1,7	11,1	13,6	50	4	2
	HOF5D-018	1,8	11,7	14,4	50	4	2
	HOF5D-019	1,9	12,4	15,2	50	4	2
	HOF5D-020	2	13	16	50	4	2
	HOF5D-021	2,1	13,7	16,8	50	4	2
	HOF5D-022	2,2	14,3	17,6	50	4	2
	HOF5D-023	2,3	15	18,4	50	4	2
	HOF5D-024	2,4	15,6	19,2	50	4	2
	HOF5D-025	2,5	16,3	20	50	4	2
	HOF5D-026	2,6	16,9	20,8	50	4	2
	HOF5D-027	2,7	17,6	21,6	50	4	2
	HOF5D-028	2,8	18,2	22,4	50	4	2
	HOF5D-029	2,9	18,9	23,2	50	4	2
	HOF5D-030	3	23	28	66	6	2
	HOF5D-031	3,1	23	28	66	6	2
	HOF5D-032	3,2	23	28	66	6	2
	HOF5D-033	3,3	23	28	66	6	2
	HOF5D-034	3,4	23	28	66	6	2
	HOF5D-035	3,5	23	28	66	6	2
	HOF5D-036	3,6	23	28	66	6	2
	HOF5D-037	3,7	23	28	66	6	2
	HOF5D-038	3,8	23	28	66	6	2
	HOF5D-039	3,9	23	28	66	6	2
	HOF5D-040	4	29	36	74	6	2
	HOF5D-041	4,1	29	36	74	6	2
	HOF5D-042	4,2	29	36	74	6	2
	HOF5D-043	4,3	29	36	74	6	2
	HOF5D-044	4,4	29	36	74	6	2
	HOF5D-045	4,5	29	36	74	6	2
	HOF5D-046	4,6	29	36	74	6	2
	HOF5D-047	4,7	29	36	74	6	2
	HOF5D-048	4,8	29	36	74	6	2
	HOF5D-049	4,9	29	36	74	6	2
	HOF5D-050	5	35	44	82	6	2
	HOF5D-051	5,1	35	44	82	6	2
	HOF5D-052	5,2	35	44	82	6	2
	HOF5D-053	5,3	35	44	82	6	2
	HOF5D-054	5,4	35	44	82	6	2
	HOF5D-055	5,5	35	44	82	6	2
	HOF5D-056	5,6	35	44	82	6	2

●	P
○	M
○	K
○	N
○	S
○	H

Tolerans
Tablosu

$d_1 \leq 6$
0.000
-0.020

$6 \leq d_1 < 12$
0.000
-0.030

$12 \leq d_1$
0.000
-0.035

	Stock Code	$d_1 m_7$	L_2	L_3	L_1	$d_{2 h5}$	Z
	HOF5D-057	5,7	35	44	82	6	2
	HOF5D-058	5,8	35	44	82	6	2
	HOF5D-059	5,9	35	44	82	6	2
	HOF5D-060	6	35	44	82	6	2
	HOF5D-061	6,1	43	53	91	8	2
	HOF5D-062	6,2	43	53	91	8	2
	HOF5D-063	6,3	43	53	91	8	2
	HOF5D-064	6,4	43	53	91	8	2
	HOF5D-065	6,5	43	53	91	8	2
	HOF5D-066	6,6	43	53	91	8	2
	HOF5D-067	6,7	43	53	91	8	2
	HOF5D-068	6,8	43	53	91	8	2
	HOF5D-069	6,9	43	53	91	8	2
	HOF5D-070	7	43	53	91	8	2
	HOF5D-071	7,1	43	53	91	8	2
	HOF5D-072	7,2	43	53	91	8	2
	HOF5D-073	7,3	43	53	91	8	2
	HOF5D-074	7,4	43	53	91	8	2
	HOF5D-075	7,5	43	53	91	8	2
	HOF5D-080	8	43	53	91	8	2
	HOF5D-085	8,5	49	61	103	10	2
	HOF5D-090	9	49	61	103	10	2
	HOF5D-095	9,5	49	61	103	10	2
	HOF5D-100	10	49	61	103	10	2
	HOF5D-105	10,5	56	71	118	12	2
	HOF5D-110	11	56	71	118	12	2
	HOF5D-115	11,5	56	71	118	12	2
	HOF5D-120	12	56	71	118	12	2
	HOF5D-125	12,5	60	77	124	14	2
	HOF5D-130	13	60	77	124	14	2
	HOF5D-135	13,5	60	77	124	14	2
	HOF5D-140	14	60	77	124	14	2
	HOF5D-145	14,5	63	83	133	16	2
	HOF5D-150	15	63	83	133	16	2
	HOF5D-155	15,5	63	83	133	16	2
	HOF5D-160	16	63	83	133	16	2
	HOF5D-165	16,5	71	93	143	18	2
	HOF5D-170	17	71	93	143	18	2
	HOF5D-175	17,5	71	93	143	18	2
	HOF5D-180	18	71	93	143	18	2
	HOF5D-185	18,5	77	101	153	20	2
	HOF5D-190	19	77	101	153	20	2
	HOF5D-195	19,5	77	101	153	20	2
	HOF5D-200	20	77	101	153	20	2

	P
	M
	K
	N
	S
	H

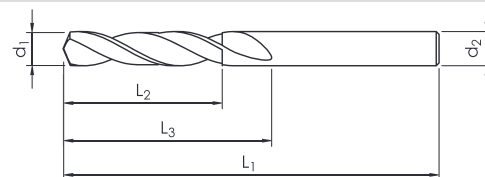
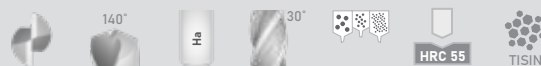
Tolerans
Tablosu

$d_1 < 6$
0.000
-0.020

$6 \leq d_1 < 12$
0.000
-0.030

$12 \leq d_1$
0.000
-0.035

8D CARBIDE DRILLS Z2



Stock Code	$d_1 m_7$	L_2	L_3	L_1	$d_2 h_5$	Z
HOF8D-030	3	29	34	72	6	2
HOF8D-032	3,2	29	34	72	6	2
HOF8D-033	3,3	29	34	72	6	2
HOF8D-035	3,5	29	34	72	6	2
HOF8D-036	3,6	29	34	72	6	2
HOF8D-040	4	36	43	81	6	2
HOF8D-042	4,2	36	43	81	6	2
HOF8D-045	4,5	36	43	81	6	2
HOF8D-048	4,8	36	43	81	6	2
HOF8D-050	5	48	57	95	6	2
HOF8D-055	5,5	48	57	95	6	2
HOF8D-058	5,8	48	57	95	6	2
HOF8D-060	6	48	57	95	6	2
HOF8D-065	6,5	64	76	114	8	2
HOF8D-068	6,8	64	76	114	8	2
HOF8D-070	7	64	76	114	8	2
HOF8D-075	7,5	64	76	114	8	2
HOF8D-080	8	64	76	114	8	2
HOF8D-085	8,5	80	95	142	10	2
HOF8D-090	9	80	95	142	10	2
HOF8D-095	9,5	80	95	142	10	2
HOF8D-100	10	80	95	142	10	2
HOF8D-102	10,2	96	114	162	12	2
HOF8D-105	10,5	96	114	162	12	2
HOF8D-110	11	96	114	162	12	2
HOF8D-115	11,5	96	114	162	12	2
HOF8D-120	12	96	114	162	12	2
HOF8D-125	12,5	112	131	178	14	2
HOF8D-130	13	112	131	178	14	2
HOF8D-135	13,5	112	131	178	14	2
HOF8D-140	14	112	131	178	14	2
HOF8D-145	14,5	128	152	203	16	2
HOF8D-150	15	128	152	203	16	2
HOF8D-155	15,5	128	152	203	16	2
HOF8D-160	16	128	152	203	16	2
HOF8D-165	16,5	144	171	222	18	2
HOF8D-170	17	144	171	222	18	2
HOF8D-175	17,5	144	171	222	18	2
HOF8D-180	18	144	171	222	18	2
HOF8D-190	19	160	190	243	20	2
HOF8D-200	20	160	190	243	20	2

●	P
○	M
○	K
○	N
○	S
○	H

Tolerans
Tablosu

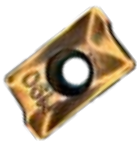
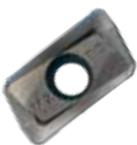
$d_1 < 6$
0.000
-0.020

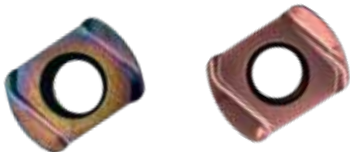
$6 \leq d_1 < 12$
0.000
-0.030

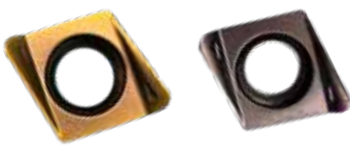
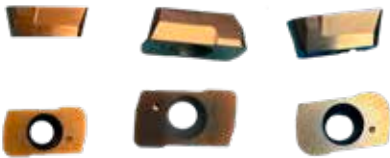
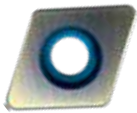
$12 \leq d_1$
0.000
-0.035

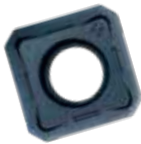
MILLING INSERTS

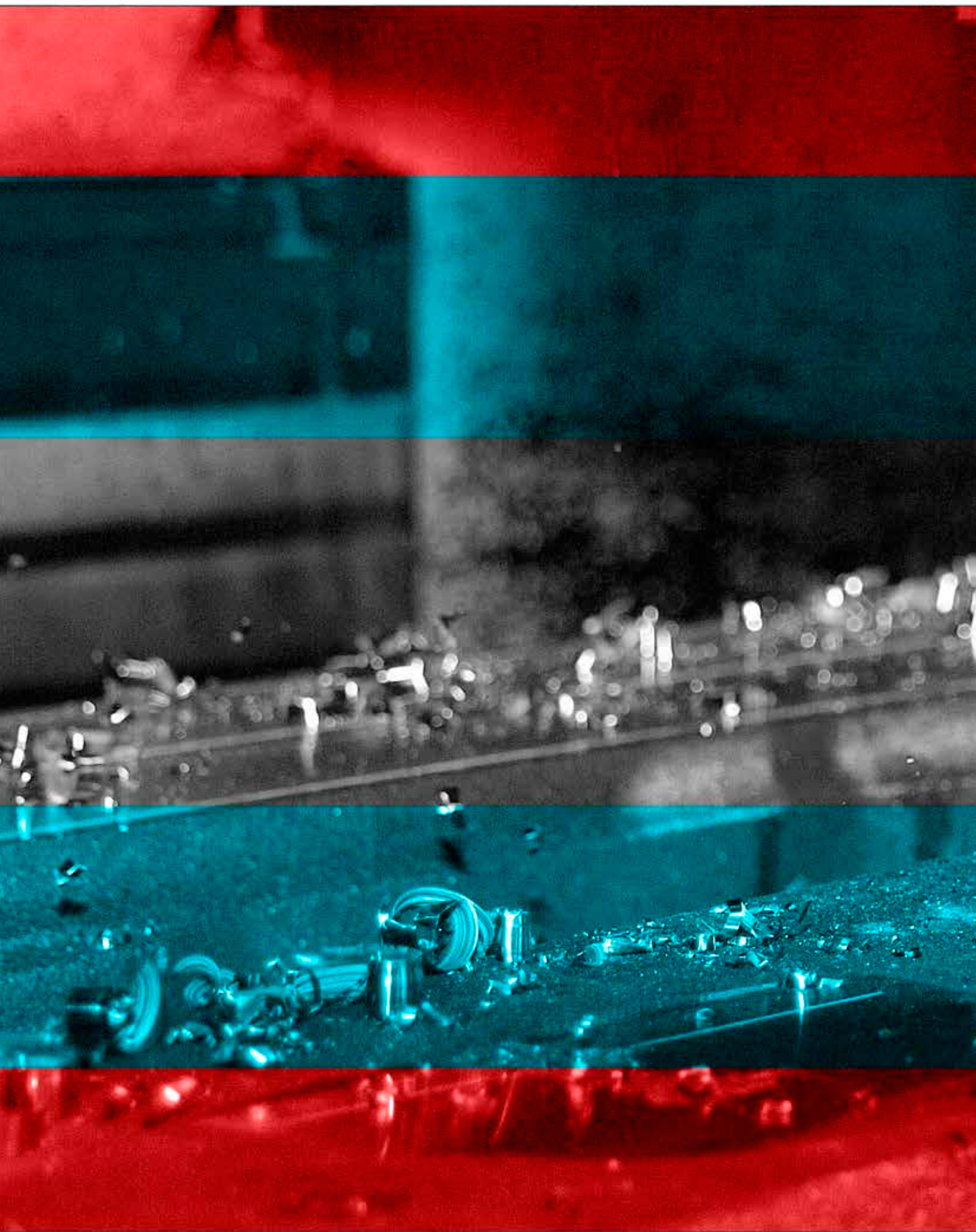


APKT	Stock Code	VC / FZ	P	M	K	N	S	H
 	APKT 100304 PDTR HQ3325	VC: 150 (120 – 200) m/min FZ: 0,12 (0.08-0,2) mm/t	•	•	○			
	APKT 100304 AL1025	VC: 150 (120 – 200) m/min FZ: 0,12 (0.08-0,2) mm/t				•		
	APKT 160408 PDTR HQ3325	VC: 150 (120 – 200) m/min FZ: 0,12 (0.08-0,2) mm/t	•	•	○			
APMT	Stock Code	VC / FZ	P	M	K	N	S	H
	APMT 1135 PDER-M2 HQ3325	VC: 150 (120 – 200) m/min FZ: 0,12 (0.08-0,2) mm/t	•	•	○			
	APMT 160408 HQ3325	VC: 150 (120 – 200) m/min FZ: 0,12 (0.08-0,2) mm/t	•	•	○			
R390	Stock Code	VC / FZ	P	M	K	N	S	H
	R390-11T308M HQ3325	VC: 150 (120 – 200) m/min FZ: 0,12 (0.08-0,2) mm/t	•	•	○			
RDMT	Stock Code	VC / FZ	P	M	K	N	S	H
	RDMT 10T3MOTN HQ3325	VC: 150 (120 – 200) m/min FZ: 0,12 (0.08-0,2) mm/t	•	•	○			
RDKW	Stock Code	VC / FZ	P	M	K	N	S	H
	RDKW 1003 3.2 M HQ3325	VC: 150 (120 – 200) m/min FZ: 0,12 (0.08-0,2) mm/t	•	•	○			
	RDKW 1204 HQ3325	VC: 150 (120 – 200) m/min FZ: 0,12 (0.08-0,2) mm/t	•	•	○			
RPMT	Stock Code	VC / FZ	P	M	K	N	S	H
 	RPMT 1204 MOTN HQ3325	VC: 150 (120 – 200) m/min FZ: 0,12 (0.08-0,2) mm/t	•	•	○			
RCGT	Stock Code	VC / FZ	P	M	K	N	S	H
	RCGT 10T3 AL1025	VC: 150 (120 – 200) m/min FZ: 0,12 (0.08-0,2) mm/t				•		

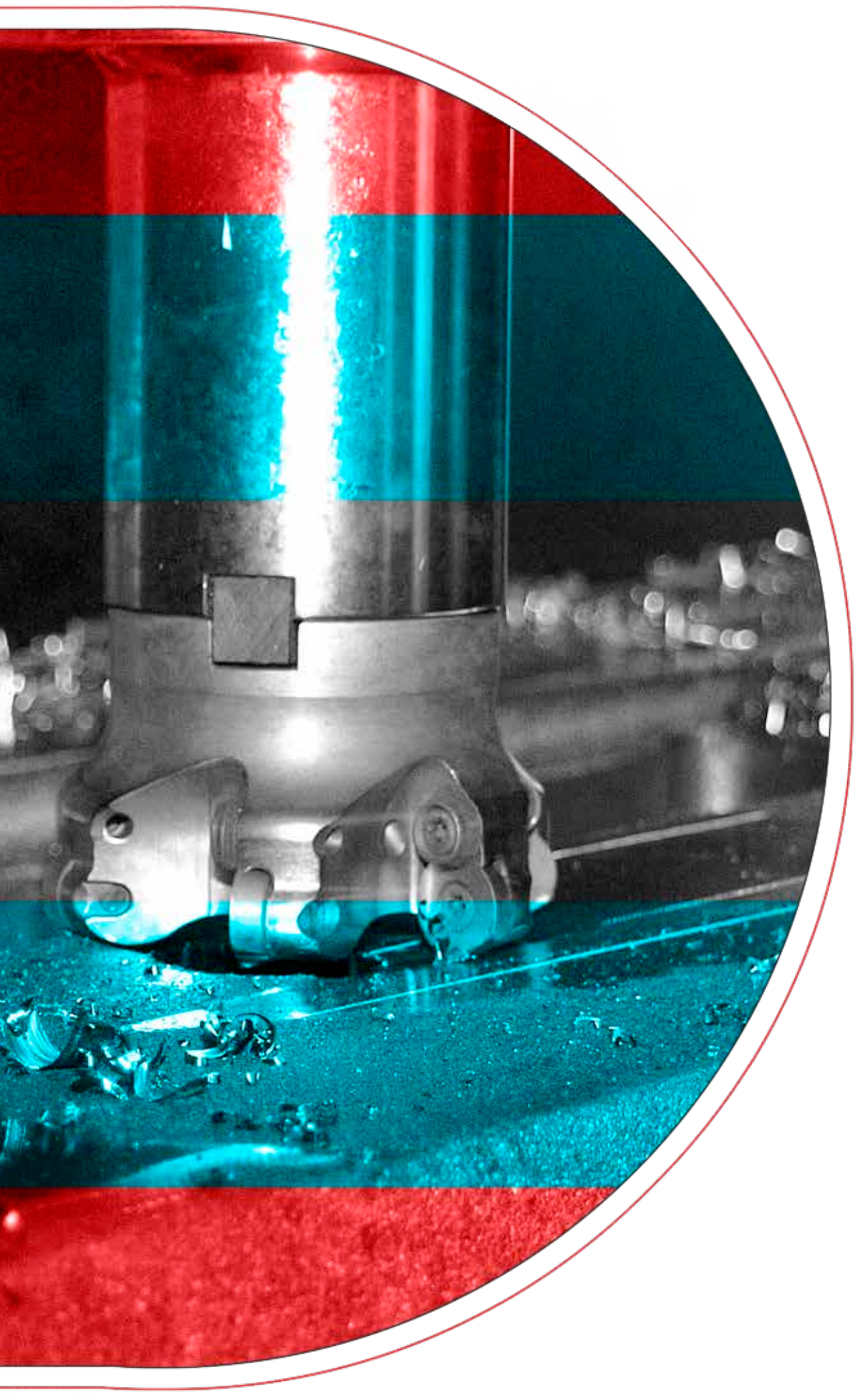
LNMU	Stock Code	VC / FZ	P M K N S H	
	LNMU 030320 DR HQ3325	VC: 180 (120 – 250) m/min FZ: 1.50 (0.50-2.00) mm/t	● ● ○	
	LNMU 030320 LT HQ3315	VC: 180 (120 – 250) m/min FZ: 1.50 (0.50-2.00) mm/t	● ○	
	LNMU 030320 TS HQ3335	VC: 160 (100 – 200) m/min FZ: 1.20 (0.50-1.80) mm/t	● ● ○ ●	
	LNMU 030320 DRLT HQ3345	VC: 130 (80 – 180) m/min FZ: 0,90 (0.60-1,20) mm/t	● ● ● ●	
	LNMU 030320 AL AL1025	VC: 130 (80 – 180) m/min FZ: 0,90 (0.60-1,20) mm/t	● ● ● ●	
BNMX	Stock Code	VC / FZ	P M K N S H	
	BNMX 0603R-M -DR HQ3325	VC: 180 (120 – 250) m/min FZ: 0,80 (0.10-1.50) mm/t	● ● ●	
	BNMX 0603R-M -LT HQ3315	VC: 180 (150 – 210) m/min FZ: 0,80 (0.10-1.50) mm/t	● ● ○	
	BNMX 0603R-M -TS HQ3335	VC: 185 (130 – 240) m/min FZ: 0,80 (0.10-1.50) mm/t	● ● ○ ●	
	BNMX 0603R-M DRLT HQ3345	VC: 180 (120 – 250) m/min FZ: 0,80 (0.10-1.50) mm/t	● ● ○ ●	
	BNMX 0603R-M AL1025	VC: 180 (120 – 250) m/min FZ: 0,80 (0.10-1.50) mm/t	● ● ● ●	
	BNMX 0904-R-M -DR HQ3325	VC: 245 (180 – 310) m/min FZ: 1.40 (0.30-2.50) mm/t	● ● ●	
LMEU	Stock Code	VC / FZ	P M K N S H	
	LMEU 030316 R HQ3325	VC: 150 (120 – 200) m/min FZ: 0,12 (0.08-0,2) mm/t	● ●	
SDMX	Stock Code	VC / FZ	P M K N S H	
	SDMX100420 DR HQ3325	VC: 180 (120 – 250) m/min FZ: 1.50 (0.50-2.00) mm/t	● ● ○	
	SDMX100420 LT HQ3315	VC: 180 (120 – 250) m/min FZ: 1.50 (0.50-2.00) mm/t	● ○	
	SDMX100420 TS HQ3335	VC: 160 (100 – 200) m/min FZ: 1.20 (0.50-1.80) mm/t	● ● ○ ●	
	SDMX100420 AL1025	VC: 160 (100 – 200) m/min FZ: 1.20 (0.50-1.80) mm/t	● ● ● ●	

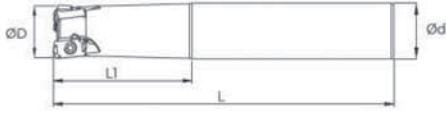
FNKX	Stock Code	VC / FZ	P M K N S H
	FNKX 060308 DR HQ3325	VC: 180 (120 – 250) m/min FZ: 1.50 (0.50-2.00) mm/t	● ● ○
	FNKX 060308 LT HQ3315	VC: 180 (120 – 250) m/min FZ: 1.50 (0.50-2.00) mm/t	● ○
	FNKX 060308 TS HQ3335	VC: 160 (100 – 200) m/min FZ: 1.20 (0.50-1.80) mm/t	● ● ○ ●
	FNKX 060308 AL1025	VC: 160 (100 – 200) m/min FZ: 1.20 (0.50-1.80) mm/t	●
3PKT	Stock Code	VC / FZ	P M K N S H
	3PKT 060308 HQ3325	VC: 130 (80 – 180) m/min FZ: 0,90 (0.60-1,20) mm/t	● ○
	3PKT 100408-R-M HQ3325	VC: 130 (80 – 180) m/min FZ: 0,90 (0.60-1,20) mm/t	● ○
	3PKT 100408-R-M DRLT HQ3345	VC: 130 (80 – 180) m/min FZ: 0,90 (0.60-1,20) mm/t	● ● ● ●
	3PKT 150508-R-M HQ3325	VC: 150 (120 – 200) m/min FZ: 0,12 (0.08-0,2) mm/t	● ● ○
OPHW	Stock Code	VC / FZ	P M K N S H
	OPHW 100308 TS HQ3325	VC: 180 (120 – 250) m/min FZ: 0,80 (0.10-1.50) mm/t	● ● ○ ●
	OPHW 100308 LT HQ3315	VC: 245 (180 – 310) m/min FZ: 1.40 (0.30-2.50) mm/t	● ● ○ ●
	OPHW 100312 TS HQ3325	VC: 180 (120 – 250) m/min FZ: 0,80 (0.10-1.50) mm/t	● ● ○ ●
	OPHW 100320 TS HQ3325	VC: 180 (120 – 250) m/min FZ: 0,80 (0.10-1.50) mm/t	● ● ○ ●
XDHW	Stock Code	VC / FZ	P M K N S H
	XDHW 060210 SN HQ3325	VC: 150 (120 – 200) m/min FZ: 0,12 (0.08-0,2) mm/t	● ● ○
	XDHW 10T310-SN HQ3325	VC: 180 (120 – 250) m/min FZ: 1.50 (0.50-2.00) mm/t	● ● ○

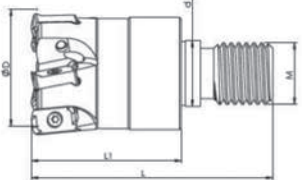
SNMX	Stock Code	VC / FZ	P	M	K	N	S	H
	SNMX 1205 HQ3325	VC: 180 (120 – 250) m/min FZ: 1.50 (0.50-2.00) mm/t	•	•	○			
WANU	Stock Code	VC / FZ	P	M	K	N	S	H
 	WANU 080608 HQ3335	VC: 180 (120 – 250) m/min FZ: 1.50 (0.50-2.00) mm/t	•	•	○			
	WANU 080608 AL1025	VC: 160 (100 – 200) m/min FZ: 1.20 (0.50-1.80) mm/t				•		
	WANU 040304-ER HQ3335	VC: 180 (120 – 250) m/min FZ: 1.50 (0.50-2.00) mm/t	•	•	○			
ONMU	Stock Code	VC / FZ	P	M	K	N	S	H
	ONMU 0505DR HQ3335	VC: 180 (120 – 250) m/min FZ: 1.50 (0.50-2.00) mm/t	•	•	○			
WNMX	Stock Code	VC / FZ	P	M	K	N	S	H
	WNMX 09T316 HQ3335	VC: 180 (120 – 250) m/min FZ: 1.50 (0.50-2.00) mm/t	•	•	○			
JDMT	Stock Code	VC / FZ	P	M	K	N	S	H
	JDMT 070204 R HQ3325	VC: 150 (120 – 200) m/min FZ: 0,12 (0.08-0,2) mm/t	•	•	○			
	JDMT 070208 R HQ3325	VC: 150 (120 – 200) m/min FZ: 0,12 (0.08-0,2) mm/t	•	•	○			
LNGX	Stock Code	VC / FZ	P	M	K	N	S	H
	LNGX 010210 HF HQ3325	VC: 150 (120 – 200) m/min FZ: 0,12 (0.08-0,2) mm/t	•	•	○			



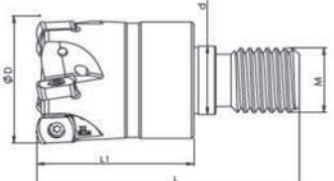
TOOL HOLDERS



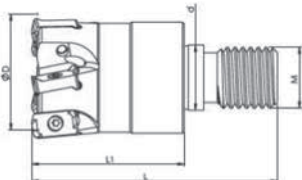
LNMU 	Stock Code	D	Z	L_1	L	d
	LNMU0303 D17 W16 L150 Z02	17	2	25	150	16
	LNMU 0303 D17 W16 L200 Z02	17	2	25	200	16
	LNMU 0303 D21 W20 L150 Z03	21	3	25	150	20
	LNMU 0303 D21 W20 L200 Z03	21	3	25	200	20
	LNMU 0303 D26 W25 L200 Z04	26	4	30	200	25

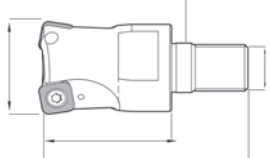
LNMU 	Stock Code	D	Z	L_1	L	d	M
	LNMU 0303 D32 M16 L43 Z05	32	5	43	62	17	16
	LNMU 0303 D35 M16 L43 Z05	35	5	43	62	17	16
	LNMU 0303 D42 M16 L43 Z06	42	6	43	65	17	16

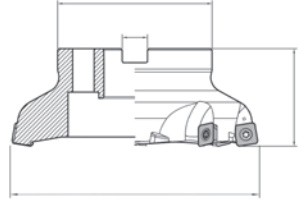
BNMX 	Stock Code	D	Z	L_1	L	d
	BNMX 0603 D16 W16 L150 Z02	16	2	35	150	16
	BNMX 0603 D17 W16 L150 Z02	17	2	25	150	16
	BNMX 0603 D17 W16 L200 Z02	17	2	25	200	16
	BNMX 0603 D21 W20 L150 Z03	21	3	25	150	20
	BNMX 0603 D21 W20 L200 Z03	21	3	30	200	20
	BNMX 0603 D26 W25 L200 Z04	26	4	30	200	25

BNMX 	Stock Code	D	Z	L_1	L	d	M
	BNMX 0603 D32 M16 L43 Z05	32	5	43	60	17	16
	BNMX 0603 D35 M16 L43 Z05	35	5	43	60	17	16
	BNMX 0603 D42 M16 L43 Z06	42	6	43	60	17	16

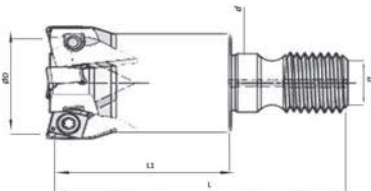
LMEU	Stock Code	D	Z	L ₁	L	d	
	LMEU 0303 D17 W16 L150 Z02	17	2	25	150	16	
	LMEU 0303 D21 W20 L200 Z04	21	4	25	200	20	
	LMEU 0303 D26 W25 L200 Z04	26	4	25	200	25	

LMEU	Stock Code	D	Z	L ₁	L	d	M
	LMEU 0303 D20 M10 L30 Z03	20	3	30	62	10,5	10
	LMEU 0303 D32 M16 L43 Z05	32	5	43	62	17	16
	LMEU 0303 D42 M16 L43 Z05	42	5	43	62	17	16

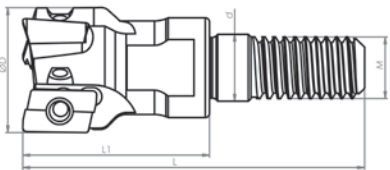
SDMX	Stock Code	D	Z	L ₁	L	d	
	SDMX 1004 D32 M16 L42 Z03	32	3	42	62	16	
	SDMX 1004 D35 M16 L42 Z03	35	3	42	62	16	
	SDMX 1004 D42 M16 L42 Z04	42	4	42	62	16	

SDMX	Stock Code	D	Z	H	A	
	SDMX 1004 D50 A22 Z05	50	5	40	22	
	SDMX 1004 D63 A22 Z06	63	6	40	22	
	SDMX 1004 D66 A22 Z06	66	6	40	22	

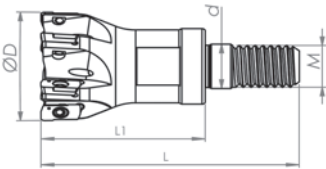
FNKX 	Stock Code	D	Z	L ₁	L	d
	FNKX 0603 D17 W16 L150 Z02	17	2	25	150	16
	FNKX 0603 D17 W16 L200 Z02	17	2	25	200	16
	FNKX 0603 D21 W20 L150 Z02	21	2	25	150	20
	FNKX 0603 D21 W20 L200 Z02	21	2	25	200	20
	FNKX 0603 D26 W25 L200 Z03	26	3	30	200	25
	FNKX0603 D33 W32 L200 Z04	33	4	30	200	32

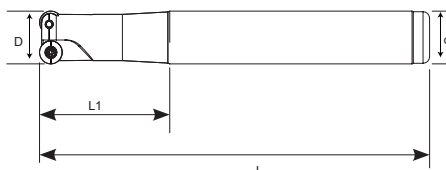
FNKX 	Stock Code	D	Z	L ₁	L	d	M
	FNKX 0603 D17 M8 L24 Z02	17	2	43	24	8,5	8
	FNKX 0603 D20 M10 L30 Z02	20	2	43	30	10,5	10
	FNKX 0603 D21 M10 L30 Z02	21	2	43	30	10,5	10
	FNKX 0603 D26 M12 L35 Z03	26	3	43	35	12,5	12
	FNKX 0603 D32 M16 L43 Z05	32	5	43	43	17	16
	FNKX 0603 D33 M16 L43 Z05	33	5	43	43	17	16
	FNKX 0603 D35 M16 L43 Z05	35	5	43	43	17	16
	FNKX 0603 D42 M16 L43 Z06	42	6	43	43	17	16

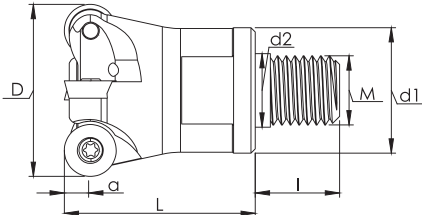
OPHW 	Stock Code	D	Z	L ₁	L	d
	OPHW1003 D17 W16 L150 Z02	17	2	25	150	16
	OPHW1003 D17 W16 L200 Z02	17	2	25	200	16
	OPHW1003 D21 W20 L150 Z03	21	3	25	150	20
	OPHW1003 D21 W20 L200 Z03	21	3	25	200	20
	OPHW1003 D26 W25 L200 Z04	26	3	25	200	20

OPHW 	Stock Code	D	Z	L ₁	L	d	M
	OPHW 1003 D16 M8 L24 Z02	16	2	24	62	8,5	8
	OPHW 1003 D17 M8 L24 Z02	17	2	24	62	8,5	8
	OPHW 1003 D20 M10 L30 Z03	20	3	30	62	10,5	10
	OPHW 1003 D21 M10 L30 Z03	21	3	30	65	10,5	10
	OPHW 1003 D26 M12 L35 Z04	26	4	35	62	12,5	12
	OPHW 1003 D32 M16 L40 Z04	32	4	40	65	17	16
	OPHW 1003 D35 M16 L40 Z05	35	5	40	65	17	16
	OPHW 1003 D42 M16 L40 Z05	42	5	40	65	17	16

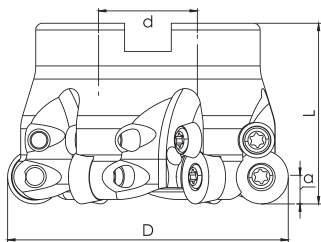
JDMT	Stock Code	D	Z	L ₁	L	d	
	JDMT0702 D10 W10 L120 Z02	10	2	25	120	10	
	JDMT0702 D11 W10 L120 Z02	11	2	25	120	10	
	JDMT0702 D12 W12 L120 Z03	12	3	25	120	12	
	JDMT0702 D13 W12 L120 Z03	13	3	25	120	12	

JDMT	Stock Code	D	Z	L ₁	L	d	M
	JDMT0702 D11 M5 L18 Z02	11	2	18	62	5,5	5
	JDMT0702 D13 M6 L18 Z03	13	3	18	62	6,5	6

RDHX	Stock Code	D	Z	L ₁	L	d	
	RDHX1003 D21 W20 L150 Z02	21	2	25	150	20	
	RDHX1003 D26 W25 L200 Z03	26	3	25	200	25	

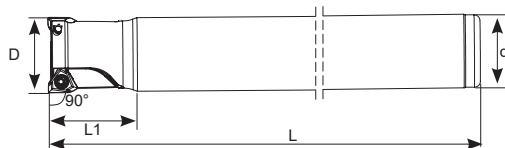
RDHX	Stock Code	D	Z	L ₁	L	d	M
	RDHX10T3 D32 M16 L43 Z03	32	3	40	65	17	16
	RDHX10T3 D35 M16 L43 Z03	35	3	40	65	17	16
	RDHX10T3 D42 M16 L43 Z04	42	4	40	65	17	16

RDMT



Stock Code	D	Z	H	A
RDMT1204 D52 A22 Z05-H	52	5	40	22
RDMT1204 D66 A22 Z06-H	66	6	40	22

3PKT



Stock Code	D	Z	L ₁	L	d
3PKT1004 D21 W20 L200 Z02	21	2	25	200	20
3PKT1004 D26 W25 L200 Z03	26	3	25	200	25

CARBIDE SHAFT

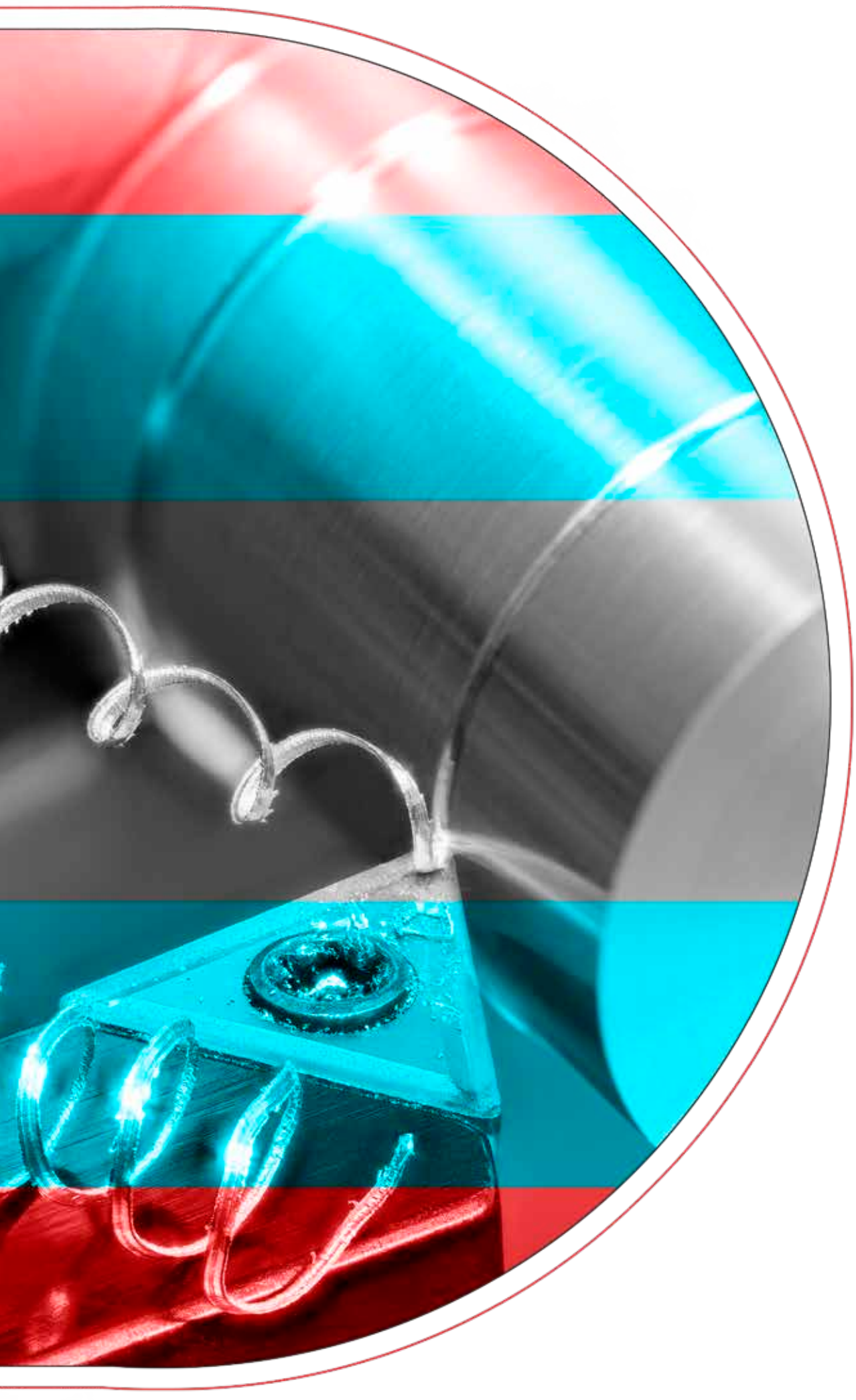


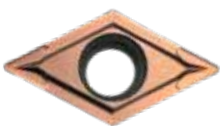
CARBIDE SHAFT

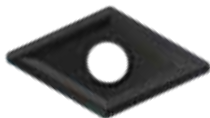


	Stock Code	d ₁	L ₂	M
	HOFKŞ 10100	10	100	5
	HOFKŞ 10150	10	150	5
	HOFKŞ 12100	12	100	6
	HOFKŞ 12150	12	150	6
	HOFKŞ 12200	12	200	6
	HOFKŞ 16150	16	150	8
	HOFKŞ 16200	16	200	8
	HOFKŞ 16250	16	250	8
	HOFKŞ 20150	20	150	10
	HOFKŞ 20200	20	200	10
	HOFKŞ 20250	20	250	10
	HOFKŞ 20300	20	300	10
	HOFKŞ 25150	25	150	12
	HOFKŞ 25200	25	200	12
	HOFKŞ 25250	25	250	12
	HOFKŞ 25300	25	300	12
	HOFKŞ 32150	32	150	16
	HOFKŞ 32200	32	200	16
	HOFKŞ 32250	32	250	16
	HOFKŞ 32300	32	300	16

TURNING

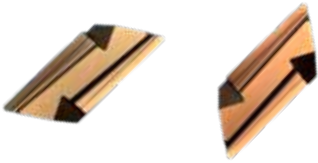


CCMT	Stock Code	VC / FZ	P M K N S H	
	CCMT 060204 HQ3325	VC: 180 (200 – 300) m/min FZ: 0,20 (0.05-0.28) mm/t	● ● ●	
	CCMT 060208 HQ3325	VC: 180 (200 – 300) m/min FZ: 0,20 (0.05-0.28) mm/t	● ● ●	
	CCMT 09T304 HQ3325	VC: 180 (200 – 300) m/min FZ: 0,20 (0.05-0.28) mm/t	● ● ●	
	CCMT 09T308 HQ3325	VC: 180 (200 – 300) m/min FZ: 0,20 (0.05-0.28) mm/t	● ● ●	
CNMG	Stock Code	VC / FZ	P M K N S H	
	CNMG 120404 HQ3325	VC: 240 (80 – 320) m/min FZ: 0,20 (0.12-0.24) mm/t	● ● ●	
	CNMG 120408 HQ3325	VC: 240 (80 – 320) m/min FZ: 0,20 (0.12-0.24) mm/t	● ● ●	
	CNMG 160608 HQ3325	VC: 240 (80 – 320) m/min FZ: 0,20 (0.12-0.24) mm/t	● ● ●	
	CNMG 190608 HQ3325	VC: 325 (275-395) m/min FZ: 0,35 (0.20-0.50) mm/t	● ● ●	
DCMT	Stock Code	VC / FZ	P M K N S H	
	DCMT T070204 HQ3325	VC: 180 (200 – 300) m/min FZ: 0,20 (0.05-0.28) mm/t	● ● ●	
	DCMT 070208 HQ3325	VC: 180 (200 – 300) m/min FZ: 0,20 (0.05-0.28) mm/t	● ● ●	
	DCMT 11T308 HQ3325	VC: 180 (200 – 300) m/min FZ: 0,20 (0.05-0.28) mm/t	● ● ●	
	DCMT 11T304 HQ3325	VC: 180 (200 – 300) m/min FZ: 0,20 (0.05-0.28) mm/t	● ● ●	
TNMG	Stock Code	VC / FZ	P M K N S H	
	TNMG 160404 HQ3325	VC: 180 (140 – 260) m/min FZ: 0,1 (0.05-0,2) mm/t	● ● ●	
	TNMG 160408 HQ3325	VC: 180 (140 – 260) m/min FZ: 0,1 (0.05-0,2) mm/t	● ● ●	
	TNMG 220408 HQ3325	VC: 180 (140 – 260) m/min FZ: 0,1 (0.05-0,2) mm/t	● ● ●	

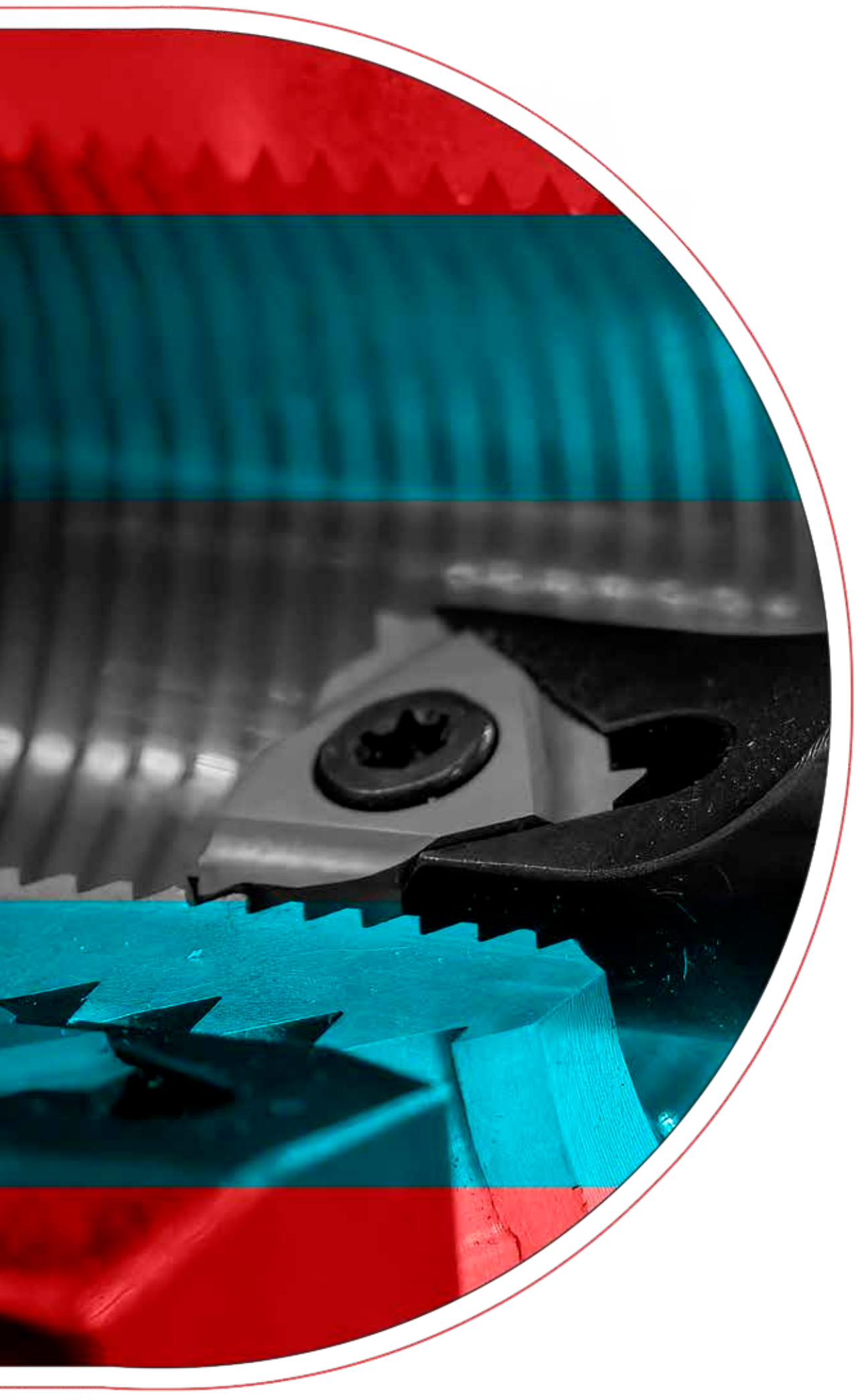
MGMN	Stock Code	VC / FZ	P	M	K	N	S	H
	MGMN 200 HQ3325	VC: 165 (110 – 220) m/min FZ: 0,08 (0.05-0,15) mm/t	•	•	•			
	MGMN 300 HQ3325	VC: 165 (110 – 220) m/min FZ: 0,08 (0.05-0,15) mm/t	•	•	•			
	MGMN 400 HQ3325	VC: 165 (110 – 220) m/min FZ: 0,08 (0.05-0,15) mm/t	•	•	•			
	MGMN 500 HQ3325	VC: 165 (110 – 220) m/min FZ: 0,08 (0.05-0,15) mm/t	•	•	•			
WNMG	Stock Code	VC / FZ	P	M	K	N	S	H
	WNMG 080404 HQ3325	VC: 250 (200 – 300) m/min FZ: 0,25 (0.12-0.35) mm/t	•	•	•			
	WNMG 080408 HQ3325	VC: 250 (200 – 300) m/min FZ: 0,25 (0.12-0.35) mm/t	•	•	•			
	WNMG 080412 HQ3325	VC: 250 (200 – 300) m/min FZ: 0,25 (0.12-0.35) mm/t	•	•	•			
TCMT	Stock Code	VC / FZ	P	M	K	N	S	H
	TCMT 110204 HQ3325	VC: 170 (145 – 210) m/min FZ: 0,80 (0.10-1.50) mm/t	•	•	•			
	TCMT 110208 HQ3325	VC: 170 (145 – 210) m/min FZ: 0,80 (0.10-1.50) mm/t	•	•	•			
	TCMT 16T304 HQ3325	VC: 170 (145 – 210) m/min FZ: 0,80 (0.10-1.50) mm/t	•	•	•			
	TCMT 160408 HQ3325	VC: 170 (145 – 210) m/min FZ: 0,80 (0.10-1.50) mm/t	•	•	•			
DNMG	Stock Code	VC / FZ	P	M	K	N	S	H
	DNMG 150604 HQ3325	VC: 150 (80 – 250) m/min FZ: 0,20 (0.10-0.30) mm/t	•	•	•			
	DNMG 150608 HQ3325	VC: 150 (80 – 250) m/min FZ: 0,20 (0.10-0.30) mm/t	•	•	•			
	DNMG 150612 HQ3325	VC: 150 (80 – 250) m/min FZ: 0,20 (0.10-0.30) mm/t	•	•	•			
VBMT	Stock Code	VC / FZ	P	M	K	N	S	H
	VBMT 160404 HQ3325	VC: 190 (120 – 260) m/min FZ: 0,12 (0.08-0.16) mm/t	•	•	•			
	VBMT 160408 HQ3325	VC: 190 (120 – 260) m/min FZ: 0,12 (0.08-0.16) mm/t	•	•	•			

VCGT	Stock Code	VC / FZ	P M K N S H	
	VCGT 110302	VC: 150 (120 – 200) m/min FZ: 0,12 (0.08-0,2) mm/t	● ● ○	
	Eklenecek mi?	VC: 180 (120 – 250) m/min FZ: 1.50 (0.50-2.00) mm/t	● ● ○	
VCMT	Stock Code	VC / FZ	P M K N S H	
	VCMT 160404	VC: 150 (120 – 200) m/min FZ: 0,12 (0.08-0,2) mm/t	● ● ○	
	VCMT 160408	VC: 180 (120 – 250) m/min FZ: 1.50 (0.50-2.00) mm/t	● ● ○	
VNMG	Stock Code	VC / FZ	P M K N S H	
	VNMG 160404	VC: 150 (120 – 200) m/min FZ: 0,12 (0.08-0,2) mm/t	● ● ○	
	VNMG 160408	VC: 180 (120 – 250) m/min FZ: 1.50 (0.50-2.00) mm/t	● ● ○	
TCMX	Stock Code	VC / FZ	P M K N S H	
	TCMX 080204 C ANGLE	VC: 150 (120 – 200) m/min FZ: 0,12 (0.08-0,2) mm/t	● ● ○	
	TCMX 080204 R ANGLE	VC: 180 (120 – 250) m/min FZ: 1.50 (0.50-2.00) mm/t	● ● ○	
WNMA	Stock Code	VC / FZ	P M K N S H	
	WNMA 080404	VC: 150 (120 – 200) m/min FZ: 0,12 (0.08-0,2) mm/t	● ● ○	
	WNMA 080408	VC: 180 (120 – 250) m/min FZ: 1.50 (0.50-2.00) mm/t	● ● ○	
CNMA	Stock Code	VC / FZ	P M K N S H	
	CNMA 120408	VC: 150 (120 – 200) m/min FZ: 0,12 (0.08-0,2) mm/t	● ● ○	
	CNMA 120412	VC: 180 (120 – 250) m/min FZ: 1.50 (0.50-2.00) mm/t	● ● ○	

WCMX		Stock Code	VC / FZ	P	M	K	N	S	H
	WCMX 030208 HQ3325	VC: 165 (110 – 220) m/min FZ: 0,08 (0.05–0,15) mm/t	●	●	●				
	WCMX 040208 HQ3325	VC: 165 (110 – 220) m/min FZ: 0,08 (0.05–0,15) mm/t	●	●	●				
	WCMX 050208 HQ3325	VC: 165 (110 – 220) m/min FZ: 0,08 (0.05–0,15) mm/t	●	●	●				
	WCMX 06T308 HQ3325	VC: 165 (110 – 220) m/min FZ: 0,08 (0.05–0,15) mm/t	●	●	●				
	WCMX 08T308 HQ3325	VC: 165 (110 – 220) m/min FZ: 0,08 (0.05–0,15) mm/t	●	●	●				
SPMG		Stock Code	VC / FZ	P	M	K	N	S	H
	SPMG 050204 HQ3325	VC: 165 (110 – 220) m/min FZ: 0,08 (0.05–0,15) mm/t	●	●	●				
	SPMG 060204 HQ3325	VC: 165 (110 – 220) m/min FZ: 0,08 (0.05–0,15) mm/t	●	●	●				
	SPMG 070208 HQ3325	VC: 165 (110 – 220) m/min FZ: 0,08 (0.05–0,15) mm/t	●	●	●				
	SPMG 090408 HQ3325	VC: 165 (110 – 220) m/min FZ: 0,08 (0.05–0,15) mm/t	●	●	●				
	SPMG 110408 HQ3325	VC: 170 (180– 260) m/min FZ: 0,80 (0.10–1.50) mm/t	●	●	●				
	SPMG 140512 HQ3325	VC: 170 (180– 260) m/min FZ: 0,80 (0.10–1.50) mm/t	●	●	●				
TPGH		Stock Code	VC / FZ	P	M	K	N	S	H
	TPGH 090204	VC: 150 (120 – 200) m/min FZ: 0,12 (0.08–0,2) mm/t	●	●	○				
	TPGH 110204	VC: 180 (120 – 250) m/min FZ: 1.50 (0.50–2.00) mm/t	●	●	○				
DCGT		Stock Code	VC / FZ	P	M	K	N	S	H
	DCGT 11T302	VC: 150 (120 – 200) m/min FZ: 0,12 (0.08–0,2) mm/t	●	●	○				
	DCGT 11T304	VC: 180 (120 – 250) m/min FZ: 1.50 (0.50–2.00) mm/t	●	●	○				

CCGW	Stock Code	VC / FZ	P M K N S H	
	CCGW 09T304	VC: 150 (120 – 200) m/min FZ: 0,12 (0.08-0,2) mm/t	● ● ○	
	CCGW 09T308	VC: 180 (120 – 250) m/min FZ: 1.50 (0.50-2.00) mm/t	● ● ○	
DCGW	Stock Code	VC / FZ	P M K N S H	
	DCGW 070202	VC: 150 (120 – 200) m/min FZ: 0,12 (0.08-0,2) mm/t	● ● ○	
	DCGW 070204	VC: 150 (120 – 200) m/min FZ: 0,12 (0.08-0,2) mm/t	● ● ○	
TPKN	Stock Code	VC / FZ	P M K N S H	
	TPKN 1603	VC: 150 (120 – 200) m/min FZ: 0,12 (0.08-0,2) mm/t	● ● ○	
	TPKN 2204	VC: 180 (120 – 250) m/min FZ: 1.50 (0.50-2.00) mm/t	● ● ○	
KNUX	Stock Code	VC / FZ	P M K N S H	
	KNUX 160405R	VC: 165 (110 – 220) m/min FZ: 0,08 (0.05-0,15) mm/t	● ● ○	
	KNUX 160405R (DR)	VC: 165 (110 – 220) m/min FZ: 0,08 (0.05-0,15) mm/t	● ● ○	
	KNUX 160405R (LT)	VC: 165 (110 – 220) m/min FZ: 0,08 (0.05-0,15) mm/t	● ● ○	
	KNUX 160405L	VC: 165 (110 – 220) m/min FZ: 0,08 (0.05-0,15) mm/t	● ● ○	
	KNUX 160405L (DR)	VC: 170 (180 – 260) m/min FZ: 0,80 (0.10-1.50) mm/t	● ● ○	
	KNUX 160405L (LT)	VC: 170 (180 – 260) m/min FZ: 0,80 (0.10-1.50) mm/t	● ● ○	

THREADING INSERTS



11ER



Stock Code

P	M	K	N	S	H
●	●	○			
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●	●	○			
●	●	○			
●	●	○			
●	●	○			
●	●	○			

11 ER AG60

11 ER 0,50

11 ER 0,75

11 ER 1,00

11 ER 1,25

11 ER 1,50

11 ER 1,75

16ER



Stock Code

P	M	K	N	S	H
●	●	○			
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●	●	○			
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●	●	○			
●	●	○			
●	●	○			
●	●	○			

16 ER AG60

16 ER 0,50

16 ER 0,75

16 ER 1,00

16 ER 1,25

16 ER 1,50

16 ER 1,75

16 ER 2,00

16 ER 2,50

16 ER 3,00

16 ER 3,50

22ER



Stock Code

P	M	K	N	S	H
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●	●	○			
●	●	○			
●	●	○			
●	●	○			
●	●	○			

22 ER AG60

22 ER 3,50

22 ER 4,00

22 ER 4,50

22 ER 5,00

22 ER 6,00

11IR



Stock Code

P	M	K	N	S	H
●	●	○			
●	●	○			
●	●	○			
●	●	○			
●	●	○			
●	●	○			
●	●	○			

11 IR A60

11 IR 0,50

11 IR 0,75

11 IR 1,00

11 IR 1,25

11 IR 1,50

11 IR 1,75

16IR



Stock Code

P	M	K	N	S	H
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●	●	○			
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16 IR A60

16 IR 0,50

16 IR 0,75

16 IR 1,00

16 IR 1,25

16 IR 1,50

16 IR 1,75

16 IR 2,00

16 IR 2,50

16 IR 3,00

16 IR 3,50

22IR



Stock Code

P	M	K	N	S	H
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●	●	○			

22 IR A60

22 IR 3,50

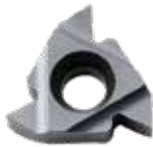
22 IR 4,00

22 IR 4,50

22 IR 5,00

22 IR 6,00

ER WHITWORTH



Stock Code

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●	●	○			
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●	●	○			

IR WHITWORTH



Stock Code

P	M	K	N	S	H
●	●	○			
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●	●	○			

TRAPEZ



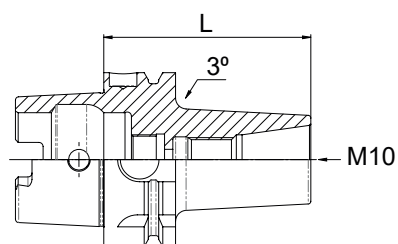
Stock Code

P	M	K	N	S	H
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●	●	○			

SHRINK HOLDERS

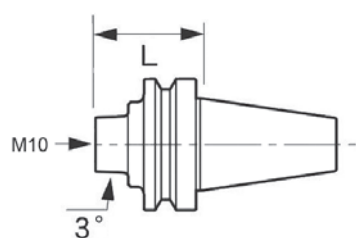


HSK TYPE



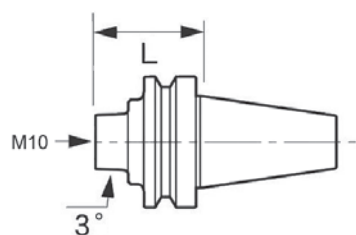
TİP	L
HSK63A SLK12-45	15
HSK63A SLK12-75	15

BT TYPE



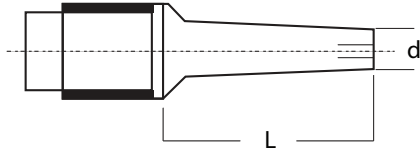
TİP	L
BT40 SLK12-45	45
BT40 SLK12-75	75
BT50 SLK12-105	105

BBT TYPE



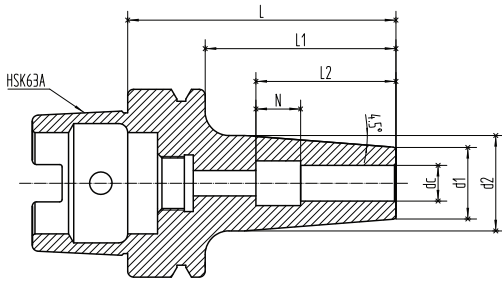
TİP	L
BBT40 SLK12-45	45
BBT40 SLK12-75	75
BBT50 SLK12-105	105

SHRINK MODULLAR



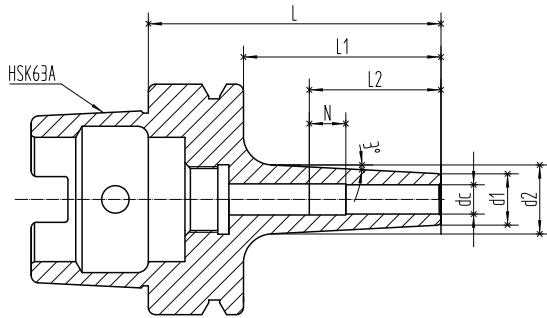
	Tip	Stock Code	Açıklama	L	d _(mm)
CS 1,5mm		HFNT.CS12-03-055	CS12-03-55	55	3
		HFNT.CS12-03-080	CS12-03-80	80	3
		HFNT.CS12-03-110	CS12-03-110	110	3
		HFNT.CS12-04-055	CS12-04-55	55	4
		HFNT.CS12-04-080	CS12-04-80	80	4
		HFNT.CS12-04-110	CS12-04-110	110	4
		HFNT.CS12-06-055	CS12-06-55	55	6
		HFNT.CS12-06-080	CS12-06-80	80	6
		HFNT.CS12-06-110	CS12-06-110	110	6
		HFNT.CS12-08-055	CS12-08-55	55	8
		HFNT.CS12-08-080	CS12-08-80	80	8
		HFNT.CS12-08-110	CS12-08-110	110	8
		HFNT.CS12-10-055	CS12-10-55	55	10
		HFNT.CS12-10-080	CS12-10-80	80	10
		HFNT.CS12-10-110	CS12-10-110	110	10
		HFNT.CS12-12-055	CS12-12-55	55	12
		HFNT.CS12-12-080	CS12-12-80	80	12
		HFNT.CS12-12-110	CS12-12-110	110	12
CR 3mm		HFNT.CR12-04-055	CR12-04-55	55	4
		HFNT.CR12-04-080	CR12-04-80	80	4
		HFNT.CR12-04-110	CR12-04-110	110	4
		HFNT.CR12-06-055	CR12-06-55	55	6
		HFNT.CR12-06-080	CR12-06-80	80	6
		HFNT.CR12-06-110	CR12-06-110	110	6
		HFNT.CR12-08-055	CR12-08-55	55	8
		HFNT.CR12-08-080	CR12-08-80	80	8
		HFNT.CR12-08-110	CR12-08-110	110	8
		HFNT.CR12-10-055	CR12-10-55	55	10
		HFNT.CR12-10-080	CR12-10-80	80	10
		HFNT.CR12-10-110	CR12-10-110	110	10
		HFNT.CR12-12-055	CR12-12-55	55	12
		HFNT.CR12-12-080	CR12-12-80	80	12
		HFNT.CR12-12-110	CR12-12-110	110	12

SF SHRINK TYPE HOLDERS



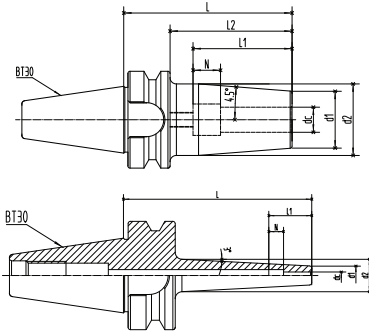
Tip	Stock Code	Açıklama	dc	d ₁	d ₂	L	L ₁	L ₂	
HSK63SF	HSK63.SF04.80	HSK63.SF04.80	4	15	20	80	54	20	
	HSK63.SF04.120	HSK63.SF04.120	4	15	20	120	94	20	
	HSK63.SF04.160	HSK63.SF04.160	4	15	20	160	134	20	
	HSK63.SF06.80	HSK63.SF06.80	6	21	27	80	54	33	
	HSK63.SF06.120	HSK63.SF06.120	6	21	27	120	94	33	
	HSK63.SF06.160	HSK63.SF06.160	6	21	27	160	134	33	
	HSK63.SF08.80	HSK63.SF08.80	8	21	27	80	54	36	
	HSK63.SF08.120	HSK63.SF08.120	8	21	27	120	94	36	
	HSK63.SF08.160	HSK63.SF08.160	8	21	27	160	134	36	
	HSK63.SF10.85	HSK63.SF10.85	10	24	32	85	59	42	
	HSK63.SF10.120	HSK63.SF10.120	10	24	32	120	94	42	
	HSK63.SF10.160	HSK63.SF10.160	10	24	32	160	134	42	
	HSK63.SF12.90	HSK63.SF12.90	12	24	32	90	64	47	
	HSK63.SF12.120	HSK63.SF12.120	12	24	32	120	94	47	
	HSK63.SF12.160	HSK63.SF12.160	12	24	32	160	134	47	
	HSK63.SF14.90	HSK63.SF14.90	14	27	34	90	64	47	
	HSK63.SF16.95	HSK63.SF16.95	16	27	34	95	69	50	
	HSK63.SF16.120	HSK63.SF16.120	16	27	34	120	94	50	
	HSK63.SF16.160	HSK63.SF16.160	16	27	34	160	134	50	
	HSK63.SF18.95	HSK63.SF18.95	18	33	42	95	69	50	
	HSK63.SF20.100	HSK63.SF20.100	20	33	42	100	74	52	
	HSK63.SF20.130	HSK63.SF20.130	20	33	42	130	104	52	
	HSK63.SF20.160	HSK63.SF20.160	20	33	42	160	134	52	
	HSK63.SF25.115	HSK63.SF25.115	25	44	53	115	89	58	
	HSK63.SF25.130	HSK63.SF25.130	25	44	53	130	104	58	
	HSK63.SF25.160	HSK63.SF25.160	25	44	53	160	134	58	
	HSK63.SF32.120	HSK63.SF32.120	32	44	53	120	94	58	
	HSK63.SF32.160	HSK63.SF32.160	32	44	53	160	134	58	

SFS SHRINK TYPE HOLDERS



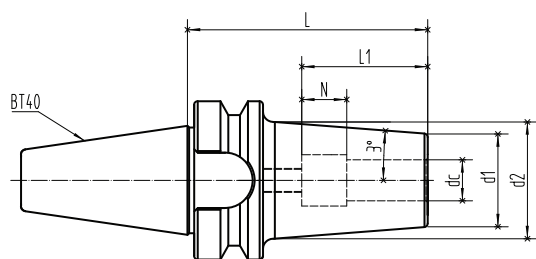
Tip	Stock Code	Açıklama	dc	d ₁	d ₂	L	L ₁	L ₂	
HSK63SFS	HFNT.HSK63.SFS04.80	HSK63.SFS04.80	4	10	16	80	54	20	
	HFNT.HSK63.SFS04.120	HSK63.SFS04.120	4	10	19	120	94	20	
	HFNT.HSK63.SFS04.160	HSK63.SFS04.160	4	10	22	160	134	20	
	HFNT.HSK63.SFS06.80	HSK63.SFS06.80	6	12	18	80	54	33	
	HFNT.HSK63.SFS06.120	HSK63.SFS06.120	6	12	21	120	94	33	
	HFNT.HSK63.SFS06.160	HSK63.SFS06.160	6	12	24	160	134	33	
	HFNT.HSK63.SFS08.80	HSK63.SFS08.80	8	14	20	80	54	36	
	HFNT.HSK63.SFS08.120	HSK63.SFS08.120	8	14	23	120	94	36	
	HFNT.HSK63.SFS08.160	HSK63.SFS08.160	8	14	26	160	134	36	
	HFNT.HSK63.SFS10.90	HSK63.SFS10.90	10	16	22	90	64	42	
	HFNT.HSK63.SFS10.120	HSK63.SFS10.120	10	16	25	120	94	42	
	HFNT.HSK63.SFS10.160	HSK63.SFS10.160	10	16	28	160	134	42	
	HFNT.HSK63.SFS12.90	HSK63.SFS12.90	12	18	24	90	64	47	
	HFNT.HSK63.SFS21.120	HSK63.SFS21.120	12	18	27	120	94	47	
	HFNT.HSK63.SFS12.160	HSK63.SFS12.160	12	18	30	160	134	47	

BT30 - SF/SFS TYPE SHRINK HOLDERS



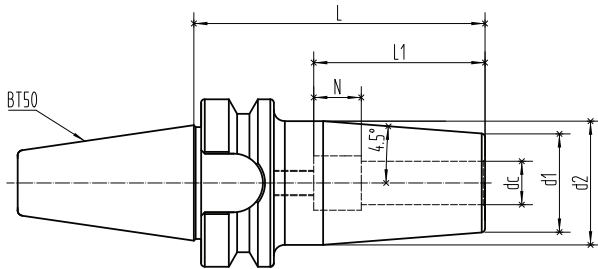
Tip	Stock Code	Açıklama	dc	d ₁	d ₂	L	L ₁	L ₂	
SF	HFNT.BT30.SF03.80	BT30.SF03.80	3	15	20	80	58	11	
	HFNT.BT30.SF04.80	BT30.SF04.80	4	15	20	80	58	20	
	HFNT.BT30.SF06.80	BT30.SF06.80	6	21	27	80	58	36	
	HFNT.BT30.SF08.80	BT30.SF08.80	8	21	27	80	58	37	
	HFNT.BT30.SF10.80	BT30.SF10.80	10	24	32	80	58	42	
	HFNT.BT30.SF12.80	BT30.SF12.80	12	24	32	80	58	48	
	HFNT.BT30.SF14.80	BT30.SF14.80	14	27	34	80	58	47	
	HFNT.BT30.SF16.80	BT30.SF16.80	16	27	34	80	58	51	
	HFNT.BT30.SF18.80	BT30.SF18.80	18	33	42	80	58	50	
	HFNT.BT30.SF20.80	BT30.SF20.80	20	33	42	80	58	50	
SFS	HFNT.BT30.SFS03.80	BT30.SFS03.80	3	9	14	80	11	-	
	HFNT.BT30.SFS04.80	BT30.SFS04.80	4	10	16	80	20	-	
	HFNT.BT30.SFS06.80	BT30.SFS06.80	6	12	18	80	36	-	
	HFNT.BT30.SFS08.80	BT30.SFS08.80	8	14	20	80	37	-	
	HFNT.BT30.SFS10.80	BT30.SFS10.80	10	16	22	80	42	-	
	HFNT.BT30.SFS12.80	BT30.SFS12.80	12	18	24	80	48	-	

BT40 - SFS TYPE SHRINK HOLDERS



Tip	Stock Code	Açıklama	dc	d ₁	d ₂	L	L ₁
BT40SFS	HFNT.BT40.SFS04.90	BT40.SFS04.90	4	10	16	90	16
	HFNT.BT40.SFS04.120	BT40.SFS04.120	4	10	19	120	16
	HFNT.BT40.SFS04.160	BT40.SFS04.160	4	10	22	160	16
	HFNT.BT40.SFS06.90	BT40.SFS06.90	6	12	18	90	36
	HFNT.BT40.SFS06.120	BT40.SFS06.120	6	12	21	120	36
	HFNT.BT40.SFS06.160	BT40.SFS06.160	6	12	24	160	36
	HFNT.BT40.SFS08.90	BT40.SFS08.90	8	14	20	90	36
	HFNT.BT40.SFS08.120	BT40.SFS08.120	8	14	23	120	36
	HFNT.BT40.SFS08.160	BT40.SFS08.160	8	14	26	160	36
	HFNT.BT40.SFS10.90	BT40.SFS10.90	10	16	22	90	42
	HFNT.BT40.SFS10.120	BT40.SFS10.120	10	16	25	120	42
	HFNT.BT40.SFS10.160	BT40.SFS10.160	10	16	28	160	42
	HFNT.BT40.SFS12.90	BT40.SFS12.90	12	18	24	90	47
	HFNT.BT40.SFS12.120	BT40.SFS12.120	12	18	27	120	47
	HFNT.BT40.SFS12.160	BT40.SFS12.160	12	18	30	160	47

BT50 - SF TYPE SHRINK HOLDERS



Tip	Stock Code	Açıklama	dc	d ₁	d ₂	L	L ₁
BT50SF	HFNT.BT50.SF06.100	BT50.SF06.100	6	21	27	100	36
	HFNT.BT50.SF06.120	BT50.SF06.120	6	21	27	120	36
	HFNT.BT50.SF06.160	BT50.SF06.160	6	21	27	160	36
	HFNT.BT50.SF08.100	BT50.SF08.100	8	21	27	100	37
	HFNT.BT50.SF08.120	BT50.SF08.120	8	21	27	120	37
	HFNT.BT50.SF08.160	BT50.SF08.160	8	21	27	160	37
	HFNT.BT50.SF10.100	BT50.SF10.100	10	24	32	100	42
	HFNT.BT50.SF10.120	BT50.SF10.120	10	24	32	120	42
	HFNT.BT50.SF10.160	BT50.SF10.160	10	24	32	160	42
	HFNT.BT50.SF12.100	BT50.SF12.100	12	24	32	100	48
	HFNT.BT50.SF12.120	BT50.SF12.120	12	24	32	120	48
	HFNT.BT50.SF12.160	BT50.SF12.160	12	24	32	160	48
	HFNT.BT50.SF14.100	BT50.SF14.100	14	27	34	100	48
	HFNT.BT50.SF16.100	BT50.SF16.100	16	27	34	100	51
	HFNT.BT50.SF16.120	BT50.SF16.120	16	27	34	120	51
	HFNT.BT50.SF16.160	BT50.SF16.160	16	27	34	160	51
	HFNT.BT50.SF18.100	BT50.SF18.100	18	33	42	100	51
	HFNT.BT50.SF20.100	BT50.SF20.100	20	33	42	100	53
	HFNT.BT50.SF20.120	BT50.SF20.120	20	33	42	120	53
	HFNT.BT50.SF20.160	BT50.SF20.160	20	33	42	160	53
	HFNT.BT50.SF25.100	BT50.SF25.100	25	44	53	100	59
	HFNT.BT50.SF25.160	BT50.SF25.160	25	44	53	160	59
	HFNT.BT50.SF32.100	BT50.SF32.100	32	44	53	100	63
	HFNT.BT50.SF32.160	BT50.SF32.160	32	44	53	160	63

HOFFEN SHRINK TUTUCU

ISITILABİLİR MATERYALLER

Paslanmaz Çelikler
Takım Çelikleri
Karbonlu ve Alışımli Çelikler
Tutucu Takım Çapına göre
Isıtıcı İndiktörü Değiştirmek Gerekmez

ISITICI İNDÜKTÖRÜN

İÇ ÇAPI

→ Ø45mm
Ø55mm Opsiyonel

ISITINABİLİR

ÇAP ARALIĞI

→ Ø3-Ø0,25mm
arası

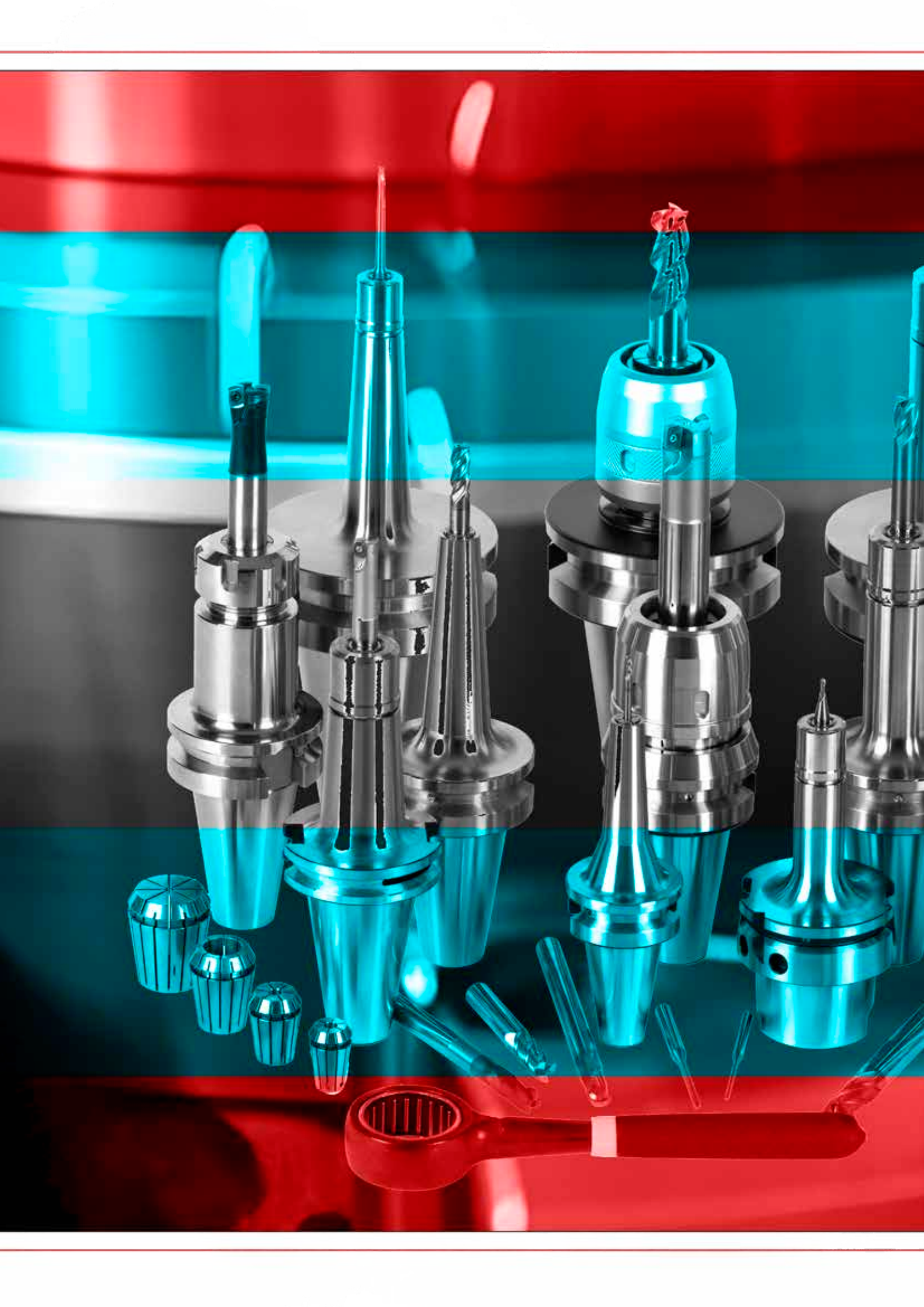
ÇALIŞMA VOLTAJ VE FREKANSI **220 V 50 Hz**

BOYUTLAR

450 X 500 X 770

Ø3mm - Ø8mm → 15-25 saniye
Ø10mm - Ø16mm → 25-35 saniye
Ø20mm - Ø25mm → 35-55 saniye

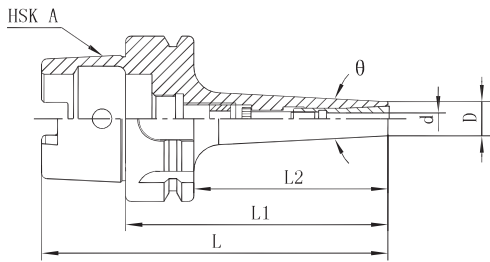




HSK HOLDERS

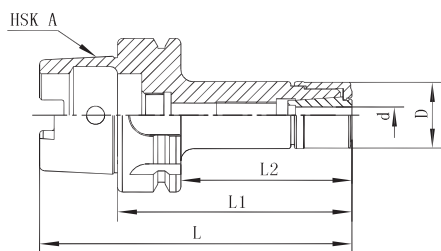


HIGH SPEED SLIM CHUCK



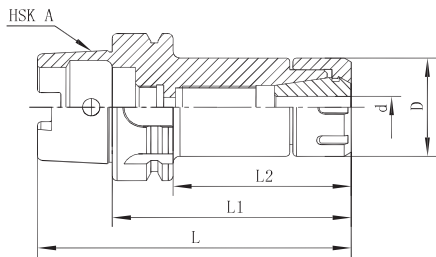
Tip	Stock Code	Açıklama	L ₁	L ₂	θ	D	d _(mm)
HSK40-E	HFNT.HSK40E.SDC06.090	SDC06 90	90	70	6°	14	3~6
	HFNT.HSK40E.SDC06.150	SDC06 150	150	130	6°	14	3~6
	HFNT.HSK40E.SDC08.090	SDC08 90	90	70	6°	22	3~8
	HFNT.HSK40E.SDC08.150	SDC08 150	150	130	6°	22	3~8
	HFNT.HSK40E.SDC12.090	SDC12 90	90	70	6°	34	3~12
	HFNT.HSK40E.SDC12.150	SDC12 150	150	130	6°	34	3~12
HSK63-A	HFNT.HSK63A.SDC06.090	SDC06 90	90	64	6°	14	3~6
	HFNT.HSK63A.SDC06.150	SDC06 150	150	124	6°	14	3~6
	HFNT.HSK63A.SDC08.090	SDC08 90	90	64	6°	22	3~8
	HFNT.HSK63A.SDC08.150	SDC08 150	150	124	6°	22	3~8
	HFNT.HSK63A.SDC12.090	SDC12 90	90	64	6°	34	3~12
	HFNT.HSK63A.SDC12.150	SDC12 150	150	124	6°	34	3~12
HSK100-A	HFNT.HSK100A.SDC06.090	SDC06 90	90	61	6°	14	3~6
	HFNT.HSK100A.SDC06.150	SDC06 150	150	121	6°	14	3~6
	HFNT.HSK100A.SDC08.090	SDC08 90	90	61	6°	22	3~8
	HFNT.HSK100A.SDC08.150	SDC08 150	150	121	6°	22	3~8
	HFNT.HSK100A.SDC12.090	SDC12 90	90	61	6°	34	3~12
	HFNT.HSK100A.SDC12.150	SDC12 150	150	121	6°	34	3~12

SUPER COLLET CHUCK



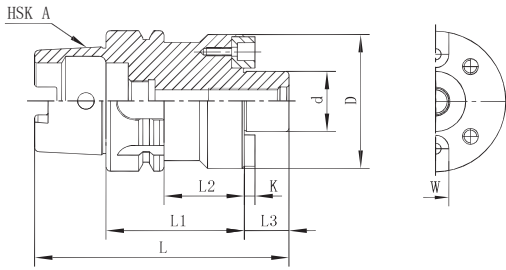
Tip	Stock Code	Açıklama	L ₁	L ₂	D	d _(mm)	
HSK40-E	HFNT.HSK40E.SK06.090	SK06 90	90	64	19.5	2-6	
	HFNT.HSK40E.SK06.120	SK06 120	120	94	19.5	2-6	
	HFNT.HSK40E.SK10.060	SK10 60	60	34	27	3-10	
	HFNT.HSK40E.SK10.090	SK10 90	90	64	27	3-10	
	HFNT.HSK40E.SK10.150	SK10 150	150	124	27	3-10	
	HFNT.HSK40E.SK16.090	SK16 90	90	64	40	3-16	
	HFNT.HSK40E.SK16.150	SK16 150	150	124	40	3-16	
HSK63-A	HFNT.HSK63A.SK06.090	SK06 90	90	64	19.5	2-6	
	HFNT.HSK63A.SK06.120	SK06 120	120	94	19.5	2-6	
	HFNT.HSK63A.SK10.060	SK10 60	60	34	27	3-10	
	HFNT.HSK63A.SK10.090	SK10 90	90	64	27	3-10	
	HFNT.HSK63A.SK10.150	SK10 150	150	124	27	3-10	
	HFNT.HSK63A.SK16.090	SK16 90	90	64	40	3-16	
	HFNT.HSK63A.SK16.150	SK16 150	150	124	40	3-16	
HSK100-A	HFNT.HSK100A.SK06.090	SK06 90	90	61	19.5	2-6	
	HFNT.HSK100A.SK06.120	SK06 120	120	91	19.5	2-6	
	HFNT.HSK100A.SK10.060	SK10 60	60	31	27	3-10	
	HFNT.HSK100A.SK10.090	SK10 90	90	61	27	3-10	
	HFNT.HSK100A.SK10.150	SK10 150	150	121	27	3-10	
	HFNT.HSK100A.SK16.090	SK16 90	90	61	40	3-16	
	HFNT.HSK100A.SK16.150	SK16 150	150	121	40	3-16	

ER COLLETS CHUCK



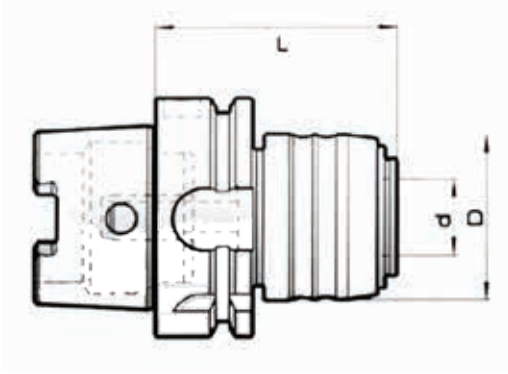
	Tip	Stock Code	Açıklama	L ₁	L ₂	D	d _(mm)	
HSK63-A		HFNT.HSK63A.ER16.075	ER16 75	75	49	28	1-10	
		HFNT.HSK63A.ER16.100	ER16 100	100	74	28	1-10	
		HFNT.HSK63A.ER16.160	ER16 160	160	134	28	1-10	
		HFNT.HSK63A.ER16M.075	ER16M 75	75	49	22	1-10	
		HFNT.HSK63A.ER16M.100	ER16M 100	100	74	22	1-10	
		HFNT.HSK63A.ER16M.160	ER16M 160	160	134	22	1-10	
		HFNT.HSK63A.ER25.075	ER25 75	75	49	42	3-16	
		HFNT.HSK63A.ER25.100	ER25 100	100	74	42	3-16	
		HFNT.HSK63A.ER25.160	ER25 160	160	134	42	3-16	
		HFNT.HSK63A.ER32.075	ER32 75	75	49	50	3-20	
		HFNT.HSK63A.ER32.100	ER32 100	100	74	50	3-20	
		HFNT.HSK63A.ER32.160	ER32 160	160	134	50	3-20	
		HFNT.HSK63A.ER40.120	ER40 120	120	94	63	3-26	
		HFNT.HSK63A.ER40.160	ER40 160	160	134	63	3-26	
HSK100-A		HFNT.HSK100A.ER16.075	ER16 75	75	46	28	1-10	
		HFNT.HSK100A.ER16.100	ER16 100	100	71	28	1-10	
		HFNT.HSK100A.ER16.160	ER16 160	160	131	28	1-10	
		HFNT.HSK100A.ER16M.075	ER16M 75	75	46	22	1-10	
		HFNT.HSK100A.ER16M.100	ER16M 100	100	71	22	1-10	
		HFNT.HSK100A.ER16M.160	ER16M 160	160	131	22	1-10	
		HFNT.HSK100A.ER20.075	ER20 75	75	46	34	1-13	
		HFNT.HSK100A.ER20.100	ER20 100	100	71	34	1-13	
		HFNT.HSK100A.ER20.160	ER20 160	160	131	34	1-13	
		HFNT.HSK100A.ER25.075	ER25 75	75	46	42	3-16	
		HFNT.HSK100A.ER25.100	ER25 100	100	71	42	3-16	
		HFNT.HSK100A.ER25.160	ER25 160	160	131	42	3-16	
		HFNT.HSK100A.ER32.075	ER32 75	75	46	50	3-20	
		HFNT.HSK100A.ER32.100	ER32 100	100	71	50	3-20	
		HFNT.HSK100A.ER32.160	ER32 160	160	131	50	3-20	
		HFNT.HSK100A.ER40.120	ER40 120	120	91	63	3-26	
		HFNT.HSK100A.ER40.160	ER40 160	160	131	63	3-26	

FACE MILL ARBOR



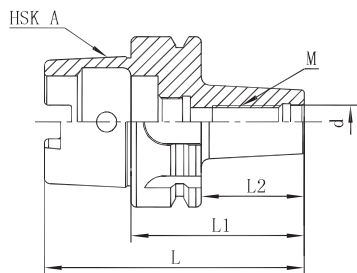
	Tip	Stock Code	Açıklama	L ₁	L ₂	L ₃	d	D	
HSK63-A		HFNT.HSK63A.K16.050	16K 50	50	24	17	16	32	
		HFNT.HSK63A.K16.100	16K 100	100	74	17	16	32	
		HFNT.HSK63A.K16.160	16K 160	160	134	17	16	32	
		HFNT.HSK63A.K22.050	22K 50	50	24	18	22	48	
		HFNT.HSK63A.K22.100	22K 100	100	74	18	22	48	
		HFNT.HSK63A.K22.160	22K 160	160	134	18	22	48	
		HFNT.HSK63A.K22.200	22K 200	200	174	18	22	48	
		HFNT.HSK63A.K27.060	27K 60	60	34	20	27	60	
		HFNT.HSK63A.K27.100	27K 100	100	74	20	27	60	
		HFNT.HSK63A.K27.160	27K 160	160	134	20	27	60	
		HFNT.HSK63A.K27.200	27K 200	200	174	20	27	60	
		HFNT.HSK63A.K32.060	32K 60	60	34	22	32	63	
		HFNT.HSK63A.K32.100	32K 100	100	74	22	32	63	
		HFNT.HSK63A.K32.160	32K 160	160	134	22	32	63	
		HFNT.HSK63A.K40.060	40K 60	60	34	25	40	75	
		HFNT.HSK63A.K40.100	40K 100	100	74	25	40	75	
		HFNT.HSK63A.K40.160	40K 160	160	134	25	40	75	
HSK100-A		HFNT.HSK100A.K16.060	16K 60	60	31	17	16	32	
		HFNT.HSK100A.K16.100	16K 100	100	71	17	16	32	
		HFNT.HSK100A.K16.160	16K 160	160	131	17	16	32	
		HFNT.HSK100A.K22.060	22K 60	60	31	18	22	48	
		HFNT.HSK100A.K22.100	22K 100	100	71	18	22	48	
		HFNT.HSK100A.K22.160	22K 160	160	131	18	22	48	
		HFNT.HSK100A.K22.200	22K 200	200	171	18	22	48	
		HFNT.HSK100A.K27.060	27K 60	60	31	20	27	60	
		HFNT.HSK100A.K27.100	27K 100	100	71	20	27	60	
		HFNT.HSK100A.K27.160	27K 160	160	131	20	27	60	
		HFNT.HSK100A.K27.200	27K 200	200	171	20	27	60	
		HFNT.HSK100A.K32.060	32K 60	60	31	22	32	63	
		HFNT.HSK100A.K32.100	32K 100	100	71	22	32	63	
		HFNT.HSK100A.K32.160	32K 160	160	131	22	32	63	
		HFNT.HSK100A.K40.060	40K 60	60	31	25	40	85	
		HFNT.HSK100A.K40.100	40K 100	100	71	25	40	85	
		HFNT.HSK100A.K40.160	40K 160	160	131	25	40	85	

TOPPING HEAD



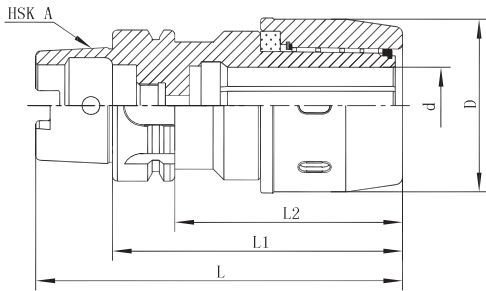
Tip	Stock Code	Açıklama	L	D	d _(mm)	
HSK63-A	HFNT.HSK63A.KC.02-14	KC.02-14	94	36	19	
	HFNT.HSK63A.KC.05-24	KC.05-24	94	54	31	
HSK100-A	HFNT.HSK100A.KC.02-14	KC.02-14	94	36	19	
	HFNT.HSK100A.KC.05-24	KC.05-24	94	54	31	

SCREW END MILL HOLDERS



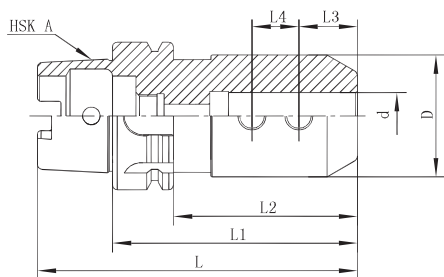
	Tip	Stock Code	Açıklama	L ₁	L ₂	D	M	
HSK63-A		HFNT.HSK63A.M08.050	M8 50	50	24	15	8	
		HFNT.HSK63A.M08.100	M8 100	100	74	15	8	
		HFNT.HSK63A.M10.050	M10 50	50	24	19	10	
		HFNT.HSK63A.M10.100	M10 100	100	74	19	10	
		HFNT.HSK63A.M12.070	M12 70	70	44	24	12	
		HFNT.HSK63A.M12.100	M12 100	100	74	24	12	
		HFNT.HSK63A.M12.150	M12 150	150	124	24	12	
		HFNT.HSK63A.M16.070	M16 70	70	44	29	16	
		HFNT.HSK63A.M16.100	M16 100	100	74	29	16	
		HFNT.HSK63A.M16.150	M16 150	150	124	29	16	
		HFNT.HSK63A.M16.200	M16 200	200	174	29	16	
HSK100-A		HFNT.HSK100A.M08.050	M8 50	50	21	15	8	
		HFNT.HSK100A.M08.100	M8 100	100	71	15	8	
		HFNT.HSK100A.M10.050	M10 50	50	21	19	10	
		HFNT.HSK100A.M10.100	M10 100	100	71	19	10	
		HFNT.HSK100A.M12.070	M12 70	70	41	24	12	
		HFNT.HSK100A.M12.100	M12 100	100	71	24	12	
		HFNT.HSK100A.M12.150	M12 150	150	121	24	12	
		HFNT.HSK100A.M16.070	M16 70	70	41	29	16	
		HFNT.HSK100A.M16.100	M16 100	100	71	29	16	
		HFNT.HSK100A.M16.150	M16 150	150	121	29	16	
		HFNT.HSK100A.M16.200	M16 200	200	171	29	16	

HIGH POWER MILLING CHUCK

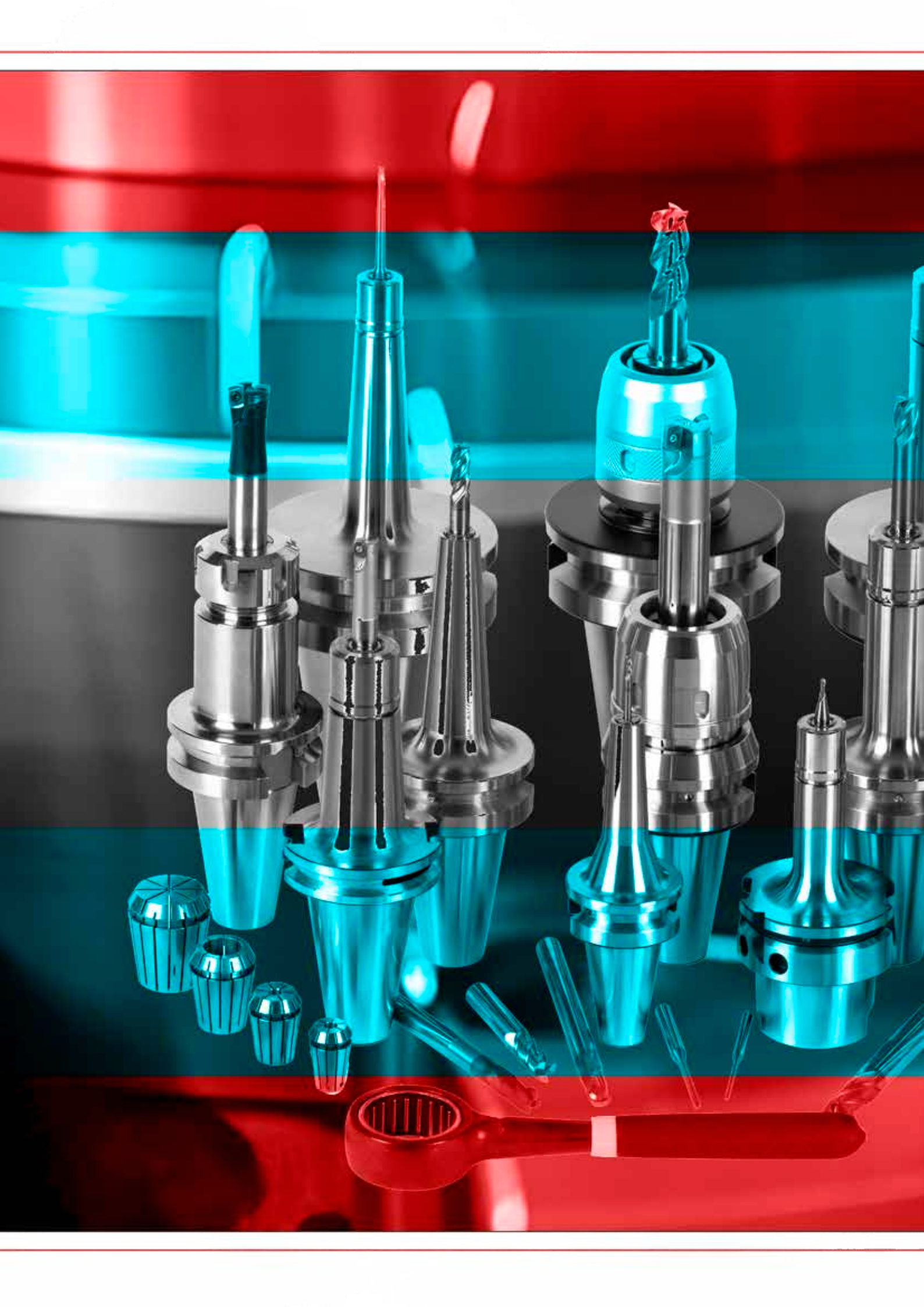


Tip	Stock Code	Açıklama	L ₁	L ₂	D	d _(mm)
HSK40-E	HFNT.HSK40E.RT.C20-095	C20 95	95	75	52	3-20
	HFNT.HSK40E.RT.C20-130	C20 130	130	110	52	3-20
	HFNT.HSK40E.RT.C32-105	C32 105	105	79	73	6-32
	HFNT.HSK40E.RT.C32-130	C32 130	130	104	73	6-32
HSK63-A	HFNT.HSK63A.RT.C20-095	C20 95	95	75	52	3-20
	HFNT.HSK63A.RT.C20-130	C20 130	130	110	52	3-20
	HFNT.HSK63A.RT.C32-105	C32 105	105	79	73	6-32
	HFNT.HSK63A.RT.C32-130	C32 130	130	104	73	6-32
HSK100-A	HFNT.HSK100A.RT.C20-095	C20 95	95	75	52	3-20
	HFNT.HSK100A.RT.C20-130	C20 130	130	110	52	3-20
	HFNT.HSK100A.RT.C32-105	C32 105	105	79	73	6-32
	HFNT.HSK100A.RT.C32-130	C32 130	130	104	73	6-32

SIDE ROCK HOLDERS



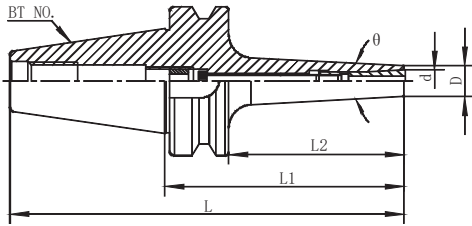
Tip	Stock Code	Açıklama	L ₁	L ₂	D	d	
HSK63-A	HFNT.HSK63A.V06.065	6V 65	65	39	25	6	
	HFNT.HSK63A.V06.100	6V 100	100	74	25	6	
	HFNT.HSK63A.V08.065	8V 65	65	39	28	8	
	HFNT.HSK63A.V08.100	8V 100	100	74	28	8	
	HFNT.HSK63A.V10.065	10V 65	65	39	35	10	
	HFNT.HSK63A.V10.100	10V 100	100	74	35	10	
	HFNT.HSK63A.V10.160	10V 160	160	134	35	10	
	HFNT.HSK63A.V12.080	12V 80	80	54	42	12	
	HFNT.HSK63A.V12.100	12V 100	100	74	42	12	
	HFNT.HSK63A.V12.160	12V 160	160	134	42	12	
	HFNT.HSK63A.V16.080	16V 80	80	54	48	16	
	HFNT.HSK63A.V16.100	16V 100	100	71	48	16	
	HFNT.HSK63A.V16.160	16V 160	160	134	48	16	
	HFNT.HSK63A.V20.080	20V 80	80	54	52	20	
	HFNT.HSK63A.V20.100	20V 100	100	71	52	20	
	HFNT.HSK63A.V20.160	20V 160	160	134	52	20	
	HFNT.HSK63A.V25.110	25V 110	110	84	57	25	
	HFNT.HSK63A.V32.110	32V 110	110	84	63	32	
	HFNT.HSK63A.V40.125	40V 125	125	99	72	40	



BT HOLDERS

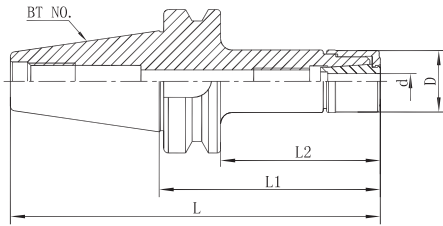


HIGH SPEED SLIM CHUCK



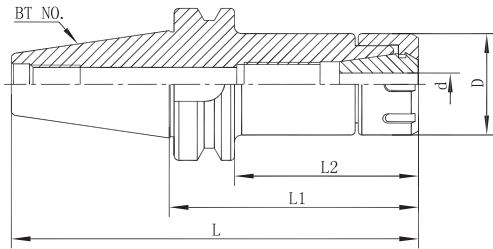
Tip	Stock Code	Açıklama	L ₁	L ₂	θ	D	d _(mm)	
BT40	HFNT.BT40.SDC06.090	SDC06 90	90	65	6°	14	3~6	
	HFNT.BT40.SDC06.150	SDC06 150	150	125	6°	14	3~6	
	HFNT.BT40.SDC08.090	SDC08 90	90	65	6°	22	3~8	
	HFNT.BT40.SDC08.150	SDC08 150	150	125	6°	22	3~8	
	HFNT.BT40.SDC12.090	SDC12 90	90	65	6°	34	3~12	
	HFNT.BT40.SDC12.150	SDC12 150	150	125	6°	34	3~12	
BT50	HFNT.BT50.SDC06.090	SDC06 90	90	55	6°	14	3~6	
	HFNT.BT50.SDC06.150	SDC06 150	150	115	6°	14	3~6	
	HFNT.BT50.SDC08.090	SDC08 90	90	55	6°	22	3~8	
	HFNT.BT50.SDC08.150	SDC08 150	150	115	6°	22	3~8	
	HFNT.BT50.SDC12.090	SDC12 90	90	55	6°	34	3~12	
	HFNT.BT50.SDC12.150	SDC12 150	150	115	6°	34	3~12	

SUPER COLLET CHUCK



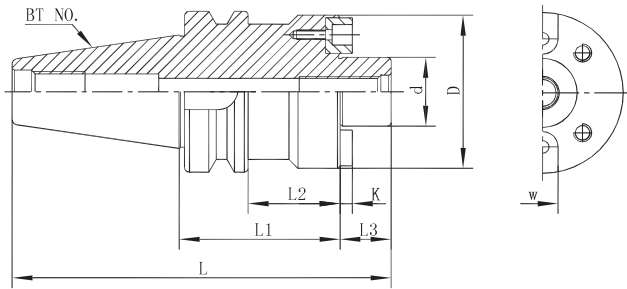
Tip	Stock Code	Açıklama	L ₁	L ₂	D	d _(mm)	
BT40	HFNT.BT40.SK06.090	SK06 90	90	65	19.5	2-6	
	HFNT.BT40.SK06.120	SK06 120	120	95	19.5	2-6	
	HFNT.BT40.SK10.060	SK10 60	60	35	27	3-10	
	HFNT.BT40.SK10.090	SK10 90	90	65	27	3-10	
	HFNT.BT40.SK10.150	SK10 150	150	125	27	3-10	
	HFNT.BT40.SK16.090	SK16 90	90	65	40	3-16	
	HFNT.BT40.SK16.150	SK16 150	150	125	40	3-16	
BT50	HFNT.BT50.SK06.090	SK06 90	90	55	19.5	2-6	
	HFNT.BT50.SK06.120	SK06 120	120	85	19.5	2-6	
	HFNT.BT50.SK10.105	SK10 105	105	70	27	3-10	
	HFNT.BT50.SK10.165	SK10 165	165	130	27	3-10	
	HFNT.BT50.SK16.105	SK16 105	105	70	40	3-16	
	HFNT.BT50.SK16.165	SK16 165	165	130	40	3-16	

ER COLLETS CHUCK



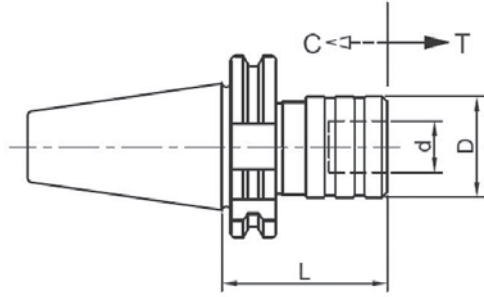
Tip	Stock Code	Açıklama	L ₁	L ₂	D	d _(mm)
BT30	HFNT.BT30.ER11M.100	ER11M 100	100	80	16	1-7
	HFNT.BT30.ER16.070	ER16 70	70	50	28	1-10
	HFNT.BT30.ER16.100	ER16 100	100	80	28	1-10
	HFNT.BT30.ER16.150	ER16 150	150	130	28	1-10
	HFNT.BT30.ER16M.070	ER16M 70	70	50	22	1-10
	HFNT.BT30.ER16M.100	ER16M 100	100	80	22	1-10
	HFNT.BT30.ER16M.150	ER16M 150	150	130	22	1-10
	HFNT.BT30.ER25.070	ER25 70	70	50	42	3-16
	HFNT.BT30.ER25.100	ER25 100	100	80	42	3-16
	HFNT.BT30.ER32.060	ER32 60	60	40	50	3-20
	HFNT.BT30.ER32.100	ER32 100	100	80	50	3-20
	HFNT.BT30.ER40.060	ER40 60	60	40	63	3-26
	HFNT.BT30.ER40.100	ER40 100	100	80	63	3-26
BT40	HFNT.BT40.ER11M.100	ER11M 100	100	75	16	1-10
	HFNT.BT40.ER11M.150	ER11M 150	150	125	16	1-10
	HFNT.BT40.ER16.070	ER16 70	70	45	28	1-10
	HFNT.BT40.ER16.100	ER16 100	100	75	28	1-10
	HFNT.BT40.ER16.150	ER16 150	150	125	28	1-10
	HFNT.BT40.ER16M.070	ER16M 70	70	45	22	1-10
	HFNT.BT40.ER16M.100	ER16M 100	100	75	22	1-10
	HFNT.BT40.ER16M.150	ER16M 150	150	125	22	1-10
	HFNT.BT40.ER20.070	ER20 70	70	45	34	1-13
	HFNT.BT40.ER20.100	ER20 100	100	75	34	1-13
	HFNT.BT40.ER20.150	ER20 150	150	125	34	1-13
	HFNT.BT40.ER20M.070	ER20M 70	70	45	28	1-13
	HFNT.BT40.ER20M.100	ER20M 100	100	75	28	1-13
	HFNT.BT40.ER20M.150	ER20M 150	150	125	28	1-13
	HFNT.BT40.ER25.070	ER25 70	70	45	42	3-16
	HFNT.BT40.ER25.100	ER25 100	100	75	42	3-16
	HFNT.BT40.ER25.150	ER25 150	150	125	42	3-16
	HFNT.BT40.ER32.070	ER32 70	70	45	50	3-20
	HFNT.BT40.ER32.100	ER32 100	100	75	50	3-20
	HFNT.BT40.ER32.150	ER32 150	150	125	50	3-20
	HFNT.BT40.ER40.080	ER40 80	80	55	63	3-26
	HFNT.BT40.ER40.100	ER40 100	100	75	63	3-26
	HFNT.BT40.ER40.150	ER40 150	150	125	63	3-26
BT50	HFNT.BT50.ER32.070	ER32 70	70	35	50	3-20
	HFNT.BT50.ER32.100	ER32 100	100	65	50	3-20
	HFNT.BT50.ER32.150	ER32 150	150	115	50	3-20
	HFNT.BT50.ER40.080	ER40 80	80	45	63	3-26
	HFNT.BT50.ER40.100	ER40 100	100	65	63	3-26
	HFNT.BT50.ER40.150	ER40 150	150	115	63	3-26

FACE MILL ARBOR



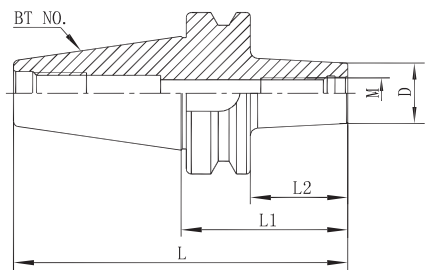
Tip	Stock Code	Açıklama	L ₁	L ₂	D	d
BT30	HFNT.BT30.K22.045	22K 45	45	25	48	22
	HFNT.BT30.K22.100	22K 100	100	80	48	22
	HFNT.BT30.K27.055	27K 55	55	35	60	27
	HFNT.BT30.K27.100	27K 100	100	80	60	27
BT40	HFNT.BT40.K22.100	22K 100	100	75	48	22
	HFNT.BT40.K22.150	22K 150	150	125	48	22
	HFNT.BT40.K22.200	22K 200	200	175	48	22
	HFNT.BT40.K27.055	27K 55	55	30	60	27
	HFNT.BT40.K27.100	27K 100	100	75	60	27
	HFNT.BT40.K27.150	27K 150	150	125	60	27
	HFNT.BT40.K27.200	27K 200	200	175	60	27
	HFNT.BT40.K32.060	32K 60	60	35	63	32
	HFNT.BT40.K32.100	32K 100	100	75	63	32
	HFNT.BT40.K32.150	32K 150	150	125	63	32
	HFNT.BT40.K32.200	32K 200	200	175	63	32
	HFNT.BT40.K40.060	40K 60	60	35	73	40
	HFNT.BT40.K40.100	40K 100	100	75	73	40
	HFNT.BT40.K40.150	40K 150	150	125	73	40
BT50	HFNT.BT50.K22.100	22K 100	100	65	48	22
	HFNT.BT50.K22.150	22K 150	150	115	48	22
	HFNT.BT50.K22.200	22K 200	200	165	48	22
	HFNT.BT50.K22.250	22K 250	250	215	48	22
	HFNT.BT50.K22.350	22K 350	350	315	48	22
	HFNT.BT50.K27.100	27K 100	100	65	60	27
	HFNT.BT50.K27.150	27K 150	150	115	60	27
	HFNT.BT50.K27.200	27K 200	200	165	60	27
	HFNT.BT50.K27.250	27K 250	250	215	60	27
	HFNT.BT50.K27.350	27K 350	350	315	60	27
	HFNT.BT50.K32.100	32K 100	100	65	63	32
	HFNT.BT50.K32.160	32K 160	160	125	63	32
	HFNT.BT50.K32.200	32K 200	200	165	63	32
	HFNT.BT50.K32.250	32K 250	250	215	63	32
	HFNT.BT50.K32.350	32K 350	350	315	63	32
	HFNT.BT50.K40.100	40K 100	100	65	73	40
	HFNT.BT50.K40.160	40K 160	160	125	73	40
	HFNT.BT50.K40.200	40K 200	200	165	73	40

TAPPING HEAD



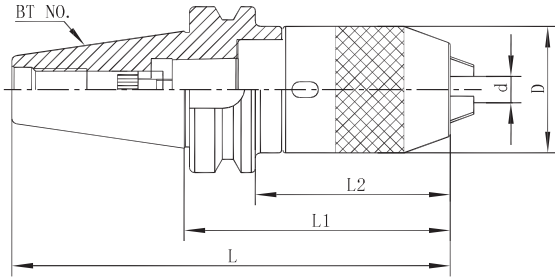
Tip	Stock Code	Açıklama	L ₁	L ₂	D	d _(mm)
BT40	HFNT.BT40.KC.03-12	3-12 KLAVUZ Ç. BAŞ	67	42	36,5	19
	HFNT.BT40.KC.08-20	8-20 KLAVUZ Ç. BAŞ.	94	69	54	31
	HFNT.BT40.KC.14-33	14-33 KLAVUZ Ç. BAŞ.	145	120	78	48
BT50	HFNT.BT50.KC.03-12	3-12 KLAVUZ Ç. BAŞ	77	42	36,5	19
	HFNT.BT50.KC.08-12	8-12 KLAVUZ Ç. BAŞ.	102	67	54	31
	HFNT.BT50.KC.14-33	14-33 KLAVUZ Ç. BAŞ.	145	110	78	48

SCREW END MILL HOLDER



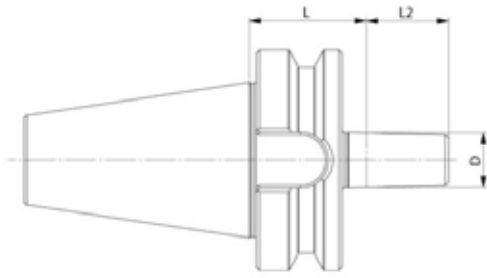
	Tip	Stock Code	Açıklama	L ₁	L ₂	D	M	
	BT40	HFNT.BT40.M08.060	M8 60	60	35	15	8	
		HFNT.BT40.M08.100	M8 100	100	75	15	8	
		HFNT.BT40.M10.060	M10 60	60	35	19	10	
		HFNT.BT40.M10.100	M10 100	100	75	19	10	
		HFNT.BT40.M12.060	M12 60	60	35	24	12	
		HFNT.BT40.M12.100	M12 100	100	75	24	12	
		HFNT.BT40.M12.150	M12 150	150	125	24	12	
		HFNT.BT40.M16.070	M16 70	70	45	29	16	
		HFNT.BT40.M16.100	M16 100	100	75	29	16	
		HFNT.BT40.M16.150	M16 150	150	125	29	16	
		HFNT.BT40.M16.200	M16 200	200	175	29	16	
		HFNT.BT40.M16.250	M16 250	250	225	29	16	
		HFNT.BT40.M16.300	M16 300	300	275	29	16	
	BT50	HFNT.BT50.M06.100	M6 100	100	65	13	6	
		HFNT.BT50.M08.100	M8 100	100	65	15	8	
		HFNT.BT50.M10.100	M10 100	100	65	19	10	
		HFNT.BT50.M12.100	M12 100	100	65	24	12	
		HFNT.BT50.M12.150	M12 150	150	85	24	12	
		HFNT.BT50.M16.100	M16 100	100	65	29	16	
		HFNT.BT50.M16.150	M16 150	150	85	29	16	
		HFNT.BT50.M16.200	M16 200	200	165	29	16	
		HFNT.BT50.M16.250	M16 250	250	215	29	16	
		HFNT.BT50.M16.300	M16 300	300	265	29	16	

KEYLESS DRILL CHUCK



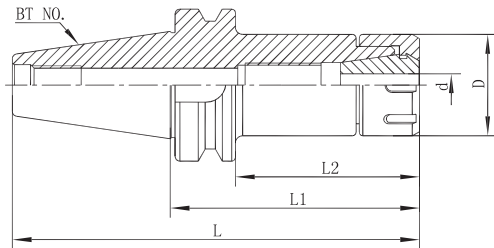
Tip	Stock Code	Açıklama	L ₁	L ₂	D	d
BT40	HFNT.BT40.MB.1-13	1-13 MANDREN BAŞLIK	110	85	50	1-13
	HFNT.BT40.MB.1-16	1-16 MANDREN BAŞLIK	110	85	58	1-16
BT50	HFNT.BT50.MB.1-13	1-13 MANDREN BAŞLIK	120	85	50	1-13
	HFNT.BT50.MB.1-16	1-16 MANDREN BAŞLIK	120	85	58	1-16

CHUCK ARBOR



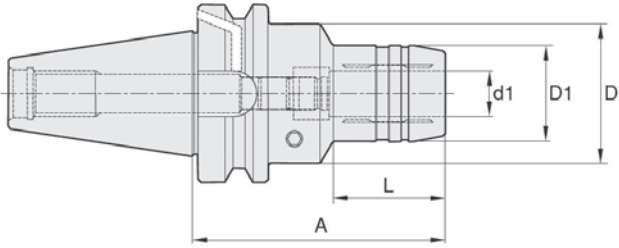
Tip	Stock Code	Açıklama	L	L ₁	d
BT40	HFNT.BT40.MM.B16	B16	32	24	15,73
	HFNT.BT40.MM.B18	B18	32	32	17,80

OZ 462 COLLETS CHUCK



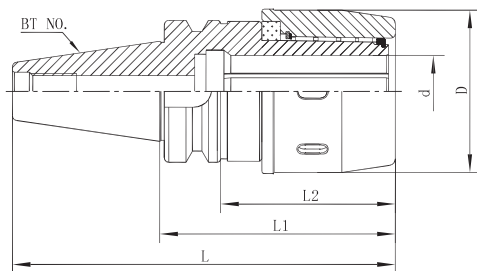
Tip	Stock Code	Açıklama	L	L ₁	d
BT40	HFNT.BT40.462E.070	462E.070	70	45	60
	HFNT.BT40.462E.100	462E.100	100	75	60
BT50	HFNT.BT50.462E.100	462E.100	100	75	60

HYDROLIC GRIPPER



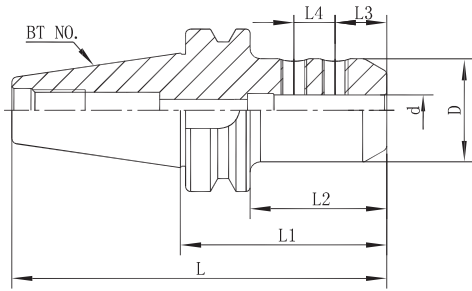
Tip	Stock Code	Açıklama	L ₁	L ₂	D	d _(mm)
BT40	HFNT.BT40.HT20.090	H20 90	90	65	42	3-20
	HFNT.BT40.HT32.105	H32 105	105	80	64	6-32
BT50	HFNT.BT50.HT20.090	H20 90	90	55	42	3-20
	HFNT.BT50.HT32.090	H32 90	90	55	64	6-32

HIGH - POWER - MILLING CHUCK



	Tip	Stock Code	Açıklama	L ₁	L ₂	D	d _(mm)	
BT40		HFNT.BT40.RT.C20	C20 95	95	70	52	3-20	
		HFNT.BT40.RT.C25	C25 100	100	75	62	4-25	
		HFNT.BT40.RT.C32	C32 105	105	80	73	6-32	
BT50		HFNT.BT50.RT.C20	C20 105	105	70	52	3-20	
		HFNT.BT50.RT.C25	C25 110	110	75	62	4-25	
		HFNT.BT50.RT.C32	C32 110	110	75	73	6-32	

SIDE LOCK HOLDER

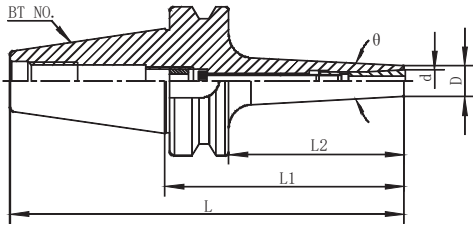


Tip	Stock Code	Açıklama	L ₁	L ₂	D	d
BT30	HFNT.BT30.V06.050	6V 50	50	30	25	6
	HFNT.BT30.V08.050	8V 50	50	30	28	8
	HFNT.BT30.V10.050	10V 50	50	30	35	10
	HFNT.BT30.V12.050	12V 50	50	30	42	12
	HFNT.BT30.V16.063	16V 63	63	43	48	16
	HFNT.BT30.V16.100	16V 100	100	80	48	16
	HFNT.BT30.V20.063	20V 63	63	43	52	20
	HFNT.BT30.V20.100	20V 100	100	80	52	20
	HFNT.BT30.V25.063	25V 63	63	43	57	25
	HFNT.BT30.V25.100	25V 100	100	80	57	25
BT40	HFNT.BT40.V06.050	6V 50	50	25	25	6
	HFNT.BT40.V06.100	6V 100	100	75	25	6
	HFNT.BT40.V08.050	8V 50	50	25	28	8
	HFNT.BT40.V08.100	8V 100	100	75	28	8
	HFNT.BT40.V10.063	10V 63	63	38	35	10
	HFNT.BT40.V10.100	10V 100	100	75	35	10
	HFNT.BT40.V12.063	12V 63	63	38	42	12
	HFNT.BT40.V12.100	12V 100	100	75	42	12
	HFNT.BT40.V16.035	16V 35	35	10	48	16
	HFNT.BT40.V16.075	16V 75	75	50	48	16
	HFNT.BT40.V16.100	16V 100	100	75	48	16
	HFNT.BT40.V20.035	20V 35	35	10	52	20
	HFNT.BT40.V20.075	20V 75	75	50	52	20
	HFNT.BT40.V20.100	20V 100	100	75	52	20
	HFNT.BT40.V25.035	25V 35	35	10	57	25
	HFNT.BT40.V25.090	25V 90	90	65	57	25
	HFNT.BT40.V32.100	32V 100	100	75	63	32
	HFNT.BT40.V40.120	40V 120	120	95	74	40
BT50	HFNT.BT50.V06.063	6V 63	63	28	25	6
	HFNT.BT50.V08.063	8V 63	63	28	28	8
	HFNT.BT50.V10.070	10V 70	70	35	35	10
	HFNT.BT50.V12.070	12V 70	70	35	42	12
	HFNT.BT50.V16.100	16V 100	100	65	48	16
	HFNT.BT50.V20.100	20V 100	100	65	52	20
	HFNT.BT50.V20.160	20V 160	160	125	52	20
	HFNT.BT50.V25.100	25V 100	100	65	57	25
	HFNT.BT50.V25.160	25V 160	160	125	57	25
	HFNT.BT50.V32.100	32V 100	100	65	63	32
	HFNT.BT50.V32.160	32V 160	160	125	63	32
	HFNT.BT50.V40.100	40V 100	100	65	74	40
	HFNT.BT50.V40.160	40V 160	160	125	74	40

BBT HOLDERS

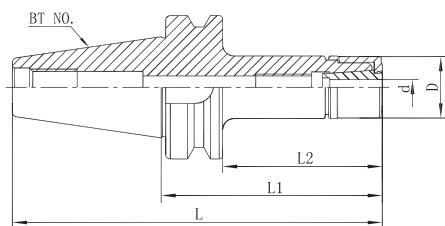


HIGH SPEED SLIM CHUCK



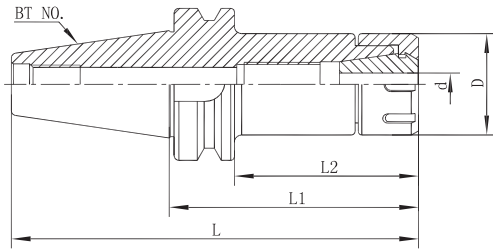
Tip	Stock Code	Açıklama	L_1	L_2	θ	D	$d_{(mm)}$	
BBT40	HFNT.BBT40.SDC06.090	SDC06 90	90	65	6°	14	3~6	
	HFNT.BBT40.SDC06.150	SDC06 150	150	125	6°	14	3~6	
	HFNT.BBT40.SDC08.090	SDC08 90	90	65	6°	22	3~8	
	HFNT.BBT40.SDC08.150	SDC08 150	150	125	6°	22	3~8	
	HFNT.BBT40.SDC12.090	SDC12 90	90	65	6°	34	3~12	
	HFNT.BBT40.SDC12.150	SDC12 150	150	125	6°	34	3~12	
BBT50	HFNT.BBT50.SDC06.090	SDC06 90	90	55	6°	14	3~6	
	HFNT.BBT50.SDC06.150	SDC06 150	150	115	6°	14	3~6	
	HFNT.BBT50.SDC08.090	SDC08 90	90	55	6°	22	3~8	
	HFNT.BBT50.SDC08.150	SDC08 150	150	115	6°	22	3~8	
	HFNT.BBT50.SDC12.090	SDC12 90	90	55	6°	34	3~12	
	HFNT.BBT50.SDC12.150	SDC12 150	150	115	6°	34	3~12	

SUPER COLLET CHUCK



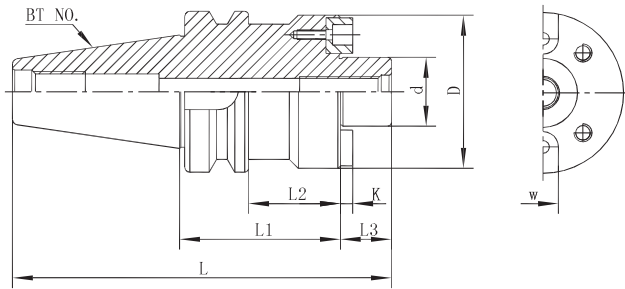
Tip	Stock Code	Açıklama	L ₁	L ₂	D	d _(mm)	
BBT40	HFNT.BBT40.SK06.090	SK06 90	90	65	19.5	2-6	
	HFNT.BBT40.SK06.120	SK06 120	120	95	19.5	2-6	
	HFNT.BBT40.SK10.060	SK10 60	60	35	27	3-10	
	HFNT.BBT40.SK10.090	SK10 90	90	65	27	3-10	
	HFNT.BBT40.SK10.150	SK10 150	150	125	27	3-10	
	HFNT.BBT40.SK16.090	SK16 90	90	65	40	3-16	
	HFNT.BBT40.SK16.150	SK16 150	150	125	40	3-16	
BBT50	HFNT.BBT50.SK06.090	SK06 90	90	55	19.5	2-6	
	HFNT.BBT50.SK06.120	SK06 120	120	85	19.5	2-6	
	HFNT.BBT50.SK10.060	SK10 60	60	25	27	3-10	
	HFNT.BBT50.SK10.105	SK10 105	105	70	27	3-10	
	HFNT.BBT50.SK10.165	SK10 165	165	130	27	3-10	
	HFNT.BBT50.SK16.105	SK16 105	105	70	40	3-16	
	HFNT.BBT50.SK16.165	SK16 165	165	130	40	3-16	

ER COLLETS CHUCK



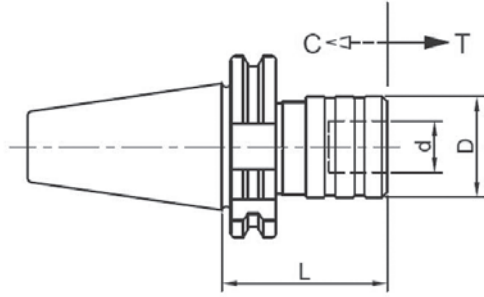
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BBT30		HFNT.BBT30.ER11M.100	ER11M 100	100	80	16	1-7	
		HFNT.BBT30.ER16.060	ER16 60	60	40	28	1-10	
		HFNT.BBT30.ER16.100	ER16 100	100	80	28	1-10	
		HFNT.BBT30.ER16.160	ER16 160	160	140	28	1-10	
		HFNT.BBT30.ER16M.060	ER16M 60	60	40	22	1-10	
		HFNT.BBT30.ER16M.100	ER16M 100	100	80	22	1-10	
		HFNT.BBT30.ER16M.160	ER16M 160	160	140	22	1-10	
		HFNT.BBT30.ER25.060	ER25 60	60	40	42	3-16	
		HFNT.BBT30.ER25.100	ER25 100	100	80	42	3-16	
		HFNT.BBT30.ER32.060	ER32 60	60	40	50	3-20	
		HFNT.BBT30.ER32.100	ER32 100	100	80	50	3-20	
		HFNT.BBT30.ER40.060	ER40 60	60	40	63	3-26	
		HFNT.BBT30.ER40.100	ER40 100	100	80	63	3-26	
BBT40		HFNT.BBT40.ER11M.100	ER11M 100	100	75	16	1-10	
		HFNT.BBT40.ER11M.160	ER11M 160	160	135	16	1-10	
		HFNT.BBT40.ER16.060	ER16 60	60	35	28	1-10	
		HFNT.BBT40.ER16.100	ER16 100	100	75	28	1-10	
		HFNT.BBT40.ER16.150	ER16 150	150	125	28	1-10	
		HFNT.BBT40.ER16M.070	ER16M 70	70	45	22	1-10	
		HFNT.BBT40.ER16M.100	ER16M 100	100	75	22	1-10	
		HFNT.BBT40.ER16M.150	ER16M 150	150	125	22	1-10	
		HFNT.BBT40.ER20.060	ER20 60	60	35	34	1-13	
		HFNT.BBT40.ER20.100	ER20 100	100	75	34	1-13	
		HFNT.BBT40.ER20.160	ER20 160	160	135	34	1-13	
		HFNT.BBT40.ER20M.060	ER20M 60	60	35	28	1-13	
		HFNT.BBT40.ER20M.100	ER20M 100	100	75	28	1-13	
		HFNT.BBT40.ER20M.160	ER20M 160	160	135	28	1-13	
		HFNT.BBT40.ER25.070	ER25 70	70	45	42	3-16	
		HFNT.BBT40.ER25.100	ER25 100	100	75	42	3-16	
		HFNT.BBT40.ER25.150	ER25 150	150	125	42	3-16	
		HFNT.BBT40.ER32.070	ER32 70	70	45	50	3-20	
		HFNT.BBT40.ER32.100	ER32 100	100	75	50	3-20	
		HFNT.BBT40.ER32.150	ER32 150	150	125	50	3-20	
		HFNT.BBT40.ER40.080	ER40 80	80	55	63	3-26	
		HFNT.BBT40.ER40.100	ER40 100	100	75	63	3-26	
		HFNT.BBT40.ER40.150	ER40 150	150	125	63	3-26	
BBT50		HFNT.BBT50.ER32.070	ER32 70	70	35	50	3-20	
		HFNT.BBT50.ER32.100	ER32 100	100	65	50	3-20	
		HFNT.BBT50.ER32.160	ER32 160	160	125	50	3-20	
		HFNT.BBT50.ER40.080	ER40 80	80	45	63	3-26	
		HFNT.BBT50.ER40.100	ER40 100	100	65	63	3-26	
		HFNT.BBT50.ER40.160	ER40 160	160	125	63	3-26	

FOCE MILL ARBAN



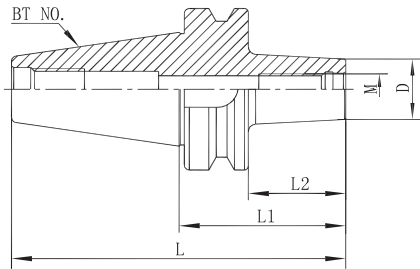
Tip	Stock Code	Açıklama	L ₁	L ₂	D	d
BBT40	HFNT.BBT40.ATB16.055	16K 55	55	30	40	16
	HFNT.BBT40.ATB16.100	16K 100	100	75	40	16
	HFNT.BBT40.ATB16.160	16K 160	160	135	40	16
	HFNT.BBT40.ATB22.055	22K 55	55	30	48	22
	HFNT.BBT40.ATB22.100	22K 100	100	75	48	22
	HFNT.BBT40.ATB22.160	22K 160	160	135	48	22
	HFNT.BBT40.ATB22.200	22K 200	200	175	48	22
	HFNT.BBT40.ATB27.055	27K 55	55	30	60	27
	HFNT.BBT40.ATB27.100	27K 100	100	75	60	27
	HFNT.BBT40.ATB27.160	27K 160	160	135	60	27
	HFNT.BBT40.ATB27.200	27K 200	200	175	60	27
	HFNT.BBT40.ATB32.060	32K 60	60	35	63	32
	HFNT.BBT40.ATB32.100	32K 100	100	75	63	32
	HFNT.BBT40.ATB32.160	32K 160	160	135	63	32
	HFNT.BBT40.ATB32.200	32K 200	200	175	63	32
	HFNT.BBT40.ATB40.060	40K 60	60	35	73	40
	HFNT.BBT40.ATB40.100	40K 100	100	75	73	40
	HFNT.BBT40.ATB40.160	40K 160	160	135	73	40
BBT50	HFNT.BBT50.ATB16.100	16K 100	100	65	40	16
	HFNT.BBT50.ATB16.160	16K 160	160	125	40	16
	HFNT.BBT50.ATB16.200	16K 200	200	165	40	16
	HFNT.BBT50.ATB16.250	16K 250	250	215	40	16
	HFNT.BBT50.ATB22.100	22K 100	100	65	48	22
	HFNT.BBT50.ATB22.160	22K 160	160	125	48	22
	HFNT.BBT50.ATB22.200	22K 200	200	165	48	22
	HFNT.BBT50.ATB22.250	22K 250	250	215	48	22
	HFNT.BBT50.ATB22.350	22K 350	350	315	48	22
	HFNT.BBT50.ATB27.100	27K 100	100	65	60	27
	HFNT.BBT50.ATB27.160	27K 160	160	125	60	27
	HFNT.BBT50.ATB27.200	27K 200	200	165	60	27
	HFNT.BBT50.ATB27.250	27K 250	250	215	60	27
	HFNT.BBT50.ATB27.350	27K 350	350	315	60	27
	HFNT.BBT50.ATB32.100	32K 100	100	65	63	32
	HFNT.BBT50.ATB32.160	32K 160	160	125	63	32
	HFNT.BBT50.ATB32.200	32K 200	200	165	63	32
	HFNT.BBT50.ATB32.250	32K 250	250	215	63	32
	HFNT.BBT50.ATB32.350	32K 350	350	315	63	32
	HFNT.BBT50.ATB40.100	40K 100	100	65	73	40
	HFNT.BBT50.ATB40.160	40K 160	160	125	73	40
	HFNT.BBT50.ATB40.200	40K 200	200	165	73	40

TOPPING HEAD



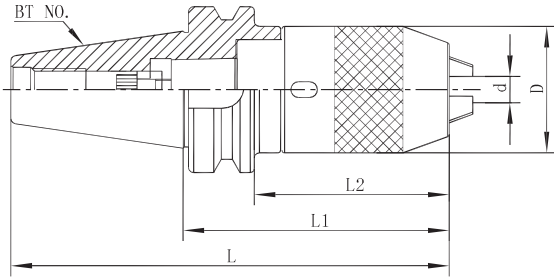
Tip	Stock Code	Açıklama	L ₁	L ₂	D	d _(mm)
BBT40	HFNT.BBT40.KC.03-12	3-12 KLAVUZ Ç. BAŞ	67	42	36,5	19
	HFNT.BBT40.KC.08-20	8-20 KLAVUZ Ç. BAŞ.	94	69	54	31
	HFNT.BBT40.KC.14-33	14-33 KLAVUZ Ç. BAŞ.	145	120	78	48
BBT50	HFNT.BBT50.KC.03-12	3-12 KLAVUZ Ç. BAŞ	77	42	36,5	19
	HFNT.BBT50.KC.08-12	8-12 KLAVUZ Ç. BAŞ.	102	67	54	31
	HFNT.BBT50.KC.14-33	14-33 KLAVUZ Ç. BAŞ.	145	110	78	48

SCREW END MILL HOLDERS



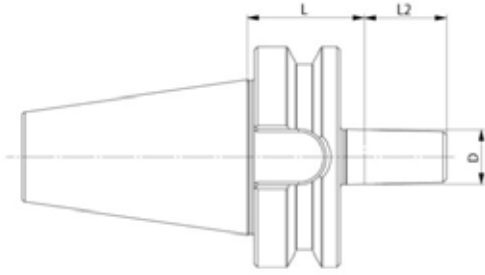
	Tip	Stock Code	Açıklama	L ₁	L ₂	D	M	
BBT40		HFNT.BBT40.M08.050	M8 50	50	25	15	8	
		HFNT.BBT40.M08.100	M8 100	100	75	15	8	
		HFNT.BBT40.M10.050	M10 50	50	25	19	10	
		HFNT.BBT40.M10.100	M10 100	100	75	19	10	
		HFNT.BBT40.M12.070	M12 70	70	45	24	12	
		HFNT.BBT40.M12.100	M12 100	100	75	24	12	
		HFNT.BBT40.M12.150	M12 150	150	125	24	12	
		HFNT.BBT40.M16.070	M16 70	70	45	29	16	
		HFNT.BBT40.M16.100	M16 100	100	75	29	16	
		HFNT.BBT40.M16.150	M16 150	150	125	29	16	
		HFNT.BBT40.M16.200	M16 200	200	175	29	16	
		HFNT.BBT40.M16.250	M16 250	250	225	29	16	
		HFNT.BBT40.M16.300	M16 300	300	275	29	16	
	BBT50	HFNT.BBT50.M06.050	M6 50	50	15	13	6	
		HFNT.BBT50.M06.100	M6 100	100	65	13	6	
		HFNT.BBT50.M08.050	M8 50	50	15	15	8	
		HFNT.BBT50.M08.100	M8 100	100	65	15	8	
		HFNT.BBT50.M10.050	M10 50	50	15	19	10	
		HFNT.BBT50.M10.100	M10 100	100	65	19	10	
		HFNT.BBT50.M12.050	M12 50	50	15	24	12	
		HFNT.BBT50.M12.100	M12 100	100	65	24	12	
		HFNT.BBT50.M12.150	M12 150	150	85	24	12	
		HFNT.BBT50.M16.100	M16 100	100	65	29	16	
		HFNT.BBT50.M16.150	M16 150	150	85	29	16	
		HFNT.BBT50.M16.200	M16 200	200	165	29	16	
		HFNT.BBT50.M16.250	M16 250	250	215	29	16	
		HFNT.BBT50.M16.300	M16 300	300	265	29	16	

KEYLESS DRILL CHUCK



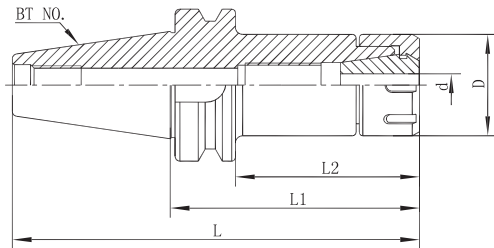
Tip	Stock Code	Açıklama	L ₁	L ₂	D	d
BBT40	HFNT.BBT40.MB.1-13	1-13 MANDREN BAŞLIK	110	85	50	1-13
	HFNT.BBT40.MB.1-16	1-16 MANDREN BAŞLIK	110	85	58	1-16
BBT50	HFNT.BBT50.MB.1-13	1-13 MANDREN BAŞLIK	120	85	50	1-13
	HFNT.BBT50.MB.1-16	1-16 MANDREN BAŞLIK	120	85	58	1-16

CHUCK ARBOR



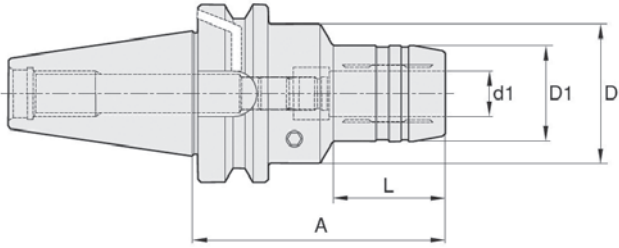
Tip	Stock Code	Açıklama	L	L ₂	d
BBT40	HFNT.BBT40.MM.B16	B16	32	24	15,73
	HFNT.BBT40.MM.B18	B18	32	32	17,80

OZ 462 COLLETS CHUCK



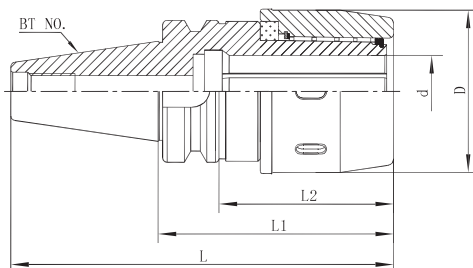
Tip	Stock Code	Açıklama	L	L ₁	d
BBT40	HFNT.BBT40.462E.070	462E.070	70	45	60
	HFNT.BBT40.462E.100	462E.100	100	75	60
BBT50	HFNT.BBT50.462E.100	462E.100	100	75	60

HYDROLIC GRIPPER



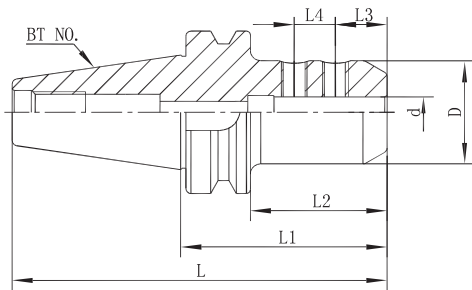
Tip	Stock Code	Açıklama	L ₁	L ₂	D	d _(mm)
BBT40	HFNT.BBT40.HT20.090	H20 90	90	65	42	3-20
	HFNT.BBT40.HT32.105	H32 105	105	80	64	6-32
BBT50	HFNT.BBT50.HT20.090	H20 90	90	55	42	3-20
	HFNT.BBT50.HT32.090	H32 90	90	55	64	6-32

HIGH - POWER MILLING CHUCK



Tip	Stock Code	Açıklama	L ₁	L ₂	D	d _(mm)	
BBT40	HFNT.BBT40.RT.C20	C20 95	95	70	52	3-20	
	HFNT.BBT40.RT.C25	C25 100	100	75	62	4-25	
	HFNT.BBT40.RT.C32	C32 105	105	80	73	6-32	
BBT50	HFNT.BBT50.RT.C20	C20 105	105	70	52	3-20	
	HFNT.BBT50.RT.C25	C25 110	110	75	62	4-25	
	HFNT.BBT50.RT.C32	C32 110	110	75	73	6-32	

SIDE LOCK HOLDER

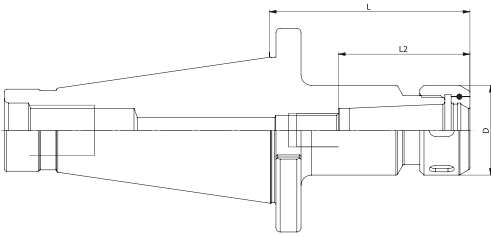


Tip	Stock Code	Açıklama	L ₁	L ₂	D	d
BBT30	HFNT.BBT30.V06.050	6V 50	50	30	25	6
	HFNT.BBT30.V08.050	8V 50	50	30	28	8
	HFNT.BBT30.V10.050	10V 50	50	30	35	10
	HFNT.BBT30.V12.050	12V 50	50	30	42	12
	HFNT.BBT30.V16.063	16V 63	63	43	48	16
	HFNT.BBT30.V16.100	16V 100	100	80	48	16
	HFNT.BBT30.V20.063	20V 63	63	43	52	20
	HFNT.BBT30.V20.100	20V 100	100	80	52	20
	HFNT.BBT30.V25.063	25V 63	63	43	57	25
	HFNT.BBT30.V25.100	25V 100	100	80	57	25
BBT40	HFNT.BBT40.V06.050	6V 50	50	25	25	6
	HFNT.BBT40.V06.100	6V 100	100	75	25	6
	HFNT.BBT40.V08.050	8V 50	50	25	28	8
	HFNT.BBT40.V08.100	8V 100	100	75	28	8
	HFNT.BBT40.V10.063	10V 63	63	38	35	10
	HFNT.BBT40.V10.100	10V 100	100	75	35	10
	HFNT.BBT40.V12.063	12V 63	63	38	42	12
	HFNT.BBT40.V12.100	12V 100	100	75	42	12
	HFNT.BBT40.V16.035	16V 35	35	10	48	16
	HFNT.BBT40.V16.063	16V 63	63	38	48	16
	HFNT.BBT40.V16.100	16V 100	100	75	48	16
	HFNT.BBT40.V20.035	20V 35	35	10	52	20
	HFNT.BBT40.V20.063	20V 63	63	38	52	20
	HFNT.BBT40.V20.100	20V 100	100	75	52	20
	HFNT.BBT40.V25.035	25V 35	35	10	57	25
	HFNT.BBT40.V25.090	25V 90	90	65	57	25
	HFNT.BBT40.V32.100	32V 100	100	75	63	32
	HFNT.BBT40.V40.120	40V 120	120	95	74	40
BBT50	HFNT.BBT50.V06.063	6V 63	63	28	25	6
	HFNT.BBT50.V08.063	8V 63	63	28	28	8
	HFNT.BBT50.V10.070	10V 70	70	35	35	10
	HFNT.BBT50.V12.070	12V 70	70	35	42	12
	HFNT.BBT50.V16.080	16V 80	80	45	48	16
	HFNT.BBT50.V20.080	20V 80	80	45	52	20
	HFNT.BBT50.V20.160	20V 160	160	125	52	20
	HFNT.BBT50.V25.100	25V 100	100	65	57	25
	HFNT.BBT50.V25.160	25V 160	160	125	57	25
	HFNT.BBT50.V32.105	32V 105	105	70	63	32
	HFNT.BBT50.V32.160	32V 160	160	125	63	32
	HFNT.BBT50.V40.110	40V 110	110	75	74	40
	HFNT.BBT50.V40.160	40V 160	160	125	74	40

ISO TYPE HOLDERS

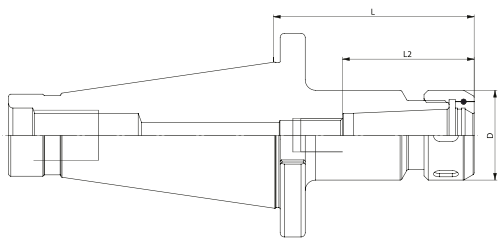


ER COLLETS CHUCK



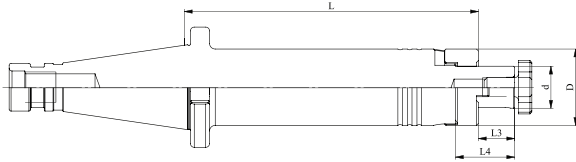
Tip	Stock Code	Açıklama	L	D	d _(mm)	
ISO30	HFNT.ISO30.ER32.050	ER32 50	50	50	3-20	
ISO40	HFNT.ISO40.ER32.070	ER32 70	70	50	3-20	
	HFNT.ISO40.ER32.100	ER32 100	100	50	3-20	
	HFNT.ISO40.ER40.080	ER40 80	80	63	3-26	
	HFNT.ISO40.ER40.100	ER40 100	100	63	3-26	
ISO50	HFNT.ISO50.ER40.060	ER40 60	60	63	3-26	
	HFNT.ISO50.ER40.100	ER40 100	100	63	3-26	

462 COLLETS CHUCK



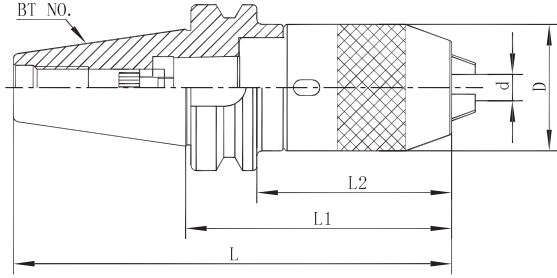
Tip	Stock Code	Açıklama	L ₁	L ₂	D
ISO30	HFNT.ISO30.462E.075	462E 75	75	60	2-26
ISO40	HFNT.ISO40.462E.075	462E 75	75	70	2-26
	HFNT.ISO40.462E.100	462E 100	100	60	2-26
	HFNT.ISO40.462E.125	462E 125	125	60	2-26
	HFNT.ISO40.462E.150	462E 150	150	60	2-26
ISO50	HFNT.ISO50.462E.070	462E 70	70	60	2-26

FACE MILL ARBOR



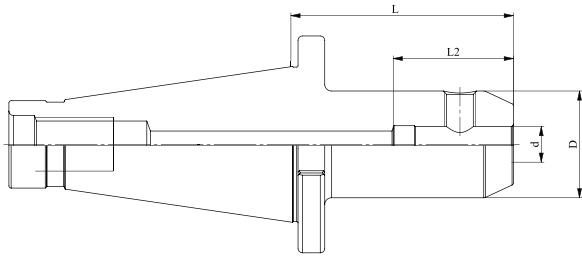
	Tip	Stock Code	Açıklama	L	L ₂	D	d	
ISO40		HFNT.ISO40.K16.045	16K 45	45	20	32	16	
		HFNT.ISO40.K22.045	22K 45	52	24	40	22	
		HFNT.ISO40.K27.045	27K 45	52	26	48	27	
		HFNT.ISO40.K32.045	32K 45	52	31	58	32	
		HFNT.ISO40.K40.045	40K 45	52	34	70	40	
ISO 50		HFNT.ISO50.K16.055	16K 55	55	27	32	16	
		HFNT.ISO50.K22.055	22K 55	55	31	40	22	
		HFNT.ISO50.K27.055	27K 55	55	33	48	27	
		HFNT.ISO50.K32.055	32K 55	55	38	58	32	
		HFNT.ISO50.K40.055	40K 55	55	41	70	40	
		HFNT.ISO50.K50.055	50K55	55	46	85	50	
		HFNT.ISO50.K60.055	60K55	55	66	97	60	

KEYLESS DRILL CHUCK



	Tip	Stock Code	Açıklama	L	L ₂	D	d _(mm)	
	ISO40	HFNT.ISO40.MB.1-13	1-13 MANDREN BAŞLIK	80	55	42	1-13	
		HFNT.ISO40.MB.1-16	1-16 MANDREN BAŞLIK	100	75	49	1-16	

SIDE LOCK HOLDER

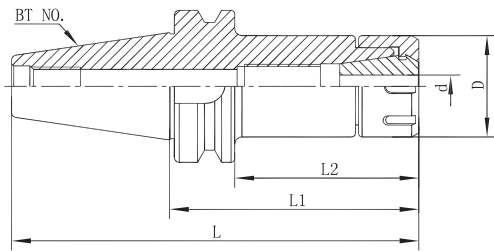


Tip	Stock Code	Açıklama	L	D	d
ISO40	HFNT.ISO40.V06.050	6V 50	50	25	6
	HFNT.ISO40.V08.050	8V 50	50	28	8
	HFNT.ISO40.V10.050	10V 50	50	35	10
	HFNT.ISO40.V12.050	12V 50	50	42	12
	HFNT.ISO40.V14.050	14V 50	50	44	14
	HFNT.ISO40.V16.063	16V 63	63	48	16
	HFNT.ISO40.V18.063	18V 63	63	50	18
	HFNT.ISO40.V20.080	20V 80	80	52	20
	HFNT.ISO40.V25.080	25V 80	80	64	25
	HFNT.ISO40.V32.080	32V 80	80	72	32
	HFNT.ISO40.V40.100	40V 100	100	80	40
ISO50	HFNT.ISO50.V20.063	20V 63	63	52	20
	HFNT.ISO50.V25.080	25V 80	80	64	25
	HFNT.ISO50.V32.080	32V 80	80	72	32
	HFNT.ISO50.V40.090	40V 90	90	80	40

SK TYPE HOLDERS

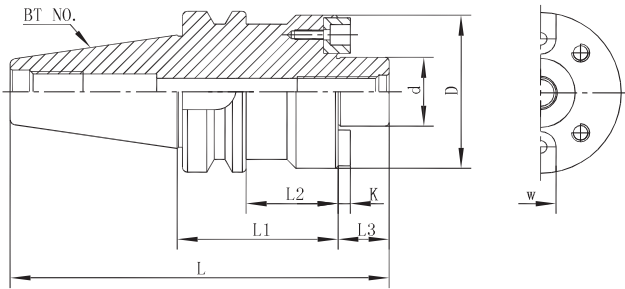


ER COLLETS CHUCK



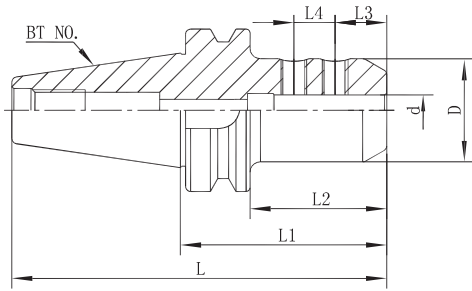
	Tip	Stock Code	Açıklama	L ₁	L ₂	D	d _(mm)	
SK30		HFNT.SK30.ER11M.100	ER11M 100	100	81	16	1-7	
		HFNT.SK30.ER16.060	ER16 60	60	41	32	1-10	
		HFNT.SK30.ER16.100	ER16 100	100	81	32	1-10	
		HFNT.SK30.ER16.160	ER16 160	160	141	32	1-10	
		HFNT.SK30.ER25.060	ER25 60	60	41	42	3-16	
		HFNT.SK30.ER25.100	ER25 100	100	81	42	3-16	
		HFNT.SK30.ER32.060	ER32 60	60	41	50	3-20	
		HFNT.SK30.ER32.100	ER32 100	100	81	50	3-20	
		HFNT.SK30.ER40.060	ER40 60	60	41	63	3-26	
		HFNT.SK30.ER40.100	ER40 100	100	81	63	3-26	
SK40		HFNT.SK40.ER11M.100	ER11M 100	100	81	16	1-7	
		HFNT.SK40.ER11M.160	ER11M 160	160	141	16	1-7	
		HFNT.SK40.ER16.060	ER16 60	60	41	32	1-10	
		HFNT.SK40.ER16.100	ER16 100	100	81	32	1-10	
		HFNT.SK40.ER16.160	ER16 160	160	141	32	1-10	
		HFNT.SK40.ER20.060	ER20 60	60	41	34	1-13	
		HFNT.SK40.ER20.100	ER20 100	100	81	34	1-13	
		HFNT.SK40.ER20.160	ER20 160	160	141	34	1-13	
		HFNT.SK40.ER25.060	ER25 60	60	41	42	3-16	
		HFNT.SK40.ER25.100	ER25 100	100	81	42	3-16	
		HFNT.SK40.ER25.160	ER25 160	160	141	42	3-16	
		HFNT.SK40.ER32.060	ER32 60	60	41	50	3-20	
		HFNT.SK40.ER32.100	ER32 100	100	81	50	3-20	
		HFNT.SK40.ER32.160	ER32 160	160	141	50	3-20	
		HFNT.SK40.ER40.080	ER40 80	80	61	63	3-26	
		HFNT.SK40.ER40.100	ER40 100	100	81	63	3-26	
		HFNT.SK40.ER40.160	ER40 160	160	141	63	3-26	

FACE MILL ARBOR



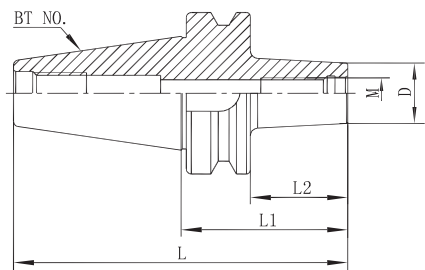
Tip	Stock Code	Açıklama	L ₁	L ₂	D	d	
SK30	HFNT.SK30.K16.050	16K 50	50	31	32	16	
	HFNT.SK30.K22.050	22K 50	50	31	48	22	
	HFNT.SK30.K22.100	22K 100	100	81	48	22	
	HFNT.SK30.K27.055	27K 55	55	36	60	27	
	HFNT.SK30.K27.100	27K 100	100	81	60	27	
SK40	HFNT.SK40.K16.055	16K 55	55	36	32	16	
	HFNT.SK40.K16.100	16K 100	100	81	32	16	
	HFNT.SK40.K16.160	16K 160	160	141	32	16	
	HFNT.SK40.K22.055	22K 55	55	36	48	22	
	HFNT.SK40.K22.100	22K 100	100	81	48	22	
	HFNT.SK40.K22.160	22K 160	160	141	48	22	
	HFNT.SK40.K22.200	22K 200	200	181	48	22	
	HFNT.SK40.K27.055	27K 55	55	36	60	27	
	HFNT.SK40.K27.100	27K 100	100	81	60	27	
	HFNT.SK40.K27.160	27K 160	160	141	60	27	
	HFNT.SK40.K27.200	27K 200	200	181	60	27	
	HFNT.SK40.K32.060	32K 60	60	41	63	32	
	HFNT.SK40.K32.100	32K 100	100	81	63	32	
	HFNT.SK40.K32.160	32K 160	160	141	63	32	
	HFNT.SK40.K32.200	32K 200	200	181	63	32	
	HFNT.SK40.K40.060	40K 60	60	41	73	40	
	HFNT.SK40.K40.100	40K 100	100	81	73	40	
	HFNT.SK40.K40.160	40K 160	160	141	73	40	

SIDE LOCK HOLDER



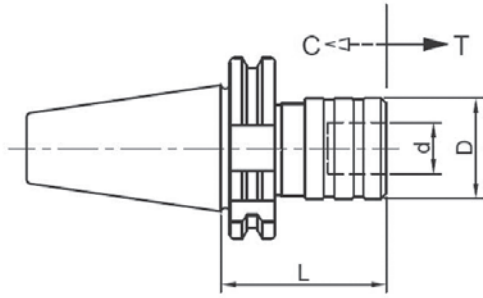
Tip	Stock Code	Açıklama	L ₁	L ₂	D	d
SK30	HFNT.SK30.V06.050	6V 50	50	31	25	6
	HFNT.SK30.V08.050	8V 50	50	31	28	8
	HFNT.SK30.V10.050	10V 50	50	31	35	10
	HFNT.SK30.V12.050	12V 50	50	31	42	12
	HFNT.SK30.V16.063	16V 63	63	44	48	16
	HFNT.SK30.V16.100	16V 100	100	81	48	16
	HFNT.SK30.V20.063	20V 63	63	44	52	20
	HFNT.SK30.V20.100	20V 100	100	81	52	20
	HFNT.SK30.V25.063	25V 63	63	44	57	25
	HFNT.SK30.V25.100	25V 100	100	81	57	25
SK40	HFNT.SK40.V06.050	6V 50	50	31	25	6
	HFNT.SK40.V06.100	6V 100	100	81	25	6
	HFNT.SK40.V08.050	8V 50	50	31	28	8
	HFNT.SK40.V08.100	8V 100	100	81	28	8
	HFNT.SK40.V10.063	10V 63	63	44	35	10
	HFNT.SK40.V10.100	10V 100	100	81	35	10
	HFNT.SK40.V12.063	12V 63	63	44	42	12
	HFNT.SK40.V12.100	12V 100	100	81	42	12
	HFNT.SK40.V16.035	16V 35	35	16	48	16
	HFNT.SK40.V16.063	16V 63	63	44	48	16
	HFNT.SK40.V16.100	16V 100	100	81	48	16
	HFNT.SK40.V20.035	20V 35	35	16	52	20
	HFNT.SK40.V20.063	20V 63	63	44	52	20
	HFNT.SK40.V20.100	20V 100	100	81	52	20
	HFNT.SK40.V25.035	25V 35	35	16	57	25
	HFNT.SK40.V25.090	25V 90	90	71	57	25
	HFNT.SK40.V32.100	32V 100	100	81	63	32
	HFNT.SK40.V40.120	40V 120	120	101	74	40

SCREWED END MILL HOLDER



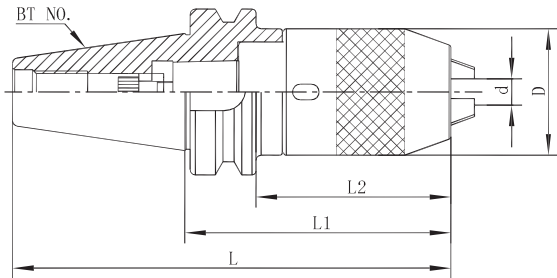
	Tip	Stock Code	Açıklama	L	L ₂	D	M	
SK40		HFNT.SK40.M08.050	M8 50	50	31	15	8	
		HFNT.SK40.M08.100	M8 100	100	81	15	10	
		HFNT.SK40.M10.050	M10 50	50	31	18	10	
		HFNT.SK40.M10.100	M10 100	100	81	18	10	
		HFNT.SK40.M12.070	M12 70	70	51	21	12	
		HFNT.SK40.M12.100	M12 100	100	81	21	12	
		HFNT.SK40.M12.150	M12 150	150	131	21	12	
		HFNT.SK40.M16.070	M16 70	70	51	29	16	
		HFNT.SK40.M16.100	M16 100	100	81	29	16	
		HFNT.SK40.M16.150	M16 150	150	131	29	16	

TAPPING HEAD



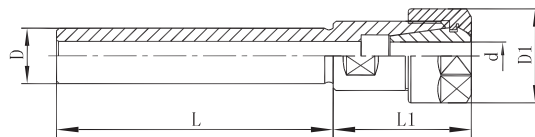
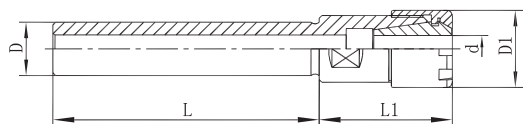
Tip	Stock Code	Açıklama	L ₁	L ₂	D	d _(mm)
SK40	HFNT.SK40.KC.03-12	3-12 KLAVUZ ÇEK. BAŞ.	63	44	36.5	19
	HFNT.SK40.KC.08-20	8-20 KLAVUZ ÇEK. BAŞ.	94	75	54	31
	HFNT.SK40.KC.14-33	14-33 KLAVUZ ÇEK. BAŞ.	145	126	78	48

KEYLESS DRILL CHUCK



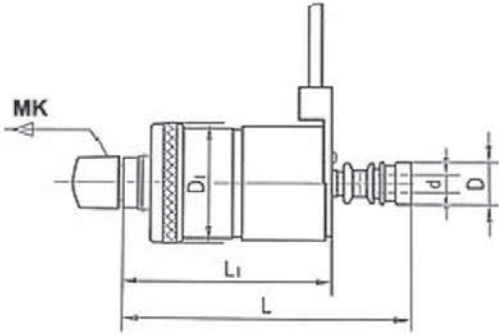
Tip	Stock Code	Açıklama	L	L ₂	D
SK40	HFNT.SK40.MB.1-13	1-13 MANDREN BAŞLIK	80	61	42
	HFNT.SK40.MB.1-16	1-16 MANDREN BAŞLIK	95	76	49
	HFNT.SK40.MM.B16	B16	24	29	15.73
	HFNT.SK40.MM.B18	B18	24	37	17.78

EXTENSION BARHOLDERS



	Tip	Stock Code	Açıklama	L ₁	L ₂	D	d _(mm)
	C08	HFNT.STC08.ER08.100	C08 ER8 100	24	100	12	1-5
		HFNT.STC08.ER08.150	C08 ER8 150	24	150	12	1-5
	C10	HFNT.STC10.ER08.100	C10 ER8 100	24	100	12	1-5
		HFNT.STC10.ER08.150	C10 ER8 150	24	150	12	1-5
	C12	HFNT.STC12.ER11.100	C12 ER11 100	26.5	100	16	1-7
		HFNT.STC12.ER11.150	C12 ER11 150	26.5	150	16	1-7
		HFNT.STC12.ER11.200	C12 ER11 200	26.5	200	16	1-7
	C16	HFNT.STC16.ER11.100	C16 ER11 100	26.5	100	16	1-7
		HFNT.STC16.ER11.150	C16 ER11 150	26.5	150	16	1-7
		HFNT.STC16.ER16.070	C16 ER16 70	35	70	32	1-10
		HFNT.STC16.ER16.150	C16 ER16 150	35	150	32	1-10
		HFNT.STC16.ER16.200	C16 ER16 200	35	200	32	1-10
		HFNT.STC16.ER16M.100	C16 ER16M 100	35	100	22	1-10
		HFNT.STC16.ER16M.150	C16 ER16M 150	35	150	22	1-10
		HFNT.STC16.ER16M.200	C16 ER16M 200	35	200	22	1-10
		HFNT.STC16.ER20.100	C16 ER20 100	40	100	34	1-13
		HFNT.STC16.ER20.150	C16 ER20 150	40	150	34	1-13
	C20	HFNT.STC16.ER20.200	C16 ER20 200	40	200	34	1-13
		HFNT.STC20.ER16.050	C20 ER16 50	35	50	32	1-10
		HFNT.STC20.ER16.100	C20 ER16 100	35	100	32	1-10
		HFNT.STC20.ER16.150	C20 ER16 150	35	150	32	1-10
		HFNT.STC20.ER16.200	C20 ER16 200	35	200	32	1-10
		HFNT.STC20.ER16M.050	C20 ER16M 50	35	50	22	1-10
		HFNT.STC20.ER16M.100	C20 ER16M 100	35	100	22	1-10
		HFNT.STC20.ER16M.150	C20 ER16M 150	35	150	22	1-10
		HFNT.STC20.ER16M.200	C20 ER16M 200	35	200	22	1-10
		HFNT.STC20.ER20.070	C20 ER20 70	40	70	34	1-13
		HFNT.STC20.ER20.100	C20 ER20 100	40	100	34	1-13
		HFNT.STC20.ER20.150	C20 ER20 150	40	150	34	1-13
		HFNT.STC20.ER20.200	C20 ER20 200	40	200	34	1-13
		HFNT.STC20.ER25.050	C20 ER25 50	45	50	42	3-16
		HFNT.STC20.ER25.100	C20 ER25 100	45	100	42	3-16
	C25	HFNT.STC20.ER25.150	C20 ER25 150	45	150	42	3-16
		HFNT.STC20.ER25.200	C20 ER25 200	45	200	42	3-16
		HFNT.STC25.ER25.050	C25 ER25 50	45	50	42	3-16
		HFNT.STC25.ER25.100	C25 ER25 100	45	100	42	3-16
		HFNT.STC25.ER25.150	C25 ER25 150	45	150	42	3-16
		HFNT.STC25.ER25.200	C25 ER25 200	45	200	42	3-16
	C32	HFNT.STC25.ER32.150	C25 ER32 150	55	150	50	3-20
		HFNT.STC25.ER32.200	C25 ER32 200	55	200	50	3-20
		HFNT.STC32.ER25.150	C32 ER25 150	45	150	50	3-16
		HFNT.STC32.ER32.150	C32 ER32 150	55	150	50	3-20
		HFNT.STC32.ER32.200	C32 ER32 200	55	200	50	3-20
	C40	HFNT.STC32.ER40.100	C32 ER40 100	55	100	63	3-26
		HFNT.STC32.ER40.150	C32 ER40 150	55	150	63	3-26
		HFNT.STC40.ER32.150	C40 ER32 150	55	150	50	3-20
		HFNT.STC40.ER40.100	C40 ER40 100	55	100	63	3-26
		HFNT.STC40.ER40.150	C40 ER40 150	55	150	63	3-26

TAPPING ADAPTER

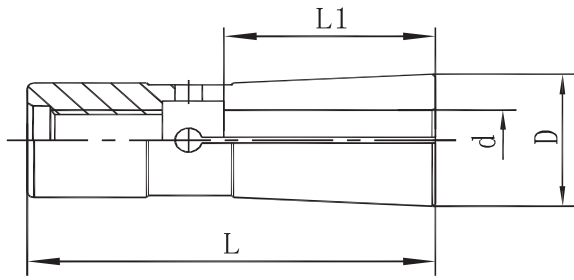


Tip	Stock Code	Açıklama	L	D	d
Ø19	HFNE.19.M03	Ø19 M03 ADAPTÖR	22,5	32	3.5
	HFNE.19.M04	Ø19 M04 ADAPTÖR	22,5	32	4.5
	HFNE.19.M05	Ø19 M05 ADAPTÖR	22,5	32	6
	HFNE.19.M06	Ø19 M06 ADAPTÖR	22,5	32	6
	HFNE.19.M08	Ø19 M08 ADAPTÖR	22,5	32	8
	HFNE.19.M10	Ø19 M10 ADAPTÖR	22,5	32	10
	HFNE.19.M12	Ø19 M12 ADAPTÖR	22,5	32	9
	HFNE.19.M14	Ø19 M14 ADAPTÖR	22,5	32	11
	HFNE.19İ.M04	Ø19 M04 ADAPTÖR (DIN376)	22,5	32	2.8
	HFNE.19İ.M05	Ø19 M05 ADAPTÖR (DIN376)	22,5	32	3.5
	HFNE.19İ.M06	Ø19 M06 ADAPTÖR (DIN376)	22,5	32	4.5
	HFNE.19İ.M08	Ø19 M08 ADAPTÖR (DIN376)	22,5	32	6
	HFNE.19İ.M10	Ø19 M10 ADAPTÖR (DIN376)	22,5	32	7
Ø31	HFNE.31.M05	Ø31 M05 ADAPTÖR	35	50	3.5
	HFNE.31.M06	Ø31 M06 ADAPTÖR	35	50	4.5
	HFNE.31.M08	Ø31 M08 ADAPTÖR	35	50	6
	HFNE.31.M10	Ø31 M10 ADAPTÖR	35	50	7
	HFNE.31.M12	Ø31 M12 ADAPTÖR	35	50	9
	HFNE.31.M14	Ø31 M14 ADAPTÖR	35	50	11
	HFNE.31.M16	Ø31 M16 ADAPTÖR	35	50	12
	HFNE.31.M18	Ø31 M18 ADAPTÖR	35	50	14
	HFNE.31.M20	Ø31 M20 ADAPTÖR	35	50	16
	HFNE.31.M22	Ø31 M22 ADAPTÖR	35	50	18
	HFNE.31.M24	Ø31 M24 ADAPTÖR	35	50	18

SPARE PARTS

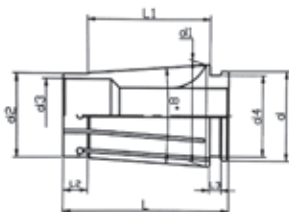


SDC COLLECT



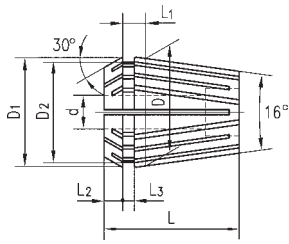
Tip	Stock Code	Açıklama	L ₁	L ₂	d _(mm)
SDC06	HFNP.SDC06.03	Ø3	36	14	9.6
	HFNP.SDC06.04	Ø4	36	14	9.6
	HFNP.SDC06.05	Ø5	36	16	9.6
	HFNP.SDC06.06	Ø6	36	16	9.6
SDC08	HFNP.SDC08.03	Ø3	45	15	15
	HFNP.SDC08.04	Ø4	45	16	15
	HFNP.SDC08.05	Ø5	45	16	15
	HFNP.SDC08.06	Ø6	45	24	15
	HFNP.SDC08.08	Ø8	45	26	15
SDC12	HFNP.SDC12.04	Ø4	60	15	22
	HFNP.SDC12.06	Ø6	60	25	22
	HFNP.SDC12.08	Ø8	60	30	22
	HFNP.SDC12.10	Ø10	60	33	22
	HFNP.SDC12.12	Ø12	60	33	22

SK COLLET



Tip	Stock Code	Açıklama	L ₁	L ₂	D	d _(mm)
SK06	HFNP.SK06.02	Ø2	25	17.5	3.5	2.5
	HFNP.SK06.03	Ø3	25	17.5	3.5	2.5
	HFNP.SK06.04	Ø4	25	17.5	3.5	2.5
	HFNP.SK06.05	Ø5	25	17.5	3.5	2.5
	HFNP.SK06.06	Ø6	25	17.5	3.5	2.5
SK10	HFNP.SK10.02	Ø2	30.5	22	5	2.3
	HFNP.SK10.03	Ø3	30.5	22	5	2.3
	HFNP.SK10.04	Ø4	30.5	22	5	2.3
	HFNP.SK10.05	Ø5	30.5	22	5	2.3
	HFNP.SK10.06	Ø6	30.5	22	5	2.3
	HFNP.SK10.07	Ø7	30.5	22	5	2.3
	HFNP.SK10.08	Ø8	30.5	22	5	2.3
	HFNP.SK10.09	Ø9	30.5	22	5	2.3
	HFNP.SK10.10	Ø10	30.5	22	5	2.3
SK16	HFNP.SK16.03	Ø3	45	32	8	2.8
	HFNP.SK16.04	Ø4	45	32	8	2.8
	HFNP.SK16.05	Ø5	45	32	8	2.8
	HFNP.SK16.06	Ø6	45	32	8	2.8
	HFNP.SK16.08	Ø8	45	32	8	2.8
	HFNP.SK16.10	Ø10	45	32	8	2.8
	HFNP.SK16.12	Ø12	45	32	8	2.8
	HFNP.SK16.14	Ø14	45	32	8	2.8
	HFNP.SK16.16	Ø16	45	32	8	2.8

ER COLLET



ER11-ER50

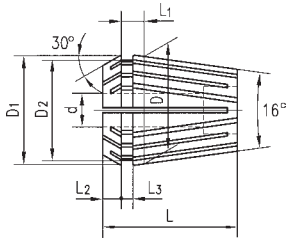


ER8



Tip	Stock Code	Açıklama	L ₁
ER8	HFNP.ER08.01	Ø1	13.5
	HFNP.ER08.02	Ø2	13.5
	HFNP.ER08.03	Ø3	13.5
	HFNP.ER08.04	Ø4	13.5
	HFNP.ER08.05	Ø5	13.5
ER11	HFNP.ER11.02	Ø2	18
	HFNP.ER11.03	Ø3	18
	HFNP.ER11.04	Ø4	18
	HFNP.ER11.05	Ø5	18
	HFNP.ER11.06	Ø6	18
	HFNP.ER11.07	Ø7	18
ER16	HFNP.ER16.02	Ø2	27.5
	HFNP.ER16.03	Ø3	27.5
	HFNP.ER16.04	Ø4	27.5
	HFNP.ER16.05	Ø5	27.5
	HFNP.ER16.06	Ø6	27.5
	HFNP.ER16.07	Ø7	27.5
	HFNP.ER16.08	Ø8	27.5
	HFNP.ER16.09	Ø9	27.5
	HFNP.ER16.10	Ø10	27.5
ER20	HFNP.ER20.02	Ø2	31.5
	HFNP.ER20.03	Ø3	31.5
	HFNP.ER20.04	Ø4	31.5
	HFNP.ER20.05	Ø5	31.5
	HFNP.ER20.06	Ø6	31.5
	HFNP.ER20.07	Ø7	31.5
	HFNP.ER20.08	Ø8	31.5
	HFNP.ER20.09	Ø9	31.5
	HFNP.ER20.10	Ø10	31.5
	HFNP.ER20.11	Ø11	31.5
	HFNP.ER20.12	Ø12	31.5
	HFNP.ER20.13	Ø13	31.5
ER25	HFNP.ER25.02	Ø2	34
	HFNP.ER25.03	Ø3	34
	HFNP.ER25.04	Ø4	34
	HFNP.ER25.05	Ø5	34
	HFNP.ER25.06	Ø6	34
	HFNP.ER25.07	Ø7	34
	HFNP.ER25.08	Ø8	34
	HFNP.ER25.09	Ø9	34
	HFNP.ER25.10	Ø10	34
	HFNP.ER25.11	Ø11	34
	HFNP.ER25.12	Ø12	34
	HFNP.ER25.13	Ø13	34
	HFNP.ER25.14	Ø14	34
	HFNP.ER25.15	Ø15	34
	HFNP.ER25.16	Ø16	34
	HFNP.ER25.20	Ø20	34

ER COLLET



ER11-ER50

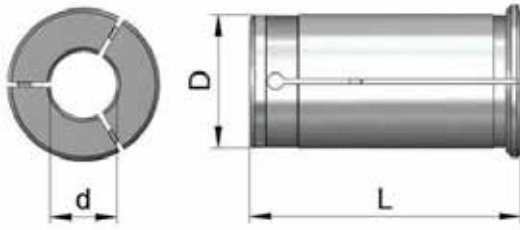


ER8



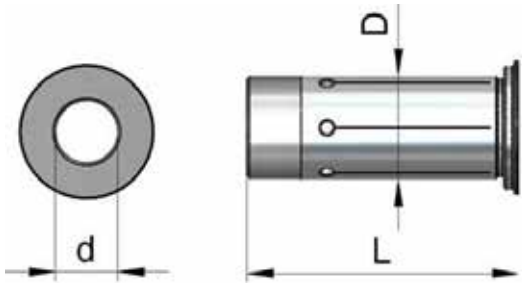
Tip	Stock Code	Açıklama	L
ER32	HFNP.ER32.02	Ø2	40
	HFNP.ER32.03	Ø3	40
	HFNP.ER32.04	Ø4	40
	HFNP.ER32.05	Ø5	40
	HFNP.ER32.06	Ø6	40
	HFNP.ER32.07	Ø7	40
	HFNP.ER32.08	Ø8	40
	HFNP.ER32.09	Ø9	40
	HFNP.ER32.10	Ø10	40
	HFNP.ER32.11	Ø11	40
	HFNP.ER32.12	Ø12	40
	HFNP.ER32.13	Ø13	40
	HFNP.ER32.14	Ø14	40
	HFNP.ER32.15	Ø15	40
	HFNP.ER32.16	Ø16	40
	HFNP.ER32.17	Ø17	40
	HFNP.ER32.18	Ø18	40
	HFNP.ER32.19	Ø19	40
	HFNP.ER32.20	Ø20	40
	HFNP.ER32.22	Ø22	40
	HFNP.ER32.25	Ø25	40
ER40	HFNP.ER40.02	Ø2	46
	HFNP.ER40.03	Ø3	46
	HFNP.ER40.04	Ø4	46
	HFNP.ER40.05	Ø5	46
	HFNP.ER40.06	Ø6	46
	HFNP.ER40.07	Ø7	46
	HFNP.ER40.08	Ø8	46
	HFNP.ER40.09	Ø9	46
	HFNP.ER40.10	Ø10	46
	HFNP.ER40.11	Ø11	46
	HFNP.ER40.12	Ø12	46
	HFNP.ER40.13	Ø13	46
	HFNP.ER40.14	Ø14	46
	HFNP.ER40.15	Ø15	46
	HFNP.ER40.16	Ø16	46
	HFNP.ER40.17	Ø17	46
	HFNP.ER40.18	Ø18	46
	HFNP.ER40.19	Ø19	46
	HFNP.ER40.20	Ø20	46
	HFNP.ER40.21	Ø21	46
	HFNP.ER40.22	Ø22	46
	HFNP.ER40.23	Ø23	46
	HFNP.ER40.24	Ø24	46
	HFNP.ER40.25	Ø25	46
	HFNP.ER40.26	Ø26	46
	HFNP.ER40.30	Ø30	46
	HFNP.ER40.32	Ø32	46

RPC COLLET



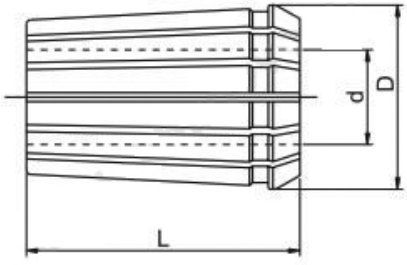
Tip	Stock Code	Açıklama	L
C20	HFNP.RPC20.03	Ø3	55
	HFNP.RPC20.04	Ø4	55
	HFNP.RPC20.05	Ø5	55
	HFNP.RPC20.06	Ø6	55
	HFNP.RPC20.08	Ø8	55
	HFNP.RPC20.10	Ø10	55
	HFNP.RPC20.12	Ø12	55
	HFNP.RPC20.14	Ø14	55
	HFNP.RPC20.16	Ø16	55
C25	HFNP.RPC25.04	Ø4	60
	HFNP.RPC25.05	Ø5	60
	HFNP.RPC25.06	Ø6	60
	HFNP.RPC25.08	Ø8	60
	HFNP.RPC25.10	Ø10	60
	HFNP.RPC25.12	Ø12	60
	HFNP.RPC25.14	Ø14	60
	HFNP.RPC25.16	Ø16	60
	HFNP.RPC25.18	Ø18	60
	HFNP.RPC25.20	Ø20	60
C32	HFNP.RPC32.06	Ø6	65
	HFNP.RPC32.08	Ø8	65
	HFNP.RPC32.10	Ø10	65
	HFNP.RPC32.12	Ø12	65
	HFNP.RPC32.14	Ø14	65
	HFNP.RPC32.16	Ø16	65
	HFNP.RPC32.18	Ø18	65
	HFNP.RPC32.20	Ø20	65
	HFNP.RPC32.25	Ø25	65

HPHC COLLET



	Tip	Stock Code	Açıklama	L	
HC20		HFNP.HPHC20.03	Ø3	52.5	
		HFNP.HPHC20.04	Ø4	52.5	
		HFNP.HPHC20.05	Ø5	52.5	
		HFNP.HPHC20.06	Ø6	52.5	
		HFNP.HPHC20.07	Ø7	52.5	
		HFNP.HPHC20.08	Ø8	52.5	
		HFNP.HPHC20.09	Ø9	52.5	
		HFNP.HPHC20.10	Ø10	52.5	
		HFNP.HPHC20.11	Ø11	52.5	
		HFNP.HPHC20.12	Ø12	52.5	
		HFNP.HPHC20.13	Ø13	52.5	
		HFNP.HPHC20.14	Ø14	52.5	
		HFNP.HPHC20.15	Ø15	52.5	
		HFNP.HPHC20.16	Ø16	52.5	
HC32		HFNP.HPHC32.06	Ø6	63.5	
		HFNP.HPHC32.08	Ø8	63.5	
		HFNP.HPHC32.10	Ø10	63.5	
		HFNP.HPHC32.12	Ø12	63.5	
		HFNP.HPHC32.14	Ø14	63.5	
		HFNP.HPHC32.16	Ø16	63.5	
		HFNP.HPHC32.18	Ø18	63.5	
		HFNP.HPHC32.20	Ø20	63.5	
		HFNP.HPHC32.25	Ø25	63.5	

OZ TYPE COLLET



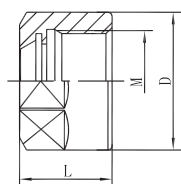
Tip	Stock Code	Açıklama	L
OZ25	HFNP.462E.02	Ø2	52
	HFNP.462E.03	Ø3	52
	HFNP.462E.04	Ø4	52
	HFNP.462E.05	Ø5	52
	HFNP.462E.06	Ø6	52
	HFNP.462E.07	Ø7	52
	HFNP.462E.08	Ø8	52
	HFNP.462E.09	Ø9	52
	HFNP.462E.10	Ø10	52
	HFNP.462E.11	Ø11	52
	HFNP.462E.12	Ø12	52
	HFNP.462E.13	Ø13	52
	HFNP.462E.14	Ø14	52
	HFNP.462E.15	Ø15	52
	HFNP.462E.16	Ø16	52
	HFNP.462E.17	Ø17	52
	HFNP.462E.18	Ø18	52
	HFNP.462E.19	Ø19	52
	HFNP.462E.20	Ø20	52
	HFNP.462E.21	Ø21	52
	HFNP.462E.22	Ø22	52
	HFNP.462E.23	Ø23	52
	HFNP.462E.24	Ø24	52
	HFNP.462E.25	Ø25	52
	HFNP.462E.26	Ø26	52

COLLET SETS



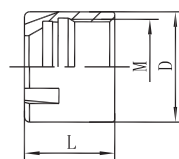
	Stock Code	Açıklama	
	HFNP.SET.462E.	462E SET 16 PARÇA (3-25)	
	HFNP.SET.ER08.	ER8 SET 5 PARÇA (1-5)	
	HFNP.SET.ER11.	ER11 SET 5 PARÇA (2-7)	
	HFNP.SET.ER16.	ER16 SET 8 PARÇA (2-10)	
	HFNP.SET.ER20.	ER20 SET 11 PARÇA (2-12)	
	HFNP.SET.ER25.	ER25 SET 15 PARÇA (2-16)	
	HFNP.SET.ER32.	ER32 SET 18 PARÇA (3-20)	
	HFNP.SET.ER40.	ER40 SET 23 PARÇA (4-26)	

ER NUT



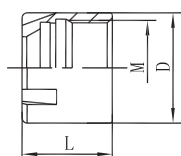
Stock Code	L	D	M
HFNK.ERA16	17.5	28	22x1.5
HFNK.ERA20	19	34	25x1.5

ER-UM NUT



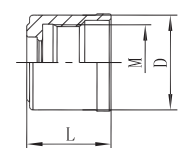
Stock Code	L	D	M
HFNK.ER16	17.5	32	22x1.5
HFNK.ER20	19	35	25x1.5
HFNK.ER25	20	42	32x1.5
HFNK.ER32	22.5	50	40x1.5
HFNK.ER40	25.5	63	50x1.5
HFNK.462E	30	60	48x2
HFNK.467E	33.5	72	60x2.5

ER-MINI NUT



Stock Code	L	D	M
HFNK.ERM08	9	12	10x0.75
HFNK.ERM11	12	16	13x0.75
HFNK.ERM16	18	22	19x1
HFNK.ERM20	19	28	24x1

SK NUT



Stock Code	L	D	M
HFNK.SK06	21	19	15.5x1
HFNK.SK10	24	27	21.5x1
HFNK.SK16	31	40	32x1.5

ER MINI TYPE SPANNER



Stock Code
HFNA.ERM08
HFNA.ERM11
HFNA.ERM16
HFNA.ERM20

ER/UM TYPE SNAPPER



Stock Code
HFNA.ER16
HFNA.ER20
HFNA.ER25
HFNA.ER32
HFNA.ER40

OZ TYPE SNAPPER



Stock Code
462E OZ 25 AY ANAHTAR
467E OZ 32 AY ANAHTAR

SK TYPE SNAPPER



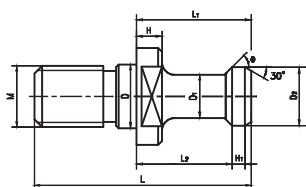
Stock Code
HFNA.SK06
HFNA.SK10
HFNA.SK16

BEARING TYPE SNAPPER



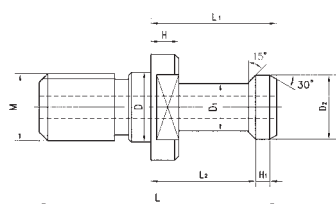
Stock Code
Ø25 RULMANLI ANAHTAR
Ø32 RULMANLI ANAHTAR

BT PULSTAD



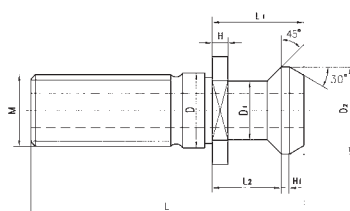
Stock Code	L	L ₁	L ₂	D	D ₁	D ₂	H	H ₁	M	D		
HFNC.BT30	43	23	18	12.5	7	11	5	2.5	12	45	60	90
HFNC.BT40	60	35	28	17	10	15	6	3	16	45	60	90
HFNC.BT50	85	45	35	25	17	23	10	5	24	45	60	90

BT COOLING PULSTAD



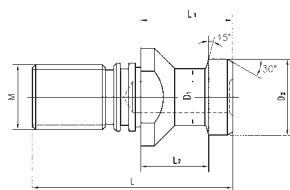
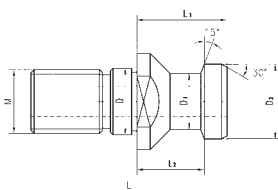
Stock Code	L	L ₁	L ₂	D	D ₁	D ₂	H	H ₁	M	D		
HFNC.BT40.İSV	60	35	28	17	10	15	6	3	16	45	60	90
HFNC.BT40.İSV.7	60	35	28	17	10	15	6	3	16	45	60	90
HFNC.BT50.İSV	85	45	35	25	17	23	10	5	24	45	60	90

MAZAK PULSTAD



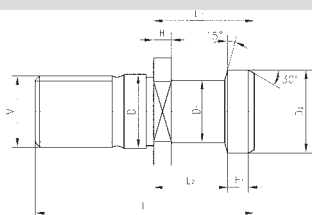
Stock Code	L	L ₁	L ₂	D	D ₁	D ₂	H	H ₁	M	D		
HFNC.BT40.MAZAK	44.10	19.1	14.02	17	12.45	18.8	3.05	1.52	16	45	60	90

OKUMA COOLING PULSTAD



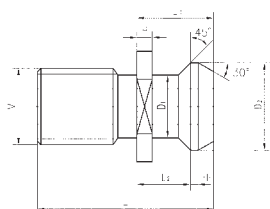
Stock Code	L	L ₁	L ₂	D	D ₁	D ₂	M
HFNC.OKUMA.ISV	54	26	20	17	14	19	16

OKUMA PULSTAD



Stock Code	L	L ₁	L ₂	D	D ₁	D ₂	M
HFNC.OKUMA	54	26	20	17	14	19	16

SK PULSTAD



Stock Code	L	L ₁	L ₂	D ₁	D ₂	H	H ₁	M
HFNC.SK40	38	16.26	11.18	12.45	18.80	3.05	1.52	5/8"-11

CASTING TOOL HOLDER DEVICE



Stock Code

HFNM.BT30.D.

HFNM.BT40.D.

HFNM.BT50.D.

STEEL TOOL HOLDER DEVICE



Stock Code

HFNM.BT40.A.

HFNM.BT50.A.

HFNM.HSK63..

TECHNICAL DATA

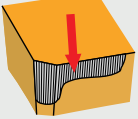


FREZE UÇLARI AŞINMA TİPLERİ

TALAŞ YIĞILMASI

			Etkisi yok.
		++	Herhangi bir kaplama (belirleyici faktör yapışmayı önleyici etkidir).
		↑	İlerleme hızı ne kadar yüksek olursa, yığılma oluşma ihtimali daha az olur.
		↓↑	Kesme hızını değiştirin (genellikle arttırın).
			Etkisi yok.
		↓↑	Daha pozitif geometri kullanın (Açı 40 ° 'den fazla olduğunda yığılma oluşturmaz).
		-	Daha etkin yapışma önleyici özelliğe sahip soğutma kullanın (Frezeleme için soğutma kullanımını tavsiye).

SERBEST YÜZEY AŞINMASI

		↑	Aşınmaya karşı daha dirençli kalite (H) kullanın.
		++	Herhangi bir kaplama (belirleyici faktör sertliktir – TiC, TiCN).
		↑	İlerleme (özellikle 0.1 mm'nin altında ise) arttırılmalıdır.
		↓	Kesme hızını düşürün.
			Etkisi yok.
		↑	Serbest yüzey açısının arttırılması en önemlisidir.
		+	Yardımcı olur fakat sadece ideal çalışma şartları ile birlikte.

KRATER AŞINMASI

		↑	Aşınmaya karşı daha dirençli alt yapı (S) kullanın.
		++	CVD kaplama (belirleyici faktör oksidasyon direncidir.)
		↑	İlerlemenin, kraterin şekli ve konumu üzerinde etkisi vardır.
		↓	Kesme hızını düşürün.
		↓	Minimum etki.
		↑	Daha pozitif kesme geometrisi kullanın.
		++	Yardımcı olur fakat sadece ideal çalışma şartları ile birlikte.

FREZE UÇLARI AŞINMA TİPLERİ

YARDIMCI KENARDA ÇENTİK OLUŞUMU

		↑	Aşınmaya karşı daha dirençli kalite (S) kullanın.
	(MT)CVD PVD	++	CVD kaplama (belirleyici faktör oksidasyon) –
		↓	İlerlemenin, kanalın şekli ve konumu üzerinde etkisi vardır.
		↓	Kesme hızını düşürün.
		↓	Minimum etki.
		↑	Başka (daha pozitif) kesme geometrisi kullanın.
		++	Yardımcı olur fakat sadece ideal çalışma şartları ile birlikte.

PLASTİK DEFORMASYON

		↑	Aşınmaya karşı daha dirençli kalite kullanın (belirleyici faktör Co).
	(MT)CVD PVD	+	Herhangi bir kaplama (belirleyici faktör sürtünme).
		↓	İlerlemeyi düşürün.
		↓	Kesme hızını düşürün
		↓	Minimum etki.
		↑	Başka (daha pozitif) kesme geometrisi kullanın.
		++	Yardımcı olur fakat sadece ideal çalışma şartları ile birlikte.

ÇENTİK AŞINMASI

		↑↓	Hasarın niteliğine bağlıdır (aşınma-aşınmaya karşı daha dirençli kalite kullanın , kırılma – daha sünek altyapı)
	(MT)CVD PVD	++	CVD kaplama (belirleyici faktör oksidasyon) –
		↓	İlerleme yoğunluğu etkiler, ancak kesme hızından daha küçüktür.
		↓	Kesme hızını düşürün.
		↑↓	Değişken kesme derinliği kullanın.
		↓	Daha az pozitif kesme geometrisi kullanın.
		+	Yardımcı olur fakat sadece ideal çalışma şartları ile birlikte.
			Daha küçük giriş açılı takım kullanın.

FREZE UÇLARI AŞINMA TİPLERİ

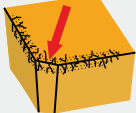
KESME KENARININ UFAK PARÇALAR HALİNDE KOPMASI

		↓	(H) tane yapısının büyük etkisi var.
		+	PVD kaplama tavsiye edilir.
		↓	İlerleme yoğunluğu etkiler, ancak kesme hızından daha küçüktür.
		↑↓	Titreşimler ile ilgilidir.
		↓	Etkisi yok.
		↑	Eğim açısının arttırmak kesme kuvvetlerini düşürür.
		-	Soğutma yok (mümkünse talaşı uzaklaştırmak için hava kullanılmalıdır).
			Daha uygun çalışma şartları (aDC) belirleyin.

KESİCİ KENARIN KIRILMASI

		↓	(H) tane yapısının büyük etkisi var.
		+	PVD kaplama tavsiye edilir.
		↑↓	İyi talaş kırılması çok önemlidir.
		↑↓	Talaş kırılması ve titreşimler ile ilgilidir.
		↑↓	Kuvvet yükünü düşürün (uzun takım boyları ile işleme için önemli).
		↓	Daha az pozitif kesme geometrisi kullanın.
			Etkisi yok.
			Daha uygun çalışma şartları belirleyin, iş parçasına girişte ilerlemeyi düşürün.

ÇATLAK OLUŞUMU

		↓	(H) tane yapısının büyük etkisi var.
		++	PVD kaplama tavsiye edilir.
		↓	İlerleme yoğunluğu etkiler, ancak kesme hızından daha küçüktür.
		↓	Daha düşük hız daha düşük sıcaklık oluşturur.
			Etkisi yok.
		↑	Başka (daha pozitif) kesme geometrisi kullanın.
		- - -	Soğutma yok (mümkünse talaşı uzaklaştırmak için hava kullanılmalıdır).
			Daha uygun çalışma şartları (aDC) belirleyin.

Uygulama Alanı	Uygulama	İlerleme	Kesme hızı	Olumsuz Çalışma Koşullarına Direnç	Kaplama	Renk	Altyapı	Kesme sıvısı avantajı	Kalite açıklaması
P05- P25	■				MT-CVD		H	---	Yüksek termal yüklerde bile yüksek aşınma direncine sahip frezeleme kalitesi, ana uygulama alanı orta veya küçük kesme derinliklerine sahip yüksek kesme hızlarıdır.
K10- K30	■	▢	▢	▢	MT-CVD		H	---	
H10- H20	▢								
P10- P30	■				MT-CVD		H	---	Bu kalite, aşınma direnci ve tokluk arasında ideal bir dengeye sahiptir, esas olarak kaba talaş işleme operasyonları için tasarlanmıştır. Avantajları, nispeten yüksek kesme hızlarında bile mükemmel güvenilirlik ve mükemmel aşınma direncidir; bu kalite, yüksek hızlar ve düşük ilerleme hızları kullanan uygulamalar için daha uygundur.
K10- K30	■	▢	▢	▢	MT-CVD		H	---	
H15- H20	▢								
P35- P50	■				MT-CVD		H	---	Çok tok bir kalitedir ve ana avantajı kesme kenarının yüksek mukavemeti ve olumsuz kesme şartlarına karşı dirençli olmasıdır. Bu malzeme MT-CVD M30 – M40 kaplamaya sahiptir; ancak özellikle optimum kesme şartlarında uygulama için emülsiyon soğutma kullanılabilir.
M30- M40	■	▢	▢	▢	MT-CVD		H	---	
S15- S20	■								
P05- P20	▢				MT-CVD		H	---	Stabil koşullar altında kullanılması gereken, aşınmaya en dayanıklı frezeleme kalitelerinden biridir. Başlıca avantajı, termal gerilime ve aşındırıcı K05 – K25 aşınmasına karşı son derece yüksek dirençtir. Esas olarak sert ve çok sert malzemelerin, özellikle de dökme demirin işlenmesinde kullanılır.
K05- K25	■	▢	▢	▢	MT-CVD		H	---	
H05- H20	■								
P01- P10	■				PVD	ultra submicron H	-		Kopya frezeleme için özel olarak geliştirilmiş, aşınmaya karşı yüksek dirençli kalite. Stabil kesme şartları altında yüksek kesme hızlarında işleme ve neredeyse tüm işlenmiş malzeme gruplarını (özellikle güçlü ve sert malzemeler) işlemek için uygundur.
M01- M10	▢	▢	▢	▢					
K01- K10	■	▢	▢	▢	PVD	submicron H	+ / -		Hem iş parçası malzemeleri aralığı hem de mümkün uygulama aralığı açısından en çok yönlü frezeleme kalitelerinden biridir. Karakteristik özellikleri, yüksek aşınma direnci ve operasyonel güvenilirliktir. Diğer avantajlarından biri de, sıcaklık şoku kaynaklı çatlamaya karşı mükemmel dirençtir. Eşsiz özelliklere sahip bu malzeme, frezeleme alanındaki temel malzemelerden biridir.
H05- H15	▢								
P10- P20	■				PVD	submicron H	+ / -		
M10- M20	▢	▢	▢	▢					
K10- K25	■	▢	▢	▢	PVD	submicron H	+ / -		
N10- N25	▢								
S10- S15	▢								
H10- H15	■								
P20- P40	■	▢	▢	▢	PVD	S	-		Bu kalitenin ana uygulama alanı her tür çeliğin (paslanmaz dahil) "yumuşak durumda" işlenmesidir. Daha yumuşak dökme demirlerin işlenmesinde de kullanılabilir. Ortalama kesme şartlarında orta hızlarda M15 – M30 işleme için uygundur.
M15- M30	▢								
P20- P40	■				PVD	submicron H	+ / -		Bu kalite universal özelliktedir ve çeşitli malzeme tiplerini işlemek için kullanılabilir. Bununla birlikte öncelikli uygulama alanı çelikler ve sünek dökme demirlerdir. Stabil olmayan kesme şartları altında orta hızlarda frezeleme için tavsiye edilir.
M20- M35	■	▢	▢	▢					
K20- K40	■	▢	▢	▢	PVD	submicron H	+ / -		
N15- N30	▢								
S15- S25	▢								
H15- H25	▢								
P25- P50	■				PVD	submicron H	+ / -		Düşük kesme hızları ve olumsuz kesme koşulları için özel olarak üretilmiş en sünek kalitelerden biridir. Bu kalite, kesme kenarının çok güçlü olması gerektiği bütün işlemler için idealdir.
M20- M40	■	▢	▢	▢					
K20- K40	▢	▢	▢	▢	PVD	submicron H	+ / -		
S20- S30	■								

Kalite Tanımlama	Uygulama Alanı	Uygulama	İlerleme	Kesme hızı	Olumsuz Çalışma Koşullarına Direnç	Kaplama	Renk	Altyapı	Kesme sıvısı avantajı	Kalite açıklaması
P30-P50	■	▲	▲	▲	PVD	H	-			Olağanüstü operasyonel güvenilirliğe sahip olan bu kalite zor ve sert malzemelerde elverişsiz koşullar altında yapılan ağır kesimler için tasarlanmıştır.
M30-M40	■	▲	▲	▲	PVD	H	+ / -			Olağanüstü hizmet güvenilirliğine sahip frezeleme kalitesi. Özellikle işlenmesi zor malzemelerin işlenmesi için uygundur. Olumsuz koşulların ve ağır kesimlerin hakim olduğu uygulamalarda güçlüdür.
P20-P35	■	▲	▲	▲	PVD	H	-			
M20-M35	■	▲	▲	▲	PVD	H	+ / -			
S20-S30	■	▲	▲	▲	PVD	H	-			
P01-P10	■	▲	▲	▲	PVD	ultra submicron H	-			Kalıp ve pafta uygulamaları için aşınmaya en dayanıklı kalitedir. Stabil kesme şartlarında, yüksek kesme hızlarında ve düşük ilerlemelerde olağanüstü performans sunar. Zor iş parçası malzemelerinde finiş işleme operasyonları için uygundur.
K01-K10	■	▲	▲	▲	PVD	ultra submicron H	-			
N01-N10	■	▲	▲	▲	PVD	ultra submicron H	-			
H01-H10	■	▲	▲	▲	PVD	ultra submicron H	-			
P05-P15	■	▲	▲	▲	PVD	ultra submicron H	-			
M05-M15	■	▲	▲	▲	PVD	ultra submicron H	-			
K05-K15	■	▲	▲	▲	PVD	ultra submicron H	-			
S05-S10	■	▲	▲	▲	PVD	ultra submicron H	-			
H05-H15	■	▲	▲	▲	PVD	ultra submicron H	-			
P01-P10	■	▲	▲	▲	PVD	ultra submicron H	-			
M01-M10	■	▲	▲	▲	PVD	ultra submicron H	-			
K01-K10	■	▲	▲	▲	PVD	ultra submicron H	-			
S05-S10	■	▲	▲	▲	PVD	ultra submicron H	-			
H05-H15	■	▲	▲	▲	PVD	ultra submicron H	-			
N05-N25	■	▲	▲	▲	PVD	ultra submicron H	-			
P15-P30	■	▲	▲	▲	-	S	++			Kesme yüzeyinin erozyonuna karşı mükemmel dirençli kaplamasız frezeleme kalitesidir. Sadece karbon ve alaşımlı çelikleri düşük kesme hızlarında işlemek için tasarlanmıştır.
P30-P45	■	▲	▲	▲	-	S	++			Düşük kesme hızının ve olumsuz kesme şartlarının hakim olduğu işleme uygulamaları için uygun kaplamasız, sert kesme kalitesidir
M10-M20	■	▲	▲	▲	-	submicron H	++			Esas olarak demir dışı metallerin işlenmesi için tasarlanmış kaplamasız kalitedir; diğer işlenmiş malzemeler için de kullanılabilir (çelik hariç). Bu kalite tornalama, frezeleme ve hatta delik işlemede kullanılabilir.
K10-K25	■	▲	▲	▲	-	submicron H	++			
N10-N25	■	▲	▲	▲	-	submicron H	++			

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P Çelik ve dökme çelik (alaşım içeriği ≤ %10 ve sertliği < 45HRC olan çelikler)	P1 Otomat çeliği (işlenebilirliği artırılmış karbonlu çelikler)	P1.1 < 240 HB sertliğinde serbest işleme sülfürlü karbon çeliği	1.33	AISI 108 EN 15S22 DIN 0723S192Z ÇSN 1120BS210A13 UNE 210R5BY15 AFNOR B1, GOST 30JUNCF10S20
		P1.2 < 180 HB sertliğinde serbest işleme sülfürlü ve fosforlu karbon çeliği	1.49	AISI 211 EN 15Mn30 DIN 0715S1912Z ÇSN 1109BS230M7J UNE 21115BY15 AFNOR B250, GOST 40QJUNCF9S Mn28
		P1.3 < 180 HB sertliğinde serbest işleme sülfürlü/fosforlu ve kurşunlu karbon çeliği	1.53	AISI 211 EN 15Mn30Pb30 DIN 0718S1914Z ÇSN 1109BS210M14J UNE 21115BY15 Pb, AFNOR B250PHGOSTAS35GJUNCF10SPb20
	P2 Yalın karbon çeliği (esas olarak demir ve karbondan oluşan çelikler)	P2.1 < 180 HB sertliğinde < %0.25 C içeren yalın düşük karbonlu çelik	1.14	AISI 1015 EN 15DIN 04015S1350Z ÇSN 1301PS080A13J UNE 111GB15 AFNOR B18RR, GOST 2psJUNCF360
		P2.2 < 240 HB sertliğinde < %0.55 C içeren yalın orta karbonlu çelik	1.00	AISI 1030 EN 15DIN 0528S1550Z ÇSN 2031PS080M32J UNE 1130GB80 AFNOR B50C30, GOST 30GJUNCF590
		P2.3 < 300 HB sertliğinde > %0.55 C içeren yalın yüksek karbon çeliği	0.89	AISI 1060 EN 15DIN 06015S1655Z ÇSN 2061PS080A62J UNE 1130GB60 AFNOR B60, GOST UNC60
	P3 Alaşım çelik (alaşım içeriği ≤ %10 olan karbonlu çelikler)	P3.1 < 180 HB sertliğinde alaşımlı çelik	0.92	AISI 5015 EN 16Mo3DIN 5415S2912Z ÇSN 5020BS1501-240J UNE 2601GB16Mo, AFNOR GOST 15MJUN16Mo3KW
		P3.2 180 – 260 HB sertliğinde alaşımlı çelik	0.74	AISI 140 EN 142CrMo4DIN 7225S2244Z ÇSN 5142BS708M40J UNE 8232GB42CrMo, AFNOR C4, GOST 40ChFajN182CrMo4
		P3.3 260 – 360 HB sertliğinde alaşımlı çelik	0.63	AISI 140 EN 142CrMo4DIN 7225S2244Z ÇSN 5142BS708M40J UNE 8232GB42CrMo, AFNOR C4, GOST 40ChFajN182CrMo4
	P4 Takım çeliği (takımlar ve kalıplar için özel alaşımlı çelik)	P4.1 < 26 HRC sertliğinde takım çeliği	0.55	AISI D2 EN 155CrVMo12DIN 2370S2736 ÇSN 9573BSBD2J UNE 520AGBCr12Mo1V1, AFNOR Z160CDV16PSTh12MEJNK155CrVMo121KU
		P4.2 26 – 39 HRC sertliğinde takım çeliği	0.47	AISI D2 EN 155CrVMo12DIN 2370S2736 ÇSN 9573BSBD2J UNE 520AGBCr12Mo1V1, AFNOR Z160CDV16PSTh12MEJNK155CrVMo121KU
		P4.3 39 – 45 HRC sertliğinde takım çeliği	0.38	AISI D2 EN 155CrVMo12DIN 2370S2736 ÇSN 9573BSBD2J UNE 520AGBCr12Mo1V1, AFNOR Z160CDV16PSTh12MEJNK155CrVMo121KU

İŞ PARÇASI MALZEME GRUPLARI (WMG)

ISO grubu	Alt grup	WMG (İş Malzeme Grubu)	k _{VG}	Malzeme örnekleri (AISI, EN, DIN, ÇSN, GB, SS, STN, BS, UNE, AFNOR, ASTM, GOST, UNI, ...)
M Paslanmaz çelik (≥ %11 krom içeriğine sahip korozyona dayanıklı çelikler)	M1	Ferritik paslanmaz çelik (düz krom sertleşmeyen alaşımlar)		
		M1.1 Paslanmaz çelik, sertliği < 160 HB olan ferritik	1.22	AIS6429ENK7Cr14NiL.400İS2326BS434S17JNE.3401AFNOB8C12GOS08Ch13, UNK6CrTi12
	M2	M1.2 160 – 220 HB sertliğinde paslanmaz çelik, ferritik	1.03	AIS446ENK10CrAl24, 1.4762S2322ÇSN17113BS430S17JNE.3154GB10Cr17, AFNOB10CAS26OST2Ch17JUNK16Cr26
		M2.1 < 200 HB sertlikte martensitik paslanmaz çelik	1.08	AIS430FENK14CrMoSDJNL.4104S2383ÇSN17140BS410S21JNE.3117AFNOB10CrF17, UNK10CrS17
	M3	M2.2 200 – 280 HB sertliğinde martensitik paslanmaz çelik	0.89	AIS440CFENK105CrMoSDJNL.4125S2385ÇSN17023BS425C11JNE.3402GB102Cr17Mo, AFNOB100CD1E0S95Ch18JNK6CrNi13 04
		M2.3 280 – 380 HB sertliğinde martensitik paslanmaz çelik	0.75	AIS420ENK45Cr13JNL.4034ÇSN17029BS425C11JNE.3405AFNOB44C14, GOST0X17H12, UNK30Cr13
	M4	M3.1 < 200 HB sertliğinde östenitik paslanmaz çelik	1.00	AISB04FENK5CrNi18-10JNL.4303S2352ÇSN17249BS30S517JNE.3513GB10Cr18Ni12, AFNOB8CN18.1JNK7CrNi18 10
		M3.2 200 – 260 HB sertliğinde östenitik paslanmaz çelik	0.86	AISB09FENK15CrNiSi20-12JNL.4828ÇSN17251BS309S24JNE.3312GB10Cr23Ni13, AFNOB15CNS20.1GOS20Ch20N1492JNL6CrNi23 14
	M5	M3.3 260 – 300 HB sertliğinde östenitik paslanmaz çelik	0.77	AIS5848ENK45CrNiW18JNL.4873BS33154QJNE.3211AFNOB55CNWS14-4, UNK45CrNiW 189
		M4.1 < 300 HB sertliğinde paslanmaz çelik, östenitik-ferritik veya süper östenitik	0.75	AISB29FENK1-NiCrMoCu25-20JNL.4539S2562ÇSN17265BS318S13JNE.3552, GB022Cr25NiMo24JNOB1NCDU25.20
	M6	Süper östenitik, Duplex veya Çökelterek Sertleştirilmiş paslanmaz çelik (>%20 Ni içeren östenitik alaşımlar, östenitik-ferritik mikro yapı veya çökelme sertleştirilmiş)	0.64	AIS631 (17-7P)HJNK7CrNiAl17JNL.4568S2388ÇSN17465BS301S13JNE.3217, GB07Cr17Ni7AFNOB9CNA17-0GOS09Ch17N7JUNK53CrMnNiN21 9

İŞ PARÇASI MALZEME GRUPLARI (WMG)

ISO grubu	Alt grup	WMG (İş Malzeme Grubu)	k _{ce}	Malzeme örnekleri (AISI, EN, DIN, ČSN, GB, SS, STN, BS, UNE, AFNOR, ASTM, GOST, UNI, ...)
K Dökme Demir (> %2 karbon içerikli demir ve karbon alaşımlarının dökümleri)	K1 Gri demir (GG) (ince tabakalı grafit mikro yapıya sahip demir-karbon dökümleri)	K1.1 < 180 HB sertliğinde ferritik veya ferritik-perlitik gri demir	1.35	ASTM A48 Grade 20 (F114B01)-100DINGG-10 (0.6018\$0110\$TN222410\$SGrade 150, UNIEG10GBHAT 100AFNOR10DGO\$C 10JUNG10
		K1.2 180 – 240 HB sertliğinde ferritik-perlitik veya perlitik gri demir	1.00	ASTM A48 Grade 30 (F121B01)-103DINGG-20 (0.6028\$0120\$TN222420\$SGrade 220, UNIEG20GBHAT200AFNOR20DGO\$C420JUNG20
		K1.3 240 – 280 HB sertliğinde perlitik gri demir	0.75	ASTM A48 Grade 50 (F135B01)-106DINGG-35 (0.6035\$0135\$TN222435\$SGrade 350, UNIEG35GBHAT300AFNOR35DGO\$C35JUNG35
	K2 Dövülebilir demir (GTS/GTW) (grafit içermeyen mikro yapıya sahip ısıt işlen görmüş demir-karbon dökümleri)	K2.1 < 160 HB sertliğinde ferritik dövülebilir demir	1.39	ASTM A602 Grade M3210 (F208B01)-113DINGTS-35 (0.8135\$0815\$BSB340/12, UNIEtype A, AFNOWNIN 35-1GOSR435-10
		K2.2 160 – 200 HB sertliğinde ferritik veya perlitik dövülebilir demir	1.13	ASTM A602 Grade M4504 (F208B01)-104DINGTS-50-05 (0.8045\$0854\$TN222540\$SP
		K2.3 200 – 240 HB sertliğinde perlitik dövülebilir demir	0.90	ASTM A602 Grade M7002 (F208B01)-114DINGTS-45 (0.8145\$0854\$TN222540\$SP
	K3 Sünek demir (GGG) (nodüler grafit mikro yapıya sahip demir-karbon dökümleri)	K3.1 < 180 HB sertliğinde sünek (nodüler/küresel) demir, ferritik	1.23	ASTM A536 Grade 60-40-18 (F328B01)-103DINGGG-40 (0.7040\$0717\$TN22304, BS420/12, UNIEGE 42-1GBQT 400AFNORGS 400-1GOSB440
		K3.2 180 – 220 HB sertliğinde sünek (nodüler/küresel) demir, ferritik veya perlitik	0.94	ASTM A536 Grade 80-55-06 (F338B01)-105DINGGG-50 (0.7055\$0727\$TN222305, BS500/7, UNIEGE 50-7GBQT 500-1AFNORGS 500-1GOSB450
		K3.3 220 – 260 HB sertliğinde sünek (nodüler/küresel) demir, perlitik	0.76	ASTM A536 Grade 100-70-03 (F348B01)-106DINGGG-60 (0.7060\$0732\$TN22306, BS600/3, UNIEG70-7GBQT 600-1AFNORGS 600-1GOSB460
	K4 östenitik veya östempelenmiş sünek demir (Ni-Resist/ADI) (östenitik veya ösferit mikro yapıli demir-karbon alaşımlı dökümleri)	K4.1 < 180 HB sertliğinde östenitik dökme demir	1.14	ASTM A438type 1 (L-NiCuCr 15 6 2, F41000), ENJL-301DINGGL-NiMn 13 7 (0.6652), SS0523, BSGrade FT, AFNORGL-Ni13Mn100\$F-NiMn 13 7
		K4.2 180 – 240 HB sertliğinde östenitik dökme demir	0.86	ASTM A438type D-2B (S-NiCr 20 3, F43001), ENJL-302DINGGG-NiMn 23 4, SS0776BSGrade S2MAFNORGS Ni23 Mn100\$F-NiMn 19X311
		K4.3 240 – 280 HB sertliğinde östempelenmiş sünek demir	0.63	ASTM A897 Grade 110-70-11
	K5 Sıkıştırılmış grafit demir (CGI) (solucansız grafit yapıya sahip demir-karbon dökümleri)	K4.4 280 – 320 HB sertliğinde östempelenmiş sünek demir	0.54	ASTM A897 Grade 125-80ENJL-110DINGGG-90 (5.3400)
		K4.5 320 – 360 HB sertliğinde östempelenmiş sünek demir	0.45	ASTM A897 Grade 2 (150-110ENJL-111DINGGG-100 (5.3403)
		K5.1 < 180 HB sertliğinde solucansız sıkıştırılmış grafit demir	1.29	ASTM A842 Grade 300(GJV-300)DINGGV 300\$OSWBT30,
	K5 Sıkıştırılmış grafit demir (CGI) (solucansız grafit yapıya sahip demir-karbon dökümleri)	K5.2 180 – 220 HB sertliğinde solucansız sıkıştırılmış grafit demir	0.97	ASTM A842 Grade 350(GJV-350)DINGGV 35 (5.2200\$OSWBT30,
		K5.3 220 – 260 HB sertliğinde solucansız sıkıştırılmış grafit demir	0.75	ASTM A842 Grade 450(GJV-450)DINGGV 45\$OSWBT45,

İŞ PARÇASI MALZEME GRUPLARI (WMG)

ISO grubu	Alt grup	WMG (İş Malzeme Grubu)	k _{ve}	Malzeme örnekleri (AISI, EN, DIN, ÇSN, GB, SS, STN, BS, UNE, AFNOR, ASTM, GOST,)	
N Demir dışı metaller (alaşımlar dahil olmak üzere kayda değer miktarda demir içermeyen metaller)	N1 Dövme alüminyum	N1.1 alüminyum alaşımları	1.33	UN9A9120CE;NA199.6DIN8.0205SS4010STN4240098S1CJUNE-3001GBL5,AFNOR4, GOST12C, UNB567	
		N1.2 alaşımları	1.00	UN9A930004E;NA1Mn0.5Mg0DJN8.0505SS4054STN42443Z8SN31JUNE-3831GBLF2, AFNOR-M1GOSTAM4JNB568	
		N1.3 alaşımları	0.67	UN9A95083E;NA1Mg4.5Mn0DJN8.3547SS4140STN42441Z8SN8JUNE-3321, GBNIM4.5Mn, AFNOR-G4.5M6OSTMg 4.5JNP-AIMg4.4	
		N2.1 alaşımları	0.67	UNSA02080ENALCu4S ^{BS} ₁ LM1,STN424331JUN81S1C6GOSTMg5KJN1G-AISI7Mg	
		N2.2 alaşımları	0.60	UN9A0242E;NALCu4Ni2Mg55AISi7MgF8SLM6STN42519JUN81-7SiMgFNOR-S7G, GOSTAK7JUNG-AISI7Mg	
		N2.3 alaşımları	0.43	UN9A0336E;NG-ALCu4NiMg83ALSi10MgJTN424338SLM 30AFNOR-S10QJNG-AISI9Mg	
	N3 Bakır veya bakır alaşımları	N3.1	Mükemmel işleme özelliklerine sahip kolay kesilen bakır alaşımlı malzemeler	0.70	UN9A1470E;NCuPb1DIN2.1498STN4232148SC111AFNORCuZn35Pb8OST63-3, UNCuS(P0.01)
		N3.2	İyi-orta işleme özelliklerine sahip kısa talaş oluşturan bakır alaşımları	0.41	UN9A8154E;NCuNi2Si0DJN2.0857STN4232208SNS113JUNEuSn12AFNORCuZn40, GOST60, UNP-CuZn-40
		N3.3	Orta-kötü işleme özelliklerine sahip elektrolitik bakır ve uzun talaş oluşturan bakır alaşımları	0.21	UN9A1010E;NCuAg0.1DJN2.1203SS5010JUNEUSi3MnAFNORCu-CZGOSTM1fJNCU-OF
	N4 Polimerler (sentetik veya yarı sentetik malzemeler)	N4.1	Termoplastik polimerler	0.70	ABS, Acryluraplast, Elastomer, EP Epoxid, FEP, Fluor, Gummi, Kautschuk, Latex, PEEK, PEI, PES, PET, PF, Phenolharze, PI, PMMA, Polyamide, Polyester, Polyolefine, Polysulfon, POM, PP, PPE, PPS, PS, PSU, PTFE, PU, PUR, PVDF, SAN, SI, Styrol, UF, Ureol
		N4.2	Isı ile sertleşen polimerler	0.27	AramidEpoxy, Fluoropolymer, Mehacrylate, Melamine, Phenolic, Polyester, Polyurethanide, Polymethacrylimide,
		N4.3	Takviyeli polimerler veya kompozitler	0.29	CFK, GFK, TMMoneycomb, Kevlar, LFT, Organo, SMC
	N5 Grafit	N5.1		1.0	CGM-1, CM-00, GM-10, GM-11, GR030, GR030PI, GR060, GR060PI, GR125, MC-01, MC-03M, IG11, IG-15, IG-32, IG-43, IG-45, IG-70, ISEM-1, ISEM-2, ISEM-3, R8340, Technograph 30, ISO-63, EDM C-3, EDM1, EDM3, ISO-90, ISO-93, ISO-95, R8510,

İŞ PARÇASI MALZEME GRUPLARI (WMG)				
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M Paslanmaz çelik (≥ %11 krom içeriğine sahip korozyona dayanıklı çelikler)	M1 Ferritik paslanmaz çelik (düz krom sertleşmeyen alaşımlar)	M1.1 Paslanmaz çelik, sertliği < 160 HB olan ferritik	1.22	AIS429FENX7C11QJNL.400İS2326BS434S17JNE.3401AFNOR88C12GOS08Ch13, UNK6CrTi12
		M1.2 160 – 220 HB sertliğinde paslanmaz çelik, ferritik	1.03	AIS446FENX10CrAl24, 1.4762S2322ÇSN17113BS430S17JNE.3154GB10Cr17, AFNOR10CAS24GOST2Ch17JUNK16Cr26
		M2.1 < 200 HB sertlikte martensitik paslanmaz çelik	1.08	AIS430FENX14CrMoS17JNL.4104SS2383ÇSN17140BS410S21JNE.3117AFNOR10CF17, UNK10CrS17
		M2.2 200 – 280 HB sertliğinde martensitik paslanmaz çelik	0.89	AIS440CFENX105CrMoS17JNL.4125SS2385ÇSN17023BS425C11JNE.3402GB10Cr17Mo, AFNOR100CD1EQOS95Ch18JNG6CrNi13 04
	M2 Martensitik paslanmaz çelik (düz krom sertleştirilebilir alaşımlar)	M2.3 280 – 380 HB sertliğinde martensitik paslanmaz çelik	0.75	AIS420FENX45Cr13JNL.4034ÇSN17029BS425C11JNE.3405AFNOR44C14, GOST017H12, UNK30Cr13
		M3.1 < 200 HB sertliğinde östenitik paslanmaz çelik	1.00	AISB04FENX5CrNi18-10JNL.4303SS2352ÇSN17249BS30S517JNE.3513GB10Cr18Ni12, AFNOR88CN18.10JUNK7CrNi18 10
		M3.2 200 – 260 HB sertliğinde östenitik paslanmaz çelik	0.86	AISB09FENX15CrNiSi20-10JNL.4828ÇSN17251BS309S24JNE.3312GB10Cr23Ni13, AFNOR15CNS20.10DS70Ch20N14S1JNL6CrNi23 14
		M3.3 260 – 300 HB sertliğinde östenitik paslanmaz çelik	0.77	AIS5848FENX45CrNiW18B1JNL.4873BS331S40JNE.3211AFNOR835CNWS14-4, UNK45CrNiW 18 9
	M4 Super östenitik, Duplex veya Çökelterek Sertleştirilmiş paslanmaz çelik (> %20 Ni içeren östenitik alaşımlar, östenitik-ferritik mikro yapı veya çökelme sertleştirilmiş)	M4.1 < 300 HB sertliğinde paslanmaz çelik, östenitik-ferritik veya super östenitik	0.75	AISB29FENX1-NiCr-MoCU25-20JNL.4539SS2562ÇSN17265BS318S13JNE.3552, GB022Cr25NiMo27JNORINCDU25.20
		M4.2 300 – 380 HB sertliğinde çökelme ile sertleşen östenitik paslanmaz çelik	0.64	AIS631 (17-7PH)X7Cr-NiAl17JNL.4568SS2388ÇSN17465BS301S13JNE.3217, GB07Cr17Ni7JNLAFNOR88CNA17-00DS09Ch17N7JNLUNK53CrMnNiN21 9

İŞ PARÇASI MALZEME GRUPLARI (WMG)

ISO grubu	Alt grup	WMG (İş Malzeme Grubu)	k _{vc}	Malzeme örnekleri (AISI, EN, DIN, ÇSN, GB, SS, STN, BS, UNE, AFNOR, ASTM, GOST,)
N Demir dışı metaller (alaşımlar dahil) N olmak üzere kayda değer miktarda demir içermeyen metaller)	N1 Dövme alüminyum	N1.1 < 60 HB sertliğinde saf alüminyum ve dövme alüminyum alaşımları	1.33	UN9A9120E9NA199.6QJN8.020SS4010STN424008S1CJUNE-3001GBL5,AFNOR4, GOST41C, UNB567
		N1.2 60 – 100 HB sertliğinde dövme alüminyum alaşımları	1.00	UN9A9300E9NA1Mn0.5Mg0.01N8.050SS40545TN424432BSN31JUNE-3831GBLF2, AFNOR-M1GOSTAM1JUNB568
		N1.3 100 – 150 HB sertliğinde dövme alüminyum alaşımları	0.67	UN9A9508E9NA1Mg4.5Mn0.01N8.3547S44140STN424415BSN8JUNE-3321, GBM1Mg4.5Mn, AFNOR-G4.5MgOSTAMg4.5JNP-A1Mg4.4
	N2 Döküm alüminyum	N2.1 < 75 HB sertliğinde döküm alüminyum alaşımları	0.67	UN9A0208E9NA1Cu4.5SLM115TN424331JUN8A1Si1CUGOSTAMg5KJUNG-AISI7Mg
		N2.2 75 – 90 HB sertliğinde döküm alüminyum alaşımları	0.60	UN9A0242E9NA1Cu4N12Mg5.5AISI7MgF8SLM6STN424519JUN8A1-7SIMGAFNOR-S7G, GOSTAK7JUNG-AISI7Mg
		N2.3 90 < 140 HB sertliğinde döküm alüminyum alaşımları	0.43	UN9A0336E9NG-ALCu4N1Mg5.5AISI110MgSTN424336BSLM 30AFNOR-S10QJUNG-AISI9Mg
	N3 Bakır veya bakır alaşımları	N3.1 Mükemmel işleme özelliklerine sahip kolay kesilen bakır alaşımlı malzemeler	0.70	UN9C1470E9NCuPb1QJN2.1498STN423214BSC111AFNORCuZn35PbBOST63-3, UNCUS(P0.01)
		N3.2 İyi-orta işleme özelliklerine sahip kısa talaş oluşturan bakır alaşımları	0.41	UN9C8154E9NCuNi2SiQJN2.08575TN423220SNS113JUNEUSn12AFNORCuZn40, GOST60, UNP-CuZn-40
		N3.3 Orta-kötü işleme özelliklerine sahip elektrolitik bakır ve uzun talaş oluşturan bakır alaşımları	0.21	UN9C1010E9NCuAg0.1QJN2.120SS5010JUNEUSi3MnAFNORCu-CZGOSTW11JUNCu-OF
	N4 Polimerler (sentetik veya yarı sentetik malzemeler)	N4.1 Termoplastik polimerler	0.70	ABS, Acrylurplast, Elastomer, EP, Epoxid, FEP, Fluor, Gummi, Kautschuk, Latex, PEEK, PEI, PES, PET, PF, Phenolharze, PI, PMMA, Polyamide, Polyester, Polyolefine, Polysulfon, POM, PP, PPE, PPS, PS, PSU, PTFE, PU, PUR, PVDF, SAN, SJ, Styrol, UF, Ureol
		N4.2 Isı ile sertleşen polimerler	0.27	Aramid epoksi, Fluoropolimer, Mehacrylate, Melamine, Phenolic, Polyester, Polyuretan, Polymethacrylimide,
		N4.3 Takviyeli polimerler veya kompozitler	0.29	CFK, GFK, Kevlar, LFT, Organo, SMC
	N5 Grafit	N5.1	1.0	CGM-1, CM-00, GM-10, GM-11, GR030, GR030PI, GR060, GR060PI, GR125, MC-01, MC-03M, IG-11, IG-15, IG-32, IG-43, IG-45, IG-70, ISEM-1, ISEM-2, ISEM-3, R8340, Technograph 30, ISO-63, EDM C-3, EDM1, EDM3, ISO-90, ISO-93, ISO-95, R8510, R8510,

İŞ PARÇASI MALZEME GRUPLARI (WMG)

ISO grubu	Alt grup	WMG (İş Malzeme Grubu)	k _{ve}	Malzeme örnekleri (AISI, EN, DIN, ČSN, GB, SS, STN, BS, UNE, AFNOR, ASTM, GOST, UNS, UNI, ...)
K Dökme Demir (> %2 karbon içerikli demir ve karbon alaşımlarının dökümleri)	K1 Gri demir (GG) (ince tabakalı grafit mikro yapıya sahip demir-karbon dökümleri)	K1.1 < 180 HB sertliğinde ferritik veya ferritik-perlitik gri demir	1.35	ASTM A48 Grade 20 (F114BWJ)-100DİNGG-10 (0.6018%0110STN422410BSGrade 150, UNIFEG10GBHAT 100AFNOR 10DGO53C 10JNG10
		K1.2 180 – 240 HB sertliğinde ferritik-perlitik veya perlitik gri demir	1.00	ASTM A48 Grade 30 (F121BWJ)-1030DİNGG-20 (0.6028%0120STN422420BSGrade 220, UNIFEG20GBHAT200AFNOR 20DGO5420JNG20
		K1.3 240 – 280 HB sertliğinde perlitik gri demir	0.75	ASTM A48 Grade 50 (F135BWJ)-1060DİNGG-35 (0.6035%0135STN422435BSGrade 350, UNIFEG35GBHAT300AFNOR 35DGO53C35JNG35
	K2 Dövülebilir demir (GTS/GTW) (grafit içermeyen mikro yapıya sahip ısı işlem görmüş demir-karbon dökümleri)	K2.1 < 160 HB sertliğinde ferritik dövülebilir demir	1.39	ASTM A602 Grade M3210 (F2088BWJ)-1130DİNGTS-35 (0.8135%0815BSB340/12, UNIFtype A, AFNORIN 35-1QOSR435-10
		K2.2 160 – 200 HB sertliğinde ferritik veya perlitik dövülebilir demir	1.13	ASTM A602 Grade M4504 (F2088BWJ)-1040DİNGTS-50-05 (0.8045%050-05AFNORIN B 45-7
		K2.3 200 – 240 HB sertliğinde perlitik dövülebilir demir	0.90	ASTM A602 Grade M7002 (F2088BWJ)-1140DİNGTS-45 (0.8145%0854STN422540BSP 45-06JUNIFyp BAFNORIP 50-5QOSR445-7JNGMIN 45
	K3 Sünek demir (GGG) (nodüler grafit mikro yapıya sahip demir-karbon dökümleri)	K3.1 < 180 HB sertliğinde sünek (nodüler/küresel) demir, ferritik	1.23	ASTM A536 Grade 60-40-18 (F328BWJ)-1030DİNGGG-40 (0.7045%0717STN422304, BS420/12, UNIFEG 42-1EBQT 400AFNORGS 400-1QOSB440
		K3.2 180 – 220 HB sertliğinde sünek (nodüler/küresel) demir, ferritik veya perlitik	0.94	ASTM A536 Grade 80-55-06 (F338BWJ)-1050DİNGGG-50 (0.7055%0727STN422305, BS500/7, UNIFEG 50-5BQT 500-7AFNORGS 500-5QOSB450
		K3.3 220 – 260 HB sertliğinde sünek (nodüler/küresel) demir, perlitik	0.76	ASTM A536 Grade 100-70-03 (F348BWJ)-1060DİNGGG-60 (0.7065%0732STN422306, BS600/3, UNIFEG70-5BQT 600-3AFNORGS 600-3QOSB460
	K4 östenitik veya östempelenmiş sünek demir (Ni-Resist/ADI) (östenitik veya ösferrit mikro yapıya sahip demir-karbon alaşımlı dökümleri)	K4.1 < 180 HB sertliğinde östenitik dökme demir	1.14	ASTM A437type 1 (L-NiCuCr 15 6 2, F41000), ENLJ-301DİNGGL-NiMn 13 7 (0.6652), SS0523, BSGrade F1, AFNORGL-Ni13MrgOST-NiMn 13 7
		K4.2 180 – 240 HB sertliğinde östenitik dökme demir	0.86	ASTM A437type D-2B (S-NiCr 20 3, F43001), ENJS-302DİNGGG-NiMn 23 4, SS0776BSGrade S2MAFNORGS N123 M4QOSRH19X3LJ
		K4.3 240 – 280 HB sertliğinde östempelenmiş sünek demir	0.63	ASTM A897 Grade 110-70-11
		K4.4 280 – 320 HB sertliğinde östempelenmiş sünek demir	0.54	ASTM A897 Grade 125-80ENJS-1100DİNGGG-90 (5.3400)
		K4.5 320 – 360 HB sertliğinde östempelenmiş sünek demir	0.45	ASTM A897 Grade 2 (150-110ENJS-1110DİNGGG-100 (5.3403)
	K5 Sıkıştırılmış grafit demir (GGI) (solucansı grafit yapıya sahip demir-karbon dökümleri)	K5.1 < 180 HB sertliğinde solucansı, sıkıştırılmış grafit demir	1.29	ASTM A842 Grade 300JNGIV-300DİNGGV 30QOSRHBT30,
		K5.2 180 – 220 HB sertliğinde solucansı, sıkıştırılmış grafit demir	0.97	ASTM A842 Grade 350JNGIV-350DİNGGV 35 (5.2200QOSRHBT30,
		K5.3 220 – 260 HB sertliğinde solucansı, sıkıştırılmış grafit demir	0.75	ASTM A842 Grade 450JNGIV-450DİNGGV 45QOSRHBT45,

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S	S1	S1.1	1.94	UNS50250 (Grade 5)Ti 99.6DIN.7035STA.2JNBT-Po2AFNOR40GOST1-00 AISR50250. 3.7025, T35, 2TA1, R50400, 3.7035, 2TA2,
		S1.2	1.72	UNS56404 (Grade 23)Ti2CuDIN.7124STA.21JNBT-P11AFNOR-U2 AISI6A6V, Ti-6Al-4V, Ti 10.2.3, Ti5553
		S1.3	1.44	UNS54250 (Grade 35)TiAl6V4DIN.7165ÇSNTiAl6VELSTA. 13JNBT-P63AFNORA6V, GOST6 AISI6A6V, Ti-6Al-4V, Ti 10.2.3, Ti5553
	S2	S2.1	1.33	UNS08801 (Incoloy 800)8 NiCrAlTi31-24INL.4959SNA 15, AFNORNC33-2 AISI-A-286, Discaloy, Haynes 556, Inconel 909, Greek Ascolloy
		S2.2	1.17	UNS19907ENX6NiCrTiMoVB25-18INL.4905S2570BSHR52AFNORNC2DV25.15B, GOST6HXT6 AISI-A-286, Bcaloy, Haynes 556, Inconel 909, Greek Ascolloy
	S3	S3.1	1.00	UNS09706 (Inconel 706)NiCr25Fe4DIN.4856BSHR 6ÇSNnconel 62ENIF.3313, GBCT16Ni35, AFNORC22FeDN6OSTXH388 AISInconel 718, 706aspalloy, Udimet 720, Inconel 625
		S3.2	0.83	UNS07007ENNiCr20Co13Mo4TiB4DIN.4654BSHR 2ÇSNVaspaloAFNORCKD 20ATV, GOSTKH80T5 AISInconel 718, 706aspalloy, Udimet 720, Inconel 625
	S4	S4.1	0.78	UNS30016 (Stellite 6B)CoCr20W15B4DIN.4964AFNORC 20 W6OSTIK52 AISIHaynes 25, Stellite 21, 31
		S4.2	0.67	UNS30016 (Stellite 6B)CoCr20W15B4DIN.4964AFNORC 20 W6OSTIK52 AISIHaynes 25, Stellite 21, 31

İŞ PARÇASI MALZEME GRUPLARI (WMG)				
ISO grubu	Alt grup	WMG (İş Malzeme Grubu)	k_{vg}	Malzeme örnekleri (AISI, EN, DIN, ČSN, GB, SS, STN, BS, UNE, AFNOR, ASTM, GOST, UNS, UNI, ...)
H Sertleştirilmiş malzemeler (sertliği > 45 HRC olan tüm mühendislik metalleri)	H1 Soğutulmuş dökme demir	H1.1 < 440 HB sertliğinde soğutulmuş dökme demir	1.52	UNS4500, ENGS-1050-6DIN5.3406, SS 0512, BSGrade 2A
	H2 Sertleştirilmiş dökme demir	H2.1 < 55 HRC sertliğinde sertleştirilmiş dökme demir	0.90	UNSF4500, ENGS-1400-DJN6.3405SS0457BSGrade 3D
		H2.2 > 55 HRC sertliğinde sertleştirilmiş dökme demir	0.77	UNSF4500, ENGS-X260NICr4BN0.9620SS0466BSGrade S
	H3 < 55 HRC sertliğinde sertleştirilmiş çelik	H3.1 < 51 HRC sertliğinde sertleştirilmiş çelik	1.00	AISI4135ENB4CrMo, DIN.7220SS2234STN41513BS198, JNIE.1250GBB5CrMo, AFNOC38CD4, GOSAC38XTWJNB5CrMo4KB
		H3.2 51 – 55 HRC sertliğinde sertleştirilmiş çelik	0.82	AISI4135ENB4CrMo, DIN.7220SS2234STN41513BS198, JNIE.1250GBB5CrMo, AFNOC38CD4, GOSAC38XTWJNB5CrMo4KB
	H4 > 55 HRC sertliğinde sertleştirilmiş çelik	H4.1 55 – 59 HRC sertliğinde sertleştirilmiş çelik	0.64	UNS3150, EN100Mn0V4DINL.2510SS2140STN1941BSBO1, JNIE.5220GBB9CrWMn, AFNOC38MWCrV5PSXB7JNB5MNVWC5KU
		H4.2 > 59 HRC sertliğinde sertleştirilmiş çelik	0.54	UNS3150, EN100Mn0V4DINL.2510SS2140STN1941BSBO1, JNIE.5220GBB9CrWMn, AFNOC38MWCrV5PSXB7JNB5MNVWC5KU

Cutting Tools