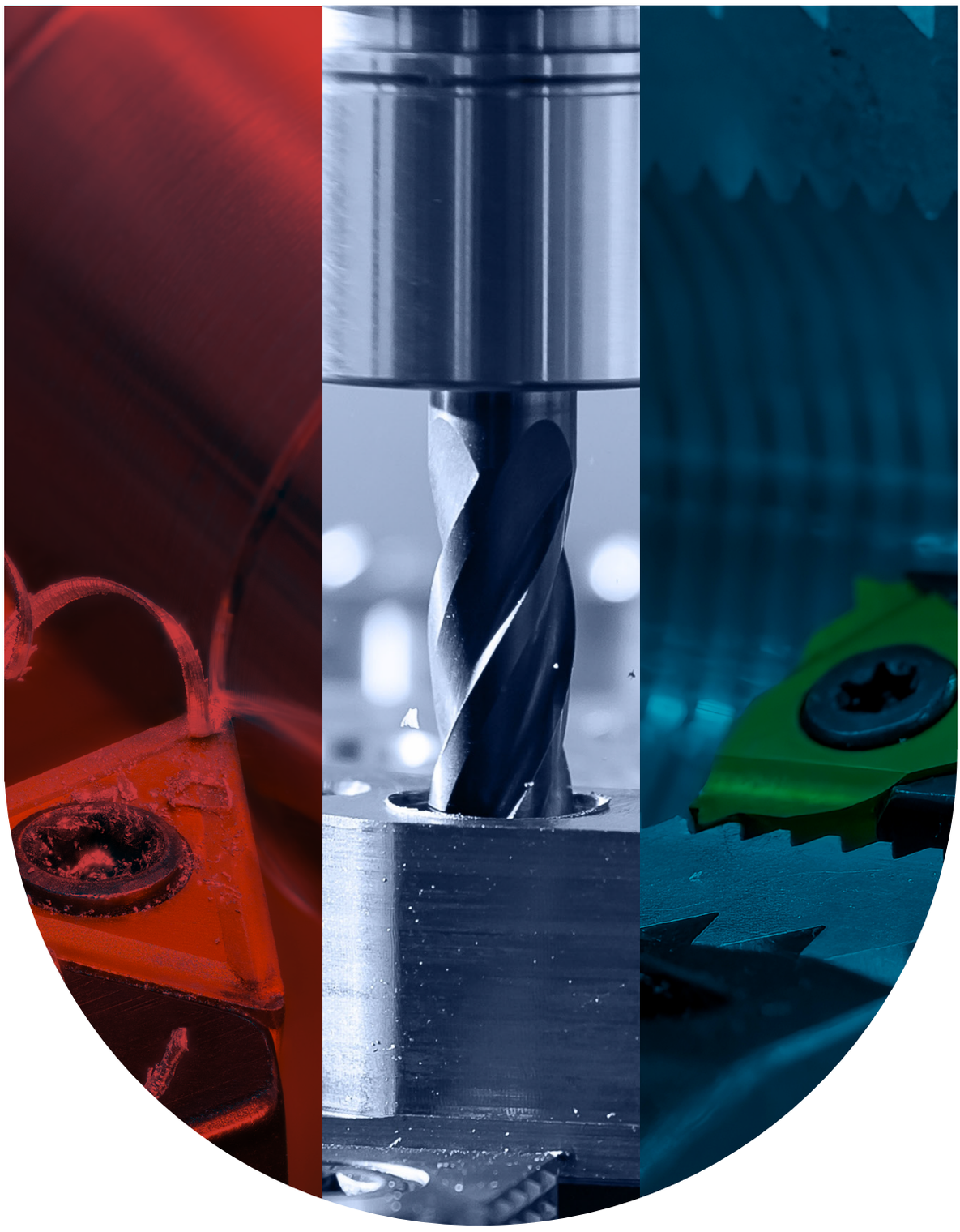
HOFFEN
Cutting Tools



Freze - Elmas Uç - Tutucu - Aksesuar

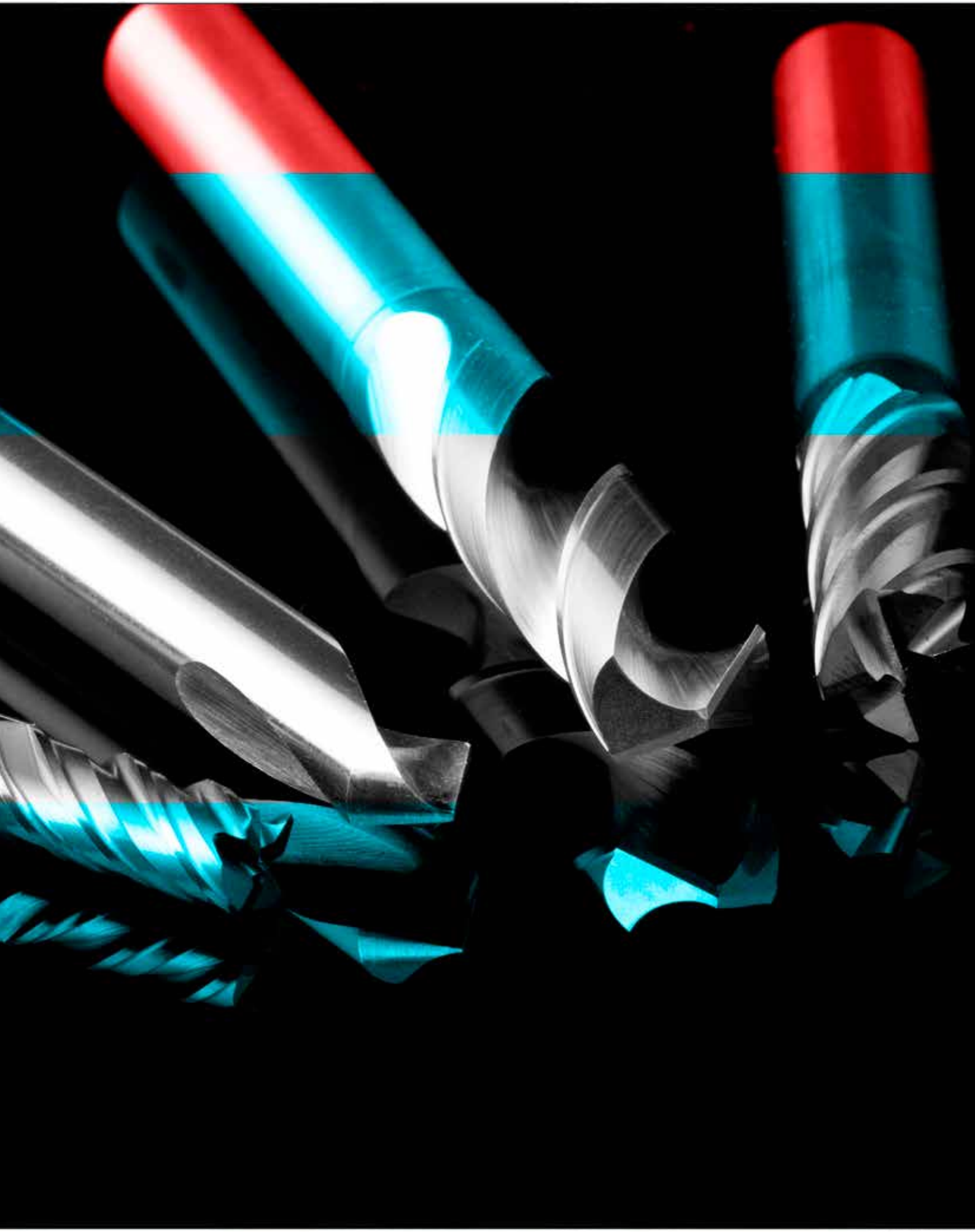
Katalog

HOFFEN
Cutting Tools

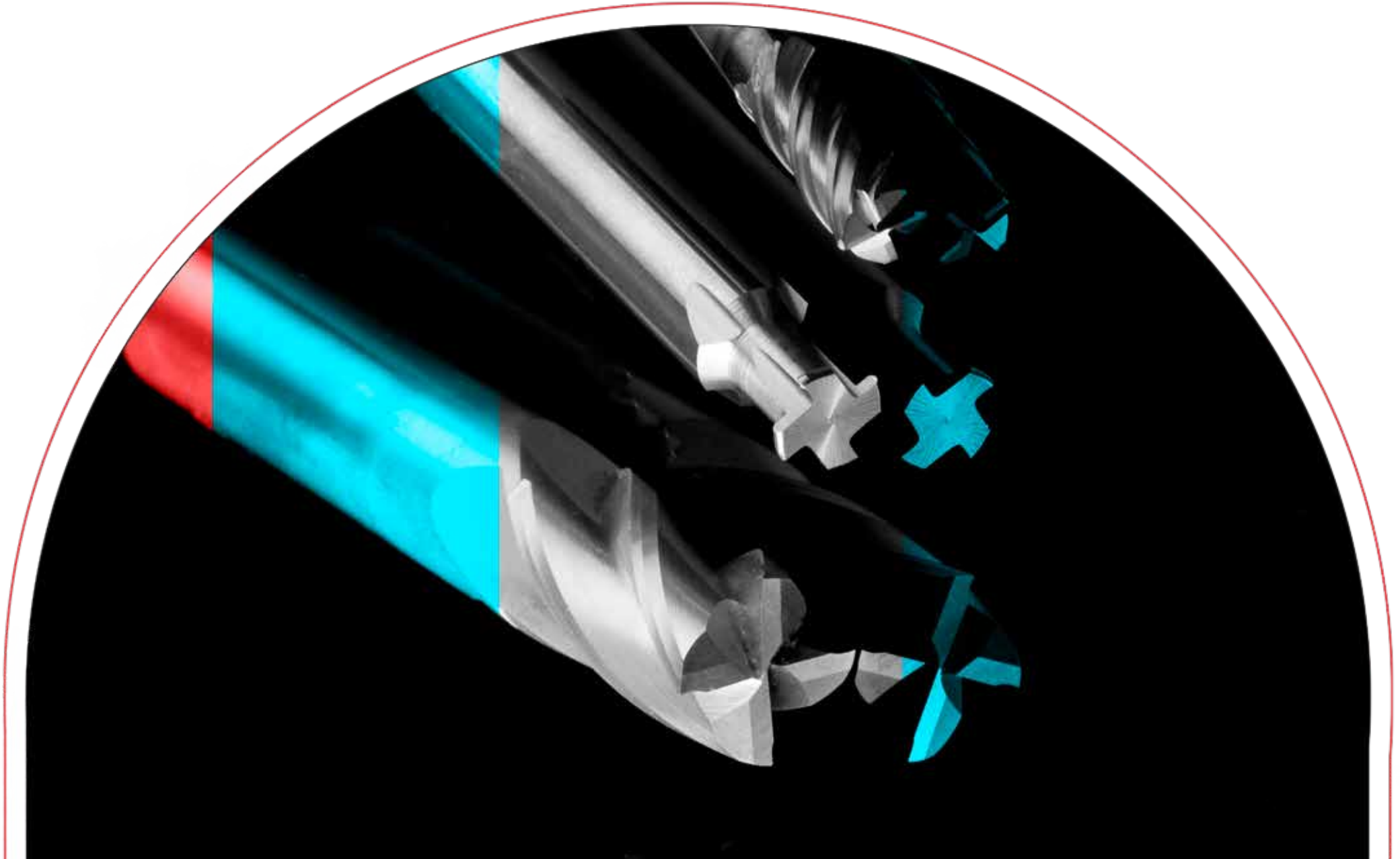
2018 yılında hayata geçirmiş olduğumuz HOFFEN markası artan iş hacmi ile birlikte, talaşlı imalat alanında maksimum verim sağlamak adına öncelikli olarak parmak freze grubunda faaliyete başlamıştır.

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.

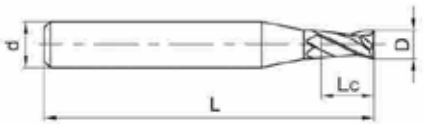
INDEX



END MILLS



MICRO END MILLS



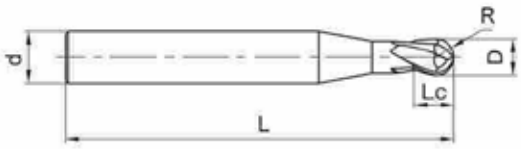
Stock Code	D	Lc	d	L	Z
HOF55E-01-2003	0,30	0,60	4,00	50	2
HOF55E-01-2004	0,40	0,80	4,00	50	2
HOF55E-01-2005	0,50	1,00	4,00	50	2
HOF55E-01-2006	0,60	1,20	4,00	50	2
HOF55E-01-2007	0,70	1,40	4,00	50	2
HOF55E-01-2008	0,80	1,60	4,00	50	2
HOF55E-01-2009	0,90	1,80	4,00	50	2

●	P
O	M
O	K
	N
O	S
	H

Tolerans Tablosu

$d_1 < 6$	0.000 -0.020
$6 \leq d1 < 12$	0.000 -0.030
$12 \leq d1$	0.000 -0.035

MICRO BALL NOSE



Stock Code	D	Lc	d	L	Z	R
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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

●	P
O	M
O	K
	N
O	S
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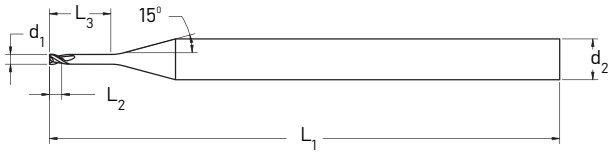
Tolerans Tablosu

$d_1 < 6$
0.000
-0.020

$6 \leq d1 < 12$
0.000
-0.030

$12 \leq d1$
0.000
-0.035

CORNER RADIUS (LONG NEEK) 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

●	P
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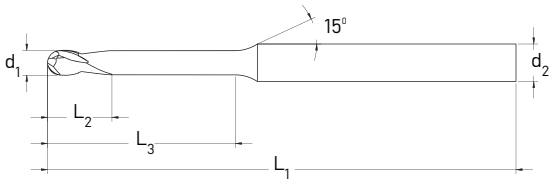
Tolerans Tablosu

$d_1 < 6$
0.000
-0.020
$6 \leq d1 < 12$
0.000
-0.030
$12 \leq d1$
0.000
-0.035

BALL NOSE (LONG NEEK) 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

●	P
O	M
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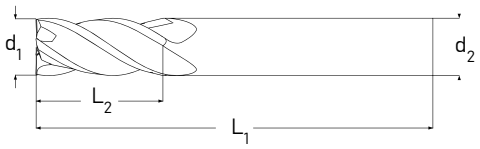
Tolerans Tablosu

$d_1 < 6$
0.000
-0.020

$6 \leq d1 < 12$
0.000
-0.030

$12 \leq d1$
0.000
-0.035

END MILLS Z4



Stock Code	d_1	L_2	L_1	$d_{2\ h5}$	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
HOF55-01-4030D6	3	8	57	6	4
HOF55E-01-4035	3,5	8	50	4	4
HOF55E-01-4040	4	10	50	4	4
HOF55-01-4040D6	4	11	57	6	4
HOF55E-01-4045	4,5	11	50	5	4
HOF55-01-4050	5	13	50	5	4
HOF55-01-4060	6	15	57	6	4
HOF55-01-4080	8	20	63	8	4
HOF55-01-4100	10	22	72	10	4
HOF55-01-4120	12	26	83	12	4
HOF55-01-4130	13	26	83	13	4
HOF55-01-4140	14	26	83	14	4
HOF55-01-4150	15	32	93	15	4
HOF55-01-4160	16	32	92	16	4
HOF55-01-4180	18	32	92	18	4
HOF55-01-4200	20	45	100	20	4

●	P
O	M
O	K
	N
O	S
	H

Tolerans Tablosu

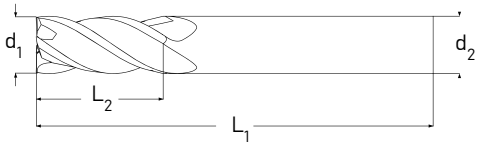
d_1 < 6
0.000
-0.020

6≤ d1< 12
0.000
-0.030

12 ≤ d1
0.000
-0.035

35° Ha HRC 55 TISIN

END MILLS (LONG SHANK) Z4



Stock Code	d_1	L_2	L_1	$d_{2\ h5}$	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

●	P
O	M
O	K
	N
O	S
	H

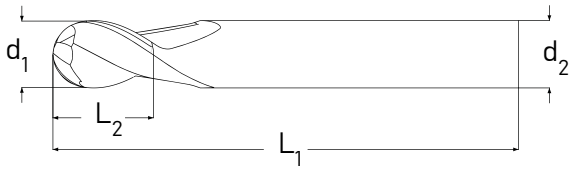
Tolerans Tablosu

d_1< 6
0.000
-0.020

6≤ d1< 12
0.000
-0.030

12 ≤ d1
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
HOF55-02-2030D6	3	3,2	57	1,5	6	2
HOF55E-02-2040	4	8	50	2	4	2
HOF55-02-2040D6	4	8	57	2	6	2
HOF55-02-2050	5	7	50	2,5	5	2
HOF55-02-2060	6	9	57	3	6	2
HOF55-02-2080	8	10	63	4	8	2
HOF55-02-2100	10	15	72	5	10	2
HOF55-02-2120	12	17	83	6	12	2
HOF55-02-2140	14	19	83	7	14	2
HOF55-02-2160	16	21	92	8	16	2

●	P
O	M
O	K
	N
O	S
	H

Tolerans Tablosu

$d_1 < 6$
0.000
-0.020

$6 \leq d1 < 12$
0.000
-0.030

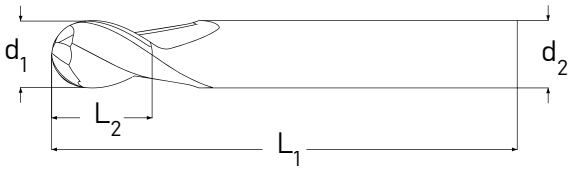
$12 \leq d1$
0.000
-0.035

35°

HRC 55

TISIN

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

●	P
O	M
O	K
	N
O	S
	H

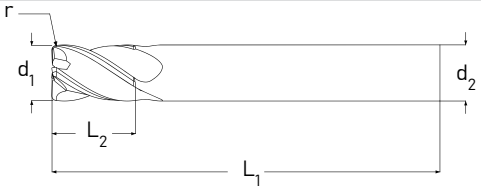
Tolerans Tablosu

d_1< 6
0.000
-0.020

6≤ d1< 12
0.000
-0.030

12 ≤ d1
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
O	M
O	K
	N
O	S
	H

Tolerans Tablosu

$d_1 < 6$
0.000
-0.020

$6 \leq d1 < 12$
0.000
-0.030

$12 \leq d1$
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

●	P
O	M
O	K
	N
O	S
	H

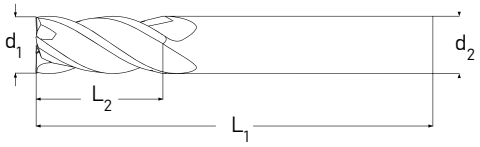
Tolerans Tablosu

d_1< 6
0.000
-0.020

6≤ d1< 12
0.000
-0.030

12 ≤ d1
0.000
-0.035

END MILLS 65 HRC Z4



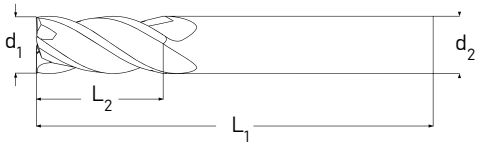
Stock Code	d_1	L_2	L_1	$d_{2\ h5}$	Z
HOF65E-01-4010	1	3	50	4	4
HOF65E-01-4015	1,5	4	50	4	4
HOF65E-01-4020	2	6	50	4	4
HOF65E-01-4025	2,5	8	50	4	4
HOF65E-01-4030D3	3	8	50	3	4
HOF65E-01-4030D4	3	8	50	4	4
HOF65E-01-4040	4	10	50	4	4
HOF65E-01-4050	5	13	50	5	4
HOF65-01-4060	6	15	57	6	4
HOF65-01-4080	8	20	63	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
O	M
	K
	N
●	S
●	H

Tolerans Tablosu

$d_1 < 6$	0.000 -0.020
$6 \leq d1 < 12$	0.000 -0.030
$12 \leq d1$	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
O	M
	K
	N
●	S
●	H

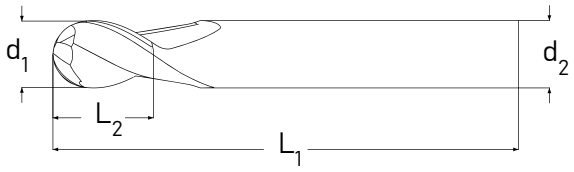
Tolerans Tablosu

d_1< 6
0.000
-0.020

6≤ d1< 12
0.000
-0.030

12 ≤ d1
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

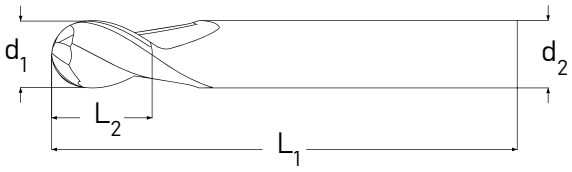
Tolerans Tablosu

d_1< 6
0.000
-0.020

6≤ d1< 12
0.000
-0.030

12 ≤ d1
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

●	P
O	M
	K
	N
●	S
●	H

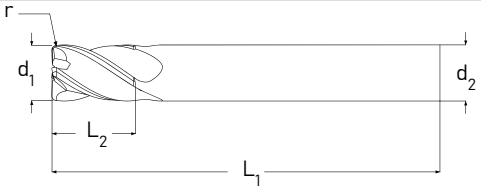
Tolerans Tablosu

d_1< 6
0.000
-0.020

6≤ d1< 12
0.000
-0.030

12 ≤ d1
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

Tolerans Tablosu

$d_1 < 6$
0.000
-0.020

$6 \leq d1 < 12$
0.000
-0.030

$12 \leq d1$
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
O	M
	K
	N
●	S
●	H

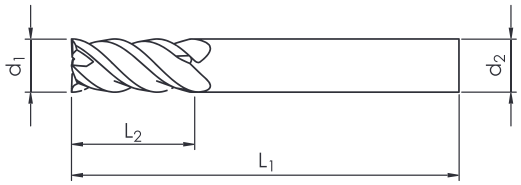
Tolerans Tablosu

d_1< 6
0.000
-0.020

6≤ d1< 12
0.000
-0.030

12 ≤ d1
0.000
-0.035

CHATTER FEE 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
O	K
	N
●	S
	H

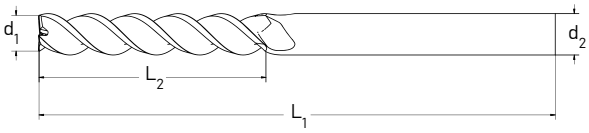
Tolerans Tablosu

$d_1 < 6$
0.000
-0.020

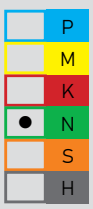
$6 \leq d1 < 12$
0.000
-0.030

$12 \leq d1$
0.000
-0.035

AUMINYUM END MILLS Z3



Stock Code	d_1	L_2	L_1	$d_{2\ h5}$	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



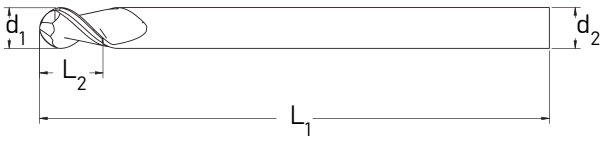
Tolerans Tablosu

d_1< 6
0.000
-0.020

6≤ d1< 12
0.000
-0.030

12 ≤ d1
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

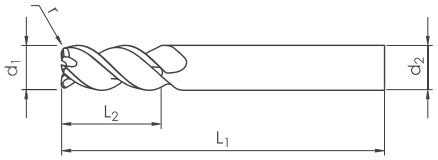
Tolerans Tablosu

$d_1 < 6$
0.000
-0.020

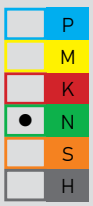
$6 \leq d1 < 12$
0.000
-0.030

$12 \leq d1$
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



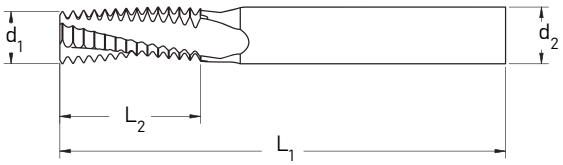
Tolerans Tablosu

d_1 < 6
0.000
-0.020

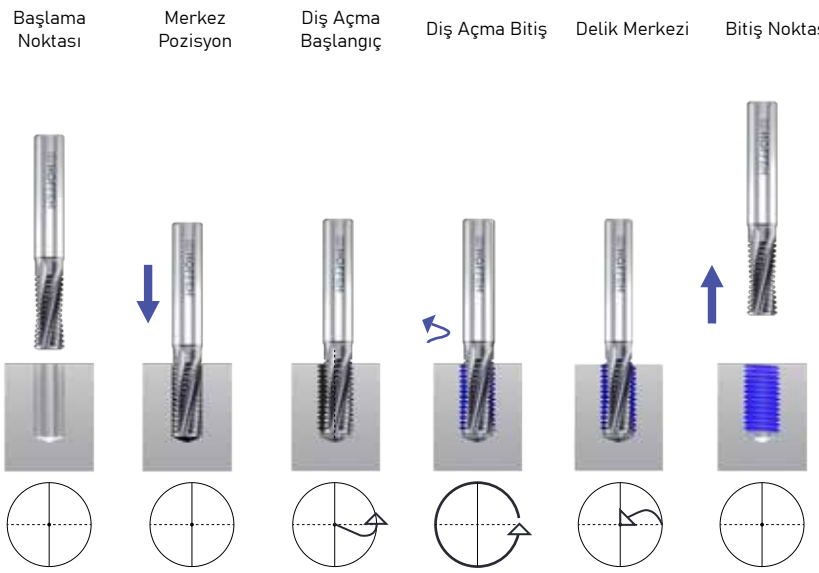
6≤ d1< 12
0.000
-0.030

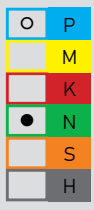
12 ≤ d1
0.000
-0.035

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



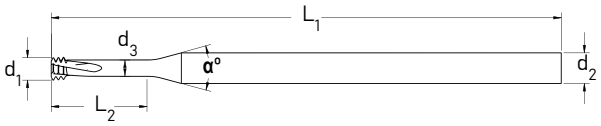


Tolerans Tablosu

$d_1 < 6$	0.000 -0.020
$6 \leq d1 < 12$	0.000 -0.030
$12 \leq d1$	0.000 -0.035

HOFFEN Cutting Tools

THREADNNG 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
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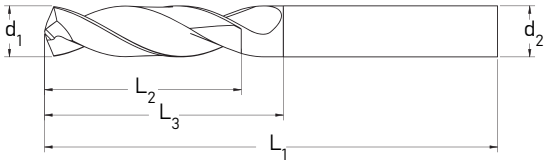
Tolerans Tablosu

d_1< 6
0.000
-0.020

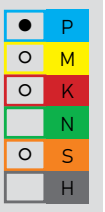
6≤ d1< 12
0.000
-0.030

12 ≤ d1
0.000
-0.035

3D CARBIDE DRILLS Z2



Stock Code	d_1 m_7	L_2	L_3	L_1	$d_{2\ h5}$	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



Tolerans Tablosu

$d_1 < 6$	0.000 -0.020
$6 \leq d1 < 12$	0.000 -0.030
$12 \leq d1$	0.000 -0.035

Stock Code	d_1 m_7	L_2	L_3	L_1	$d_{2\ h5}$	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

●	P
O	M
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	N
O	S
	H

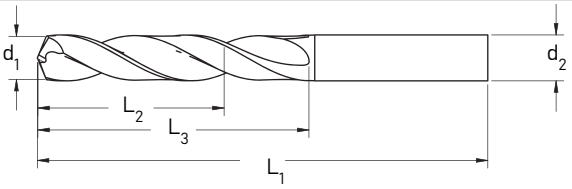
Tolerans Tablosu

d_1< 6
0.000
-0.020

6≤ d1< 12
0.000
-0.030

12 ≤ d1
0.000
-0.035

5D CARBIDE DRILLS Z2



Stock Code	$d_1 m_7$	L_2	L_3	L_1	$d_{2\ h5}$	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

$d_1 < 6$
0.000
-0.020

$6 \leq d1 < 12$
0.000
-0.030

$12 \leq d1$
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

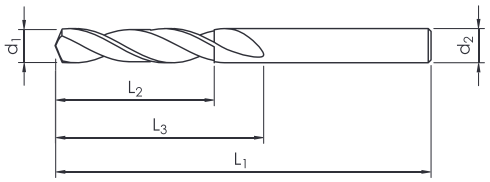
Tolerans Tablosu

d_1< 6
0.000
-0.020

6≤ d1< 12
0.000
-0.030

12 ≤ d1
0.000
-0.035

8D CARBIDE DRILLS Z2



Stock Code	$d_1 m_7$	L_2	L_3	L_1	$d_{2\ h5}$	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

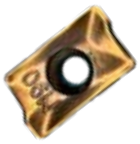
●	P
O	M
O	K
	N
O	S
	H

Tolerans Tablosu

$d_1 < 6$	0.000 -0.020
$6 \leq d1 < 12$	0.000 -0.030
$12 \leq d1$	0.000 -0.035

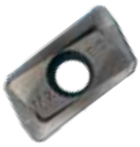
MILLING INSERTS

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	●	●	o			
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	●	●	o			

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	●	●	o			
APMT 160408 HQ3325	VC: 150 (120 – 200) m/min FZ: 0,12 (0.08-0,2) mm/t	●	●	o			

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	●	●	o			

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	●	●	o			

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	●	●	o			
RDKW 1204 HQ3325	VC: 150 (120 – 200) m/min FZ: 0,12 (0.08-0,2) mm/t	●	●	o			

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	●	●	o			

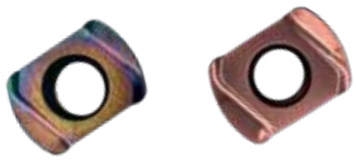
RCGT

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

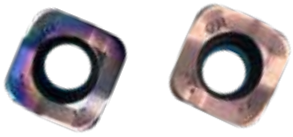


Stock Code	VC / FZ	P	M	K	N	S	H
BNMX 0603R-M -DR HQ3325	VC: 180 (120 – 250) m/min FZ: 0,80 (0.10-1.50) mm/t	●	●	●			
BNMX 0603R-M -LT HQ3315	VC: 180 (150 – 210) m/min FZ: 0,80 (0.10-1.50) mm/t	●	●	○			
BNMX 0603R-M -TS HQ3335	VC: 185 (130 – 240) m/min FZ: 0,80 (0.10-1.50) mm/t	●	●	○		●	
BNMX 0603R-M DRLT 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

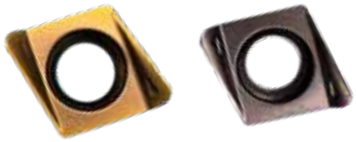
Stock Code	VC / FZ	P	M	K	N	S	H
LMEU 030316 R HQ3325	VC: 150 (120 – 200) m/min FZ: 0,12 (0.08-0,2) mm/t	●	●				

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

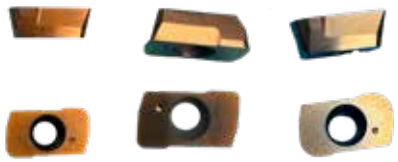


Stock Code	VC / FZ	P	M	K	N	S	H
FNKX 060308 DR HQ3325	VC: 180 (120 – 250) m/min FZ: 1.50 (0.50-2.00) mm/t	●	●	o			
FNKX 060308 LT HQ3315	VC: 180 (120 – 250) m/min FZ: 1.50 (0.50-2.00) mm/t	●		o			
FNKX 060308 TS HQ3335	VC: 160 (100 – 200) m/min FZ: 1.20 (0.50-1.80) mm/t	●	●	o		●	
FNKX 060308 AL1025	VC: 160 (100 – 200) m/min FZ: 1.20 (0.50-1.80) mm/t				●		

3PKT

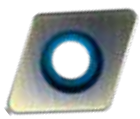
Stock Code	VC / FZ	P	M	K	N	S	H
3PKT 060308 HQ3325	VC: 130 (80 – 180) m/min FZ: 0,90 (0.60-1,20) mm/t	●		o			
3PKT 100408-R-M HQ3325	VC: 130 (80 – 180) m/min FZ: 0,90 (0.60-1,20) mm/t	●		o			
3PKT 100408-R-M DRLT HQ3345	VC: 130 (80 – 180) m/min FZ: 0,90 (0.60-1,20) mm/t	●	●	●		●	
3PKT 150508-R-M HQ3325	VC: 150 (120 – 200) m/min FZ: 0,12 (0.08-0,2) mm/t	●	●	o			

OPHW

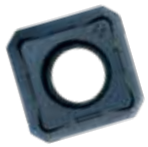


Stock Code	VC / FZ	P	M	K	N	S	H
OPHW 100308 TS HQ3325	VC: 180 (120 – 250) m/min FZ: 0,80 (0.10-1.50) mm/t	●	●	o		●	
OPHW 100308 LT HQ3315	VC: 245 (180 – 310) m/min FZ: 1.40 (0.30-2.50) mm/t	●	●	o		●	
OPHW 100312 TS HQ3325	VC: 180 (120 – 250) m/min FZ: 0,80 (0.10-1.50) mm/t	●	●	o		●	
OPHW 100320 TS HQ3325	VC: 180 (120 – 250) m/min FZ: 0,80 (0.10-1.50) mm/t	●	●	o		●	

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	●	●	o			
XDHW 10T310-SN HQ3325	VC: 180 (120 – 250) m/min FZ: 1.50 (0.50-2.00) mm/t	●	●	o			

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	●	●	○			

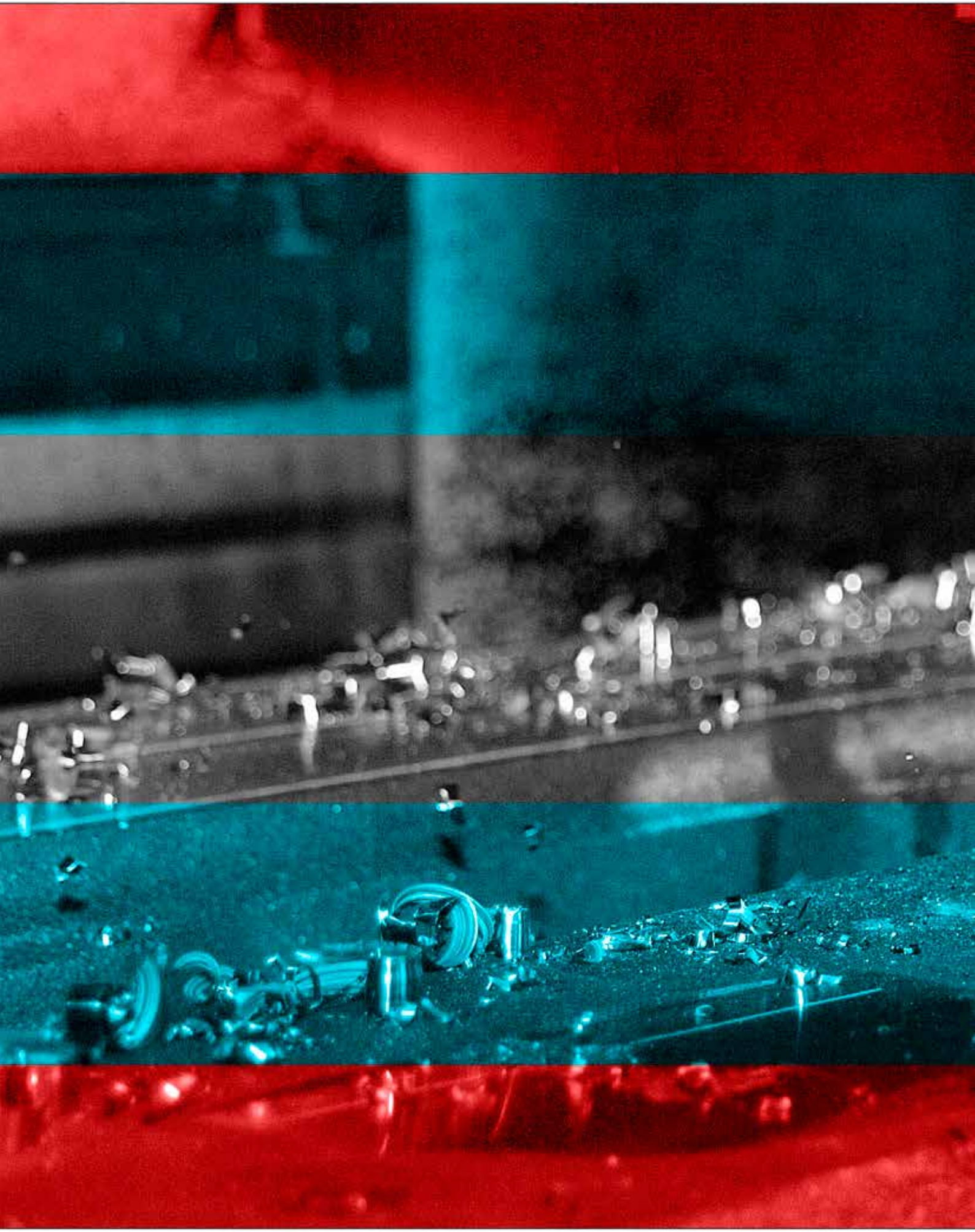
WANU	Stock Code	VC / FZ	P	M	K	N	S	H
	WANU 080608 HQ3335	VC: 180 (120 – 250) m/min FZ: 1.50 (0.50-2.00) mm/t	●	●	○			
	WANU 080608 AL1025	VC: 160 (100 – 200) m/min FZ: 1.20 (0.50-1.80) mm/t				●		
	WANU 040304-ER HQ3335	VC: 180 (120 – 250) m/min FZ: 1.50 (0.50-2.00) mm/t	●	●	○			

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	●	●	○			

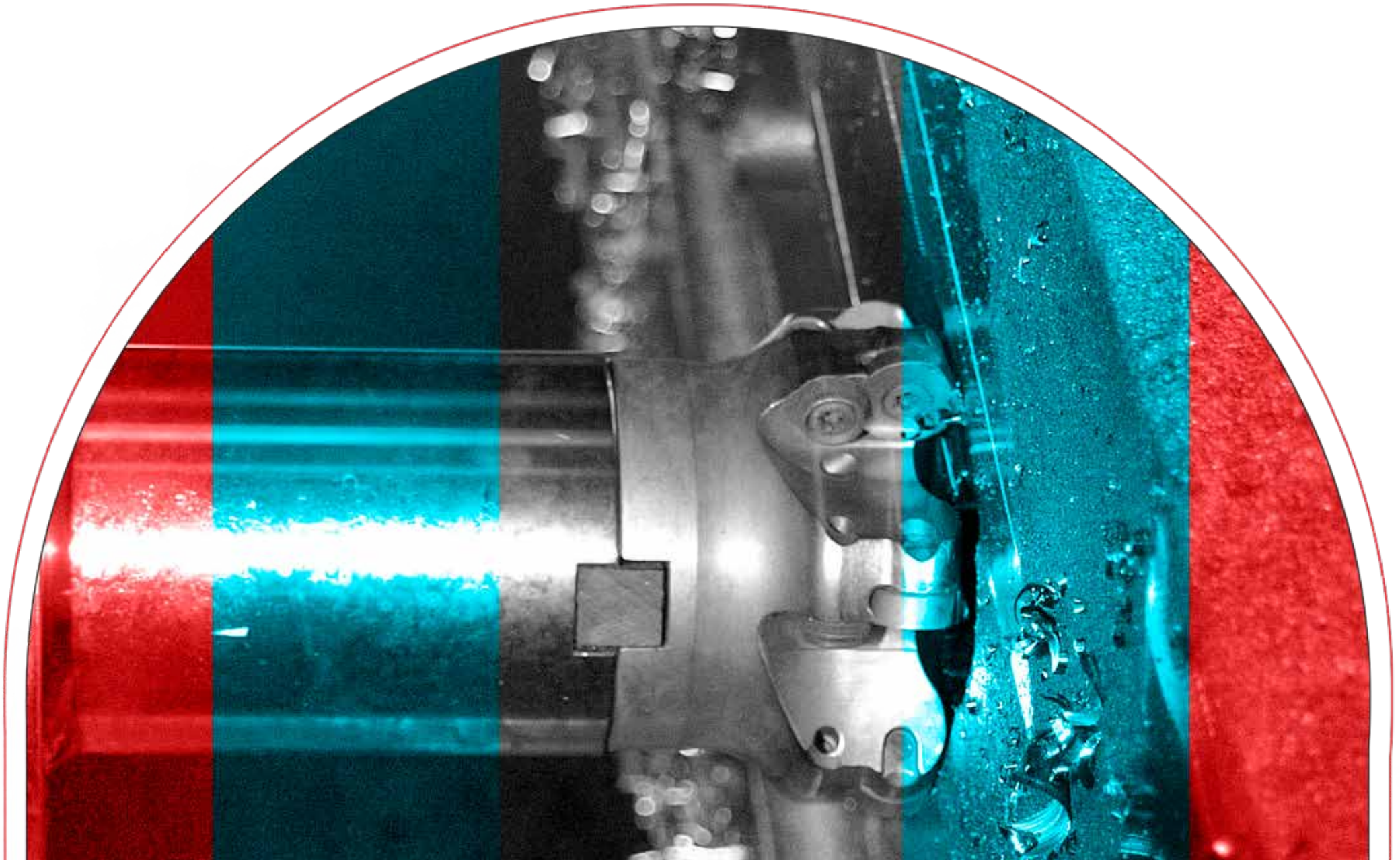
WNMX	Stock Code	VC / FZ	P	M	K	N	S	H
	WNMX 09T316 HQ3335	VC: 180 (120 – 250) m/min FZ: 1.50 (0.50-2.00) mm/t	●	●	○			

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	●	●	○			

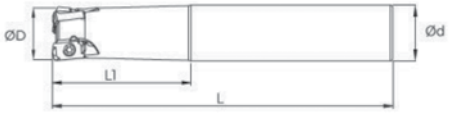
LNGX	Stock Code	VC / FZ	P	M	K	N	S	H
	LNGX 010210 HF HQ3325	VC: 150 (120 – 200) m/min FZ: 0,12 (0.08-0,2) mm/t	●	●	○			



TOOL HOLDERS

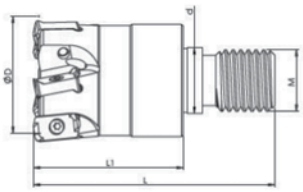


LNMU



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

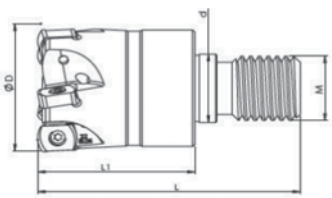


Stock Code	D	Z	L_1	L	d	M
LNMU 0303 D32 M16 L43 Z05	32	5	43	62	17	16
LNMU 0303 D35 M16 L43 Z05	35	5	43	62	17	16
LNMU 0303 D42 M16 L43 Z06	42	6	43	65	17	16

BNMX

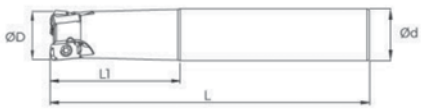
Stock Code	D	Z	L_1	L	d
BNMX 0603 D16 W16 L150 Z02	16	2	35	150	16
BNMX 0603 D17 W16 L150 Z02	17	2	25	150	16
BNMX 0603 D17 W16 L200 Z02	17	2	25	200	16
BNMX 0603 D21 W20 L150 Z03	21	3	25	150	20
BNMX 0603 D21 W20 L200 Z03	21	3	30	200	20
BNMX 0603 D26 W25 L200 Z04	26	4	30	200	25

BNMX



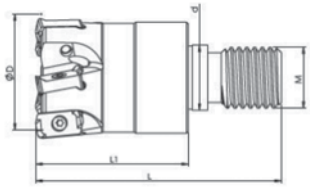
Stock Code	D	Z	L_1	L	d	M
BNMX 0603 D32 M16 L43 Z05	32	5	43	60	17	16
BNMX 0603 D35 M16 L43 Z05	35	5	43	60	17	16
BNMX 0603 D42 M16 L43 Z06	42	6	43	60	17	16

LMEU



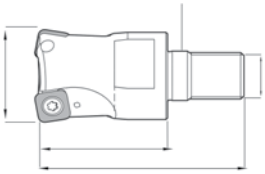
Stock Code	D	Z	L_1	L	d
LMEU 0303 D17 W16 L150 Z02	17	2	25	150	16
LMEU 0303 D21 W20 L200 Z04	21	4	25	200	20
LMEU 0303 D26 W25 L200 Z04	26	4	25	200	25

LMEU



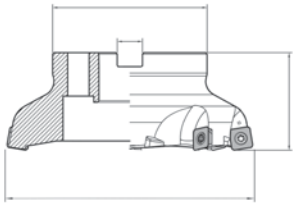
Stock Code	D	Z	L_1	L	d	M
LMEU 0303 D20 M10 L30 Z03	20	3	30	62	10,5	10
LMEU 0303 D32 M16 L43 Z05	32	5	43	62	17	16
LMEU 0303 D42 M16 L43 Z05	42	5	43	62	17	16

SDMX



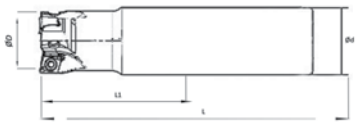
Stock Code	D	Z	L_1	L	d
SDMX 1004 D32 M16 L42 Z03	32	3	42	62	16
SDMX 1004 D35 M16 L42 Z03	35	3	42	62	16
SDMX 1004 D42 M16 L42 Z04	42	4	42	62	16

SDMX



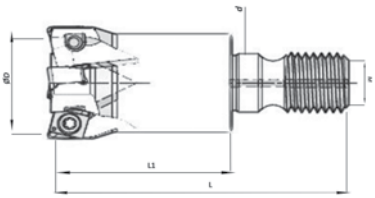
Stock Code	D	Z	H	A
SDMX 1004 D50 A22 Z05	50	5	40	22
SDMX 1004 D63 A22 Z06	63	6	40	22
SDMX 1004 D66 A22 Z06	66	6	40	22

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

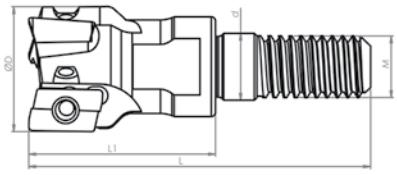


Stock Code	D	Z	L_1	L	d	M
FNKX 0603 D17 M8 L24 Z02	17	2	43	24	8,5	8
FNKX 0603 D20 M10 L30 Z02	20	2	43	30	10,5	10
FNKX 0603 D21 M10 L30 Z02	21	2	43	30	10,5	10
FNKX 0603 D26 M12 L35 Z03	26	3	43	35	12,5	12
FNKX 0603 D32 M16 L43 Z05	32	5	43	43	17	16
FNKX 0603 D33 M16 L43 Z05	33	5	43	43	17	16
FNKX 0603 D35 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

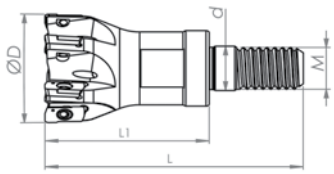


Stock Code	D	Z	L_1	L	d	M
OPHW 1003 D16 M8 L24 Z02	16	2	24	62	8,5	8
OPHW 1003 D17 M8 L24 Z02	17	2	24	62	8,5	8
OPHW 1003 D20 M10 L30 Z03	20	3	30	62	10,5	10
OPHW 1003 D21 M10 L30 Z03	21	3	30	65	10,5	10
OPHW 1003 D26 M12 L35 Z04	26	4	35	62	12,5	12
OPHW 1003 D32 M16 L40 Z04	32	4	40	65	17	16
OPHW 1003 D35 M16 L40 Z05	35	5	40	65	17	16
OPHW 1003 D42 M16 L40 Z05	42	5	40	65	17	16

JDMT

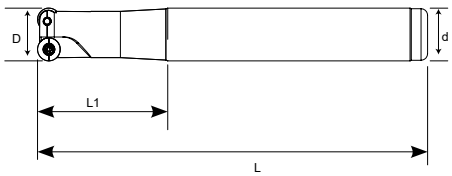
Stock Code	D	Z	L_1	L	d
JDMT0702 D10 W10 L120 Z02	10	2	25	120	10
JDMT0702 D11 W10 L120 Z02	11	2	25	120	10
JDMT0702 D12 W12 L120 Z03	12	3	25	120	12
JDMT0702 D13 W12 L120 Z03	13	3	25	120	12

JDMT



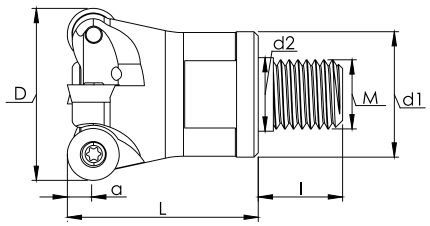
Stock Code	D	Z	L_1	L	d	M
JDMT0702 D11 M5 L18 Z02	11	2	18	62	5,5	5
JDMT0702 D13 M6 L18 Z03	13	3	18	62	6,5	6

RDHX



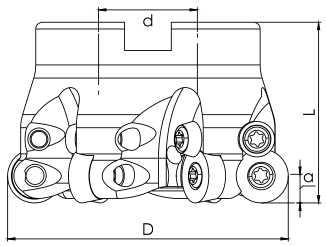
Stock Code	D	Z	L_1	L	d
RDHX1003 D21 W20 L150 Z02	21	2	25	150	20
RDHX1003 D26 W25 L200 Z03	26	3	25	200	25

RDHX



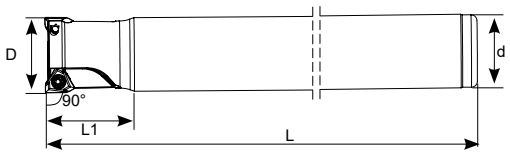
Stock Code	D	Z	L_1	L	d	M
RDHX10T3 D32 M16 L43 Z03	32	3	40	65	17	16
RDHX10T3 D35 M16 L43 Z03	35	3	40	65	17	16
RDHX10T3 D42 M16 L43 Z04	42	4	40	65	17	16

RDMT



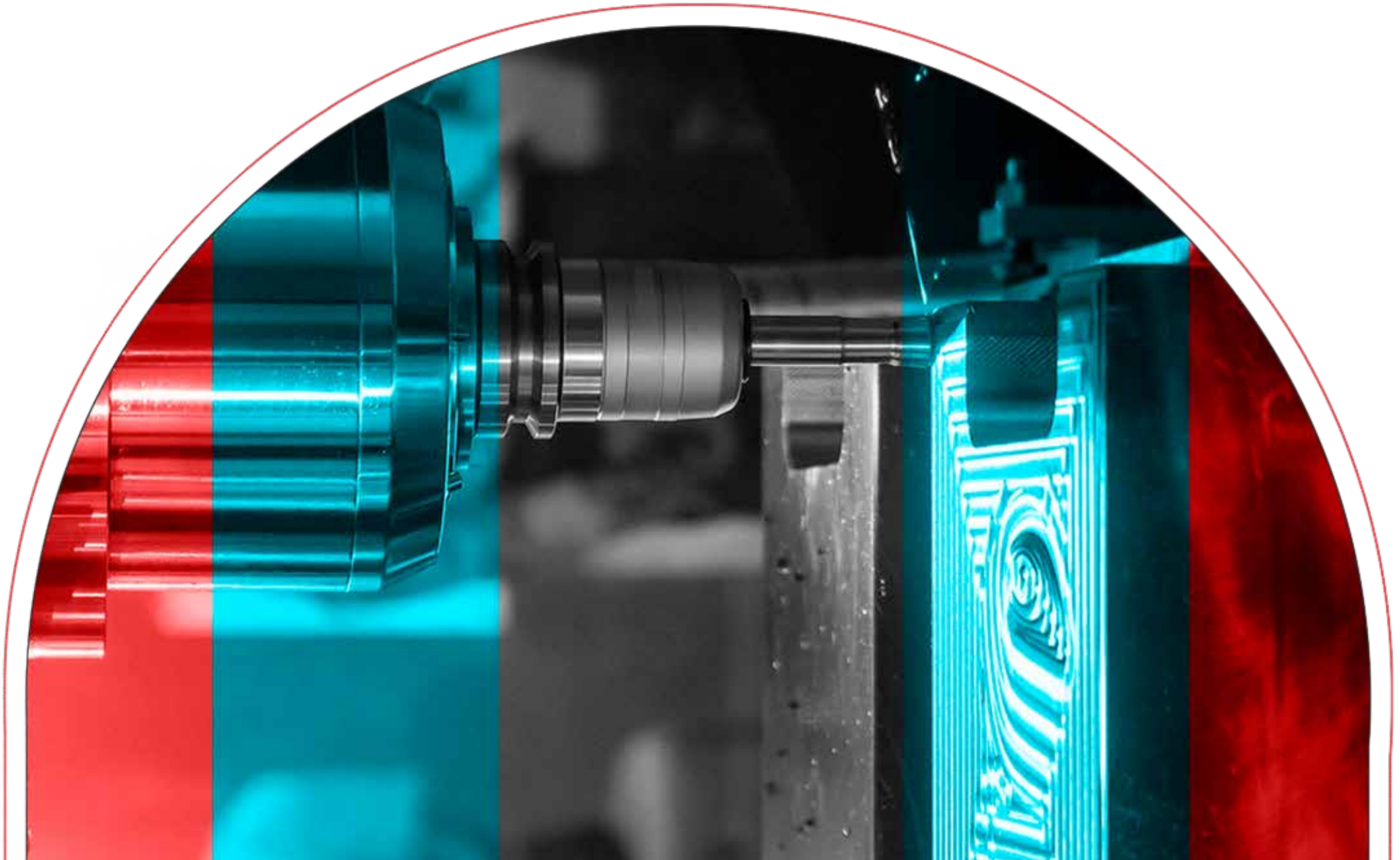
Stock Code	D	Z	H	A
RDMT1204 D52 A22 Z05-H	52	5	40	22
RDMT1204 D66 A22 Z06-H	66	6	40	22

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

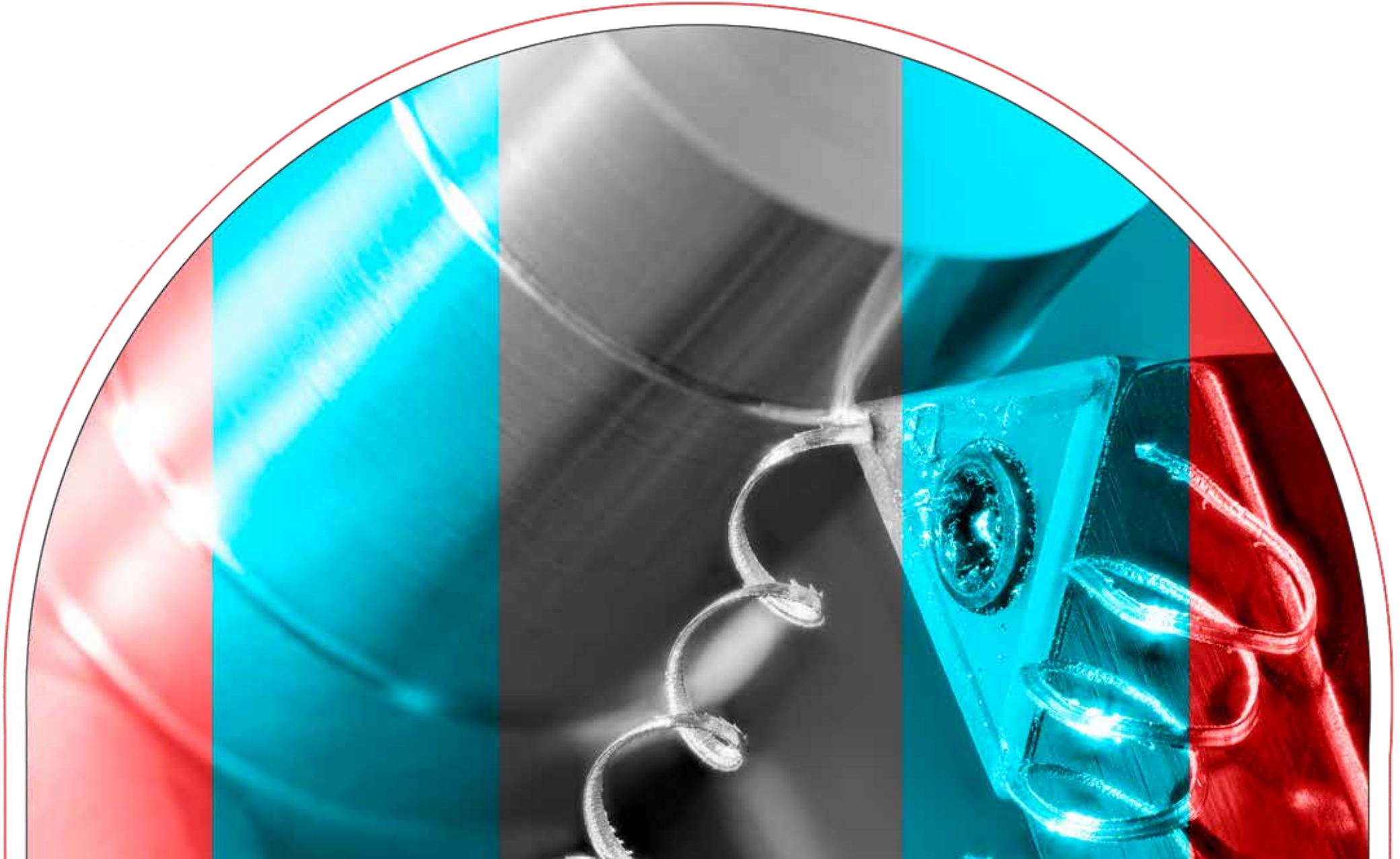
CARBIDE SHAFT



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/	●	●	●			
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	●	●	●			

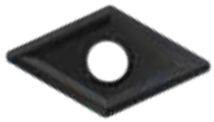
WNMG

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	●	●	o			
Eklenecek mi?	VC: 180 (120 – 250) m/min FZ: 1.50 (0.50-2.00) mm/t	●	●	o			

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	●	●	o			
VCMT 160408	VC: 180 (120 – 250) m/min FZ: 1.50 (0.50-2.00) mm/t	●	●	o			

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	●	●	o			
VNMG 160408	VC: 180 (120 – 250) m/min FZ: 1.50 (0.50-2.00) mm/t	●	●	o			

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	●	●	o			
TCMX 080204 R ANGLE	VC: 180 (120 – 250) m/min FZ: 1.50 (0.50-2.00) mm/t	●	●	o			

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	●	●	o			
WNMA 080408	VC: 180 (120 – 250) m/min FZ: 1.50 (0.50-2.00) mm/t	●	●	o			

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	●	●	o			
CNMA 120412	VC: 180 (120 – 250) m/min FZ: 1.50 (0.50-2.00) mm/t	●	●	o			

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	●	●	●			

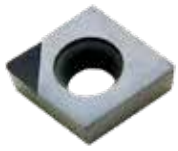
TPGH

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	●	●	o			
CCGW 09T308	VC: 180 (120 – 250) m/min FZ: 1.50 (0.50-2.00) mm/t	●	●	o			

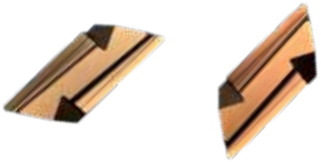
DCGW

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	●	●	o			
DCGW 070204	VC: 150 (120 – 200) m/min FZ: 0,12 (0.08-0,2) mm/t	●	●	o			

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	●	●	o			
TPKN 2204	VC: 180 (120 – 250) m/min FZ: 1.50 (0.50-2.00) mm/t	●	●	o			

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	●	●	o			
KNUX 160405R (DR)	VC: 165 (110 – 220) m/min FZ: 0,08 (0.05-0,15) mm/t	●	●	o			
KNUX 160405R (LT)	VC: 165 (110 – 220) m/min FZ: 0,08 (0.05-0,15) mm/t	●	●	o			
KNUX 160405L	VC: 165 (110 – 220) m/min FZ: 0,08 (0.05-0,15) mm/t	●	●	o			
KNUX 160405L (DR)	VC: 170 (180– 260) m/min FZ: 0,80 (0.10-1.50) mm/t	●	●	o			
KNUX 160405L (LT)	VC: 170 (180– 260) m/min FZ: 0,80 (0.10-1.50) mm/t	●	●	o			

THREADING INSERTS

11ER

Stock Code	P	M	K	N	S	H
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
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
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
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
22 IR A60	●	●	○			
22 IR 3,50	●	●	○			
22 IR 4,00	●	●	○			
22 IR 4,50	●	●	○			
22 IR 5,00	●	●	○			
22 IR 6,00	●	●	○			

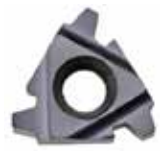
ER WHITWORTH

Stock Code	P	M	K	N	S	H
16 ER 8 W	●	●	○			
16 ER 10 W	●	●	○			
16 ER 11 W	●	●	○			
16 ER 12 W	●	●	○			
16 ER 14 W	●	●	○			
16 ER 16 W	●	●	○			
16 ER 19 W	●	●	○			
16 ER 20 W	●	●	○			
16 ER AG 55 W	●	●	○			
22 ER AG 55 W	●	●	○			

IR WHITWORTH

Stock Code	P	M	K	N	S	H
16 IR 8 W	●	●	○			
16 IR 10 W	●	●	○			
16 IR 11 W	●	●	○			
16 IR 12 W	●	●	○			
16 IR 14 W	●	●	○			
16 IR 16 W	●	●	○			
16 IR 19 W	●	●	○			
16 IR 20 W	●	●	○			
16 IR AG 55 W	●	●	○			
22 IR AG 55 W	●	●	○			

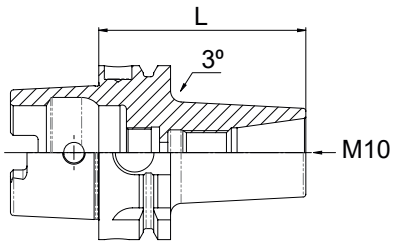
TRAPEZ



Stock Code	P	M	K	N	S	H
16 ER TR 1,00	●	●	○			
16 ER TR 1,50	●	●	○			
16 ER TR 2,00	●	●	○			
16 ER TR 2,50	●	●	○			
16 ER TR 3,00	●	●	○			
22 ER TR 3,50	●	●	○			
22 ER TR 4,00	●	●	○			
22 ER TR 5,00	●	●	○			
22 ER TR 6,00	●	●	○			
16 IR TR 1,00	●	●	○			
16 IR TR 1,50	●	●	○			
16 IR TR 2,00	●	●	○			
16 IR TR 2,50	●	●	○			
16 IR TR 3,00	●	●	○			
22 IR TR 3,50	●	●	○			
22 IR TR 4,00	●	●	○			
22 IR TR 5,00	●	●	○			
22 IR TR 6,00	●	●	○			

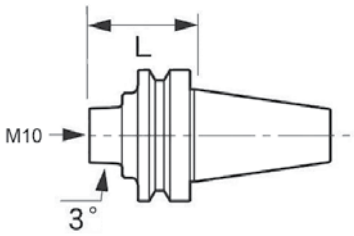
SHRINK HOLDERS

HSK TYPE



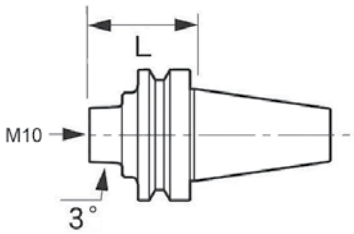
TİP	L
HSK63A SLK12-45	15
HSK63A SLK12-75	15

BT TYPE



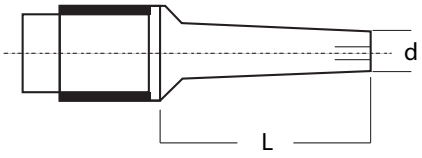
TİP	L
BT40 SLK12-45	45
BT40 SLK12-75	75
BT50 SLK12-105	105

BBT TYPE



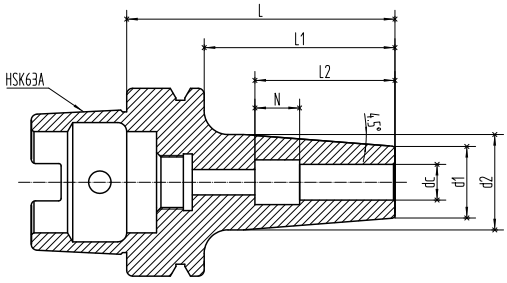
TİP	L
BBT40 SLK12-45	45
BBT40 SLK12-75	75
BBT50 SLK12-105	105

SHRINK MODULLAR



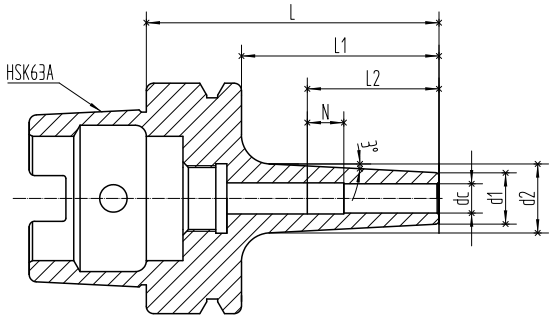
Tip	Stock Code	Açıklama	L	$d_{(mm)}$
CS 1,5mm	HFNT.CS12-03-055	CS12-03-55	55	3
	HFNT.CS12-03-080	CS12-03-80	80	3
	HFNT.CS12-03-110	CS12-03-110	110	3
	HFNT.CS12-04-055	CS12-04-55	55	4
	HFNT.CS12-04-080	CS12-04-80	80	4
	HFNT.CS12-04-110	CS12-04-110	110	4
	HFNT.CS12-06-055	CS12-06-55	55	6
	HFNT.CS12-06-080	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



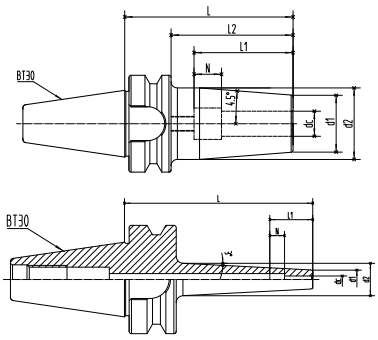
Tip	Stock Code	Açıklama	dc	d_1	d_2	L	L_1	L_2
HSK63SF	HSK63.SF04.80	HSK63.SF04.80	4	15	20	80	54	20
	HSK63.SF04.120	HSK63.SF04.120	4	15	20	120	94	20
	HSK63.SF04.160	HSK63.SF04.160	4	15	20	160	134	20
	HSK63.SF06.80	HSK63.SF06.80	6	21	27	80	54	33
	HSK63.SF06.120	HSK63.SF06.120	6	21	27	120	94	33
	HSK63.SF06.160	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



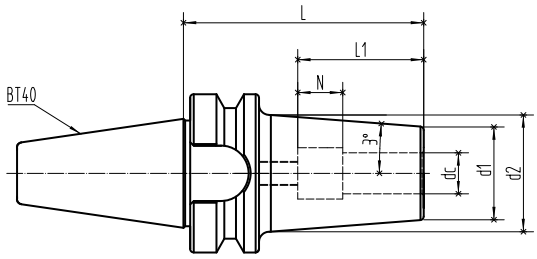
Tip	Stock Code	Açıklama	dc	d_1	d_2	L	L_1	L_2
HSK63SFS	HFNT.HSK63.SFS04.80	HSK63.SFS04.80	4	10	16	80	54	20
	HFNT.HSK63.SFS04.120	HSK63.SFS04.120	4	10	19	120	94	20
	HFNT.HSK63.SFS04.160	HSK63.SFS04.160	4	10	22	160	134	20
	HFNT.HSK63.SFS06.80	HSK63.SFS06.80	6	12	18	80	54	33
	HFNT.HSK63.SFS06.120	HSK63.SFS06.120	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



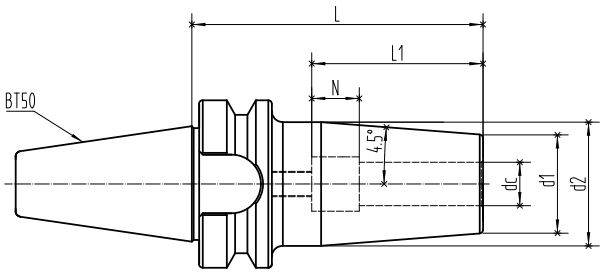
Tip	Stock Code	Açıklama	dc	d_1	d_2	L	L_1	L_2
SF	HFNT.BT30.SF03.80	BT30.SF03.80	3	15	20	80	58	11
	HFNT.BT30.SF04.80	BT30.SF04.80	4	15	20	80	58	20
	HFNT.BT30.SF06.80	BT30.SF06.80	6	21	27	80	58	36
	HFNT.BT30.SF08.80	BT30.SF08.80	8	21	27	80	58	37
	HFNT.BT30.SF10.80	BT30.SF10.80	10	24	32	80	58	42
	HFNT.BT30.SF12.80	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

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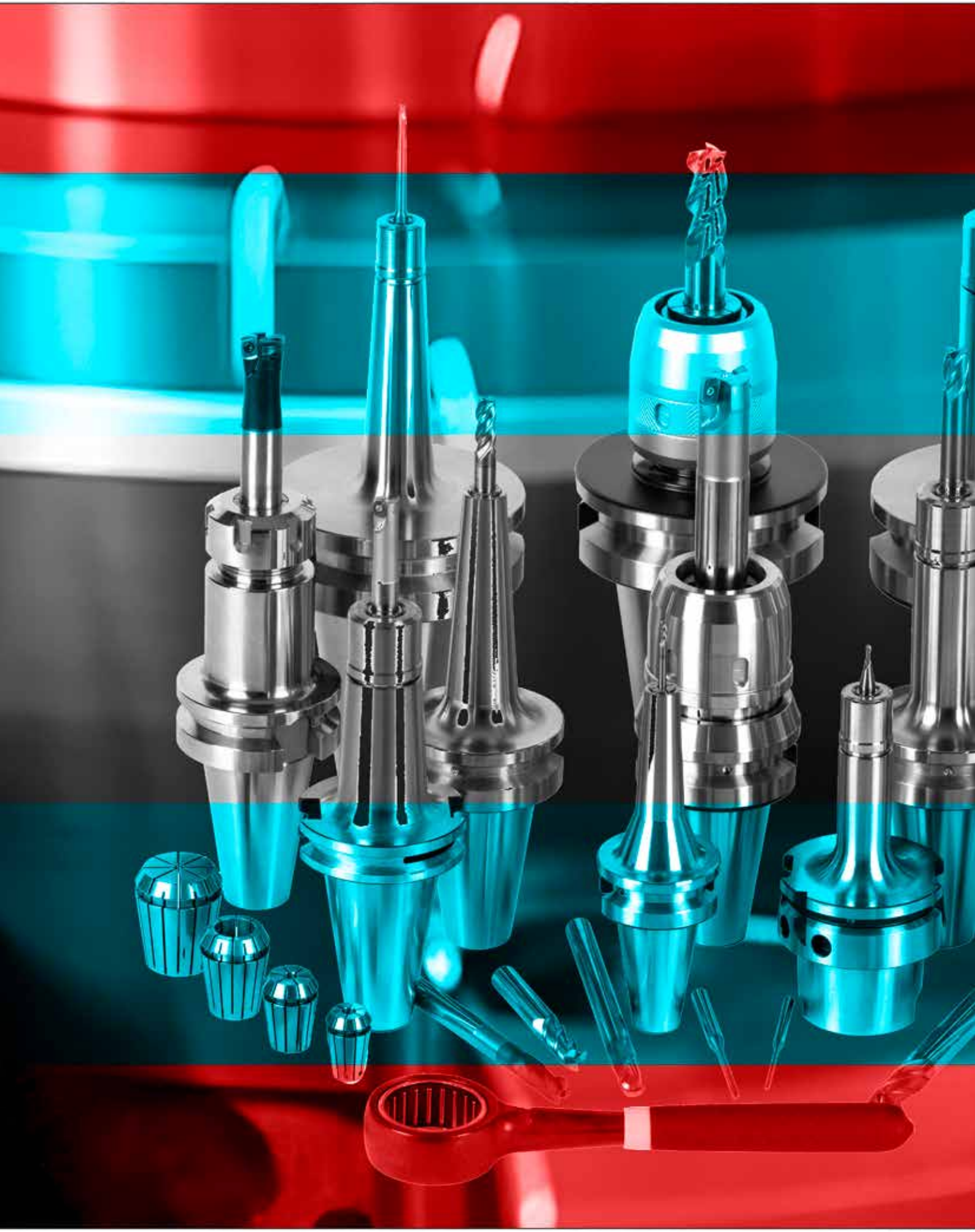
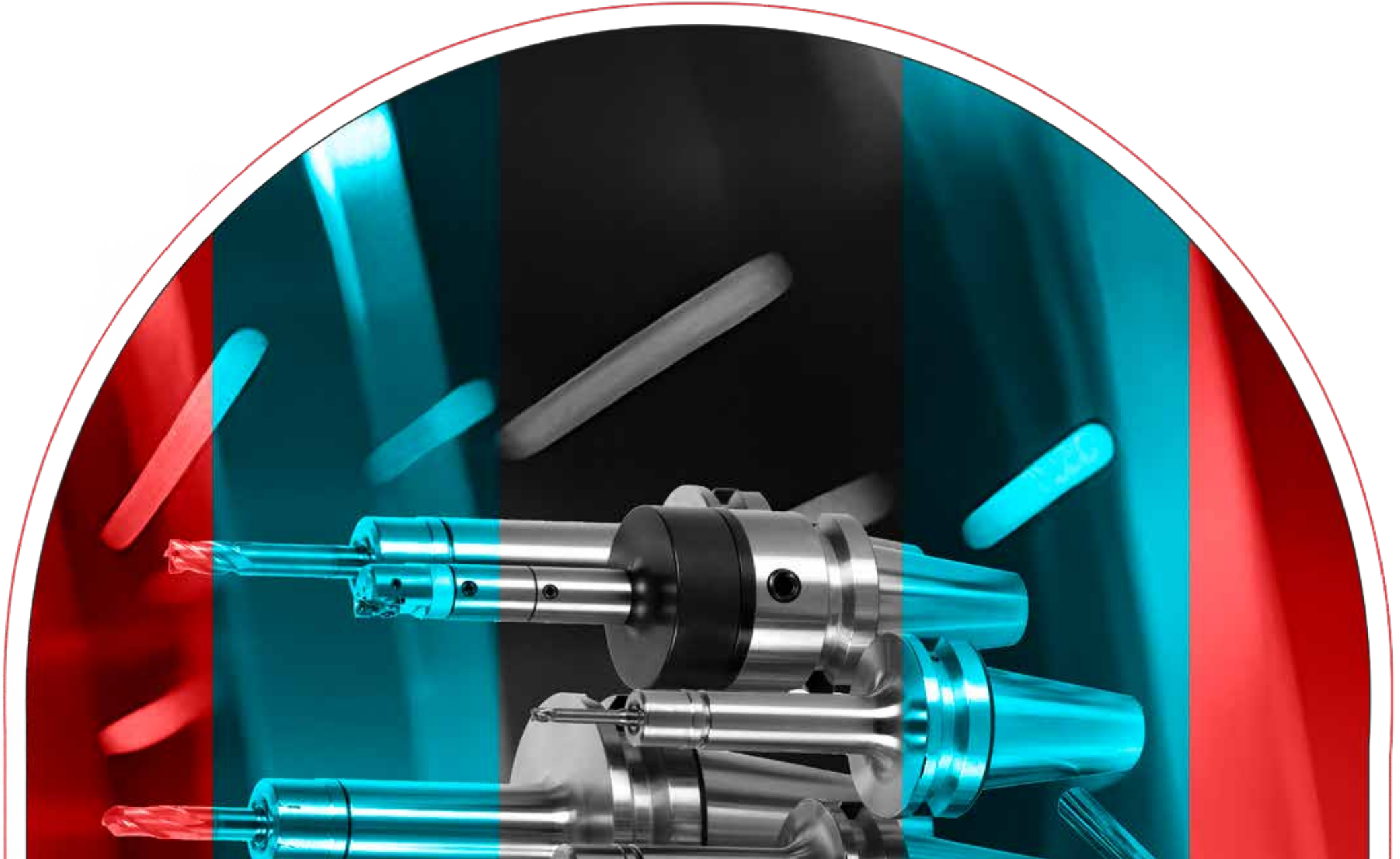
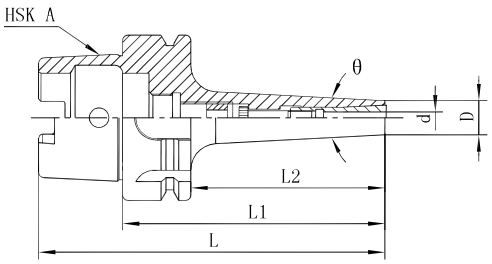


HSK HOLDERS

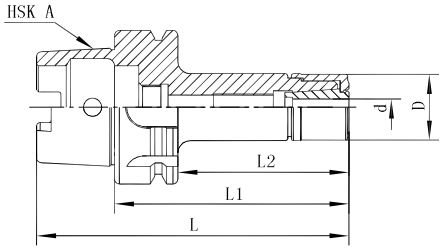


HIGH SPEED SLIM CHUCK



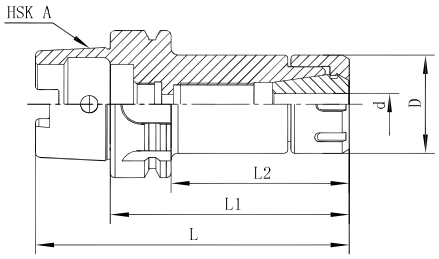
Tip	Stock Code	Açıklama	L_1	L_2	θ	D	$d_{(mm)}$
HSK40-E	HFNT.HSK40E.SDC06.090	SDC06 90	90	70	6°	14	3~6
	HFNT.HSK40E.SDC06.150	SDC06 150	150	130	6°	14	3~6
	HFNT.HSK40E.SDC08.090	SDC08 90	90	70	6°	22	3~8
	HFNT.HSK40E.SDC08.150	SDC08 150	150	130	6°	22	3~8
	HFNT.HSK40E.SDC12.090	SDC12 90	90	70	6°	34	3~12
	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



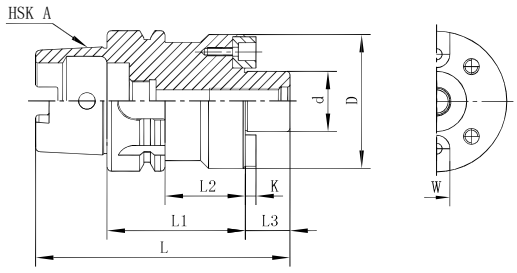
Tip	Stock Code	Açıklama	L_1	L_2	D	$d_{(mm)}$
HSK40-E	HFNT.HSK40E.SK06.090	SK06 90	90	64	19.5	2-6
	HFNT.HSK40E.SK06.120	SK06 120	120	94	19.5	2-6
	HFNT.HSK40E.SK10.060	SK10 60	60	34	27	3-10
	HFNT.HSK40E.SK10.090	SK10 90	90	64	27	3-10
	HFNT.HSK40E.SK10.150	SK10 150	150	124	27	3-10
	HFNT.HSK40E.SK16.090	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



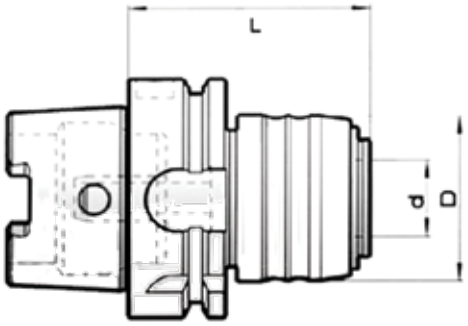
Tip	Stock Code	Açıklama	L_1	L_2	D	$d_{(mm)}$
HSK63-A	HFNT.HSK63A.ER16.075	ER16 75	75	49	28	1-10
	HFNT.HSK63A.ER16.100	ER16 100	100	74	28	1-10
	HFNT.HSK63A.ER16.160	ER16 160	160	134	28	1-10
	HFNT.HSK63A.ER16M.075	ER16M 75	75	49	22	1-10
	HFNT.HSK63A.ER16M.100	ER16M 100	100	74	22	1-10
	HFNT.HSK63A.ER16M.160	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



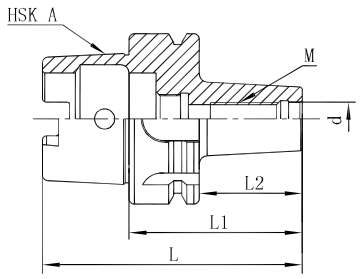
Tip	Stock Code	Açıklama	L_1	L_2	L3	d	D
HSK63-A	HFNT.HSK63A.K16.050	16K 50	50	24	17	16	32
	HFNT.HSK63A.K16.100	16K 100	100	74	17	16	32
	HFNT.HSK63A.K16.160	16K 160	160	134	17	16	32
	HFNT.HSK63A.K22.050	22K 50	50	24	18	22	48
	HFNT.HSK63A.K22.100	22K 100	100	74	18	22	48
	HFNT.HSK63A.K22.160	22K 160	160	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



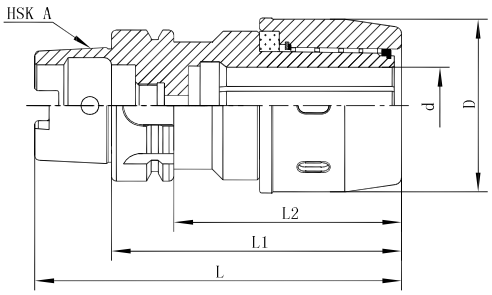
Tip	Stock Code	Açıklama	L	D	$d_{(mm)}$
HSK63-A	HFNT.HSK63A.KC.02-14	KC.02-14	94	36	19
	HFNT.HSK63A.KC.05-24	KC.05-24	94	54	31
HSK100-A	HFNT.HSK100A.KC.02-14	KC.02-14	94	36	19
	HFNT.HSK100A.KC.05-24	KC.05-24	94	54	31

SCREW END MILL HOLDERS



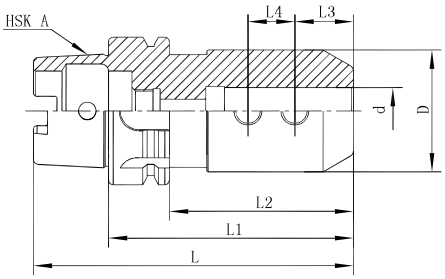
Tip	Stock Code	Açıklama	L_1	L_2	D	M
HSK63-A	HFNT.HSK63A.M08.050	M8 50	50	24	15	8
	HFNT.HSK63A.M08.100	M8 100	100	74	15	8
	HFNT.HSK63A.M10.050	M10 50	50	24	19	10
	HFNT.HSK63A.M10.100	M10 100	100	74	19	10
	HFNT.HSK63A.M12.070	M12 70	70	44	24	12
	HFNT.HSK63A.M12.100	M12 100	100	74	24	12
	HFNT.HSK63A.M12.150	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

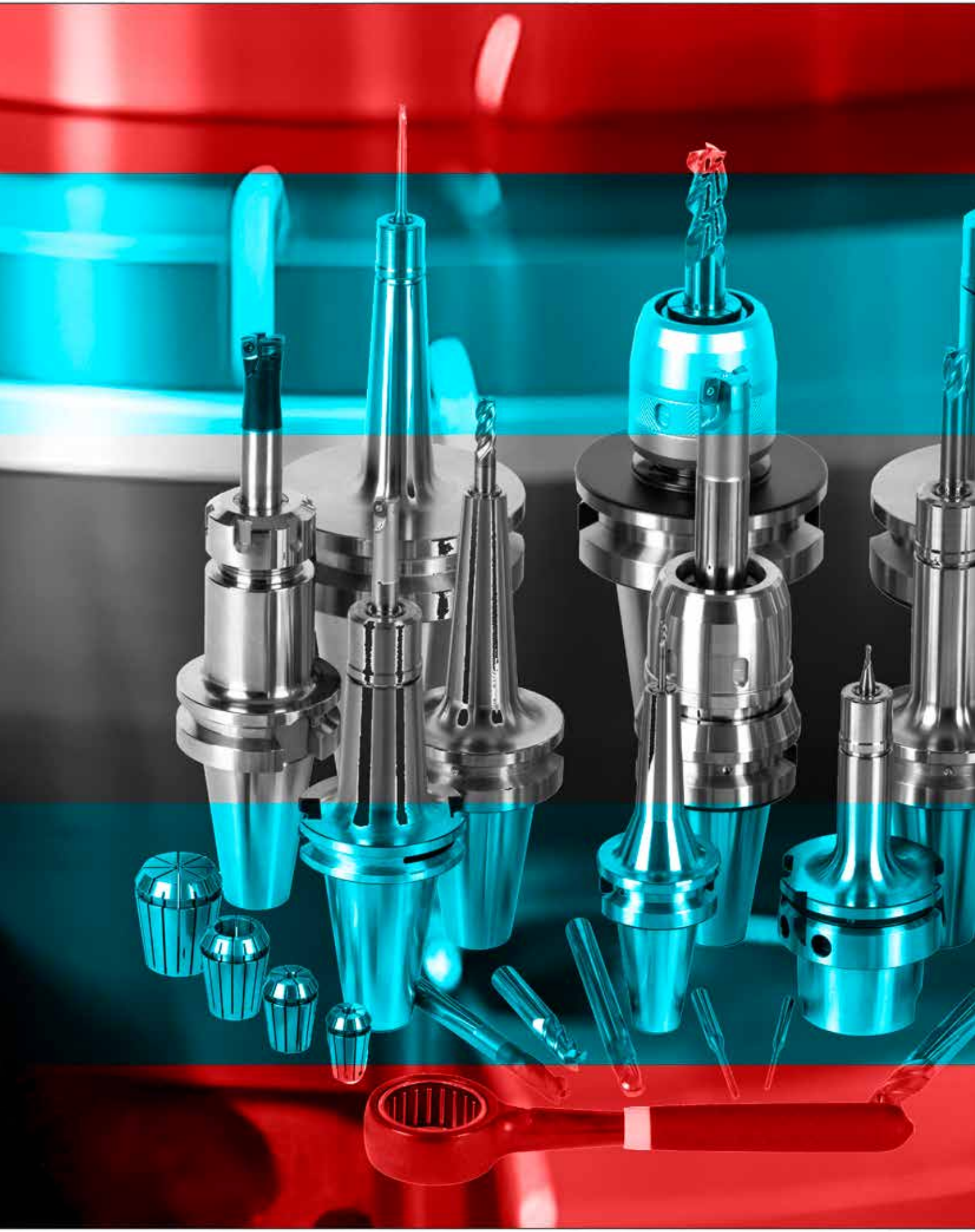


Tip	Stock Code	Açıklama	L_1	L_2	D	$d_{(mm)}$
HSK40-E	HFNT.HSK40E.RT.C20-095	C20 95	95	75	52	3-20
	HFNT.HSK40E.RT.C20-130	C20 130	130	110	52	3-20
	HFNT.HSK40E.RT.C32-105	C32 105	105	79	73	6-32
	HFNT.HSK40E.RT.C32-130	C32 130	130	104	73	6-32
HSK63-A	HFNT.HSK63A.RT.C20-095	C20 95	95	75	52	3-20
	HFNT.HSK63A.RT.C20-130	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

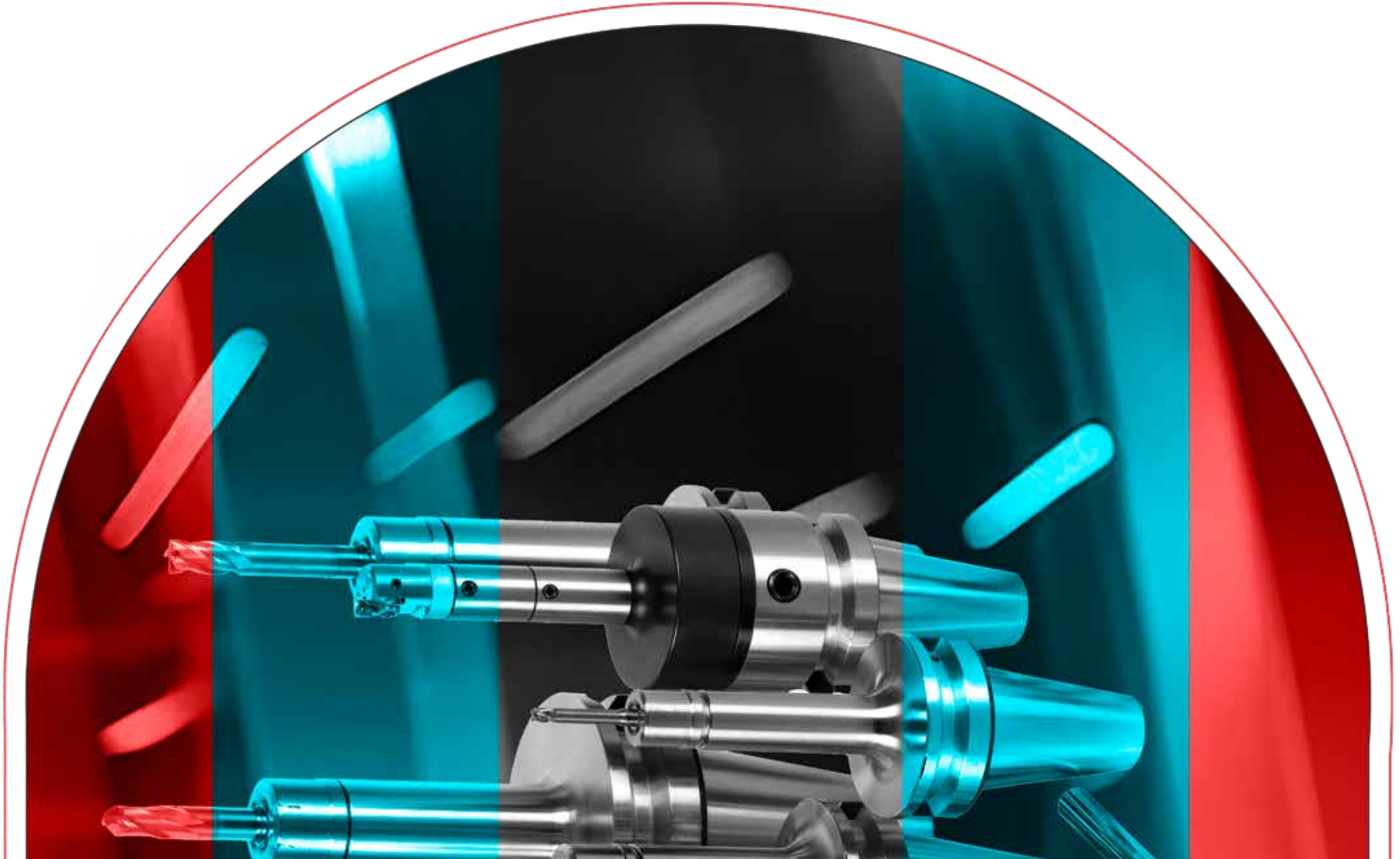
SIDE ROCK HOLDERS



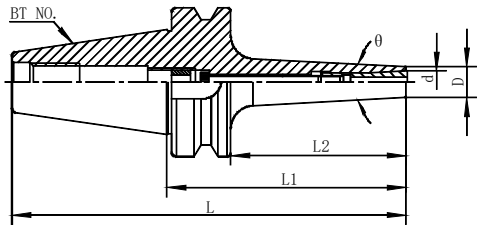
Tip	Stock Code	Açıklama	L_1	L_2	D	d
HSK63-A	HFNT.HSK63A.V06.065	6V 65	65	39	25	6
	HFNT.HSK63A.V06.100	6V 100	100	74	25	6
	HFNT.HSK63A.V08.065	8V 65	65	39	28	8
	HFNT.HSK63A.V08.100	8V 100	100	74	28	8
	HFNT.HSK63A.V10.065	10V 65	65	39	35	10
	HFNT.HSK63A.V10.100	10V 100	100	74	35	10
	HFNT.HSK63A.V10.160	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

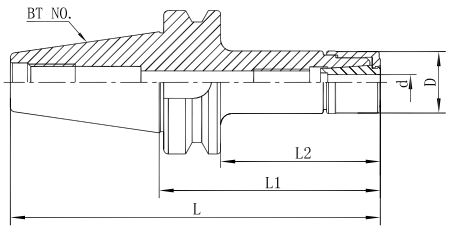


HIGH SPEED SLIM CHUCK



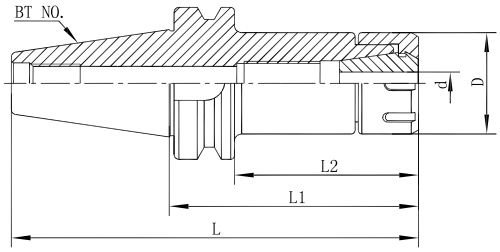
Tip	Stock Code	Açıklama	L_1	L_2	θ	D	$d_{(mm)}$
BT40	HFNT.BT40.SDC06.090	SDC06 90	90	65	6°	14	3~6
	HFNT.BT40.SDC06.150	SDC06 150	150	125	6°	14	3~6
	HFNT.BT40.SDC08.090	SDC08 90	90	65	6°	22	3~8
	HFNT.BT40.SDC08.150	SDC08 150	150	125	6°	22	3~8
	HFNT.BT40.SDC12.090	SDC12 90	90	65	6°	34	3~12
	HFNT.BT40.SDC12.150	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



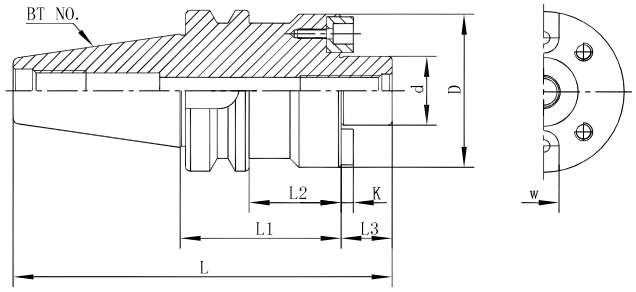
Tip	Stock Code	Açıklama	L_1	L_2	D	$d_{(mm)}$
BT40	HFNT.BT40.SK06.090	SK06 90	90	65	19.5	2-6
	HFNT.BT40.SK06.120	SK06 120	120	95	19.5	2-6
	HFNT.BT40.SK10.060	SK10 60	60	35	27	3-10
	HFNT.BT40.SK10.090	SK10 90	90	65	27	3-10
	HFNT.BT40.SK10.150	SK10 150	150	125	27	3-10
	HFNT.BT40.SK16.090	SK16 90	90	65	40	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



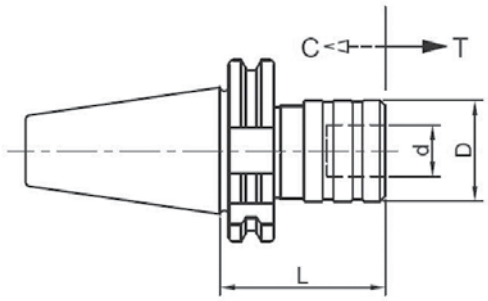
Tip	Stock Code	Açıklama	L_1	L_2	D	$d_{(mm)}$
BT30	HFNT.BT30.ER11M.100	ER11M 100	100	80	16	1-7
	HFNT.BT30.ER16.070	ER16 70	70	50	28	1-10
	HFNT.BT30.ER16.100	ER16 100	100	80	28	1-10
	HFNT.BT30.ER16.150	ER16 150	150	130	28	1-10
	HFNT.BT30.ER16M.070	ER16M 70	70	50	22	1-10
	HFNT.BT30.ER16M.100	ER16M 100	100	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



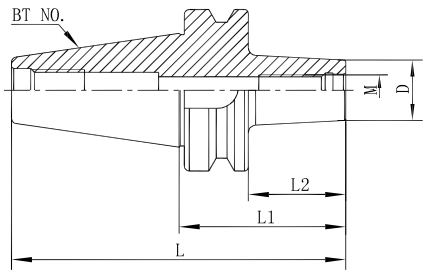
Tip	Stock Code	Açıklama	L_1	L_2	D	d
BT30	HFNT.BT30.K22.045	22K 45	45	25	48	22
	HFNT.BT30.K22.100	22K 100	100	80	48	22
	HFNT.BT30.K27.055	27K 55	55	35	60	27
	HFNT.BT30.K27.100	27K 100	100	80	60	27
BT40	HFNT.BT40.K22.100	22K 100	100	75	48	22
	HFNT.BT40.K22.150	22K 150	150	125	48	22
	HFNT.BT40.K22.200	22K 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



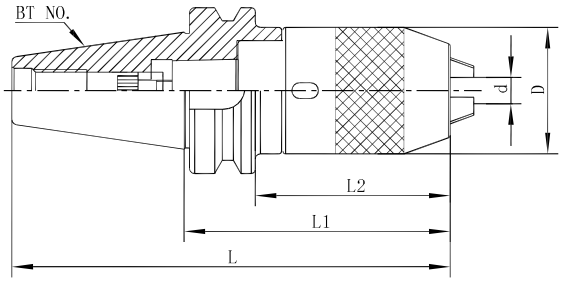
Tip	Stock Code	Açıklama	L_1	L_2	D	$d_{(mm)}$
BT40	HFNT.BT40.KC.03-12	3-12 KLAVUZ Ç. BAŞ	67	42	36,5	19
	HFNT.BT40.KC.08-20	8-20 KLAVUZ Ç. BAŞ.	94	69	54	31
	HFNT.BT40.KC.14-33	14-33 KLAVUZ Ç. BAŞ.	145	120	78	48
BT50	HFNT.BT50.KC.03-12	3-12 KLAVUZ Ç. BAŞ	77	42	36,5	19
	HFNT.BT50.KC.08-12	8-12 KLAVUZ Ç. BAŞ.	102	67	54	31
	HFNT.BT50.KC.14-33	14-33 KLAVUZ Ç. BAŞ.	145	110	78	48

SCREW END MILL HOLDER



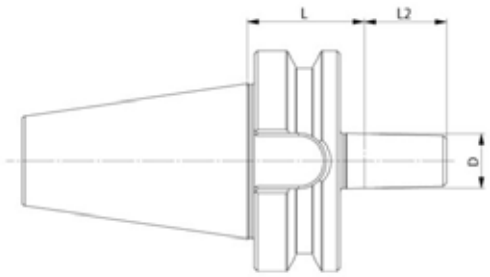
Tip	Stock Code	Açıklama	L_1	L_2	D	M
BT40	HFNT.BT40.M08.060	M8 60	60	35	15	8
	HFNT.BT40.M08.100	M8 100	100	75	15	8
	HFNT.BT40.M10.060	M10 60	60	35	19	10
	HFNT.BT40.M10.100	M10 100	100	75	19	10
	HFNT.BT40.M12.060	M12 60	60	35	24	12
	HFNT.BT40.M12.100	M12 100	100	75	24	12
	HFNT.BT40.M12.150	M12 150	150	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



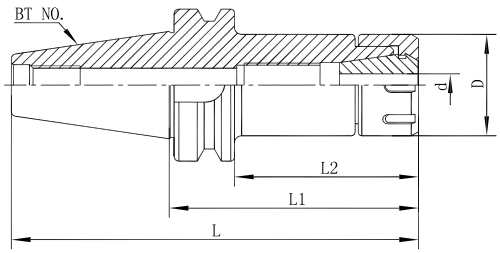
Tip	Stock Code	Açıklama	L_1	L_2	D	d
BT40	HFNT.BT40.MB.1-13	1-13 MANDREN BAŞLIK	110	85	50	1-13
	HFNT.BT40.MB.1-16	1-16 MANDREN BAŞLIK	110	85	58	1-16
BT50	HFNT.BT50.MB.1-13	1-13 MANDREN BAŞLIK	120	85	50	1-13
	HFNT.BT50.MB.1-16	1-16 MANDREN BAŞLIK	120	85	58	1-16

CHUCK ARBOR



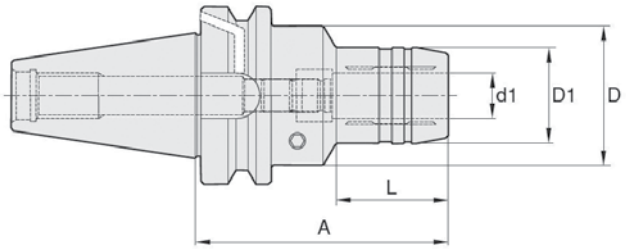
Tip	Stock Code	Açıklama	L	L_1	d
BT40	HFNT.BT40.MM.B16	B16	32	24	15,73
	HFNT.BT40.MM.B18	B18	32	32	17,80

OZ 462 COLLETS CHUCK



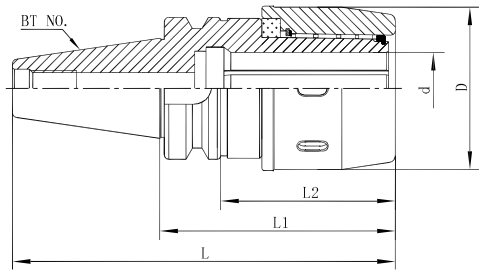
Tip	Stock Code	Açıklama	L	L_1	d
BT40	HFNT.BT40.462E.070	462E.070	70	45	60
	HFNT.BT40.462E.100	462E.100	100	75	60
BT50	HFNT.BT50.462E.100	462E.100	100	75	60

HYDROLIC GRIPPER



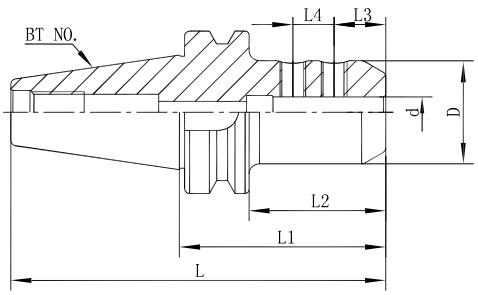
Tip	Stock Code	Açıklama	L_1	L_2	D	$d_{(mm)}$
BT40	HFNT.BT40.HT20.090	H20 90	90	65	42	3-20
	HFNT.BT40.HT32.105	H32 105	105	80	64	6-32
BT50	HFNT.BT50.HT20.090	H20 90	90	55	42	3-20
	HFNT.BT50.HT32.090	H32 90	90	55	64	6-32

HIGH - POWER - MILLING CHUCK



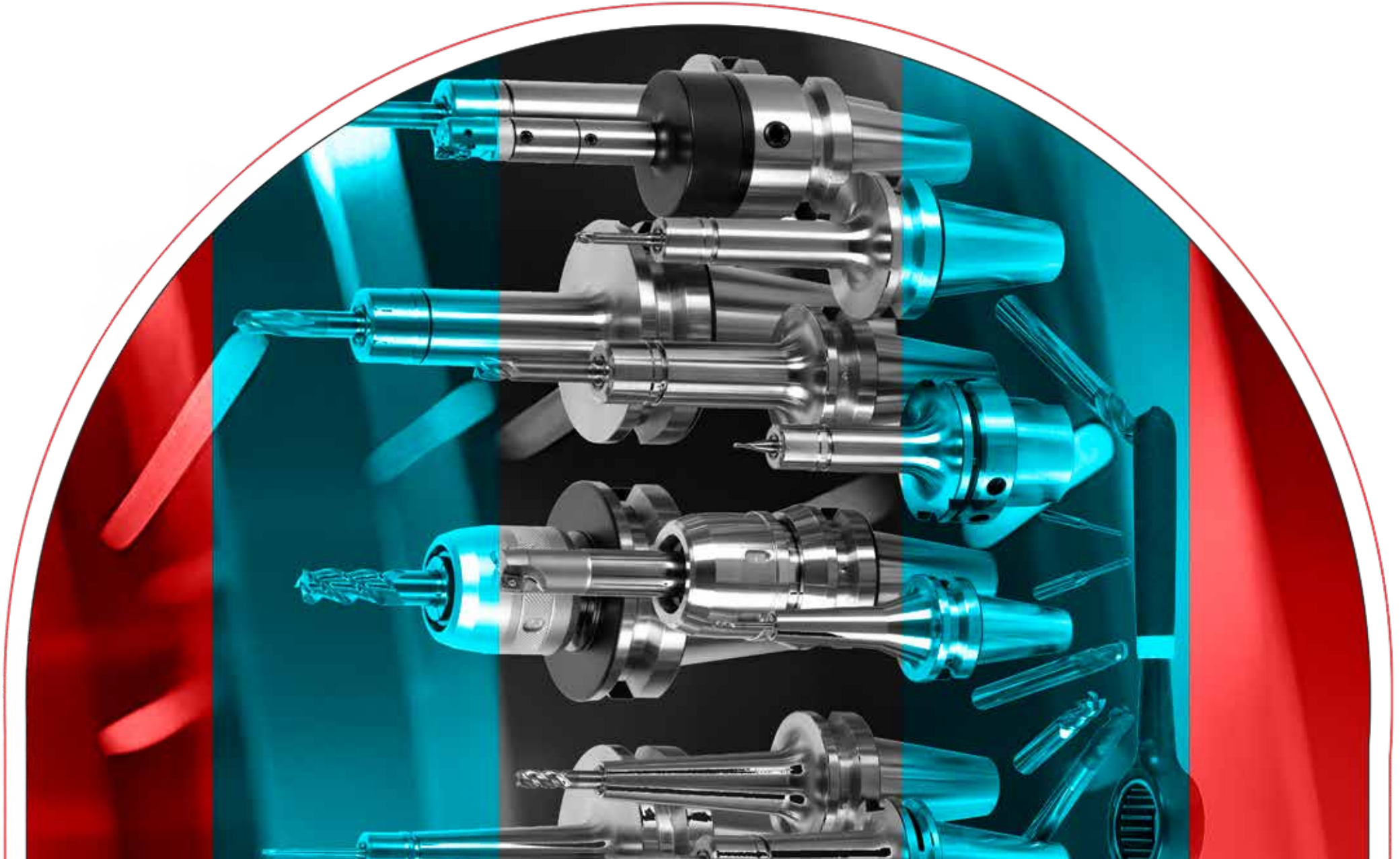
Tip	Stock Code	Açıklama	L_1	L_2	D	$d_{(mm)}$
BT40	HFNT.BT40.RT.C20	C20 95	95	70	52	3-20
	HFNT.BT40.RT.C25	C25 100	100	75	62	4-25
	HFNT.BT40.RT.C32	C32 105	105	80	73	6-32
BT50	HFNT.BT50.RT.C20	C20 105	105	70	52	3-20
	HFNT.BT50.RT.C25	C25 110	110	75	62	4-25
	HFNT.BT50.RT.C32	C32 110	110	75	73	6-32

SIDE LOCK HOLDER

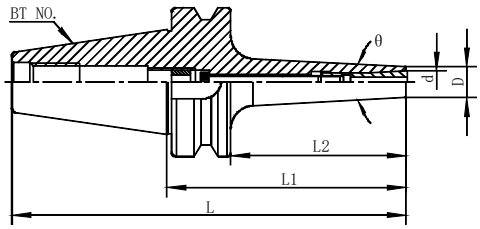


Tip	Stock Code	Açıklama	L_1	L_2	D	d
BT30	HFNT.BT30.V06.050	6V 50	50	30	25	6
	HFNT.BT30.V08.050	8V 50	50	30	28	8
	HFNT.BT30.V10.050	10V 50	50	30	35	10
	HFNT.BT30.V12.050	12V 50	50	30	42	12
	HFNT.BT30.V16.063	16V 63	63	43	48	16
	HFNT.BT30.V16.100	16V 100	100	80	48	16
	HFNT.BT30.V20.063	20V 63	63	43	52	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

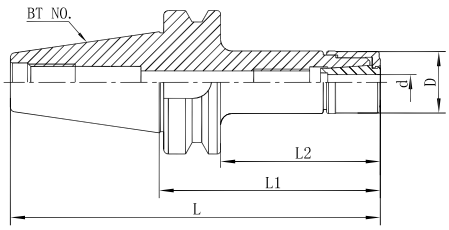


HIGH SPEED SLIM CHUCK



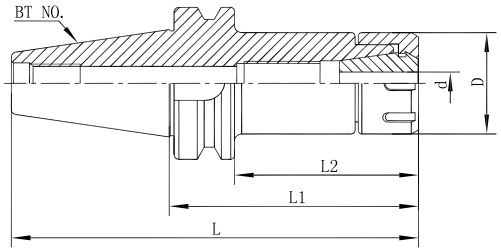
Tip	Stock Code	Açıklama	L_1	L_2	θ	D	$d_{(mm)}$
BBT40	HFNT.BBT40.SDC06.090	SDC06 90	90	65	6°	14	3~6
	HFNT.BBT40.SDC06.150	SDC06 150	150	125	6°	14	3~6
	HFNT.BBT40.SDC08.090	SDC08 90	90	65	6°	22	3~8
	HFNT.BBT40.SDC08.150	SDC08 150	150	125	6°	22	3~8
	HFNT.BBT40.SDC12.090	SDC12 90	90	65	6°	34	3~12
	HFNT.BBT40.SDC12.150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



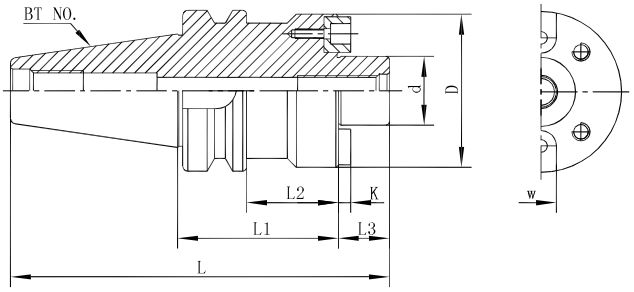
Tip	Stock Code	Açıklama	L_1	L_2	D	$d_{(mm)}$
BBT40	HFNT.BBT40.SK06.090	SK06 90	90	65	19.5	2-6
	HFNT.BBT40.SK06.120	SK06 120	120	95	19.5	2-6
	HFNT.BBT40.SK10.060	SK10 60	60	35	27	3-10
	HFNT.BBT40.SK10.090	SK10 90	90	65	27	3-10
	HFNT.BBT40.SK10.150	SK10 150	150	125	27	3-10
	HFNT.BBT40.SK16.090	SK16 90	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



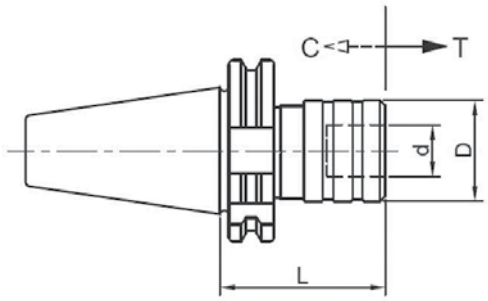
Tip	Stock Code	Açıklama	L_1	L_2	D	$d_{(mm)}$
BBT30	HFNT.BBT30.ER11M.100	ER11M 100	100	80	16	1-7
	HFNT.BBT30.ER16.060	ER16 60	60	40	28	1-10
	HFNT.BBT30.ER16.100	ER16 100	100	80	28	1-10
	HFNT.BBT30.ER16.160	ER16 160	160	140	28	1-10
	HFNT.BBT30.ER16M.060	ER16M 60	60	40	22	1-10
	HFNT.BBT30.ER16M.100	ER16M 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



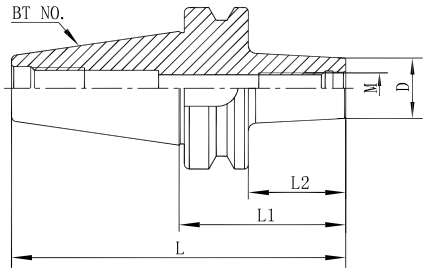
Tip	Stock Code	Açıklama	L_1	L_2	D	d
BBT40	HFNT.BBT40.ATB16.055	16K 55	55	30	40	16
	HFNT.BBT40.ATB16.100	16K 100	100	75	40	16
	HFNT.BBT40.ATB16.160	16K 160	160	135	40	16
	HFNT.BBT40.ATB22.055	22K 55	55	30	48	22
	HFNT.BBT40.ATB22.100	22K 100	100	75	48	22
	HFNT.BBT40.ATB22.160	22K 160	160	135	48	22
	HFNT.BBT40.ATB22.200	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



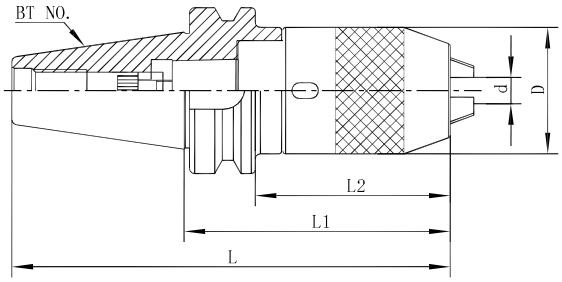
Tip	Stock Code	Açıklama	L_1	L_2	D	$d_{(mm)}$
BBT40	HFNT.BBT40.KC.03-12	3-12 KLAVUZ Ç. BAŞ	67	42	36,5	19
	HFNT.BBT40.KC.08-20	8-20 KLAVUZ Ç. BAŞ.	94	69	54	31
	HFNT.BBT40.KC.14-33	14-33 KLAVUZ Ç. BAŞ.	145	120	78	48
BBT50	HFNT.BBT50.KC.03-12	3-12 KLAVUZ Ç. BAŞ	77	42	36,5	19
	HFNT.BBT50.KC.08-12	8-12 KLAVUZ Ç. BAŞ.	102	67	54	31
	HFNT.BBT50.KC.14-33	14-33 KLAVUZ Ç. BAŞ.	145	110	78	48

SCREW END MILL HOLDERS



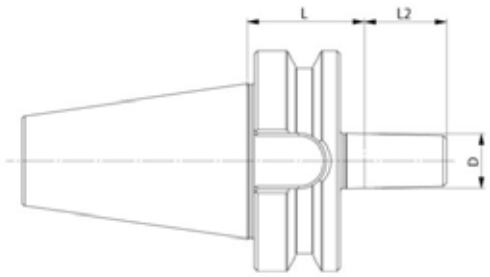
Tip	Stock Code	Açıklama	L_1	L_2	D	M
BBT40	HFNT.BBT40.M08.050	M8 50	50	25	15	8
	HFNT.BBT40.M08.100	M8 100	100	75	15	8
	HFNT.BBT40.M10.050	M10 50	50	25	19	10
	HFNT.BBT40.M10.100	M10 100	100	75	19	10
	HFNT.BBT40.M12.070	M12 70	70	45	24	12
	HFNT.BBT40.M12.100	M12 100	100	75	24	12
	HFNT.BBT40.M12.150	M12 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



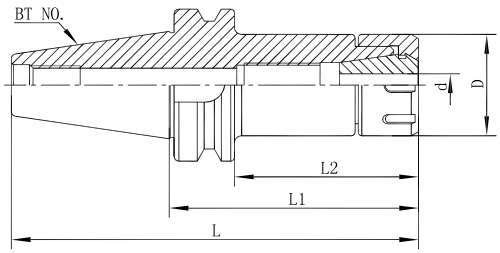
Tip	Stock Code	Açıklama	L_1	L_2	D	d
BBT40	HFNT.BBT40.MB.1-13	1-13 MANDREN BAŞLIK	110	85	50	1-13
	HFNT.BBT40.MB.1-16	1-16 MANDREN BAŞLIK	110	85	58	1-16
BBT50	HFNT.BBT50.MB.1-13	1-13 MANDREN BAŞLIK	120	85	50	1-13
	HFNT.BBT50.MB.1-16	1-16 MANDREN BAŞLIK	120	85	58	1-16

CHUCK ARBOR



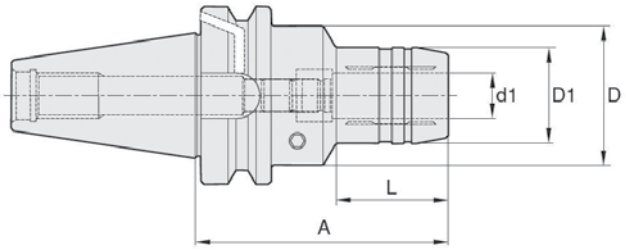
Tip	Stock Code	Açıklama	L	L_2	d
BBT40	HFNT.BBT40.MM.B16	B16	32	24	15,73
	HFNT.BBT40.MM.B18	B18	32	32	17,80

OZ 462 COLLETS CHUCK



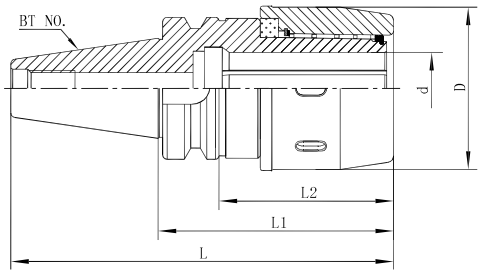
Tip	Stock Code	Açıklama	L	L_1	d
BBT40	HFNT.BBT40.462E.070	462E.070	70	45	60
	HFNT.BBT40.462E.100	462E.100	100	75	60
BBT50	HFNT.BBT50.462E.100	462E.100	100	75	60

HYDROLIC GRIPPER



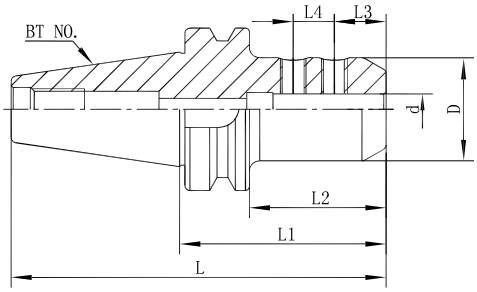
Tip	Stock Code	Açıklama	L_1	L_2	D	$d_{(mm)}$
BBT40	HFNT.BBT40.HT20.090	H20 90	90	65	42	3-20
	HFNT.BBT40.HT32.105	H32 105	105	80	64	6-32
BBT50	HFNT.BBT50.HT20.090	H20 90	90	55	42	3-20
	HFNT.BBT50.HT32.090	H32 90	90	55	64	6-32

HIGH - POWER MILLING CHUCK



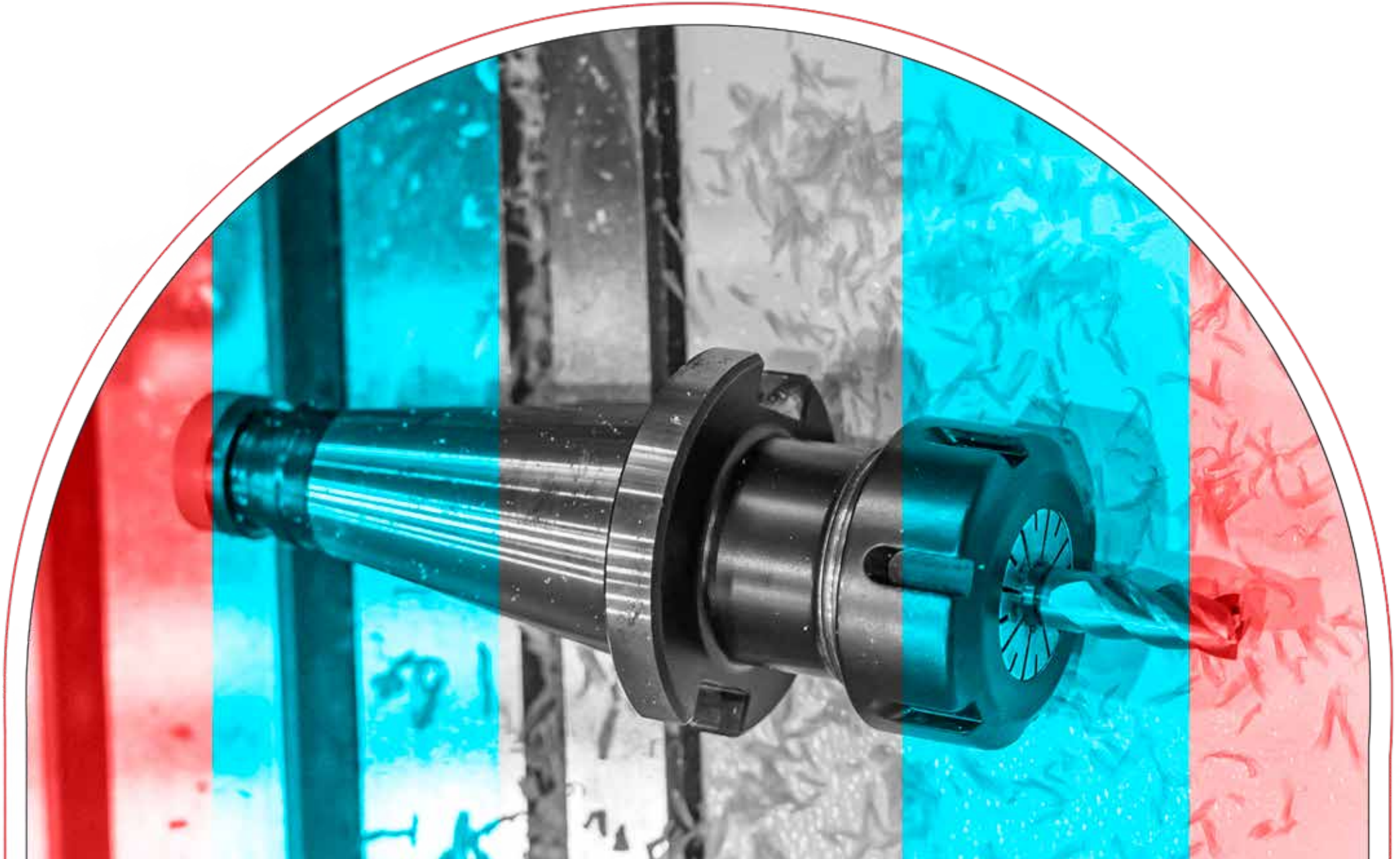
Tip	Stock Code	Açıklama	L_1	L_2	D	$d_{(mm)}$
BBT40	HFNT.BBT40.RT.C20	C20 95	95	70	52	3-20
	HFNT.BBT40.RT.C25	C25 100	100	75	62	4-25
	HFNT.BBT40.RT.C32	C32 105	105	80	73	6-32
BBT50	HFNT.BBT50.RT.C20	C20 105	105	70	52	3-20
	HFNT.BBT50.RT.C25	C25 110	110	75	62	4-25
	HFNT.BBT50.RT.C32	C32 110	110	75	73	6-32

SIDE LOCK HOLDER

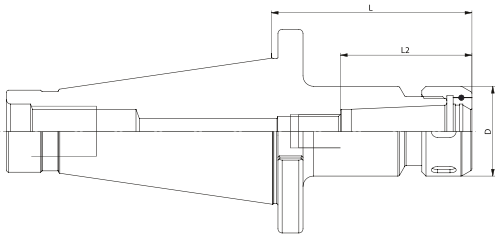


Tip	Stock Code	Açıklama	L_1	L_2	D	d
BBT30	HFNT.BBT30.V06.050	6V 50	50	30	25	6
	HFNT.BBT30.V08.050	8V 50	50	30	28	8
	HFNT.BBT30.V10.050	10V 50	50	30	35	10
	HFNT.BBT30.V12.050	12V 50	50	30	42	12
	HFNT.BBT30.V16.063	16V 63	63	43	48	16
	HFNT.BBT30.V16.100	16V 100	100	80	48	16
	HFNT.BBT30.V20.063	20V 63	63	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

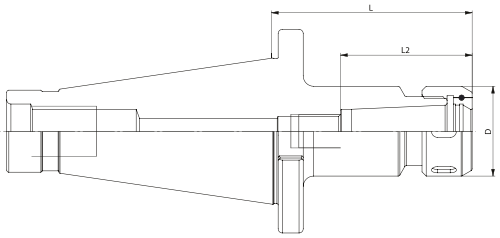


ER COLLETS CHUCK



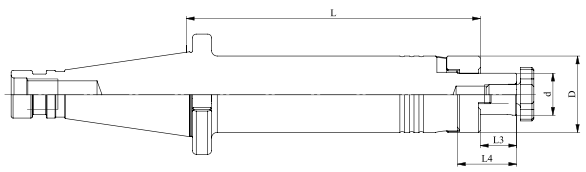
Tip	Stock Code	Açıklama	L	D	$d_{(mm)}$
ISO30	HFNT.ISO30.ER32.050	ER32 50	50	50	3-20
ISO40	HFNT.ISO40.ER32.070	ER32 70	70	50	3-20
	HFNT.ISO40.ER32.100	ER32 100	100	50	3-20
	HFNT.ISO40.ER40.080	ER40 80	80	63	3-26
	HFNT.ISO40.ER40.100	ER40 100	100	63	3-26
ISO50	HFNT.ISO50.ER40.060	ER40 60	60	63	3-26
	HFNT.ISO50.ER40.100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

462 COLLETS CHUCK



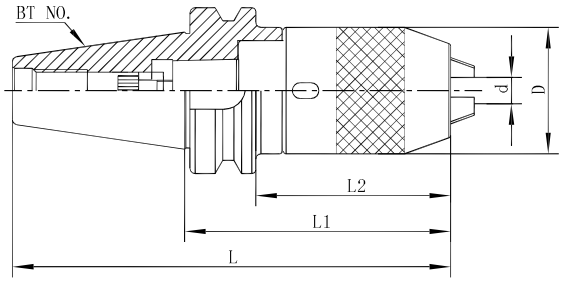
Tip	Stock Code	Açıklama	L_1	L_2	D
ISO30	HFNT.ISO30.462E.075	462E 75	75	60	2-26
ISO40	HFNT.ISO40.462E.075	462E 75	75	70	2-26
	HFNT.ISO40.462E.100	462E 100	100	60	2-26
	HFNT.ISO40.462E.125	462E 125	125	60	2-26
	HFNT.ISO40.462E.150	462E 150	150	60	2-26
ISO50	HFNT.ISO50.462E.070	462E 70	70	60	2-26

FACE MILL ARBOR



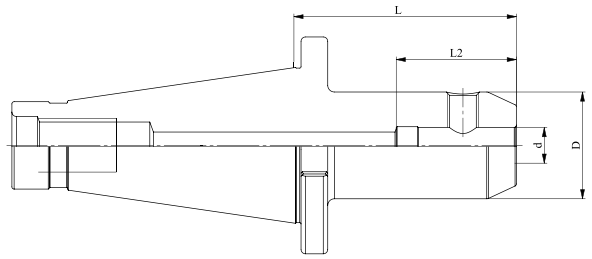
Tip	Stock Code	Açıklama	L	L_2	D	d
ISO40	HFNT.ISO40.K16.045	16K 45	45	20	32	16
	HFNT.ISO40.K22.045	22K 45	52	24	40	22
	HFNT.ISO40.K27.045	27K 45	52	26	48	27
	HFNT.ISO40.K32.045	32K 45	52	31	58	32
	HFNT.ISO40.K40.045	40K 45	52	34	70	40
ISO 50	HFNT.ISO50.K16.055	16K 55	55	27	32	16
	HFNT.ISO50.K22.055	22K 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



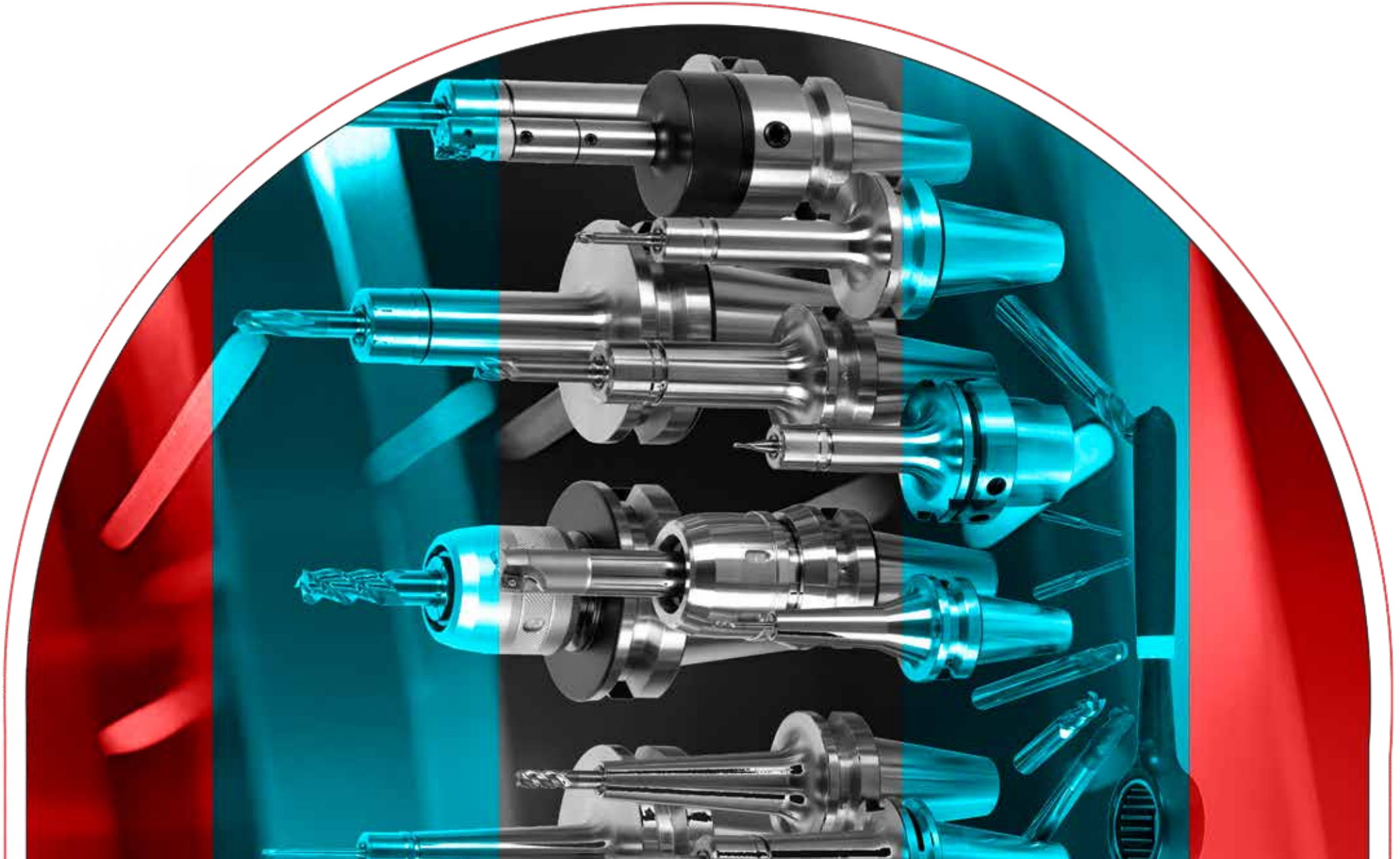
Tip	Stock Code	Açıklama	L	L_2	D	$d_{(mm)}$
ISO40	HFNT.ISO40.MB.1-13	1-13 MANDREN BAŞLIK	80	55	42	1-13
	HFNT.ISO40.MB.1-16	1-16 MANDREN BAŞLIK	100	75	49	1-16

SIDE LOCK HOLDER

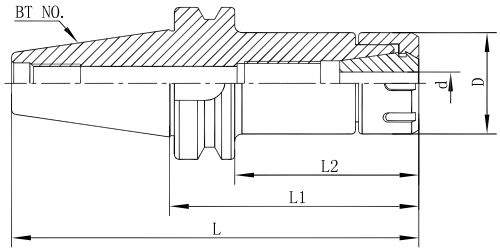


Tip	Stock Code	Açıklama	L	D	d
ISO40	HFNT.ISO40.V06.050	6V 50	50	25	6
	HFNT.ISO40.V08.050	8V 50	50	28	8
	HFNT.ISO40.V10.050	10V 50	50	35	10
	HFNT.ISO40.V12.050	12V 50	50	42	12
	HFNT.ISO40.V14.050	14V 50	50	44	14
	HFNT.ISO40.V16.063	16V 63	63	48	16
	HFNT.ISO40.V18.063	18V 63	63	50	18
	HFNT.ISO40.V20.080	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

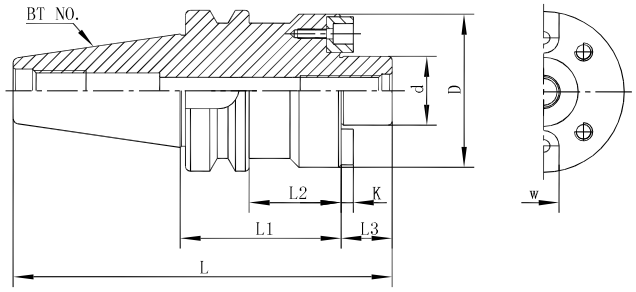


ER COLLETS CHUCK



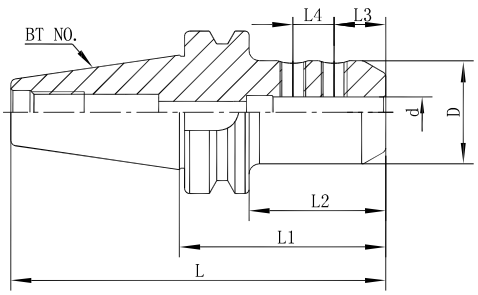
Tip	Stock Code	Açıklama	L_1	L_2	D	$d_{(mm)}$
SK30	HFNT.SK30.ER11M.100	ER11M 100	100	81	16	1-7
	HFNT.SK30.ER16.060	ER16 60	60	41	32	1-10
	HFNT.SK30.ER16.100	ER16 100	100	81	32	1-10
	HFNT.SK30.ER16.160	ER16 160	160	141	32	1-10
	HFNT.SK30.ER25.060	ER25 60	60	41	42	3-16
	HFNT.SK30.ER25.100	ER25 100	100	81	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



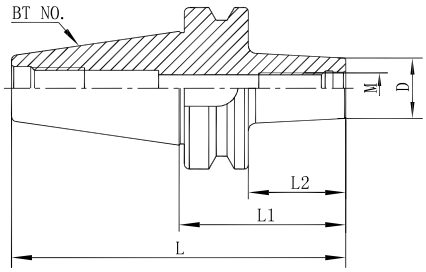
Tip	Stock Code	Açıklama	L_1	L_2	D	d
SK30	HFNT.SK30.K16.050	16K 50	50	31	32	16
	HFNT.SK30.K22.050	22K 50	50	31	48	22
	HFNT.SK30.K22.100	22K 100	100	81	48	22
	HFNT.SK30.K27.055	27K 55	55	36	60	27
	HFNT.SK30.K27.100	27K 100	100	81	60	27
SK40	HFNT.SK40.K16.055	16K 55	55	36	32	16
	HFNT.SK40.K16.100	16K 100	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



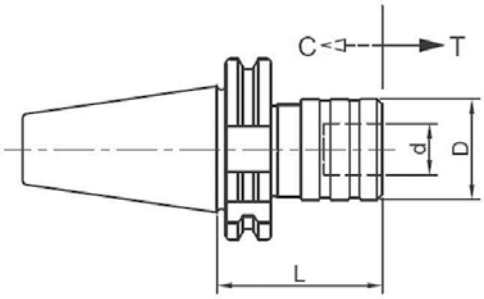
Tip	Stock Code	Açıklama	L_1	L_2	D	d
SK30	HFNT.SK30.V06.050	6V 50	50	31	25	6
	HFNT.SK30.V08.050	8V 50	50	31	28	8
	HFNT.SK30.V10.050	10V 50	50	31	35	10
	HFNT.SK30.V12.050	12V 50	50	31	42	12
	HFNT.SK30.V16.063	16V 63	63	44	48	16
	HFNT.SK30.V16.100	16V 100	100	81	48	16
	HFNT.SK30.V20.063	20V 63	63	44	52	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



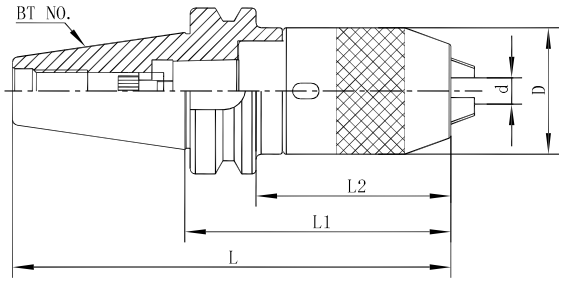
	Tip	Stock Code	Açıklama	L	L_2	D	M	
	SK40	HFNT.SK40.M08.050	M8 50	50	31	15	8	
		HFNT.SK40.M08.100	M8 100	100	81	15	10	
		HFNT.SK40.M10.050	M10 50	50	31	18	10	
		HFNT.SK40.M10.100	M10 100	100	81	18	10	
		HFNT.SK40.M12.070	M12 70	70	51	21	12	
		HFNT.SK40.M12.100	M12 100	100	81	21	12	
		HFNT.SK40.M12.150	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



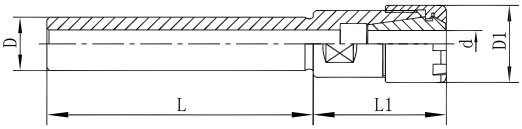
Tip	Stock Code	Açıklama	L_1	L_2	D	$d_{(mm)}$
SK40	HFNT.SK40.KC.03-12	3-12 KLAVUZ ÇEK. BAŞ.	63	44	36.5	19
	HFNT.SK40.KC.08-20	8-20 KLAVUZ ÇEK. BAŞ.	94	75	54	31
	HFNT.SK40.KC.14-33	14-33 KLAVUZ ÇEK. BAŞ.	145	126	78	48

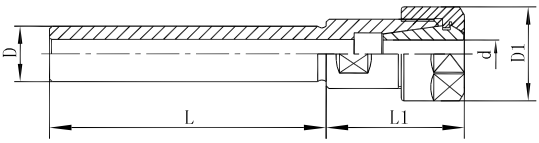
KEYLESS DRILL CHUCK



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

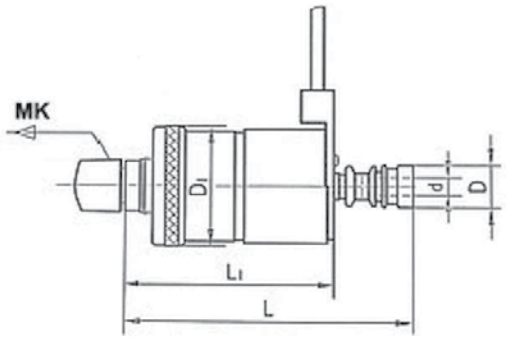
EXTENSION BARHOLDERS





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
	HFNT.STC16.ER20.200	C16 ER20 200	40	200	34	1-13
C20	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
	HFNT.STC20.ER25.150	C20 ER25 150	45	150	42	3-16
	HFNT.STC20.ER25.200	C20 ER25 200	45	200	42	3-16
C25	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
	HFNT.STC25.ER32.150	C25 ER32 150	55	150	50	3-20
	HFNT.STC25.ER32.200	C25 ER32 200	55	200	50	3-20
C32	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
	HFNT.STC32.ER40.100	C32 ER40 100	55	100	63	3-26
	HFNT.STC32.ER40.150	C32 ER40 150	55	150	63	3-26
C40	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

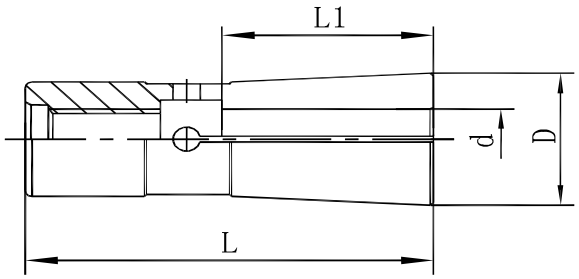
TAPPING ADAPTER



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

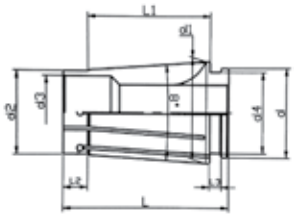
SPARE PARTS

SDC COLLECT



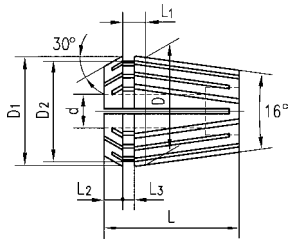
Tip	Stock Code	Açıklama	L_1	L_2	$d_{(mm)}$
SDC06	HFNP.SDC06.03	Ø3	36	14	9.6
	HFNP.SDC06.04	Ø4	36	14	9.6
	HFNP.SDC06.05	Ø5	36	16	9.6
	HFNP.SDC06.06	Ø6	36	16	9.6
SDC08	HFNP.SDC08.03	Ø3	45	15	15
	HFNP.SDC08.04	Ø4	45	16	15
	HFNP.SDC08.05	Ø5	45	16	15
	HFNP.SDC08.06	Ø6	45	24	15
	HFNP.SDC08.08	Ø8	45	26	15
SDC12	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

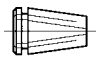


Tip	Stock Code	Açıklama	L_1	L_2	D	$d_{(mm)}$
SK06	HFNP.SK06.02	Ø2	25	17.5	3.5	2.5
	HFNP.SK06.03	Ø3	25	17.5	3.5	2.5
	HFNP.SK06.04	Ø4	25	17.5	3.5	2.5
	HFNP.SK06.05	Ø5	25	17.5	3.5	2.5
	HFNP.SK06.06	Ø6	25	17.5	3.5	2.5
SK10	HFNP.SK10.02	Ø2	30.5	22	5	2.3
	HFNP.SK10.03	Ø3	30.5	22	5	2.3
	HFNP.SK10.04	Ø4	30.5	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



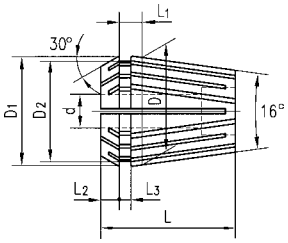
ER11-ER50



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

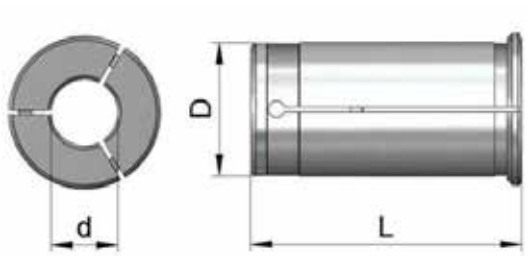


ER11-ER50

ER8

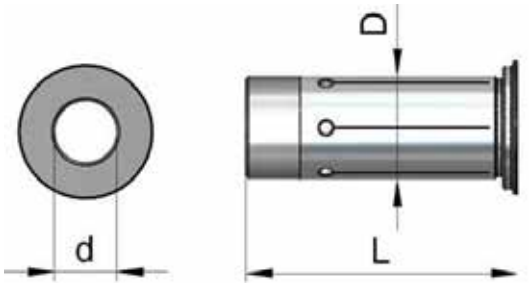
Tip	Stock Code	Açıklama	L
ER32	HFNP.ER32.02	Ø2	40
	HFNP.ER32.03	Ø3	40
	HFNP.ER32.04	Ø4	40
	HFNP.ER32.05	Ø5	40
	HFNP.ER32.06	Ø6	40
	HFNP.ER32.07	Ø7	40
	HFNP.ER32.08	Ø8	40
	HFNP.ER32.09	Ø9	40
	HFNP.ER32.10	Ø10	40
	HFNP.ER32.11	Ø11	40
	HFNP.ER32.12	Ø12	40
	HFNP.ER32.13	Ø13	40
	HFNP.ER32.14	Ø14	40
	HFNP.ER32.15	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



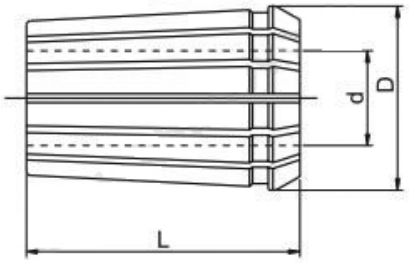
Tip	Stock Code	Açıklama	L
C20	HFNP.RPC20.03	Ø3	55
	HFNP.RPC20.04	Ø4	55
	HFNP.RPC20.05	Ø5	55
	HFNP.RPC20.06	Ø6	55
	HFNP.RPC20.08	Ø8	55
	HFNP.RPC20.10	Ø10	55
	HFNP.RPC20.12	Ø12	55
	HFNP.RPC20.14	Ø14	55
	HFNP.RPC20.16	Ø16	55
C25	HFNP.RPC25.04	Ø4	60
	HFNP.RPC25.05	Ø5	60
	HFNP.RPC25.06	Ø6	60
	HFNP.RPC25.08	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

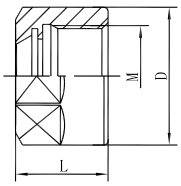


Tip	Stock Code	Açıklama	L
OZ25	HFNP.462E.02	Ø2	52
	HFNP.462E.03	Ø3	52
	HFNP.462E.04	Ø4	52
	HFNP.462E.05	Ø5	52
	HFNP.462E.06	Ø6	52
	HFNP.462E.07	Ø7	52
	HFNP.462E.08	Ø8	52
	HFNP.462E.09	Ø9	52
	HFNP.462E.10	Ø10	52
	HFNP.462E.11	Ø11	52
	HFNP.462E.12	Ø12	52
	HFNP.462E.13	Ø13	52
	HFNP.462E.14	Ø14	52
	HFNP.462E.15	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

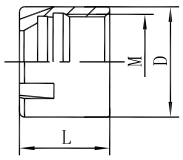
Stock Code	Açıklama
HFNP.SET.462E.	462E SET 16 PARÇA (3-25)
HFNP.SET.ER08.	ER8 SET 5 PARÇA (1-5)
HFNP.SET.ER11.	ER11 SET 5 PARÇA (2-7)
HFNP.SET.ER16.	ER16 SET 8 PARÇA (2-10)
HFNP.SET.ER20.	ER20 SET 11 PARÇA (2-12)
HFNP.SET.ER25.	ER25 SET 15 PARÇA (2-16)
HFNP.SET.ER32.	ER32 SET 18 PARÇA (3-20)
HFNP.SET.ER40.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

ER NUT



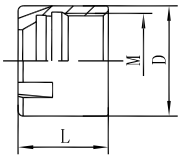
Stock Code	L	D	M
HFNK.ERA16	17.5	28	22x1.5
HFNK.ERA20	19	34	25x1.5

ER-UM NUT



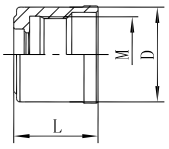
Stock Code	L	D	M
HFNK.ER16	17.5	32	22x1.5
HFNK.ER20	19	35	25x1.5
HFNK.ER25	20	42	32x1.5
HFNK.ER32	22.5	50	40x1.5
HFNK.ER40	25.5	63	50x1.5
HFNK.462E	30	60	48x2
HFNK.467E	33.5	72	60x2.5

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

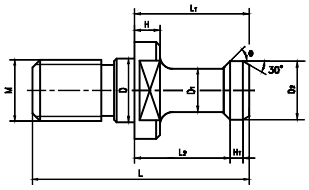
SK TYPE SNAPPER

Stock Code
HFNA.SK06
HFNA.SK10
HFNA.SK16

BEARING TYPE SNAPPER

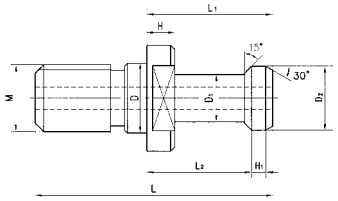
Stock Code
Ø25 RULMANLI ANAHTAR
Ø32 RULMANLI ANAHTAR

BT PULSTAD



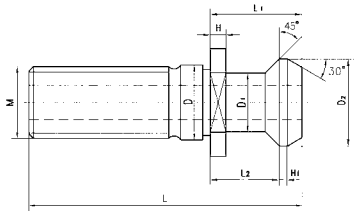
Stock Code	L	L_1	L_2	D	D_1	D_2	H	H_1	M	D		
HFNC.BT30	43	23	18	12.5	7	11	5	2.5	12	45	60	90
HFNC.BT40	60	35	28	17	10	15	6	3	16	45	60	90
HFNC.BT50	85	45	35	25	17	23	10	5	24	45	60	90

BT COOLING PULSTAD



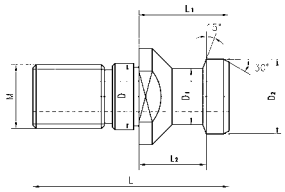
Stock Code	L	L_1	L_2	D	D_1	D_2	H	H_1	M	D		
HFNC.BT40.İSV	60	35	28	17	10	15	6	3	16	45	60	90
HFNC.BT40.İSV.7	60	35	28	17	10	15	6	3	16	45	60	90
HFNC.BT50.İSV	85	45	35	25	17	23	10	5	24	45	60	90

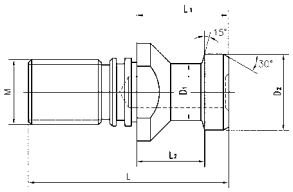
MAZAK PULSTAD



Stock Code	L	L_1	L_2	D	D_1	D_2	H	H_1	M
HFNC.BT40.MAZAK	44.10	19.1	14.02	17	12.45	18,8	3.05	1.52	16

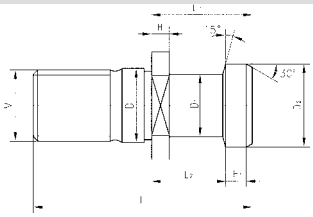
OKUMA COOLING PULSTAD





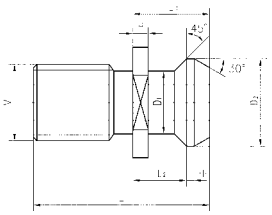
Stock Code	L	L_1	L_2	D	D_1	D_2	M
HFNC.OKUMA.İSV	54	26	20	17	14	19	16

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..

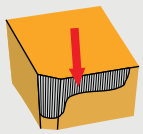
TECHNICAL DATA

FREZE UÇLARI AŞINMA TİPLERİ

TALAŞ YIĞILMASI

		Etkisi yok.
(MT)CVD PVD	++	Herhangi bir kaplama (belirleyici faktör yapışmayı önleyici etkidir).
f	↑	İlerleme hızı ne kadar yüksek olursa, yığılma oluşma ihtimali daha az olur.
V	↓↑	Kesme hızını değiştirin (genellikle arttırın).
a_p		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



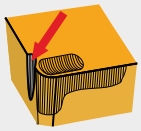
	↑	Aşınmaya karşı daha dirençli kalite (H) kullanın.
(MT)CVD PVD	++	Herhangi bir kaplama (belirleyici faktör sertliktir – TiC, TiCN).
f	↑	İlerleme (özellikle 0.1 mm'nin altında ise) arttırılmalıdır.
V	↓	Kesme hızını düşürün.
a_p		Etkisi yok.
	↑	Serbest yüzey açısının arttırılması en önemlisidir.
	+	Yardımcı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

KRATER AŞINMASI

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

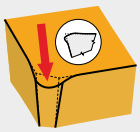
FREZE UÇLARI AŞINMA TİPLERİ

YARDIMCI KENARDA ÇENTİK OLUŞUMU



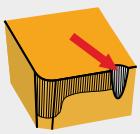
	↑	Aşınmaya karşı daha dirençli kalite (S) kullanın.
(MT)CVD PVD	++	CVD kaplama (belirleyici faktör oksidasyon direncidir – α-Al$_2$O$_3$).
f	↓	İlerlemenin, kanalın şekli ve konumu üzerinde etkisi vardır.
V	↓	Kesme hızını düşürün.
a_p	↓	Minimum etki.
	↑	Başka (daha pozitif) kesme geometrisi kullanın.
	++	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).
f	↓	İlerlemeyi düşürün.
V	↓	Kesme hızını düşürün
a_p	↓	Minimum etki.
	↑	Başka (daha pozitif) kesme geometrisi kullanın.
	++	Yardımcı olur fakat sadece ideal çalışma şartları ile birlikte.

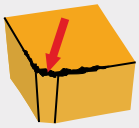
ÇENTİK AŞINMASI



	↑↓	Hasarın niteliğine bağlıdır (aşınma-aşınmaya karşı daha dirençli kalite kullanın , kırılma – daha sünek altyap
(MT)CVD PVD	++	CVD kaplama (belirleyici faktör oksidasyon direncidir – α-Al$_2$O$_3$).
f	↓	İlerleme yoğunluğu etkiler, ancak kesme hızından daha küçüktür.
V	↓	Kesme hızını düşürün.
a_p	↑↓	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

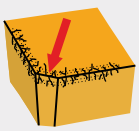


	↓	(H) tane yapısının büyük etkisi var.
(MT)CVD PVD	+	PVD kaplama tavsiye edilir.
f	↓	İlerleme yoğunluğu etkiler, ancak kesme hızından daha küçüktür.
V	↑↓	Titreşimler ile ilgilidir.
a_p	↓	Etkisi yok.
	↑	Eğim açısının arttırmak kesme kuvvetlerini düşürür.
	-	Soğutma yok (mümkünse talaşı uzaklaştırmak için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

KESİCİ KENARIN KIRILMASI

	↓	(H) tane yapısının büyük etkisi var.
(MT)CVD PVD	+	PVD kaplama tavsiye edilir.
f	↑↓	İyi talaş kırılması çok önemlidir.
V	↑↓	Talaş kırılması ve titreşimler ile ilgilidir.
a_p	↑↓	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.
(MT)CVD PVD	+ +	PVD kaplama tavsiye edilir.
f	↓	İlerleme yoğunluğu etkiler, ancak kesme hızından daha küçüktür.
V	↓	Daha düşük hız daha düşük sıcaklık oluşturur.
a_p		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 K10–K30 H10–H20	■ ■ ◪				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.
P10–P30 K10–K30 H15–H20	■ ■ ◪				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.
P35–P50 M30–M40 S15–S20	■ ■ ■				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.
P05–P20 K05–K25 H05–H20	◪ ■ ■				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.
P01–P10 M01–M10 K01–K10 H05–H15	■ ◪ ■ ◪				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.
P10–P20 M10–M20 K10–K25 N10–N25 S10–S15 H10–H15	■ ◪ ■ ■ ◪ ■				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.
P20–P40 M15–M30	■ ◪				PVD		S	-	Bu kalitenin ana uygulama alanı her tür çeliğin (paslanmaz dahil) "yumuşak durumda" işlemesidir. Daha yumuşak dökme demirlerin işlenmesinde de kullanılabilir. Ortalama kesme şartlarında orta hızlarda M15 – M30 işleme için uygundur.
P20–P40 M20–M35 K20–K40 N15–N30 S15–S25 H15–H25	■ ■ ■ ◪ ◪ ◪				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.
P25–P50 M20–M40 K20–K40 S20–S30	■ ■ ◪ ■				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.

Kalite Tanımlama	Uygulama Alanı	Uygulama	İlerleme	Kesme hızı	Olumsuz Çalışma Koşullarına Direnç	Kaplama	Renk	Altyapı	Kesme sıvısı avantaji	Kalite açıklaması
P30–P50 M30–M40	■ ■				PVD	H	-			Olağanüstü operasyonel güvenilirliğe sahip olan bu kalite zor ve sert malzemelerde elverişsiz koşullar altında yapılan ağır kesimler için tasarlanmıştır.
P20–P35 M20–M35 S20–S30	■ ■ ■				PVD	H	+ / -			Olağanüstü hizmet güvenilirliğine sahip frezeleme kalitesi. Özellikle işlenmesi zor malzemelerin işlenmesi için uygundur. Olumsuz koşulların ve ağır kesimlerin hakim olduğu uygulamalarda güçlüdür.
P01–P10 K01–K10 N01–N10 H01–H10	◪ ■ ◪ ■				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.
P05–P15 M05–M15 K05–K15 S05–S10 H05–H15	◪ ◪ ■ ■ ■				PVD	ultra submicron H	-			Kalıp ve pafta uygulamaları için universal kalitedir. Finiş işleme ve yarı kaba işleme operasyonları için uygundur. Bu kalite, yüksek aşınma direncini ve olağanüstü operasyonel güvenilirliği birlikte sunar.
P01–P10 M01–M10 K01–K10 S05–S10 H05–H15	◪ ◪ ■ ■ ◪				PVD	ultra submicron H	-			Mükemmel aşınma direncine sahip frezeleme kalitesi. Stabil kesme şartları ve orta / yüksek kesme hızları altında sert ve yüksek mukavemetli malzemelerin işlenmesinde en uygun çözümdür. Demir dışı metaller dışındaki diğer iş parça kesmek için uygundur.
N05–N25	■				PVD	submicron H	-			Demir dışı metalleri ve alaşımlarını dengeli bir aşınma direnci ve tokluk oranıyla frezelemek için mikron altı kalitedir. Mükemmel sürtünme özelliklerine sahip benzersiz bir kaplama ile sunulur.
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 K10–K25 N10–N25	◪ ■ ■				–	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.

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, ...)
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 1108, EN 15S22, DIN 1.0723, SS 1922, ČSN 11120, BS 210A15, UNE F.210F, GB Y15, AFNOR 30F1, GOST A30, UNI CF10S20
				P1.2	< 180 HB sertliğinde serbest işleme sülfürlü ve fosforlu karbon çeliği	1.49	AISI 1211, EN 11SMn30, DIN 1.0715, SS 1912, ČSN 11109, BS 230M7, UNE F.2111, GB Y15, AFNOR S250, GOST A40G, UNI CF9SMn28
				P1.3	< 180 HB sertliğinde serbest işleme sülfürlü/fosforlu ve kurşunlu karbon çeliği	1.53	AISI 12L13, EN 11SMnPb30, DIN 1.0718, SS 1914, ČSN 12110, BS 210M16, UNE F.2114, GB Y15Pb, AFNOR S250Pb, GOST AS35G2, UNI CF10SPb20
		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 C15, DIN 1.0401, SS 1350, ČSN 11301, BS 080A15, UNE F.111, GB 15, AFNOR C18RR, GOST St2ps, UNI Fe360
				P2.2	< 240 HB sertliğinde < %0.55 C içeren yalın orta karbonlu çelik	1.00	AISI 1030, EN C30, DIN 1.0528, SS 1550, ČSN 12031, BS 080M32, UNE F.1130, GB 30, AFNOR AF50C30, GOST 30G, UNI Fe590
				P2.3	< 300 HB sertliğinde > %0.55 C içeren yalın yüksek karbon çeliği	0.89	AISI 1060, EN C60, DIN 1.0601, SS 1655, ČSN 12061, BS 080A62, UNE F.513, GB 60, AFNOR XC60, GOST UNI C60
		P3	Alaşımlı çelik (alaşım içeriği ≤ %10 olan karbonlu çelikler)	P3.1	< 180 HB sertliğinde alaşımlı çelik	0.92	AISI 5015, EN 16Mo3, DIN 1.5415, SS 2912, ČSN 15020, BS 1501-240, UNE F.2601, GB 16Mo, AFNOR GOST 15M, UNI 16Mo3KW
				P3.2	180 – 260 HB sertliğinde alaşımlı çelik	0.74	AISI 4140, EN 42CrMo4, DIN 1.7225, SS 2244, ČSN 15142, BS 708M40, UNE F.8232, GB 42CrMo, AFNOR 42CD4, GOST 40ChFA, UNI 42CrMo4
				P3.3	260 – 360 HB sertliğinde alaşımlı çelik	0.63	AISI 4140, EN 42CrMo4, DIN 1.7225, SS 2244, ČSN 15142, BS 708M40, UNE F.8232, GB 42CrMo, AFNOR 42CD4, GOST 40ChFA, UNI 42CrMo4
		P4	Takım çeliği (takımlar ve kalıplar için özel alaşımlı çelik)	P4.1	< 26 HRC sertliğinde takım çeliği	0.55	AISI D2, EN X155CrVMo12-1, DIN 1.2370, SS 2736, ČSN 19573, BS BD2, UNE F.520A, GB Cr12Mo1V1, AFNOR Z160CDV12, GOST Ch12MF, UNI X155CrVMo121KU
				P4.2	26 – 39 HRC sertliğinde takım çeliği	0.47	AISI D2, EN X155CrVMo12-1, DIN 1.2370, SS 2736, ČSN 19573, BS BD2, UNE F.520A, GB Cr12Mo1V1, AFNOR Z160CDV12, GOST Ch12MF, UNI X155CrVMo121KU
				P4.3	39 – 45 HRC sertliğinde takım çeliği	0.38	AISI D2, EN X155CrVMo12-1, DIN 1.2370, SS 2736, ČSN 19573, BS BD2, UNE F.520A, GB Cr12Mo1V1, AFNOR Z160CDV12, GOST Ch12MF, UNI X155CrVMo121KU

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, ...)
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	AISI 429, EN X7Cr14, DIN 1.4001, SS 2326, BS 434S17, UNE 3401, AFNOR Z8C12, GOST 08Ch13, UNS S43026, UNI X6CrTi12
		M1.2 160 – 220 HB sertliğinde paslanmaz çelik, ferritik	1.03	AISI 446, EN X10CrAl24, 1.4762, SS 2322, ČSN 17 113, BS 430S17, UNE 31 54, GB 10Cr17, AFNOR Z10CAS24, GOST 12Ch17, UNS K16Cr26
	M2 Martensitik paslanmaz çelik (düz krom sertleştirilebilir alaşımlar)	M2.1 < 200 HB sertlikte martensitik paslanmaz çelik	1.08	AISI 430F, EN X14CrMoS17, DIN 1.4104, SS 2383, ČSN 17 140, BS 410S21, UNE 3117, AFNOR Z10CF17, UNS K10cr17
		M2.2 200 – 280 HB sertliğinde martensitik paslanmaz çelik	0.89	AISI 440C, EN X105CrMo17, DIN 1.4125, SS 2385, ČSN 17 023, BS 425C11, UNE 3402, GB 102Cr17Mo, AFNOR Z100CD17, GOST 95Ch18, UNS K6Cr Ni 13 04
		M2.3 280 – 380 HB sertliğinde martensitik paslanmaz çelik	0.75	AISI 420, EN X45Cr13, DIN 1.4034, ČSN 17 029, BS 425C11, UNE 3405, AFNOR Z44C14, GOST 70X17H12, UNS K30Cr13
	M3 Östenitik paslanmaz çelik (krom-nikel ve krom-nikel-manganez **alaşımları)**	M3.1 < 200 HB sertliğinde östenitik paslanmaz çelik	1.00	AISI B04, EN X5CrNi18-10, DIN 1.4303, SS 2352, ČSN 17 249, BS 304S15, UNE 3513, GB 10Cr18Ni12, AFNOR Z8CN18.12, UNS K7CrNi18 10
		M3.2 200 – 260 HB sertliğinde östenitik paslanmaz çelik	0.86	AISI B09, EN X15CrNiSi20-12, DIN 1.4828, ČSN 17 251, BS 309S24, UNE 3312, GB 1Cr23Ni13, AFNOR Z15CNS20.10, GOST 20Ch20N14S2, UNS K16CrNi23 14
		M3.3 260 – 300 HB sertliğinde östenitik paslanmaz çelik	0.77	AISI 5848, EN X45CrNiW18 9, DIN 1.4873, BS 331S40, UNE 3211, AFNOR Z35CNWS14-4, UNS K45CrNiW 18 9
	M4 Süper 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 süper östenitik	0.75	AISI B29, EN X1-NiCrMoCu25-20-5, DIN 1.4539, SS 2562, ČSN 17 265, BS 318S13, UNE 3552, GB 022Cr25NiMo2N, AFNOR Z1NCDU25.20
		M4.2 300 – 380 HB sertliğinde çökelme ile sertleşen östenitik paslanmaz çelik	0.64	AISI 631 (17-7PH), EN X7CrNiAl17-7, DIN 1.4568, SS 2388, ČSN 17 465, BS 301S13, UNE 3217, GB 07Cr17Ni7Al, AFNOR Z9CNA17-07, GOST 09Ch17N7Iu, UNS K53CrMnNiN21 9

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, ...)
K **Dökme Demir** (> %2 karbon içerikli demir ve karbon **alaşımlarının** dökümleri)	**K1** Gri demir (GG) (ince tabakalı grafit mikro yapıya sahip demir-karbon dökümler)	< 180 HB sertliğinde ferritik veya ferritik-perlitik gri demir	**K1.1**	**1.35**	ASTM A48 Grade 20 (F11401), EN-JL-1010 (0.6010), DIN GG-10 (0.6010), ČSN 42 2410, STN 42 2410, BS Grade 150, UNE FG10 GB HAT 100, AFNOR Ft 10 D, GOST SCh 10, UNI GG10
		180 – 240 HB sertliğinde ferritik-perlitik veya perlitik gri demir	**K1.2**	**1.00**	ASTM A48 Grade 30 (F12101), EN-JL-1030 (0.6020), DIN GG-20 (0.6020), ČSN 42 2420, STN 42 2420, BS Grade 220, UNE FG20 GB HT200, AFNOR Ft 20 D, GOST SCh 20, UNI GG20
		240 – 280 HB sertliğinde perlitik gri demir	**K1.3**	**0.75**	ASTM A48 Grade 50 (F13501), EN-JL-1060 (0.6035), DIN GG-35 (0.6035), ČSN 42 2435, STN 42 2435, BS Grade 350, UNE FG35 GB HAT 300, AFNOR Ft 35 D, GOST SCh 35, UNI GG35
	K2 Dövülebilir demir (GTS/GTW) (grafit içermeyen mikro yapıya sahip ısıl işlem görmüş demir-karbon dökümler)	< 160 HB sertliğinde ferritik dövülebilir demir	**K2.1**	**1.39**	ASTM A602 Grade M3210 (F20803), EN-JM-1130 (0.8135), DIN GTS-35 (0.8135), ČSN 42 0815, BS B340/12, UNE Type A, AFNOR MN 35-10, GOST KCh 35-10
		160 – 200 HB sertliğinde ferritik veya perlitik dövülebilir demir	**K2.2**	**1.13**	ASTM A602 Grade M4504 (F20810), EN-JM-1040 (0.8040), DIN GTS-50-05 (0.8040), ČSN 42 0850, BS P50-05, AFNOR MB 45-7
		200 – 240 HB sertliğinde perlitik dövülebilir demir	**K2.3**	**0.90**	ASTM A602 Grade M7002 (F20811), EN-JM-1140 (0.8145), DIN GTS-45 (0.8145), ČSN 42 0854, STN 42 2540, BS P 45-06, UNE Typ B, AFNOR MP 50-5, GOST KCh 45-7, UNI GMN 45
	K3 Sünek demir (GGG) (nodüler grafit mikro yapıya sahip demir-**karbon dökümler)**	< 180 HB sertliğinde sünek (nodüler/küresel) demir, ferritik	**K3.1**	**1.23**	ASTM A536 Grade 60-40-18 (F32800), EN-JS-1030 (0.7043), DIN GGG-40 (0.7043), ČSN 42 0717, STN 42 2304, BS 420/12, UNE FGE 42-12, BCQT 400, AFNOR GS 400-12, GOST BCh 40
		180 – 220 HB sertliğinde sünek (nodüler/küresel) demir, ferritik veya perlitik	**K3.2**	**0.94**	ASTM A536 Grade 80-55-06 (F33800), EN-JS-1050 (0.7050), DIN GGG-50 (0.7050), ČSN 42 0727, STN 42 2305, BS 500/7, UNE FGE 50-7, BCQT 500-7, AFNOR GS 500-7, GOST BCh 50
		220 – 260 HB sertliğinde sünek (nodüler/küresel) demir, perlitik	**K3.3**	**0.76**	ASTM A536 Grade 100-70-03 (F34800), EN-JS-1060 (0.7060), DIN GGG-60 (0.7060), ČSN 42 0732, STN 42 2306, BS 600/3, UNE FGE 70-2, BCQT 600-3, AFNOR GS 600-3, GOST BCh 60
	K4 östenitik veya östemperlenmiş sünek demir (Ni-Resist/ADI) (östenitik veya ösferrit mikro yapılı demir-**karbon alaşımlı dökümler)**	< 180 HB sertliğinde östenitik dökme demir	**K4.1**	**1.14**	ASTM A436 Type 1 (L-NiCuCr 15 6 2, F41000), EN JL-3011 (0.6652), DIN GGL-NiMn 13 7 (0.6652), SS 0523, BS Grade F1, AFNOR GL-Ni13Mn7, GOST NiMn 13 7
		180 – 240 HB sertliğinde östenitik dökme demir	**K4.2**	**0.86**	ASTM A439 Type D-2B (S-NiCr 20 3, F43001), EN JS-3021 (0.7660), DIN GGG-NiMn 23 4, SS 0776, BS Grade S2M, AFNOR GS Ni23 Mn4, GOST NCh 19X3L
		240 – 280 HB sertliğinde östemperlenmiş sünek demir	**K4.3**	**0.63**	ASTM A897 Grade 110-70-11
		280 – 320 HB sertliğinde östemperlenmiş sünek demir	**K4.4**	**0.54**	ASTM A897 Grade 125-80-10, EN JS-1100 (0.7660), DIN GGG-90 (5.3400)
		320 – 360 HB sertliğinde östemperlenmiş sünek demir	**K4.5**	**0.45**	ASTM A897 Grade 2 (150-110-07), EN JS-1110 (0.7670), DIN GGG-100 (5.3403)
	K5 Sıkıştırılmış grafit demir(CGI) (solucansı grafit yapıya sahip demir-karbon **dökümler)**	< 180 HB sertliğinde solucansı, sıkıştırılmış grafit demir	**K5.1**	**1.29**	ASTM A842 Grade 300, EN GJV-300 (0.7685), DIN GGV 30, GOST RBT 30,
		180 – 220 HB sertliğinde solucansı, sıkıştırılmış grafit demir	**K5.2**	**0.97**	ASTM A842 Grade 350, EN GJV-350 (0.7687), DIN GGV 35 (5.2200), GOST RBT 30,
		220 – 260 HB sertliğinde solucansı, sıkıştırılmış grafit demir	**K5.3**	**0.75**	ASTM A842 Grade 450, EN GJV-450 (0.7689), DIN GGV 45, GOST RBT 45,

ISO grubu		Alt grup		WMG (İş Malzeme Grubu)		k_{vG}	Malzeme örnekleri (AISI, EN, DIN, ČSN, 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	< 60 HB sertliğinde saf alüminyum ve dövme alüminyum alaşımları	1.33	UNS A91200, EN AL99.6, DIN 3.0205, SS 4010, STN 424009, BS 1C, UNE L-3001, GB L5, AFNOR 4, GOST АД, UNI 3567
				N1.2	60 – 100 HB sertliğinde dövme alüminyum **alaşımları**	1.00	UNS A93004, EN AlMn0.5Mg0.5, DIN 3.0505, SS 4054, STN 424432, BS N31, UNE L-3831, GB LF2, AFNOR-M1, GOST АМц, UNI 3568
				N1.3	100 – 150 HB sertliğinde dövme alüminyum **alaşımları**	0.67	UNS A95083, EN AlMg4.5Mn0.7, DIN 3.3547, SS 4140, STN 424415, BS N8, UNE L-3321, GB AlMg4.5Mn, AFNOR-G4.5MC, GOST Amg 4.5, UNP-AlMg4.4
		N2	Döküm alüminyum	N2.1	< 75 HB sertliğinde döküm alüminyum **alaşımları**	0.67	UNS A02080, EN AlCu4S, BS LM11, STN 424331, UNE Al Si1CuG, GOST AMg5K, UNI G-AlSi7Mg
				N2.2	75 – 90 HB sertliğinde döküm alüminyum **alaşımları**	0.60	UNS A02420, EN AlCu4Ni2MgS, AlSi7MgF, BS LM6, STN 424519, UNE Al-7SiMg, AFNOR-S7G, GOST AK7, UNI G-AlSi7Mg
				N2.3	90 < 140 HB sertliğinde döküm alüminyum **alaşımları**	0.43	UNS A03360, EN G-ALCu4NiMg, BS ALSi10Mg, STN 424336, BS LM 30, AFNOR-S10G, UNI G-AlSi9Mg
		N3	**Bakır veya bakır alaşımları**	N3.1	Mükemmel işleme özelliklerine sahip kolay kesilen bakır alaşımlı malzemeler	0.70	UNS C14700, EN CuPb1P, DIN 2.1498, STN 423214, BS C111, AFNOR CuZn35Pb2, GOST L63-3, UNI CuS(P0.01)
				N3.2	İyi-orta işleme özelliklerine sahip kısa talaş **oluşturan bakır alaşımları**	0.41	UNS C81540, EN CuNi2SiCr, DIN 2.0857, STN 423220, BS NS113, UNE CuSn12, AFNOR CuZn40, GOST L60, UNP-CuZn-40
				N3.3	Orta-kötü işleme özelliklerine sahip elektrolitik bakır ve uzun talaş oluşturan bakır alaşımları	0.21	UNS C10100, EN CuAg0.1, DIN 2.1203, SS 5010, UNE CUSi3MnA, AFNOR Cu-C2, GOST M1f, UNI Cu-OF
		N4	Polimerler (sentetik veya yarı sentetik malzemeler)	N4.1	Termoplastik polimerler	0.70	ABS, Acryl, Duraplast, 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	Aramid, Epoxy, Fluoropolymer, Mehacrylate, Melamine, Phenolic, Polyester, Polyurethane, Polyimide, Polymethacrylimide,
				N4.3	Takviyeli polimerler veya kompozitler	0.29	CFK, GFK, GMT, Honeycomb, 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,

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, ...)
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	AISI 429, EN X7Cr14, DIN 1.4001, SS 2326, BS 434S17, UNE F.3401, AFNOR Z8C12, GOST 08Ch13, UNI X6CrTi12
				M1.2	160 – 220 HB sertliğinde paslanmaz çelik, ferritik	1.03	AISI 446, EN X10CrAl24, 1.4762, SS 2322, ČSN 17113, BS 430S17, UNE F.3154, GB 10Cr17, AFNOR Z10CAS24, GOST 12Ch17, UNI X16Cr26
		M2	Martensitik paslanmaz çelik (düz krom sertleştirilebilir alaşımlar)	M2.1	< 200 HB sertlikte martensitik paslanmaz çelik	1.08	AISI 430F, EN X14CrMoS17, DIN 1.4104, SS 2383, ČSN 17140, BS 410S21, UNE F.3117, AFNOR Z10CF17, UNI X10CrS17
				M2.2	200 – 280 HB sertliğinde martensitik paslanmaz çelik	0.89	AISI 440C, EN X105CrMo17, DIN 1.4125, SS 2385, ČSN 17023, BS 425C11, UNE F.3402, GB 102Cr17Mo, AFNOR Z100CD17, GOST 95Ch18, UNI 6X6CrNi 13 04
				M2.3	280 – 380 HB sertliğinde martensitik paslanmaz çelik	0.75	AISI 420, EN X45Cr13, DIN 1.4034, ČSN 17029, BS 425C11, UNE F.3405, AFNOR Z44C14, GOST 40X17H12, UNI X30Cr13
		M3	Östenitik paslanmaz çelik (krom-nikel ve krom-nikel-manganez **alaşımları)**	M3.1	< 200 HB sertliğinde östenitik paslanmaz çelik	1.00	AISI 304, EN X5CrNi18-12, DIN 1.4303, SS 2352, ČSN 17249, BS 305S17, UNE F.3513, GB 10Cr18Ni12, AFNOR Z8CN18.12, UNI X7CrNi18 10
				M3.2	200 – 260 HB sertliğinde östenitik paslanmaz çelik	0.86	AISI 309, EN X15CrNiSi20-12, DIN 1.4828, ČSN 17251, BS 309S24, UNE F.3312, GB 1Cr23Ni13, AFNOR Z15CNS20.12, GOST 20Ch20N14S2, UNI 16CrNi23 14
				M3.3	260 – 300 HB sertliğinde östenitik paslanmaz çelik	0.77	AISI 348, EN X45CrNiW18-9, DIN 1.4873, BS 331S40, UNE F.3211, AFNOR Z35CNWS14-4, UNI X45CrNiW 18 9
		M4	Süper 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 süper östenitik	0.75	AISI 329, EN X1-NiCrMoCU25-20-5, DIN 1.4539, SS 2562, ČSN 17265, BS 318S13, UNE F.3552, GB 022Cr25NiMo2N, AFNOR Z1NCDU25.20
				M4.2	300 – 380 HB sertliğinde çökelme ile sertleşen östenitik paslanmaz çelik	0.64	AISI 631 (17-7PH), EN X7CrNiAL17-7, DIN 1.4568, SS 2388, ČSN 17465, BS 301S13, UNE F.3217, GB 07Cr17Ni7Al, AFNOR Z9CNA17-07, GOST 09Ch17N7Ju1, UNI X53CrMnNiN21 9

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,)
N	**Demir dışı metaller** (alaşımlar dahil **olmak üzere kayda** değer miktarda demir içermeyen metaller)	N1	Dövme alüminyum	N1.1	< 60 HB sertliğinde saf alüminyum ve dövme alüminyum alaşımları	1.33	UNS A91200, NAL 99.6, DIN 3.0205, SS 4010, STN 424009, BS 1C, UNE L-3001, GB L5, AFNOR 4, GOST АД, UNI 567
				N1.2	60 – 100 HB sertliğinde dövme alüminyum **alaşımları**	1.00	UNS A93004, NAlMn0.5Mg0.5, DIN 3.0505, SS 4054, STN 424432, BSN 31, UNE L-3831, GB LF2, AFNOR-M1G, GOST АМц, UNI 568
				N1.3	100 – 150 HB sertliğinde dövme alüminyum **alaşımları**	0.67	UNS A95083, NAlMg4.5Mn0.7, DIN 3.3547, SS 4140, STN 424415, BSN 8, UNE L-3321, GB AlMg4.5Mn, AFNOR-G4.5M, GOST Amg 4.5, UNI P-AlMg4.4
		N2	Döküm alüminyum	N2.1	< 75 HB sertliğinde döküm alüminyum **alaşımları**	0.67	UNS A02080, NAlCu4S, BS LM11, STN 424331, UNE Al Si1CuG, GOST AMg5K, UNI G-AlSi7Mg
				N2.2	75 – 90 HB sertliğinde döküm alüminyum **alaşımları**	0.60	UNS A02420, NAlCu4Ni2MgS, BS LM16, STN 424519, UNE Al-7SiMg, AFNOR-S7G, GOST AK7, UNI G-AlSi7Mg
				N2.3	90 < 140 HB sertliğinde döküm alüminyum **alaşımları**	0.43	UNS A03360, NG-ALCu4NiMg, BS ALSi10Mg, STN 424336, BS LM 30, AFNOR-S10G, UNI G-AlSi9Mg
		N3	**Bakır veya bakır alaşımları**	N3.1	Mükemmel işleme özelliklerine sahip kolay kesilen bakır alaşımlı malzemeler	0.70	UNS C14700, NCuPb1P, DIN 2.1498, STN 423214, BS C111, AFNOR CuZn35Pb2, GOST L63-3, UNI CuS(P0.01)
				N3.2	İyi-orta işleme özelliklerine sahip kısa talaş **oluşturan bakır alaşımları**	0.41	UNS C81540, NCuNi2SiCr, DIN 2.0857, STN 423220, BS NS113, UNE CuSn12, AFNOR CuZn40, GOST L60, UNI P-CuZn-40
				N3.3	Orta-kötü işleme özelliklerine sahip elektrolitik bakır ve uzun talaş oluşturan bakır alaşımları	0.21	UNS C10100, NCuAg0.1, DIN 2.1203, SS 5010, UNE CUSi3MnA, AFNOR Cu-C2, GOST M1f, UNI Cu-OF
		N4	Polimerler (sentetik veya yarı sentetik malzemeler)	N4.1	Termoplastik polimerler	0.70	ABS, Acryl, Duraplast, 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	Aramid, Epoxy, Fluoropolymer, Mehacrylate, Melamine, Phenolic, Polyester, Polyurethane, Polyimide, Polymethacrylimide,
				N4.3	Takviyeli polimerler veya kompozitler	0.29	CFK, GFK, GMT, Honeycomb, 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)

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, ...)
K	**Dökme Demir** (> %2 karbon içerikli demir ve karbon **alaşımlarının** dökümleri)	K1	Gri demir (GG) (ince tabakalı grafit mikro yapıya sahip demir-karbon dökümler)	K1.1	< 180 HB sertliğinde ferritik veya ferritik-perlitik gri demir	1.35	ASTM A48 Grade 20 (F11401), EN JL-1010, DIN GG-10 (0.6010), SS 0110, STN 42 2410, BS Grade 150, UNE FG10, GB HAT 100, AFNOR Ft 10 D, GOST SCh 10, UNI G10
				K1.2	180 – 240 HB sertliğinde ferritik-perlitik veya perlitik gri demir	1.00	ASTM A48 Grade 30 (F12101), EN JL-1030, DIN GG-20 (0.6020), SS 0120, STN 42 2420, BS Grade 220, UNE FG20, GB HT200, AFNOR Ft 20 D, GOST SCh 20, UNI G20
				K1.3	240 – 280 HB sertliğinde perlitik gri demir	0.75	ASTM A48 Grade 50 (F13501), EN JL-1060, DIN GG-35 (0.6035), SS 0135, STN 42 2435, BS Grade 350, UNE FG35, GB HT300, AFNOR Ft 35 D, GOST SCh 35, UNI G35
		K2	Dövülebilir demir (GTS/GTW) (grafit içermeyen mikro yapıya sahip ısıl işlem görmüş demir-karbon dökümler)	K2.1	< 160 HB sertliğinde ferritik dövülebilir demir	1.39	ASTM A602 Grade M3210 (F20810), EN JM-1130, DIN GTS-35 (0.8135), SS 0815, BS B340/12, UNE Type A, AFNOR NF A 35-130, GOST KCh 35-10
				K2.2	160 – 200 HB sertliğinde ferritik veya perlitik dövülebilir demir	1.13	ASTM A602 Grade M4504 (F20811), EN JM-1040, DIN GTS-50-05 (0.8045), SS P50-05, AFNOR NF B 45-7
				K2.3	200 – 240 HB sertliğinde perlitik dövülebilir demir	0.90	ASTM A602 Grade M7002 (F20814), EN JM-1140, DIN GTS-45 (0.8145), SS 0854, STN 42 2540, BS P 45-06, UNE Typ B, AFNOR NF P 50-5, GOST KCh 45-7, UNI GMN 45
		K3	Sünek demir (GGG) (nodüler grafit mikro yapıya sahip demir-**karbon dökümler)**	K3.1	< 180 HB sertliğinde sünek (nodüler/küresel) demir, ferritik	1.23	ASTM A536 Grade 60-40-18 (F32800), EN JS-1030, DIN GGG-40 (0.7040), SS 0717, STN 42 2304, BS 420/12, UNE FGE 42-12, GB QT 400, AFNOR GS 400-12, GOST Ch 40
				K3.2	180 – 220 HB sertliğinde sünek (nodüler/küresel) demir, ferritik veya perlitik	0.94	ASTM A536 Grade 80-55-06 (F33800), EN JS-1050, DIN GGG-50 (0.7050), SS 0727, STN 42 2305, BS 500/7, UNE FGE 50-7, GB QT 500-7, AFNOR GS 500-7, GOST Ch 50
				K3.3	220 – 260 HB sertliğinde sünek (nodüler/küresel) demir, perlitik	0.76	ASTM A536 Grade 100-70-03 (F34810), EN JS-1060, DIN GGG-60 (0.7060), SS 0732, STN 42 2306, BS 600/3, UNE FG70-2, GB QT 600-3, AFNOR GS 600-3, GOST Ch 60
		K4	östenitik veya östemperlenmiş sünek demir (Ni-Resist/ADI) (östenitik veya ösferrit mikro yapılı demir-**karbon alaşımlı dökümler)**	K4.1	< 180 HB sertliğinde östenitik dökme demir	1.14	ASTM A436 Type 1 (L-NiCuCr 15 6 2, F41000), EN JL-3011, DIN GGL-NiMn 13 7 (0.6652), SS 0523, BS Grade F1, AFNOR GL-Ni13Mn7, GOST NiMn 13 7
				K4.2	180 – 240 HB sertliğinde östenitik dökme demir	0.86	ASTM A439 Type D-2B (S-NiCr 20 3, F43001), EN JS-3021, DIN GGG-NiMn 23 4, SS 0776, BS Grade S2M, AFNOR GS Ni23 Mn4, GOST NCh19KhS2L
				K4.3	240 – 280 HB sertliğinde östemperlenmiş sünek demir	0.63	ASTM A897 Grade 110-70-11
				K4.4	280 – 320 HB sertliğinde östemperlenmiş sünek demir	0.54	ASTM A897 Grade 125-80-10, EN JS-1100, DIN GGG-90 (5.3400)
				K4.5	320 – 360 HB sertliğinde östemperlenmiş sünek demir	0.45	ASTM A897 Grade 2 (150-110-07), EN JS-1110, DIN GGG-100 (5.3403)
		K5	Sıkıştırılmış grafit demir(CGI) (solucansı grafit yapıya sahip demir-karbon **dökümler)**	K5.1	< 180 HB sertliğinde solucansı, sıkıştırılmış grafit demir	1.29	ASTM A842 Grade 300, EN GJV-300, DIN GGV 30, GOST RBG 30,
				K5.2	180 – 220 HB sertliğinde solucansı, sıkıştırılmış grafit demir	0.97	ASTM A842 Grade 350, EN GJV-350, DIN GGV 35 (5.2200), GOST RBG 30,
				K5.3	220 – 260 HB sertliğinde solucansı, sıkıştırılmış grafit demir	0.75	ASTM A842 Grade 450, EN GJV-450, DIN GGV 45, GOST RBG 45,

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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, ...)
S	Yüksek sıcaklık alaşımları (paslanmaz çelikten daha yüksek sıcaklık ve korozyon dayanımı olan süper alaşımlar)	S1	Titanyum veya titanyum alaşımları	S1.1	< 200 HB sertliğinde titanyum veya titanyum alaşımları	1.94	UNS R50250 (Grade 1), EN Ti 99.6, DIN 3.7035, BS TA.2, UNE Ti-Po2, AFNOR T-40, GOST BT1-00, AISI R50250, 3.7025, T35, 2TA1, R50400, 3.7035, 2TA2,
				S1.2	200 – 280 HB sertliğinde titanyum alaşımları	1.72	UNS R56404 (Grade 23), EN Ti2Cu, DIN 3.7124, BS TA.21, UNE Ti-P11, AFNOR T-U2, AISI TA6V, Ti-6Al-4V, Ti 10.2.3, Ti5553
				S1.3	280 – 360 HB sertliğinde titanyum alaşımları	1.44	UNS R54250 (Grade 38), EN TiAl6V4, DIN 3.7165, ČSN TiAl6VELI, BS TA. 13, UNE Ti-P63, AFNOR T-A6V, GOST BT6, AISI TA6V, Ti-6Al-4V, Ti 10.2.3, Ti5553
		S2	Demir temelli yüksek sıcaklık alaşımları	S2.1	< 200 HB sertliğinde demir temelli yüksek sıcaklık alaşımları	1.33	UNS N08801 (Incoloy 801), EN X8 NiCrAlTi31-21, DIN 1.4959, BS NA 15, AFNOR Z8NC33-21, AISI A-286, Discaloy, Haynes 556, Iconel 909, Greek Ascolloy
				S2.2	200 – 280 HB sertliğinde demir temelli yüksek sıcaklık alaşımları	1.17	UNS N19907, EN X6NiCrTiMoVB25-15-2, DIN 1.4980, SS 2570, BS HR52, AFNOR Z6NCTDV25.15B, GOST 36HXTЮ, AISI A-286, Discaloy, Haynes 556, Iconel 909, Greek Ascolloy
		S3	Nikel temelli yüksek sıcaklık alaşımları	S3.1	< 280 HB sertliğinde nikel temelli yüksek sıcaklık alaşımları	1.00	UNS A09706 (Inconel 706), EN NiCr25FeAl, DIN 2.4856, BS HR 6, ČSN Inconel 625, UNE F.3313, GB 1Cr16Ni35, AFNOR NC22FeDNb, GOST XH38BT, AISI Inconel 718, 706, Waspalloy, Udimet 720, Inconel 625
				S3.2	280 – 360 HB sertliğinde nikel temelli yüksek sıcaklık alaşımları	0.83	UNS N07001, EN NiCr20Co13Mo4TiAl, DIN 2.4654, BS HR 2, ČSN Waspaloy, AFNOR NCKD 20ATV, GOST XH80TБЮ, AISI Inconel 718, 706, Waspalloy, Udimet 720, Inconel 625
		S4	Kobalt temelli yüksek sıcaklık alaşımları	S4.1	< 240 HB sertliğinde kobalt temelli yüksek sıcaklık alaşımları	0.78	UNS R30016 (Stellite 6), EN CoCr20W15Ni, DIN 2.4964, AFNOR KC 20 WN, GOST IK52, AISI Haynes 25, Stellite 21, 31
				S4.2	240 – 320 HB sertliğinde kobalt temelli yüksek sıcaklık alaşımları	0.67	UNS R30016 (Stellite 6), EN CoCr20W15Ni, DIN 2.4964, AFNOR KC 20 WN, GOST IK52, AISI Haynes 25, Stellite 21, 31

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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	UNS F45001, EN GJS-1050-6, DIN 5.3406, SS 0512, BS Grade 2A
		H2	Sertleştirilmiş dökme demir	H2.1	< 55 HRC sertliğinde sertleştirilmiş dökme demir	0.90	UNS F45003, EN GJS-1400-1, DIN 5.3405, SS 0457, BS Grade 3D
				H2.2	> 55 HRC sertliğinde sertleştirilmiş dökme demir	0.77	UNS F45003, EN G-X260NiCr42, DIN 0.9620, SS 0466, BS Grade S
		H3	< 55 HRC sertliğinde sertleştirilmiş çelik	H3.1	< 51 HRC sertliğinde sertleştirilmiş çelik	1.00	AISI 4135, EN 34CrMo4, DIN 1.7220, SS 2234, STN 415131, BS 198, UNE F.1250, GB 35CrMo, AFNOR 35CD4, GOST AC38XΓM, UNI B5CrMo4KB
				H3.2	51 – 55 HRC sertliğinde sertleştirilmiş çelik	0.82	AISI 4135, EN 34CrMo4, DIN 1.7220, SS 2234, STN 415131, BS 198, UNE F.1250, GB 35CrMo, AFNOR 35CD4, GOST AC38XΓM, UNI B5CrMo4KB
		H4	> 55 HRC sertliğinde sertleştirilmiş çelik	H4.1	55 – 59 HRC sertliğinde sertleştirilmiş çelik	0.64	UNS T31501, EN 100MnCrW4, DIN 1.2510, SS 2140, STN 419413, BS BO1, UNE F.5220, GB 9CrWMn, AFNOR 90MWCrV5, GOST 9XBΓ, UNI 95MNWCr5KU
				H4.2	> 59 HRC sertliğinde sertleştirilmiş çelik	0.54	UNS T31501, EN 100MnCrW4, DIN 1.2510, SS 2140, STN 419413, BS BO1, UNE F.5220, GB 9CrWMn, AFNOR 90MWCrV5, GOST 9XBΓ, UNI 95MNWCr5KU