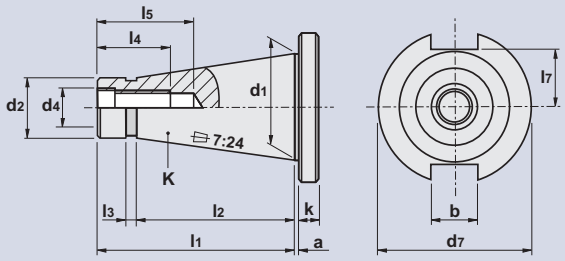
Arbors and adaptors

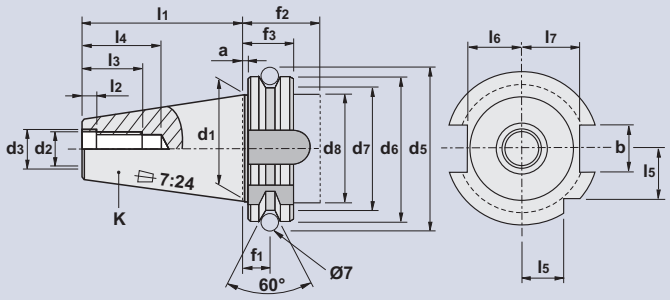
Arbors and adaptors

DIN 2080



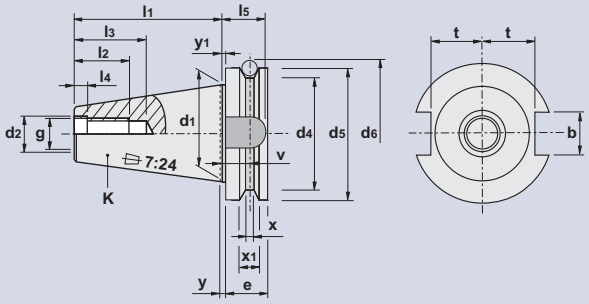
K	a ±0,2	b H12	d1	d2	d4	d7	k	l1	l2	l3	l4	l5 min	l7 max
30	1,6	16,1	31,75	17,4	M12	50,0	8	68,4	48,4	3	24	33,5	16,2
40	1,6	16,1	44,45	25,3	M16	63,0	10	93,4	65,4	5	32	42,5	22,5
45	3,2	19,3	57,15	32,4	M20	80,0	12	106,8	82,8	6	40	52,5	29,0
50	3,2	25,7	69,85	39,6	M24	97,5	12	126,8	101,8	8	47	61,5	35,3
60	3,2	25,7	107,95	60,2	M30	156,0	16	206,8	161,8	10	59	76,0	60,0

DIN 69871/A



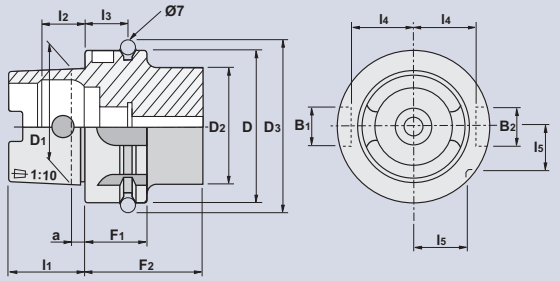
K	f1 ±0,1	f2 min	f3 0 -0,1	l1 0 -0,3	l2 +0,5 0	l3 min	l4 min	l5 0 -0,3	l6 0 -0,4	l7 0 -0,4	a ±0,2	b H12	d1	d2	d3 H7	d5 ±0,05	d6 0 -0,1	d7 0 -0,5	d8 max
30	11,1	35	19,1	47,80	5,5	24	33,5	15,0	16,4	19,0	3,2	16,1	31,75	M12	13	59,30	50,00	44,30	45
40	11,1	35	19,1	68,40	8,2	32	42,5	18,5	22,8	25,0	3,2	16,1	44,45	M16	17	72,30	63,55	56,25	50
45	11,1	35	19,1	82,70	10,0	40	52,5	24,0	29,1	31,3	3,2	19,3	57,15	M20	21	91,35	82,55	75,25	63
50	11,1	35	19,1	101,75	11,5	47	61,5	30,0	35,5	37,7	3,2	25,7	69,85	M24	25	107,25	97,50	91,25	80
60	11,1	38	19,1	161,80	14,0	59	76,0	49,0	54,2	59,3	3,2	25,7	107,95	M30	32	164,75	155,00	147,70	130

MAS BT



K	D1	l1 ±0,2	d2 H8	g 6H	l2 min	l3 min	l4 +0,5 0	b H12	l5 min	t 0 -0,2	D4	D5 H8	e	v ±0,1	x	x1 +0,1 0	y ±0,4	y1 +0,5 0
30	31,75	48,4	12,5	M12	24	34	7	16,1	17	16,3	38	46	20	13,6	4	8	2	7
35	38,10	56,4	12,5	M12	24	34	7	16,1	20	19,6	43	53	22	14,6	5	10	2	7
40	44,45	65,4	17,0	M16	30	43	9	16,1	21	22,6	53	63	25	16,6	5	10	2	9
45	57,15	82,8	21,0	M20	38	53	11	19,3	26	29,1	73	85	30	21,2	6	12	3	11
50	69,85	101,8	25,0	M24	45	62	13	25,7	31	35,4	85	100	35	23,2	7	15	3	13

HSK



HSK	D H10	D1	D2 max	D3 0 -0,1	B1 H10	B2 H10	l1 -0,2	l2 JS10	l3 ±0,1	l4 -0,2	l5 -0,3	a	F1 -0,1	F2 min
32	32	24	26	37,00	9	7	16	8,92	16	13,0	9,5	3,2	20	35
40	40	30	34	45,00	11	9	20	11,42	16	17,0	12,0	4,0	20	35
50	50	38	42	59,30	14	12	25	14,13	18	21,0	15,5	5,0	26	42
63	63	48	53	72,30	18	16	32	18,13	18	26,5	20,0	6,3	26	42
80	80	60	67	88,80	20	18	40	22,85	18	34,0	25,0	8,0	26	42
100	100	75	85	109,75	22	20	50	28,56	20	44,0	31,5	10,0	29	45

44	30	16	16
1	2	3	4

1

Short cylindric DIN-1835-A 00	Short Morse DIN 228 30	DIN 2080 44	ISO 7388 DIN 69871 A 47
ISO BT System 49	HSK 52	R-8 80	

2

Short cylindric DIN-1835-A Ø16 **16** / Ø20 **20** / Ø25 **25** / Ø32 **32** / Ø40 **40**	Short Morse DIN 228 MK2 **02** / MK3 **03** / MK4 **04** / MK5 **05**	ISO DIN 2080 ISO 30 **30** / ISO 40 **40** / ISO 50 **50**	ISO 7388 DIN 69871 A 7388 30 **30** / 7388 40 **40** / 7388 50 **50**
BT System BT 30 **30** / BT 40 **40** / BT 50 **50**	HSK **50** / **63** / **100**	R-8 **80**	**21**

3

06	**10**	**16**	**18**	**19**
22	**23**	**26**	**28**	**30**
31	**32**	**33**	**34**	**35**
37	**NPU**	**PS**	D Ø25 **25** / Ø32 **32** / Ø40 **40**	

4

K_1 - ISO K_1 **30** ISO 40 **40** ISO 40	K_1 - MORSE K_1 **01** MK1 **02** MK2 **03** MK3 **04** MK4	d Ø16 **16** / Ø22 **22** / Ø27 **27** / Ø32 **32** / Ø40 **40** / Ø60 **60**	d Ø25 **25** Ø32 **32** Ø40 **40**	ER16 **16** ER20 **20** ER25 **25** ER32 **32** ER40 **40**
B12 **12** / B16 **16** / B18 **18**	D Ø16 **16** / Ø20 **20** / Ø25 **25** / Ø32 **32**	d Ø8 **8** / Ø13 **13** / Ø16 **16**	d Ø6 ..... Ø32 **6 .... 32**	M4-M12 **12** / M8-M20 **20** / M14-M33 **33**
D Ø63 **63** / Ø80 **80** / Ø100 **100**				

Assembly fixture

02_ 70/80
Flat

Page K.07

02_ 71/81
Inox

Page K.07

DIN 2080

44_16
Mill chuck

Page K.08

44_18
Mill chuck

Page K.08

44_19
Centering plug arbor

Page K.09

44_22
ISO taper adaptor

Page K.09

44_23
Mill adaptor

Page K.10

44_26
Drill adaptor

Page K.10

44_28
Drill chuck adaptor

Page K.11

44_30
End mill adaptor

Page K.11

44_31
Chuck taper for collets

Page K.12

HX-DIN Drill chuck with hexagonal key lock system

Page K.12

NPU-DIN
Integral drill chuck

Page K.13

DIN 69871/A

47_06
Modular mill adaptor

Page K.14

47_10
Cooling fluid supply unit

Page K.15

00.21
Reducing bushings

Page K.15

47_16
Mill chuck

Page K.16

47_16L
Mill chuck (Long)

Page K.16

47_22
ISO Taper adaptor

Page K.17

47_23
Mill adaptor

Page K.17

47_26
Drilll adaptor

Page K.18

47_28
Drill chuck adaptor

Page K.18

47_30
End mill adaptor

Page K.19

47_31
Chuck for ER collets

Page K.19

47_34 Strong hold milling chucks

Page K.20

47_37 Quick change tapping heads

Page K.20

HX-ID Drill chuck with hexagonal key lock system

Page K.21

NPU-ID
Integral drill chuck

Page K.21

PS-ID High precision drill chuck

Page K.22

MAS BT

49_06
Modular mill adaptor

Page K.23

49_10
Cooling fluid supply unit

Page K.24

49_16
Mill chuck

Page K.25

49_16L
Mill chuck (Long)

Page K.25

49_22
ISO Taper adaptor

Page K.26

49_23
Mill adaptor

Page K.26

49_26
Drilll adaptor

Page K.27

49_28
Drill chuck adaptor

Page K.27

49_30
End mill adaptor

Page K.28

49_31
Chuck for ER collets

Page K.28

49_34 Strong hold milling chucks

Page K.29

49_37 Quick change tapping heads

Page K.29

HX-BT Drill chuck with hexagonal key lock system

Page K.30

NPU-BT
Integral drill chuck

Page K.30

For more information see page:

Technical information: K.02
Assembly fixture: K.07
DIN 2080: K.08
DIN 69871/A: K.14
MAS BT: K.23
HSK: K.32
DIN 228/A-B: K.38
R-8: K.41
Cylindrical: K.43
Collets: K.47
Drill chucks: K.49
Accessories: K.51
Sets: K.58

Drill chucks

SP-B
Keyless drill chucks

Page K.49

SPX-B
Keyless drill chucks

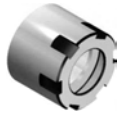
Page K.49

CK-B
Keyless drill chucks

Page K.50

Accessories

2090..2091
Clamping nuts-ER collets



Page K.51

2092..2094
Clamping nuts-ER collets

Page K.51

2190..2191
Clamping nuts-C collets

Page K.51

5116..5120
Spanner

Page K.52

5216..5220
Spanner

Page K.52

5225..5240
Spanner

Page K.52

HX
Spanner

Page K.52

70XX..73XX
Quick-change

Page K.53

74XX-77XX
Quick-change

Page K.53

1960..1961
Pull studs

Page K.55

1962..1963
Pull studs

Page K.55

1964..1965
Pull studs

Page K.55

1966..1967
Pull studs

Page K.56

1968..1969
Pull studs

Page K.56

1970..1971
Pull studs

Page K.56

1972..1974
Pull studs

Page K.57

00.21
Reducing bushings

Page K.15

Sets

00_32 (CLS)
Extensions

Page K.58

SET C-32 Mill chuck

Page K.58

SER Collets ER

Page K.59

SET Mill chuck

Page K.59

Characteristics:
Flat assembly fixture.

Applications:
For DIN 2080, DIN 69871/A, MAS BT, HSK, CAPTO and KM types.

02_ 70 / 80

Ref.	Types	DIN 2080	DIN 69871/A	MAS BT	HSK	CAPTO	KM	Kg
	02.30.70	30	30	X	50	C5	50	
	02.30.80	X	X	30	X	X	X	
	02.40.70	40	40	40	63	C6	63	2,765
	02.50.70	50	50	50	100	X	X	

Characteristics:
Flat assembly fixture (Inox).

Applications:
For DIN 2080, DIN 69871/A, MAS BT, HSK, CAPTO and KM types.

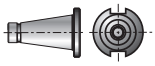
02_ 71 / 81

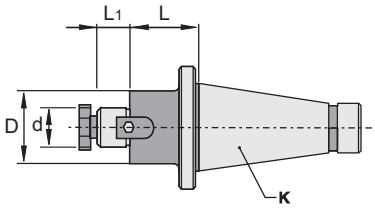
Ref.	Types	DIN 2080	DIN 69871/A	MAS BT	HSK	CAPTO	KM	Kg
	02.30.71	30	30	X	50	C5	50	
	02.30.81	X	X	30	X	X	X	
	02.40.71	40	40	40	63	C6	63	2,765
	02.50.71	50	50	50	100	X	X	

Inserts
Face milling cutters
Square shoulder cutters
Slot cutters
Porcupine cutters
Specific applications and Sets
Profile milling
Solid carbide
Drills
Boring heads
Arbors and adaptors

Characteristics:
Mill chuck ISO taper with fixed drivers.

DIN 2080



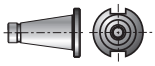


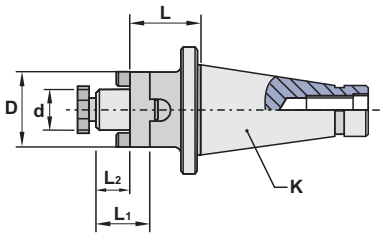
44_16

Ref.	K	d	D	L	L1	Kg
44.30.16.16	30	16	32	35	17	0,500
44.30.16.22	30	22	40	35	19	0,650
44.30.16.27	30	27	48	35	21	0,800
44.30.16.32	30	32	58	35	24	1,050
44.40.16.16	40	16	32	37	17	1,000
44.40.16.22	40	22	40	37	19	1,100
44.40.16.27	40	27	48	37	21	1,250
44.40.16.32	40	32	58	37	24	1,500
44.40.16.40	40	40	70	38	27	1,900
44.40.16.60	40	60	128	30	40	4,150
44.50.16.16	50	16	32	40	17	2,900
44.50.16.22	50	22	40	40	19	3,100
44.50.16.27	50	27	48	40	21	3,150
44.50.16.32	50	32	58	40	24	4,200
44.50.16.40	50	40	70	40	27	3,800
44.50.16.60	50	60	128	30	40	7,800

Characteristics:
Mill chuck with frontal driver and tongue.

DIN 2080



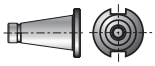


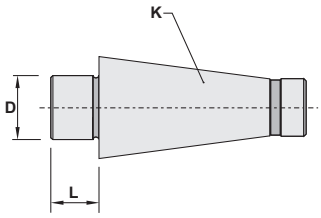
44_18

Ref.	K	d	D	L	L1	L2	Kg
44.40.18.16	40	16	32	52	27	17	1,050
44.40.18.22	40	22	40	52	31	19	1,250
44.40.18.27	40	27	48	52	33	21	1,450
44.40.18.32	40	32	58	52	38	24	1,800
44.40.18.40	40	40	70	52	41	27	2,250
44.50.18.16	50	16	32	55	27	17	3,000
44.50.18.22	50	22	40	55	31	19	3,150
44.50.18.27	50	27	48	55	33	21	3,300
44.50.18.32	50	32	58	55	38	24	3,650
44.50.18.40	50	40	70	55	41	27	4,150

Characteristics:
Centering plug arbor.

DIN 2080



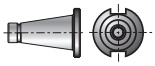


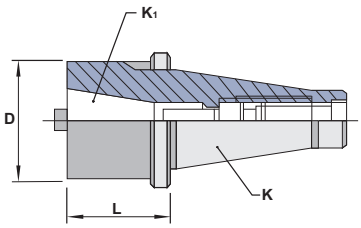
44_19

Ref.	K	L	D	Kg
44.40.19.40	40	30	40	0,700
44.50.19.60	50	40	60	2,500

Characteristics:
Adaptors from ISO 2080 to ISO taper with internal pull stud.

DIN 2080





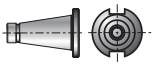
44_22

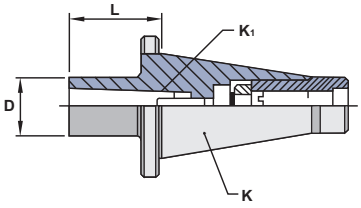
Ref.	K	K1	D	L	Kg
44.40.22.30	40	30	50	50	1,150
44.50.22.40	50	40	63	50	4,500

Inserts
Face milling cutters
Square shoulder cutters
Slot cutters
Porcupine cutters
Specific applications and Sets
Profile milling
Solid carbide
Drills
Boring heads
Arbors and adaptors

Characteristics:
Mill adaptor drom ISO taper to Morse taper with internal pull stud.

DIN 2080



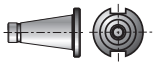


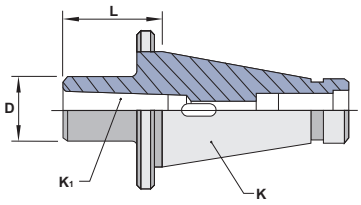
44_23

Ref.	K	K1	D	L	Kg
44.30.23.02	30	MK2	32	50	0,450
44.30.23.03	30	MK3	40	76	0,700
44.40.23.02	40	MK2	32	50	0,950
44.40.23.03	40	MK3	40	65	1,050
44.40.23.04	40	MK4	48	95	1,400
44.50.23.03	50	MK3	40	65	2,900
44.50.23.04	50	MK4	48	65	2,900

Characteristics:
Drill adaptor from ISO taper to Morse taper.

DIN 2080



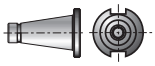


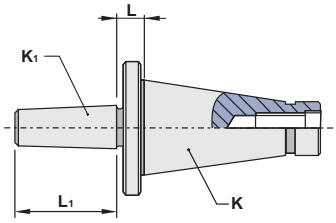
44_26

Ref.	K	K1	D	L	Kg
44.30.26.02	30	MK2	32	50	0,450
44.30.26.03	30	MK3	40	76	0,700
44.40.26.01	40	MK1	25	50	0,800
44.40.26.02	40	MK2	32	50	0,850
44.40.26.03	40	MK3	40	65	1,000
44.40.26.04	40	MK4	48	95	1,300
44.50.26.03	50	MK3	48	65	2,800
44.50.26.04	50	MK4	63	70	2,800

Characteristics:
Drill chuck adaptor ISO taper.

DIN 2080



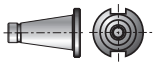


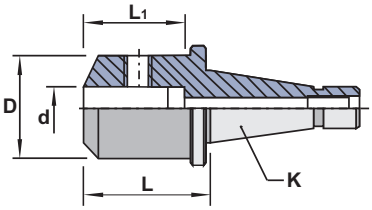
44_28

Ref.	K	K1	L	L1	Kg
44.30.28.12	30	B12	15	18,5	0,350
44.30.28.16	30	B16	15	24,0	0,350
44.30.28.18	30	B18	15	32,0	0,400
44.40.28.12	40	B12	17	18,5	0,850
44.40.28.16	40	B16	17	24,0	0,850
44.40.28.18	40	B18	17	32,0	0,850
44.50.28.16	50	B16	20	24,0	2,700
44.50.28.18	50	B18	20	32,0	2,750

Characteristics:
End mill adaptor ISO taper.

DIN 2080





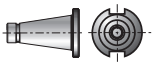
44_30

Ref.	K	d	D	L	L1	Kg
44.40.30.10	40	10	35	50	39	0,950
44.40.30.12	40	12	42	50	44	1,050
44.40.30.16	40	16	48	63	47	1,300
44.40.30.20	40	20	52	63	49	1,350
44.40.30.25	40	25	65	80	54	2,100
44.40.30.32	40	32	72	80	58	2,500
44.50.30.16	50	16	48	63	47	3,050
44.50.30.20	50	20	52	63	49	3,150
44.50.30.25	50	25	65	80	54	3,850
44.50.30.32	50	32	72	80	58	4,400

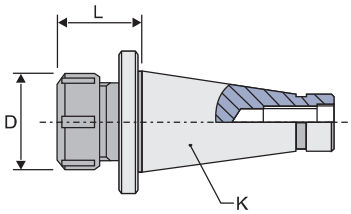
Inserts
Face milling cutters
Square shoulder cutters
Slot cutters
Porcupine cutters
Specific applications and Sets
Profile milling
Solid carbide
Drills
Boring heads
Arbors and adaptors

Characteristics:
Chuck ISO taper for (ER) collets.
DIN 6499/B

DIN 2080



For more information see page:
Collets: K.47
Clamping nuts: K.51
Spanners: K.52

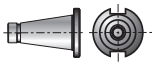


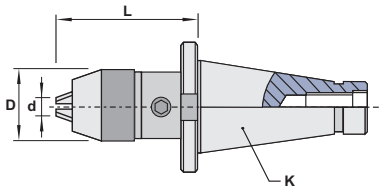
44_31

Ref.	K	L	D	Size of collets	Clamping nut	Collet	Kg
44.30.31.16	30	38	24	1-10	2190	ER16	0,400
44.30.31.20	30	38	34	1-13	2191	ER20	0,500
44.30.31.25	30	39	42	1-16	2092	ER25	0,550
44.30.31.32	30	50	50	2-20	2093	ER32	0,600
44.40.31.16	40	50	24	1-10	2190	ER16	0,850
44.40.31.20	40	50	34	1-13	2191	ER20	0,950
44.40.31.25	40	50	42	1-16	2092	ER25	0,850
44.40.31.32	40	50	50	2-20	2093	ER32	1,250
44.40.31.32L	40	120	50	2-20	2093	ER32	1,500
44.40.31.40	40	56	63	4-30	2094	ER40	1,400
44.40.31.40L	40	120	63	4-30	2094	ER40	1,750
44.50.31.32	50	70	50	2-20	2093	ER32	2,950
44.50.31.32L	50	100	50	2-20	2093	ER32	3,500
44.50.31.40	50	70	63	4-30	2094	ER40	3,450
44.50.31.40L	50	100	63	4-30	2094	ER40	3,850

Characteristics:
Super precision drill chuck with hexagonal key lock system.

DIN 2080



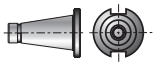


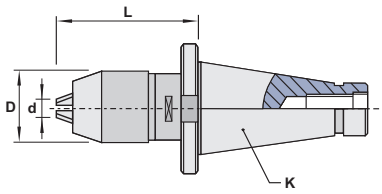
HX-DIN

Ref.	K	d	D	Lmin	Lmax	Kg
HX10-DIN40	40	0-10	43	72	81	1,220
HX13-DIN40	40	1-13	53	86	97	1,620
HX16-DIN40	40	3-16	57	88	99	1,720
HX10-DIN50	50	0-10	43	74	83	3,000
HX13-DIN50	50	1-13	53	89	101	3,320
HX16-DIN50	50	3-16	57	92	103	3,420

Characteristics:
Integral drill chuck with safety clamping system.

DIN 2080





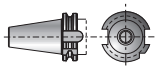
NPU-DIN

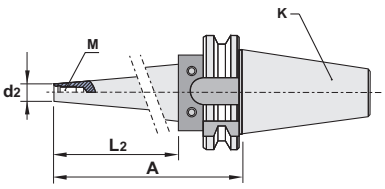
Ref.		K	d	D	Lmin	Lmax	Kg
	NPU13-DIN40	40	1-13	48	78	89	1,700
	NPU16-DIN40	40	3-16	55	90	101	2,100
	NPU13-DIN50	50	1-13	48	90	101	3,600
	NPU16-DIN50	50	3-16	55	72	83	3,750

Inserts
Face milling cutters
Square shoulder cutters
Slot cutters
Porcupine cutters
Specific applications and Sets
Profile milling
Solid carbide
Drills
Boring heads
Arbors and adaptors

Characteristics:
Adaptor from DIN 69871/A tape for modular mills.

DIN 69871/A



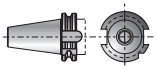


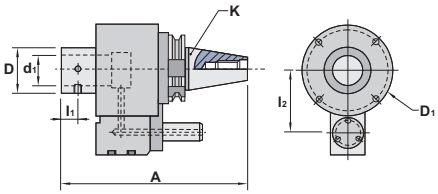
47_06

Ref.	K	L2	A	d2	M	Kg
47.40.06.10	40	50	70	18,0	M10	1,100
47.40.06.10L120	40	100	120	18,0	M10	1,400
47.40.06.10L200	40	158	200	18,0	M10	1,950
47.40.06.10L250	40	202	250	18,0	M10	2,340
47.40.06.10L300	40	258	300	18,0	M10	2,750
47.40.06.12	40	50	70	21,0	M12	1,250
47.40.06.12L120	40	100	120	21,0	M12	1,650
47.40.06.12L200	40	158	200	21,0	M12	2,450
47.40.06.12L250	40	202	250	21,0	M12	2,950
47.40.06.12L300	40	258	300	21,0	M12	3,450
47.40.06.16	40	50	70	29,0	M16	2,750
47.40.06.16L120	40	100	120	29,0	M16	3,300
47.40.06.16L200	40	158	200	29,0	M16	4,250
47.40.06.16L250	40	208	250	29,0	M16	5,350
47.40.06.16L300	40	252	300	29,0	M16	6,850
47.50.06.12	50	50	70	21,0	M12	3,300
47.50.06.12L120	50	100	120	21,0	M12	3,750
47.50.06.12L250	50	197	250	21,0	M12	4,750
47.50.06.12L300	50	247	300	21,0	M12	5,250
47.50.06.12L400	50	347	400	21,0	M12	6,250
47.50.06.16	50	100	120	29,0	M16	5,150
47.50.06.16L170	50	150	170	29,0	M16	6,250
47.50.06.16L250	50	197	250	29,0	M16	7,350
47.50.06.16L300	50	247	300	29,0	M16	8,450
47.50.06.16L400	50	347	400	29,0	M16	10,650
47.50.06.16L500	50	417	500	29,0	M16	12,950

Characteristics:
Colling fluid supply unit.

DIN 69871/A

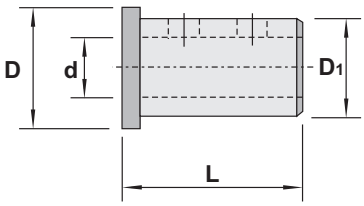




47_10

Ref.		K	d1	A	D	D1	l1	l2	Kg	
	47.40.10.25	40	25	152	45	95	15	65	4,650	1516
	47.40.10.32	40	32	152	48	95	16	65	4,750	1516
	47.50.10.32	50	32	152	48	95	16	80	8,150	1516
	47.50.10.40	50	40	166	58	110	17	80	8,250	1516

Characteristics:
Reducing bushings.



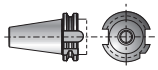
00.21

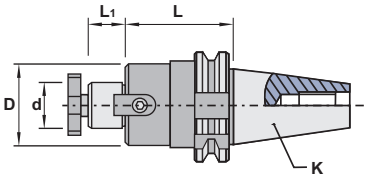
Ref.		D1	d	D	L	Kg
	00.21.25.16	25	16	33	55	0,150
	00.21.25.20	25	20	33	55	0,100
	00.21.32.16	32	16	40	60	0,400
	00.21.32.20	32	20	40	60	0,300
	00.21.32.25	32	25	40	60	0,250
	00.21.40.16	40	16	48	65	0,750
	00.21.40.20	40	20	48	65	0,700
	00.21.40.25	40	25	48	65	0,600
	00.21.40.32	40	32	48	65	0,400

Inserts
Face milling cutters
Square shoulder cutters
Slot cutters
Porcupine cutters
Specific applications and Sets
Profile milling
Solid carbide
Drills
Boring heads
Arbors and adaptors

Characteristics:
Mill chuck DIN 69871/A taper with fixed drivers.

DIN 69871/A



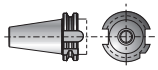


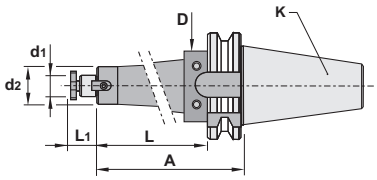
47_16

Ref.	K	d	D	L	L1	Kg
47.40.16.16	40	16	32	44	17	1,050
47.40.16.22	40	22	40	44	19	1,150
47.40.16.27	40	27	48	44	21	1,300
47.40.16.32	40	32	58	59	24	1,700
47.40.16.40	40	40	70	59	27	2,150
47.50.16.16	50	16	32	44	17	2,850
47.50.16.22	50	22	40	44	19	3,000
47.50.16.27	50	27	48	47	21	3,150
47.50.16.32	50	32	58	47	24	3,450
47.50.16.40	50	40	70	59	27	4,200
47.50.16.60	50	60	128	75	40	7,600

Characteristics:
Mill chuck DIN 69871/A taper with fixed drivers.
(Long)

DIN 69871/A



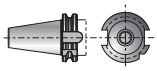


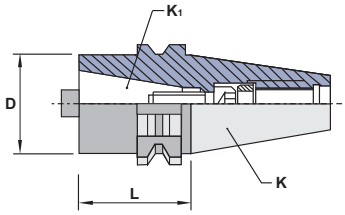
47_16L

Ref.	K	D	A	L	L1	d1	d2	Kg
47.40.16.16L150	40	50	150	131	36	16	36	1,550
47.40.16.16L200	40	50	200	181	36	16	36	1,900
47.40.16.16L250	40	50	250	231	36	16	36	2,300
47.40.16.16L300	40	50	300	281	36	16	36	2,600
47.40.16.22L150	40	50	150	131	19	22	44	1,950
47.40.16.22L200	40	50	200	181	19	22	44	2,500
47.40.16.22L250	40	50	250	231	19	22	44	2,950
47.40.16.22L300	40	50	300	281	19	22	44	3,500
47.40.16.27L150	40	50	150	131	21	27	54	2,500
47.40.16.27L200	40	50	200	181	21	27	54	3,200
47.40.16.27L250	40	50	250	231	21	27	54	4,000
47.40.16.27L300	40	50	300	281	21	27	54	4,700
47.50.16.16L150	50	80	150	131	36	16	36	3,700
47.50.16.16L200	50	80	200	181	36	16	36	4,100
47.50.16.16L250	50	80	250	231	36	16	36	4,400
47.50.16.16L300	50	80	300	281	36	16	36	5,200
47.50.16.16L400	50	80	400	381	36	16	36	6,000
47.50.16.22L200	50	80	200	181	19	22	44	4,300
47.50.16.22L250	50	80	250	231	19	22	44	4,750
47.50.16.22L300	50	80	300	281	19	22	44	5,300
47.50.16.22L400	50	80	400	381	19	22	44	6,300
47.50.16.22L500	50	80	500	481	19	22	44	7,300
47.50.16.27L200	50	80	200	181	21	27	54	5,000
47.50.16.27L250	50	80	250	231	21	27	54	5,800
47.50.16.27L300	50	80	300	281	21	27	54	6,500
47.50.16.27L400	50	80	400	381	21	27	54	7,500
47.50.16.27L500	50	80	500	481	21	27	54	8,500
47.50.16.32L200	50	80	200	181	24	32	54	6,300
47.50.16.32L250	50	80	250	231	24	32	64	7,100
47.50.16.32L300	50	80	300	281	24	32	64	7,800
47.50.16.32L400	50	80	400	381	24	32	64	8,800
47.50.16.32L500	50	80	500	481	24	32	64	9,800

Characteristics:
Adaptor from DIN 69871/A to ISO with internal pull stud.

DIN 69871/A



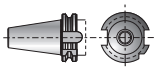


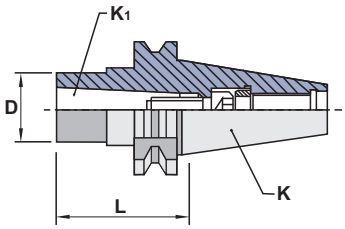
47_22

		K	K1	D	L	Kg
Ref.	47.50.22.40	50	40	70	63	3,550

Characteristics:
Mill adaptor from DIN 69871/A taper to Morse taper with internal pull stud.

DIN 69871/A





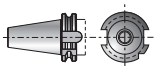
47_23

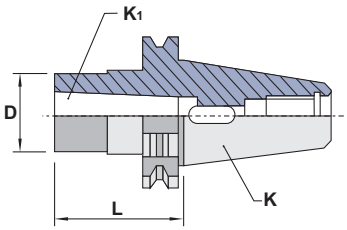
		K	K1	D	L	Kg
Ref.	47.40.23.02	40	MK2	32	50	0,950
	47.40.23.03	40	MK3	40	70	1,100
	47.40.23.04	40	MK4	48	95	1,400
	47.50.23.03	50	MK3	40	65	2,900
	47.50.23.04	50	MK4	48	70	2,950

Inserts
Face milling cutters
Square shoulder cutters
Slot cutters
Porcupine cutters
Specific applications and Sets
Profile milling
Solid carbide
Drills
Boring heads
Arbors and adaptors

Characteristics:
Drill adaptor from DIN 69871/A taper to Morse taper.

DIN 69871/A



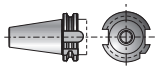


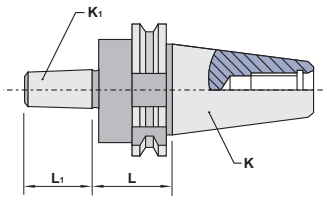
47_26

Ref.	K	K1	D	L	Kg
47.40.26.01	40	MK1	25	50	0,850
47.40.26.02	40	MK2	32	50	0,900
47.40.26.03	40	MK3	40	70	1,050
47.40.26.04	40	MK4	48	95	1,300
47.50.26.03	50	MK3	40	65	2,750
47.50.26.04	50	MK4	48	95	3,000

Characteristics:
Drill chuck adaptor DIN 69871/A taper.

DIN 69871/A



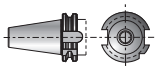


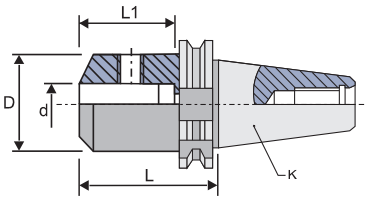
47_28

Ref.	K	K1	L	L1	Kg
47.40.28.12	40	B12	25	18,5	0,850
47.40.28.16	40	B16	25	24,0	0,850
47.40.28.18	40	B18	25	32,0	0,900
47.50.28.16	50	B16	25	24,0	2,700
47.50.28.18	50	B18	25	32,0	2,700

Characteristics:
End mill adaptor DIN 69871/A taper.

DIN 69871/A



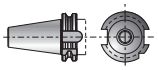


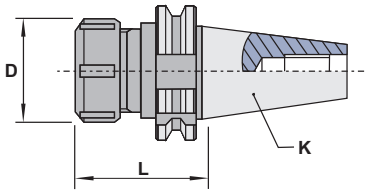
47_30

Ref.		K	d	D	L	L1	Kg
	47.40.30.10	40	10	35	50	39	0,950
	47.40.30.12	40	12	42	50	44	1,050
	47.40.30.16	40	16	48	63	47	1,250
	47.40.30.20	40	20	52	63	49	1,300
	47.40.30.25	40	25	65	100	54	2,400
	47.40.30.32	40	32	72	100	58	2,500
	47.50.30.16	50	16	48	63	47	3,050
	47.50.30.20	50	20	52	63	49	3,050
	47.50.30.25	50	25	65	80	54	3,750
	47.50.30.32	50	32	72	100	58	4,450

Characteristics:
Chuck DIN 69871/A for ER collets.
DIN 6499/B

DIN 69871/A





For more information see page:
Collets: K.47
Clamping nuts: K.51
Spanners: K.52

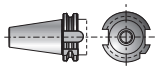
47_31

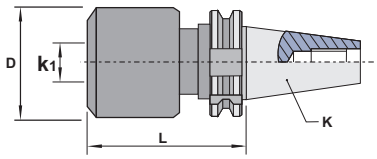
Ref.		K	L	D	Size of collets	Clamping nut	Collet	Kg
	47.40.31.16	40	60	28	1-10	2190	ER16	0,950
	47.40.31.20	40	70	34	1-13	2191	ER20	1,000
	47.40.31.25	40	70	42	1-16	2092	ER25	0,950
	47.40.31.32	40	70	50	2-20	2093	ER32	1,050
	47.40.31.32L	40	100	50	2-20	2093	ER32	1,750
	47.40.31.40	40	56	63	4-30	2094	ER40	1,250
	47.40.31.40L	40	120	63	4-30	2094	ER40	2,050
	47.50.31.32	50	70	50	2-20	2093	ER32	3,050
	47.50.31.32L	50	100	50	2-20	2093	ER32	3,150
	47.50.31.40	50	70	63	4-30	2094	ER40	3,100
	47.50.31.40L	50	100	63	4-30	2094	ER40	4,000

Inserts
Face milling cutters
Square shoulder cutters
Slot cutters
Porcupine cutters
Specific applications and Sets
Profile milling
Solid carbide
Drills
Boring heads
Arbors and adaptors

Characteristics:
Strong hold milling chucks.

DIN 69871/A



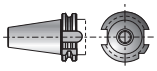


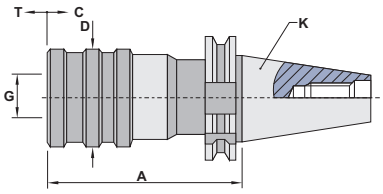
47_34

Ref.	K	K1	D	L	Kg
47.40.34.20	40	20	54	105	1,800
47.40.34.32	40	32	72	105	2,400
47.50.34.32	50	32	72	105	4,300

Characteristics:
Quick change tapping heads.

DIN 69871/A





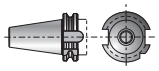
For more information see page:
Tap adaptors: K.53

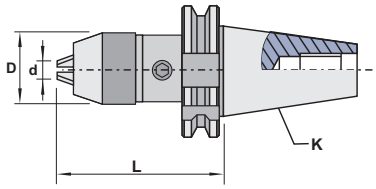
47_37

Ref.	K	Nº G	Ø	T	A	D	C				Kg
47.40.37.12	40	1	19	9	60	36	9	M4-M12	71XX	75XX	1,050
47.40.37.20	40	2	31	9	92	53	15	M8-M20	72XX	76XX	1,650
47.40.37.33	40	3	48	9	138	78	24	M14-M33	73XX	77XX	3,000
47.50.37.12	50	1	19	9	60	36	9	M4-M12	71XX	75XX	2,800
47.50.37.20	50	2	31	9	92	53	15	M8-M20	72XX	76XX	2,250
47.50.37.33	50	3	48	9	138	78	24	M14-M33	73XX	77XX	5,000

Characteristics:
Super precision drill chuck with hexagonal key lock system.

DIN 69871/A-B-AD



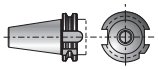


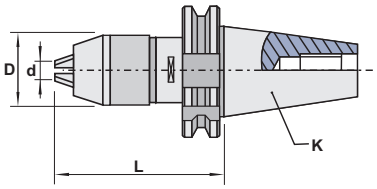
HX-ID

Ref.		K	d	D	Lmin	Lmax		Kg
	HX10-ID40	40	0-10	43	77	85,5	-	1,300
	HX10-ID40/R	40	0-10	43	77	85,5	B-AD	1,300
	HX13-ID40	40	1-13	53	91	103,0	-	1,640
	HX13-ID40/R	40	1-13	53	91	103,0	B-AD	1,640
	HX16-ID40	40	3-16	57	94	105,0	-	1,740
	HX16-ID40/R	40	3-16	57	94	105,0	B-AD	1,740
	HX10-ID50	50	0-10	43	79	87,5	-	3,080
	HX10-ID50/R	50	0-10	43	79	87,5	B-AD	3,080
	HX13-ID50	50	1-13	53	93	105,0	-	3,460
	HX13-ID50/R	50	1-13	53	93	105,0	B-AD	3,460
	HX16-ID50	50	3-16	57	96	107,0	-	3,560
	HX16-ID50/R	50	3-16	57	96	107,0	B-AD	3,560

Characteristics:
Integral drill chuck safety clamping system.

DIN 69871/A





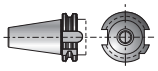
NPU-ID

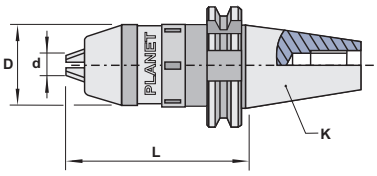
Ref.		K	d	D	Lmin	Lmax	Kg
	NPU13-ID40	40	1-13	48	80	91	1,700
	NPU16-ID40	40	3-16	55	97	108	2,150
	NPU13-ID50	50	1-13	48	78	89	3,650
	NPU16-ID50	50	3-16	55	76	89	3,750

Inserts
Face milling cutters
Square shoulder cutters
Slot cutters
Porcupine cutters
Specific applications and Sets
Profile milling
Solid carbide
Drills
Boring heads
Arbors and adaptors

Characteristics:
High precision drill chuck for CNC machine center and milling machines.

DIN 69871/A



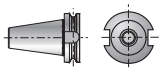


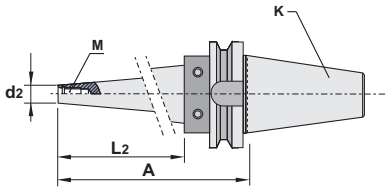
PS-ID

Ref.		K	d	D	Lmin	Lmax	Kg
	PS13-ID40	40	1-13	57	113	125	2,250
	PS13-ID50	50	1-13	57	93	105	4,050

Characteristics:
Adaptor from MAS BT tape for modular mills.

MAS BT





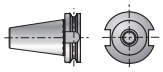
49_06

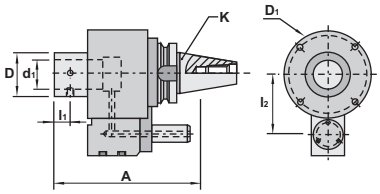
Ref.		K	L2	A	d2	M	Kg
	49.40.06.10	40	50	80	18,0	M10	1,250
	49.40.06.10L130	40	100	130	18,0	M10	1,550
	49.40.06.10L200	40	158	200	18,0	M10	2,100
	49.40.06.10L250	40	208	250	18,0	M10	2,490
	49.40.06.10L300	40	258	300	18,0	M10	2,900
	49.40.06.12	40	50	80	21,0	M12	1,400
	49.40.06.12L130	40	100	130	21,0	M12	1,800
	49.40.06.12L200	40	158	200	21,0	M12	2,600
	49.40.06.12L250	40	208	250	21,0	M12	3,100
	49.40.06.12L300	40	258	300	21,0	M12	3,600
	49.40.06.16	40	50	80	29,0	M16	2,900
	49.40.06.16L130	40	100	130	29,0	M16	3,600
	49.40.06.16L200	40	158	200	29,0	M16	4,400
	49.40.06.16L250	40	208	250	29,0	M16	5,500
	49.40.06.16L300	40	258	300	29,0	M16	7,000
	49.50.06.12	50	100	140	21,0	M12	3,700
	49.50.06.12L190	50	150	190	21,0	M12	4,050
	49.50.06.12L250	50	197	250	21,0	M12	4,450
	49.50.06.12L300	50	247	300	21,0	M12	5,650
	49.50.06.12L400	50	347	400	21,0	M12	6,650
	49.50.06.16	50	100	140	29,0	M16	5,550
	49.50.06.16L190	50	150	190	29,0	M16	6,650
	49.50.06.16L250	50	197	250	29,0	M16	7,750
	49.50.06.16L300	50	247	300	29,0	M16	9,000
	49.50.06.16L400	50	347	400	29,0	M16	11,000
	49.50.06.16L500	50	447	500	29,0	M16	13,400

Inserts
Face milling cutters
Square shoulder cutters
Slot cutters
Porcupine cutters
Specific applications and Sets
Profile milling
Solid carbide
Drills
Boring heads
Arbors and adaptors

Characteristics:
Colling fluid supply unit.

MAS BT

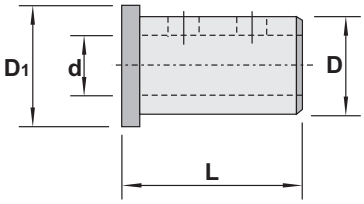




49_10

Ref.	K	d1	A	D	D1	l1	l2		Kg
49.40.10.25	40	25	152	45	95	15	65	1516	4,400
49.40.10.32	40	32	152	48	95	16	65	1516	4,500
49.50.10.32	50	32	152	48	95	16	80	1516	7,900
49.50.10.40	50	40	166	58	110	17	80	1516	8,000

Characteristics:
Reducing bushings.

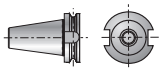


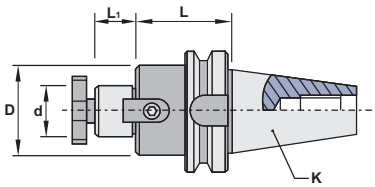
00.21

Ref.	D	d	D1	L	Kg
00.21.25.16	25	16	33	55	0,150
00.21.25.20	25	20	33	55	0,100
00.21.32.16	32	16	40	60	0,400
00.21.32.20	32	20	40	60	0,300
00.21.32.25	32	25	40	60	0,250
00.21.40.16	40	16	48	65	0,750
00.21.40.20	40	20	48	65	0,700
00.21.40.25	40	25	48	65	0,600
00.21.40.32	40	32	48	65	0,400

Characteristics:
Mill chuck MAS BT taper with fixed drivers.

MAS BT



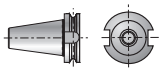


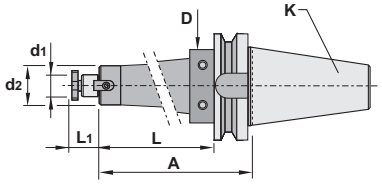
49_16

Ref.		K	d	D	L	L1	Kg
	49.40.16.16	40	16	32	44	17	1,150
	49.40.16.22	40	22	40	44	19	1,250
	49.40.16.27	40	27	48	47	21	1,400
	49.40.16.32	40	32	58	50	24	1,650
	49.40.16.40	40	40	70	52	27	2,050
	49.50.16.16	50	16	32	55	17	3,800
	49.50.16.22	50	22	40	55	19	3,900
	49.50.16.27	50	27	48	58	21	4,100
	49.50.16.32	50	32	58	61	24	4,350
	49.50.16.40	50	40	70	63	27	4,800
	49.50.16.60	50	60	128	25	40	8,100

Characteristics:
Mill chuck MAS BT taper with fixed drivers.
(Long)

MAS BT





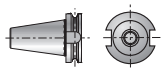
49_16L

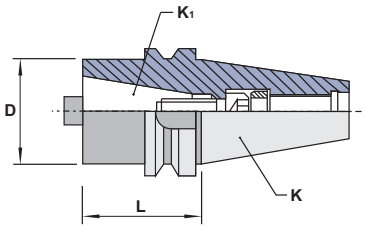
Ref.		K	D	A	L	L1	d1	d2	Kg
	49.40.16.16L150	40	50	150	116	36	16	36	1,700
	49.40.16.16L200	40	50	200	166	36	16	36	2,050
	49.40.16.16L250	40	50	250	216	36	16	36	2,450
	49.40.16.16L300	40	50	300	266	36	16	36	2,750
	49.40.16.22L150	40	50	150	116	19	22	44	2,100
	49.40.16.22L200	40	50	200	166	19	22	44	2,650
	49.40.16.22L250	40	50	250	216	19	22	44	3,100
	49.40.16.22L300	40	50	300	266	19	22	44	3,650
	49.40.16.27L150	40	56	150	116	21	27	54	2,650
	49.40.16.27L200	40	56	200	166	21	27	54	3,350
	49.40.16.27L250	40	56	250	216	21	27	54	4,150
	49.40.16.27L300	40	56	300	266	21	27	54	4,850
	49.50.16.16L150	50	80	150	112	36	16	36	4,100
	49.50.16.16L200	50	80	200	162	36	16	36	4,500
	49.50.16.16L250	50	80	250	212	36	16	36	4,800
	49.50.16.16L300	50	80	300	262	36	16	36	5,600
	49.50.16.16L400	50	80	400	362	36	16	36	6,400
	49.50.16.22L200	50	80	200	162	19	22	44	4,700
	49.50.16.22L250	50	80	250	212	19	22	44	5,150
	49.50.16.22L300	50	80	300	262	19	22	44	5,700
	49.50.16.22L400	50	80	400	362	19	22	44	6,700
	49.50.16.22L500	50	80	500	462	19	22	44	7,700
	49.50.16.27L200	50	80	200	162	21	27	54	5,400
	49.50.16.27L250	50	80	250	212	21	27	54	6,200
	49.50.16.27L300	50	80	300	262	21	27	54	6,900
	49.50.16.27L400	50	80	400	362	21	27	54	7,900
	49.50.16.27L500	50	80	500	462	21	27	54	8,900
	49.50.16.32L200	50	80	200	162	24	32	54	6,700
	49.50.16.32L250	50	80	250	212	24	32	64	7,500
	49.50.16.32L300	50	80	300	262	24	32	64	8,200
	49.50.16.32L400	50	80	400	362	24	32	64	9,200
	49.50.16.32L500	50	80	500	462	24	32	64	10,200

Inserts
Face milling cutters
Square shoulder cutters
Slot cutters
Porcupine cutters
Specific applications and Sets
Profile milling
Solid carbide
Drills
Boring heads
Arbors and adaptors

Characteristics:
Adaptor from MAS BT to ISO taper with internal pull stud.

MAS BT



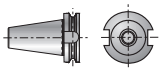


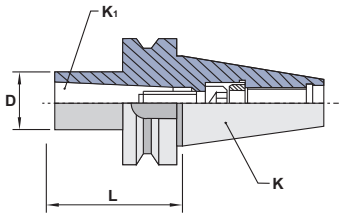
49_22

Ref.	K	K1	D	L	Kg
49.50.22.40	50	40	78	70	4,850

Characteristics:
Mill adaptor from MAS BT taper to Morse taper with internal pull stud.

MAS BT



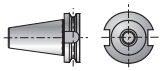


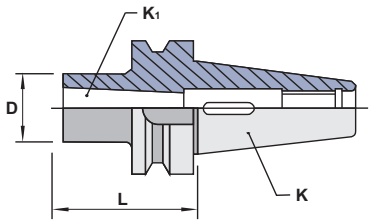
49_23

Ref.	K	K1	D	L	Kg
49.40.23.02	40	MK2	32	50	1,050
49.40.23.03	40	MK3	40	70	1,200
49.40.23.04	40	MK4	48	95	1,450
49.50.23.03	50	MK3	40	65	3,700
49.50.23.04	50	MK4	48	70	3,900

Characteristics:
Drill adaptor from MAS BT taper to Morse taper.

MAS BT



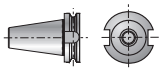


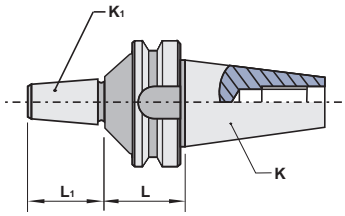
49_26

Ref.	K	K1	D	L	Kg
49.40.26.01	40	MK1	25	50	1,000
49.40.26.02	40	MK2	32	50	1,000
49.40.26.03	40	MK3	40	70	1,100
49.40.26.04	40	MK4	48	95	1,350
49.50.26.03	50	MK3	40	65	3,600
49.50.26.04	50	MK4	48	95	3,500

Characteristics:
Drill chuck adaptor MAS BT taper.

MAS BT





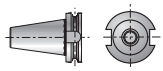
49_28

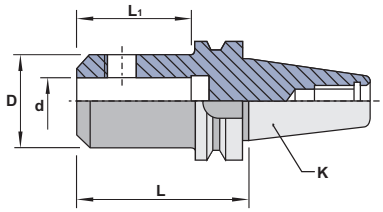
Ref.	K	K1	L	L1	Kg
49.40.28.12	40	B12	32	18,5	1,000
49.40.28.16	40	B16	32	24,0	1,000
49.40.28.18	40	B18	32	32,0	1,050
49.50.28.16	50	B16	43	24,0	3,700
49.50.28.18	50	B18	43	32,0	4,200

Inserts
Face milling cutters
Square shoulder cutters
Slot cutters
Porcupine cutters
Specific applications and Sets
Profile milling
Solid carbide
Drills
Boring heads
Arbors and adaptors

Characteristics:
End mill adaptor MAS BT taper.

MAS BT



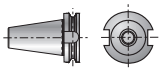


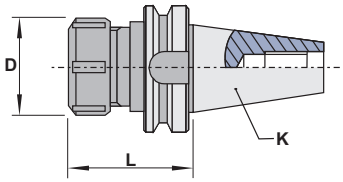
49_30

Ref.	K	d	D	L	L1	Kg
49.40.30.10	40	10	35	63	39	1,150
49.40.30.12	40	12	42	63	44	1,250
49.40.30.16	40	16	48	63	47	1,300
49.40.30.20	40	20	52	63	49	1,350
49.40.30.25	40	25	65	90	54	2,200
49.40.30.32	40	32	72	100	58	2,700
49.50.30.16	50	16	48	80	47	3,900
49.50.30.20	50	20	52	80	49	3,950
49.50.30.25	50	25	65	100	54	4,700
49.50.30.32	50	32	72	105	58	5,150

Characteristics:
Chuck MAS BT for ER collets DIN 6499/B

MAS BT





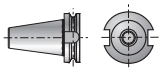
For more information see page:
Collets: K.47
Clamping nuts: K.51
Spanners: K.52

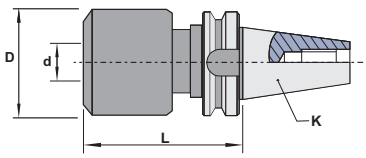
49_31

Ref.	K	L	D	Size of collets	Clamping nut	Collet	Kg
49.40.31.16	40	60	28	1-10	2190	ER16	1,050
49.40.31.20	40	70	34	1-13	2191	ER20	1,100
49.40.31.25	40	70	42	1-16	2092	ER25	1,100
49.40.31.32	40	70	50	2-20	2093	ER32	1,150
49.40.31.32L	40	100	50	2-20	2093	ER32	1,600
49.40.31.40	40	80	63	4-30	2094	ER40	1,200
49.40.31.40L	40	135	63	4-30	2094	ER40	2,050
49.50.31.32	50	80	50	2-20	2093	ER32	3,800
49.50.31.32L	50	100	50	2-20	2093	ER32	4,400
49.50.31.40	50	80	63	4-30	2094	ER40	3,900
49.50.31.40L	50	120	63	4-30	2094	ER40	4,700

Characteristics:
Strong hold milling chucks.

MAS BT



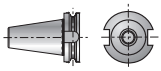


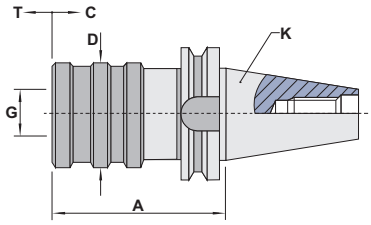
49_34

		K	d	D	L	Kg
Ref.	**49.40.34.20**	40	20	54	105	1,950
	49.40.34.32	40	32	72	105	2,550
	49.50.34.32	50	32	72	105	4,450

Characteristics:
Quick change tapping heads.

MAS BT





For more information see page:
Tap adaptors: K.53

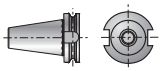
49_37

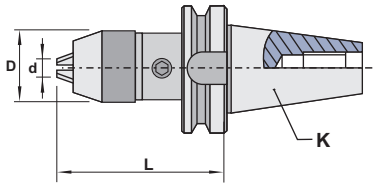
		K	Nº	G ø	T	A	D	C				Kg
Ref.	**49.40.37.12**	40	1	19	9	60	36	9	M3-M12	71XX	75XX	1,200
	49.40.37.20	40	2	31	9	92	53	15	M8-M20	72XX	76XX	1,650
	49.40.37.33	40	3	48	9	138	78	24	M14-M33	73XX	77XX	3,200
	49.50.37.12	50	1	19	9	60	36	9	M3-M12	71XX	75XX	3,900
	49.50.37.20	50	2	31	9	92	53	15	M8-M20	72XX	76XX	4,200
	49.50.37.33	50	3	48	9	138	78	24	M14-M33	73XX	77XX	5,500

Inserts
Face milling cutters
Square shoulder cutters
Slot cutters
Porcupine cutters
Specific applications and Sets
Profile milling
Solid carbide
Drills
Boring heads
Arbors and adaptors

Characteristics:
Super precision drill chuck with hexagonal key lock system.

MAS BT/A-B-AD



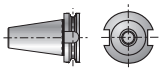


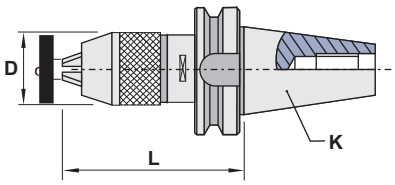
HX-BT

Ref.	K	d	D	Lmin	Lmax		Kg
HX10-BT40	40	0-10	43	77	85,5	-	1,300
HX10-BT40/R	40	0-10	43	77	85,5	B-AD	1,300
HX13-BT40	40	1-13	53	91	103,0	-	1,640
HX13-BT40/R	40	1-13	53	91	103,0	B-AD	1,640
HX16-BT40	40	3-16	57	94	105,0	-	1,740
HX16-BT40/R	40	3-16	57	94	105,0	B-AD	1,740
HX10-BT50	50	0-10	43	79	87,5	-	3,080
HX10-BT50/R	50	0-10	43	79	87,5	B-AD	3,080
HX13-BT50	50	1-13	53	93	105,0	-	3,460
HX13-BT50/R	50	1-13	53	93	105,0	B-AD	3,460
HX16-BT50	50	3-16	57	96	107,0	-	3,560
HX16-BT50/R	50	3-16	57	96	107,0	B-AD	3,560

Characteristics:
Integral drill chuck with safety clamping system.

MAS BT



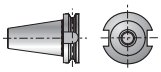


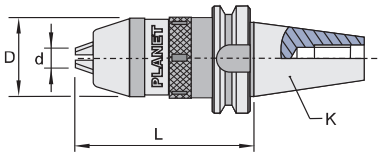
NPU-BT

Ref.	K	d	D	Lmin	Lmax	Kg
NPU13-BT40	40	1-13	48	78	89	1,550
NPU16-BT40	40	3-16	55	90	101	2,000
NPU13-BT50	50	1-13	48	74	85	4,150
NPU16-BT50	50	3-16	55	72	83	4,300

Characteristics:
High precision drill chuck for CNC machine center and milling machines.

MAS BT





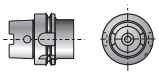
PS-BT

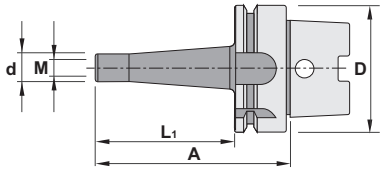
Ref.		K	d	D	Lmin	Lmax	Kg
	PS13-BT40	40	1-13	57	99	110	2,250
	PS16-BT40	40	3-16	57	101	112	2,300
	PS13-BT50	50	1-13	57	110	122	4,950
	PS16-BT50	50	3-16	57	110	121	5,200

Inserts
Face milling cutters
Square shoulder cutters
Slot cutters
Porcupine cutters
Specific applications and Sets
Profile milling
Solid carbide
Drills
Boring heads
Arbors and adaptors

Characteristics:
Adaptor from HSK tape for modular mills.

HSK



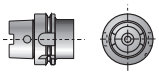


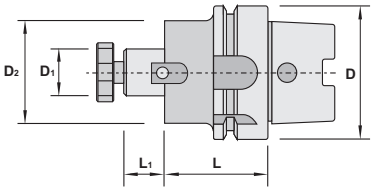
52_06

Ref.	D	L1	A	d	M	Kg
52.40.06.06	40	25	50	9,8	M6	0,550
52.40.06.06L	40	75	100	9,8	M6	0,670
52.40.06.08	40	25	50	12,8	M8	0,580
52.40.06.08L	40	75	100	12,8	M8	0,700
52.50.06.08	50	25	55	12,8	M8	0,950
52.50.06.08L	50	75	105	12,8	M8	1,070
52.50.06.10	50	25	55	12,8	M10	0,980
52.50.06.10L	50	75	105	12,8	M10	1,100

Characteristics:
Integral drill chuck with safety clamping system.

HSK - DIN 138



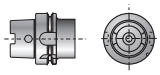


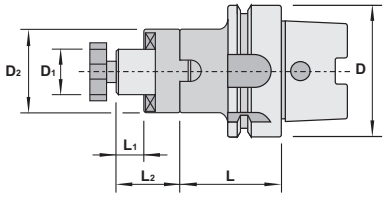
52_16

Ref.	L	L1	D	D1	D2	Kg
52.50.16.22	60	19	50	22	50	0,500
52.50.16.27	60	21	50	27	60	0,850
52.63.16.22	50	19	63	22	50	0,950
52.63.16.27	60	21	63	27	60	1,350
52.63.16.32	60	24	63	32	70	1,950
52.63.16.40	60	27	63	40	89	2,675
52.100.16.22	50	19	100	22	50	1,700
52.100.16.27	50	21	100	27	60	2,000
52.100.16.32	50	24	100	32	70	2,700

Characteristics:
Mill chuck with frontal drivers and tongue.

HSK



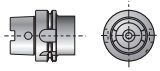


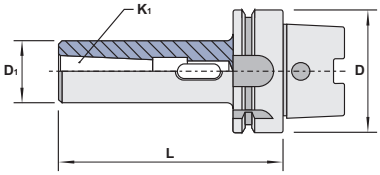
52_18

Ref.		L	L1	L2	D	D1	D2	Kg
	52.50.18.16	40	17	27	50	16	32	0,500
	52.50.18.22	38	19	31	50	22	40	0,700
	52.50.18.27	53	21	33	50	27	48	0,950
	52.50.18.32	51	24	38	50	32	58	1,100
	52.63.18.16	50	17	27	63	16	32	0,900
	52.63.18.22	48	19	31	63	22	40	1,100
	52.63.18.27	48	21	33	63	27	48	1,300
	52.63.18.32	46	24	38	63	32	58	1,600
	52.63.18.40	56	27	41	63	40	70	2,350
	52.100.18.16	50	17	27	100	16	32	1,700
	52.100.18.22	48	19	31	100	22	40	1,900
	52.100.18.27	48	21	33	100	27	48	2,100
	52.100.18.32	46	24	38	100	32	58	2,400
	52.100.18.40	56	27	41	100	40	70	3,150

Characteristics:
Morse taper drill adaptor.

HSK - DIN 228/B





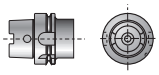
52_26

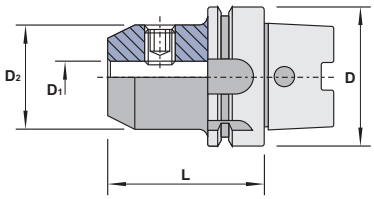
Ref.		L	D	D1	K1	Kg
	52.50.26.01	100	50	25	MK1	0,650
	52.50.26.02	120	50	32	MK2	0,800
	52.50.26.03	140	50	40	MK3	1,000
	52.63.26.01	100	63	25	MK1	1,100
	52.63.26.02	120	63	32	MK2	1,250
	52.63.26.03	140	63	40	MK3	1,450
	52.63.26.04	160	63	48	MK4	1,650
	52.100.26.01	110	100	25	MK1	1,850
	52.100.26.02	120	100	32	MK2	2,000
	52.100.26.03	150	100	40	MK3	3,200
	52.100.26.04	170	100	48	MK4	3,450
	52.100.26.05	200	100	63	MK5	4,500

Inserts
Face milling cutters
Square shoulder cutters
Slot cutters
Porcupine cutters
Specific applications and Sets
Profile milling
Solid carbide
Drills
Boring heads
Arbors and adaptors

Characteristics:
End mill adaptor.

HSK - DIN 1835B



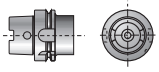


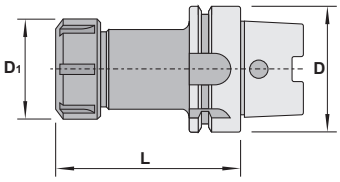
52_30

Ref.	L	D	D1	D2	Kg
52.50.30.06	65	50	6	25	0,300
52.50.30.08	65	50	8	28	0,400
52.50.30.10	65	50	10	35	0,500
52.50.30.12	80	50	12	42	0,750
50.50.30.14	80	50	14	44	0,850
50.50.30.16	80	50	16	48	0,900
52.50.30.18	80	50	18	50	0,950
52.50.30.20	80	50	20	52	1,050
52.63.30.06	65	63	6	25	0,780
52.63.30.08	65	63	8	28	0,800
52.63.30.10	65	63	10	35	0,900
52.63.30.12	80	63	12	42	1,150
52.63.30.14	80	63	14	44	1,200
52.63.30.16	80	63	16	48	1,300
52.63.30.18	80	63	18	50	1,350
52.63.30.20	80	63	20	52	1,400
52.63.30.25	110	63	25	65	2,250
52.63.30.32	110	63	32	72	2,500
52.100.30.06	80	100	6	25	1,580
52.100.30.08	80	100	8	28	1,600
52.100.30.10	80	100	10	35	1,700
52.100.30.12	80	100	12	42	1,950
52.100.30.14	80	100	14	44	2,000
52.100.30.16	100	100	16	48	2,100
52.100.30.18	100	100	18	50	2,150
52.100.30.20	100	100	20	52	2,200
52.100.30.25	100	100	25	65	3,000
52.100.30.32	100	100	32	72	3,300

Characteristics:
Chuck for ER collets DIN 6499/B

HSK-DIN 6499





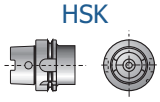
For more information see page:
Collets: K.47
Clamping nuts: K.51
Spanners: K.52

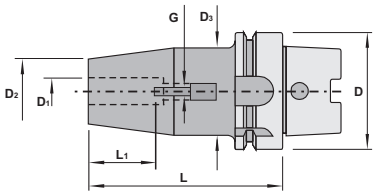
52_31

Ref.	L	D	D1	Collet	Size of collets	Kg
52.50.31.32	100	50	50	ER32	2-20	1,000
52.63.31.32	100	63	50	ER32	2-20	1,400
52.63.31.40	120	63	63	ER40	3-26	1,750
52.100.31.32	100	100	50	ER32	2-20	2,600
52.100.31.40	120	100	63	ER40	3-26	2,950

Characteristics:
Shrink fit chucks.

HSK





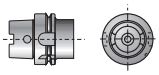
52_35

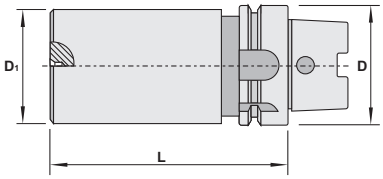
Ref.		D	D1	D2	D3	L	L1	G	Kg
	52.40.35.06	40	6	21	27	80	36	M5	0,530
	52.40.35.08	40	8	21	27	80	36	M6	0,530
	52.40.35.10	40	10	24	32	80	42	M8	0,580
	52.40.35.12	40	12	24	32	90	47	M10	0,610
	52.40.35.14	40	14	28	34	90	47	M10	0,660
	52.40.35.16	40	16	28	34	90	50	M12	0,700
	52.50.35.06	50	6	21	27	80	36	M5	0,660
	52.50.35.08	50	8	21	27	80	36	M6	0,660
	52.50.35.10	50	10	24	32	85	42	M8	0,720
	52.50.35.12	50	12	24	32	90	47	M10	0,750
	52.50.35.14	50	14	28	34	90	47	M10	0,830
	52.50.35.16	50	16	28	34	95	50	M12	0,860
	52.50.35.18	50	18	33	42	95	50	M12	1,000
	52.50.35.20	50	20	33	42	100	52	M16	1,050
	52.63.35.06.L80	63	6	21	27	80	36	M5	1,050
	52.63.35.06.L120	63	6	21	27	120	36	M5	1,450
	52.63.35.06.L160	63	6	21	27	160	36	M5	1,850
	52.63.35.08.L80	63	8	21	27	80	36	M6	1,050
	52.63.35.08.L120	63	8	21	27	120	36	M6	1,450
	52.63.35.08.L160	63	8	21	27	160	36	M6	1,850
	52.63.35.10.L85	63	10	24	32	85	42	M8	1,100
	52.63.35.10.L120	63	10	24	32	120	42	M8	1,600
	52.63.35.10.L160	63	10	24	32	160	42	M8	2,100
	52.63.35.12.L90	63	12	24	32	90	47	M10	1,150
	52.63.35.12.L120	63	12	24	32	120	47	M10	1,550
	52.63.35.12.L160	63	12	24	32	160	47	M10	2,150
	52.63.35.14	63	14	27	34	90	47	M10	1,220
	52.63.35.16	63	16	27	34	95	50	M12	1,270
	52.63.35.18	63	18	33	42	95	50	M12	1,400
	52.63.35.20	63	20	33	42	100	52	M16	1,450
	52.63.35.25	63	25	44	53	115	58	M20	1,700
	52.63.35.32	63	32	44	53	120	58	M20	2,100
	52.80.35.06	80	6	21	27	85	36	M5	1,660
	52.80.35.08	80	8	21	27	85	36	M6	1,660
	52.80.35.10	80	10	24	32	90	42	M8	1,720
	52.80.35.12	80	12	24	32	95	47	M10	1,750
	52.80.35.14	80	14	28	34	95	47	M10	1,830
	52.80.35.16	80	16	28	34	100	50	M12	1,860
	52.80.35.18	80	18	33	42	100	50	M12	2,000
	52.80.35.20	80	20	33	42	105	52	M16	2,050
	52.80.35.25	80	25	44	53	115	58	M20	2,350
	52.80.35.32	80	32	44	53	120	58	M20	2,750
	52.100.35.06	100	6	21	27	85	36	M5	2,260
	52.100.35.08	100	8	21	27	85	36	M6	2,260
	52.100.35.10	100	10	24	32	90	42	M8	2,320
	52.100.35.12	100	12	24	32	95	47	M10	2,350
	52.100.35.14	100	14	28	34	95	47	M10	2,430
	52.100.35.16	100	16	28	34	100	50	M12	2,460
	52.100.35.18	100	18	33	42	100	50	M12	2,600
	52.100.35.20	100	20	33	42	105	52	M16	2,650
	52.100.35.25	100	25	44	53	115	58	M20	2,950
	52.100.35.32	100	32	44	53	120	58	M20	3,350

Inserts
Face milling cutters
Square shoulder cutters
Slot cutters
Porcupine cutters
Specific applications and Sets
Profile milling
Solid carbide
Drills
Boring heads
Arbors and adaptors

Characteristics:
Blank boring bars for the manufacture of special tools.

HSK



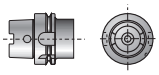


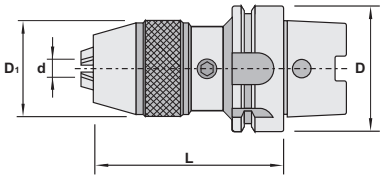
52_33

Ref.		L	D	D1	Kg
	52.50.33.63	200	50	63	6,500
	52.63.33.80	200	63	80	9,500
	52.63.33.100	250	63	100	15,100

Characteristics:
Super precision drill chuck with hexagonal key lock system.

HSK/A-AD



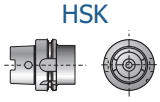


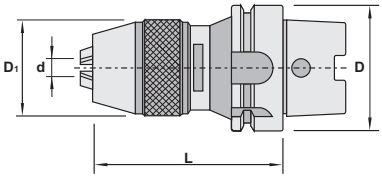
HX-HSK

Ref.		D	d	D1	Lmin	Lmax		Kg
	HX13-HSK50	50	1-13	53	116,0	127,0	-	1,680
	HX13-HSK50/R	50	1-13	53	116,0	127,0	AD	1,680
	HX16-HSK50	50	3-16	57	119,0	131,0	-	1,780
	HX16-HSK50/R	50	3-16	57	119,0	131,0	AD	1,780
	HX13-HSK63	63	1-13	53	115,0	126,0	-	2,200
	HX13-HSK63/R	63	1-13	53	115,0	126,0	AD	2,200
	HX16-HSK63	63	3-16	57	117,5	129,5	-	2,600
	HX16-HSK63/R	63	3-16	57	117,5	129,5	AD	2,600
	HX13-HSK100	100	1-13	53	108,5	119,5	-	3,080
	HX13-HSK100/R	100	1-13	53	108,5	119,5	AD	3,080
	HX16-HSK100	100	3-16	57	111,0	123,0	-	3,160
	HX16-HSK100/R	100	3-16	57	111,0	123,0	AD	3,160

Characteristics:
Integral drill chuck with safety clamping system.

HSK





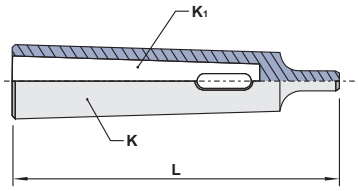
NPU-HSK

Ref.		D	d	D1	L	L	Kg
	NPU13-HSK50	50	1-13	48	120	131	2,100
	NPU13-HSK63	63	1-13	48	120	131	2,300
	NPU16-HSK100	100	3-16	55	134	145	4,400

Inserts
Face milling cutters
Square shoulder cutters
Slot cutters
Porcupine cutters
Specific applications and Sets
Profile milling
Solid carbide
Drills
Boring heads
Arbors and adaptors

Characteristics:
Precision drill chuck arbors.

DIN 228/B

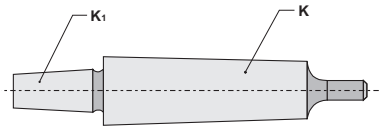


CR

Ref.	K	K1	L	Kg
CR-2x1	MK2	MK1	92	0,100
CR-3x1	MK3	MK1	99	0,200
CR-3x2	MK3	MK2	112	0,200
CR-4x2	MK4	MK2	124	0,450
CR-4x3	MK4	MK3	140	0,400
CR-5x3	MK5	MK3	156	1,200
CR-5x4	MK5	MK4	171	1,050

Characteristics:
Drill sleeves.

DIN 228/B

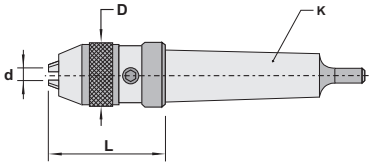


E

Ref.	K	K1	Kg
E-12/2	MK2	B-12	0,150
E-16/2	MK2	B-16	0,200
E-18/2	MK2	B-18	0,200
E-16/3	MK3	B-16	0,350
E-18/3	MK3	B-18	0,350
E-16/4	MK4	B-16	0,650
E-18/4	MK4	B-18	0,650

Characteristics:
Super precision drill chuck with hexagonal key lock system.

DIN 228/B

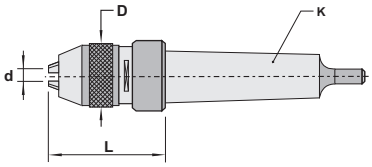


HX-MT

Ref.	d	K	D	Lmin	Lmax	Kg
HX13-MT-2	1-13	MT-2	53	95,5	106,5	1,320
HX16-MT-2	3-16	MT-2	57	98,0	107,0	1,420
HX13-MT-3	1-13	MT-3	53	95,5	106,5	1,480
HX16-MT-3	3-16	MT-3	57	98,0	107,0	1,560
HX13-MT-4	1-13	MT-4	53	95,5	106,5	1,800
HX16-MT-4	3-16	MT-4	57	98,0	107,0	1,880

Characteristics:
Super precision drill chucks with integraded sleve.

DIN 228/B

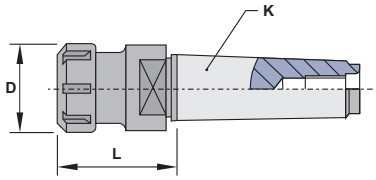


SPS-MT

Ref.	d	K	Lmin	Lmax	D	Kg
SPS13-MT3	1-13	MK3	80	92	48	1,350
SPS16-MT3	3-16	MK3	85	96	54	1,750
SPS16-MT4	3-16	MK4	85	96	54	2,000

Characteristics:
Threaded Morse taper chuck for ER collets DIN 6499/B

DIN 228/A



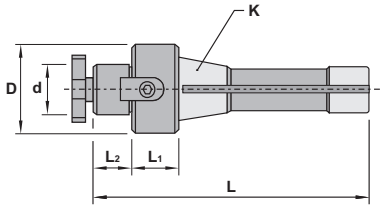
For more information see page:
Collets: K.47
Clamping nuts: K.51
Spanners: K.52

30_31

Ref.	K	L	D	Size of collets	Clamping nut	Collet	Kg
30.03.31.32	MK3	70	50	2-20	2093	ER32	0,600
30.03.31.40	MK3	80	63	4-30	2094	ER40	0,950
30.04.31.32	MK4	60	50	2-20	2093	ER32	0,700
30.04.31.40	MK4	81	63	4-30	2094	ER40	1,200

Characteristics:
Mill chuck with fixed drivers.

R-8

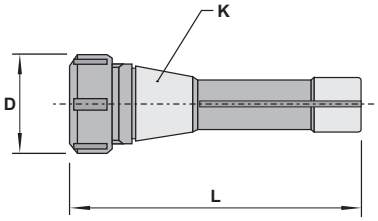


80_16

Ref.		K	d	D	L	L1	L2	Kg
	80.80.16.16	R8	16	32	137	25	17	0,550
	80.80.16.22	R8	22	41	137	25	19	0,700
	80.80.16.27	R8	27	43	137	25	21	0,900
	80.80.16.32	R8	32	64	143	25	24	1,000
	80.80.16.40	R8	40	70	143	40	27	1,700

Characteristics:
Chuck R-8 taper for ER collets DIN 6499/B

R-8



For more information see page:
Collets: K.47
Clamping nuts: K.51
Spanners: K.52

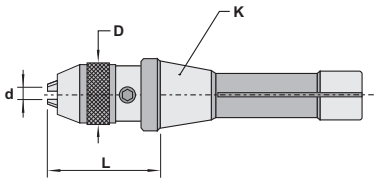
80_31

Ref.		K	L	D	Size of collets	Clamping nut	Collet	Kg
	80.80.31.16	R8	133	28	0,5-10	2090	ER16	0,450
	80.80.31.32	R8	133	50	2-20	2093	ER32	0,550
	80.80.31.40	R8	143	63	4-30	2094	ER40	1,100

Inserts
Face milling cutters
Square shoulder cutters
Slot cutters
Porcupine cutters
Specific applications and Sets
Profile milling
Solid carbide
Drills
Boring heads
Arbors and adaptors

Características:
Super precision drill chuck with hexagonal key lock system.

R-8

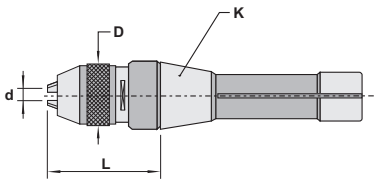


HX-R8

Ref.	d	K	D	Lmin	Lmax	Kg
HX13-R8	1-13	R-8	53	95,0	106,0	1,580
HX16-R8	3-16	R-8	57	97,0	109,5	1,660

Characteristics:
Integral drill chuck with safety clamping system.

R-8

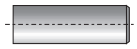


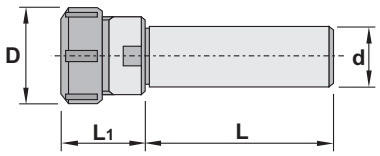
SPS-R8

Ref.	d	K	Lmin	Lmax	D	Kg
SPS13-R8	1-13	R-8	65	72	37	1,150

Characteristics:
Chuck with cylindrical shank for ER collets DIN 6499/B

DIN 1835-A





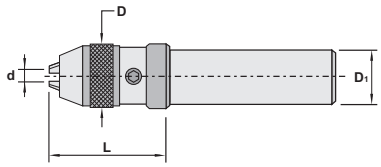
For more information see page:
Collets: K.47
Clamping nuts: K.51
Spanners: K.52

00_31

Ref.		d	D	L	L1	Size of collets	Clamping nut	Collet	Kg
	00.16.31.16	16	22	160	30	1-10	2090	ER16	0,250
	00.20.31.16	20	22	160	30	1-10	2090	ER16	0,400
	00.20.31.32	20	50	100	53	2-20	2093	ER32	0,550
	00.25.31.32	25	50	100	53	2-20	2093	ER32	0,650
	00.32.31.32	32	50	100	53	2-20	2093	ER32	0,550
	00.32.31.40	32	63	130	53	4-30	2094	ER40	1,200
	00.40.31.32	40	50	120	53	2-20	2093	ER32	0,800
	00.40.31.40	40	63	120	60	4-30	2094	ER40	1,350

Characteristics:
Super precision drill chuck with hexagonal key lock system.

DIN 1835-A



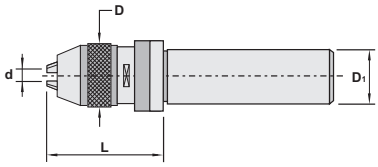
HX-CIL

Ref.		d	D1	D	Lmin	Lmax	Kg
	HX13-CIL-20	1-13	20	53	92,5	103,5	1,300
	HX16-CIL-20	3-16	20	57	95,0	107,0	1,400
	HX13-CIL-25	1-13	25	53	92,5	103,5	1,400
	HX16-CIL-25	3-16	25	57	95,0	107,0	1,480
	HX13-CIL-32	1-13	32	53	92,5	103,5	1,560
	HX16-CIL-32	3-16	32	57	95,0	107,0	1,640
	HX13-CIL-40	1-13	40	53	92,5	103,5	1,860
	HX16-CIL-40	3-16	40	57	95,0	107,0	1,940

Inserts
Face milling cutters
Square shoulder cutters
Slot cutters
Porcupine cutters
Specific applications and Sets
Profile milling
Solid carbide
Drills
Boring heads
Arbors and adaptors

Characteristics:
Integral drill chuck with safety clamping system.

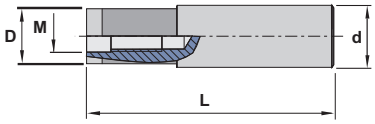
DIN 1835-A



NPU-CIL

Ref.	d	D1	D	Lmin	Lmax	Kg
NPU08-CIL25	0-8	25	38	101	107	0,850
NPU13-CIL32	1-13	32	48	96	107	2,250
NPU16-CIL40	3-16	40	55	120	131	3,650

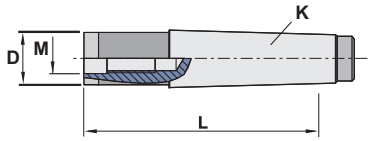
Characteristics:
Steel cylindric shanks for modular milling heads.
HD= Antivibration shank (heavy metal)



06_0 0 1 2

Ref.	d	L	M	D	Kg
06.20.00.10	20	125	M10	18	0,300
06.25.00.12	25	125	M12	21	0,450
06.12.00.06HD	12	125	M6	10	0,230
06.16.00.08HD	16	125	M8	14	0,405
06.12.01.06HD	12	150	M6	10	0,265
06.16.01.08HD	16	150	M8	14	0,470
06.20.01.10HD	20	150	M10	18	0,755
06.25.01.12HD	25	150	M12	21	1,105
06.20.02.10HD	20	200	M10	18	1,005
06.25.02.12HD	25	200	M12	21	1,460

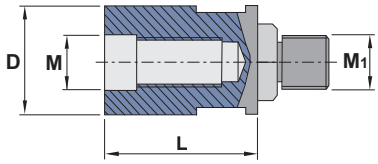
Characteristics:
Steel Morse shanks for modular milling heads.



06_30

Ref.	K	L	M	D	Kg
06.03.30.08	30	125	M8	14	0,290
06.03.30.10	30	125	M10	18	0,300
06.03.30.12	30	125	M12	21	0,305
06.04.30.16	40	154	M16	29	0,670

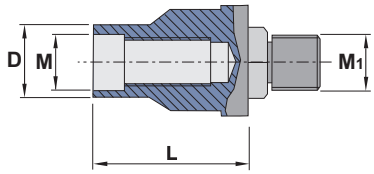
Characteristics:
Front contact extensions for modular tools.



06

Ref.	D	L	M	M1	Kg
06.08.08	12,7	30	8	8	0,020
06.10.10	17,7	35	10	10	0,050
06.12.12	20,7	40	12	12	0,075
06.16.16	28,7	40	16	16	0,150

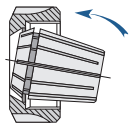
Characteristics:
Front contact reducers for modular tools.

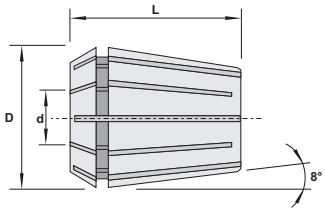


06

Ref.	D	L	M	M1	Kg
06.08.10	17,7	30	8	10	0,040
06.10.12	20,7	35	10	12	0,060
06.12.16	28,7	40	12	16	0,150
06.08.12	20,7	40	8	12	0,075
06.10.16	28,7	60	10	16	0,240

Characteristics:
Collets type (ER) DIN 6499/B.



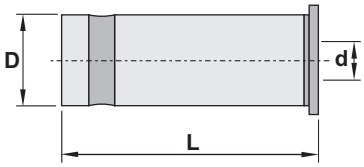


ER

Ref.		L	D	d	Kg
	ER1601	27	17,5	1	0,020
	ER1602	27	17,5	2	0,020
	ER1603	27	17,5	3	0,020
	ER1604	27	17,5	4	0,020
	ER1605	27	17,5	5	0,020
	ER1606	27	17,5	6	0,020
	ER1607	27	17,5	7	0,020
	ER1608	27	17,5	8	0,015
	ER1609	27	17,5	9	0,015
	ER1610	27	17,5	10	0,015
	ER2001	31	21,0	1	0,040
	ER2002	31	21,0	2	0,040
	ER2003	31	21,0	3	0,040
	ER2004	31	21,0	4	0,040
	ER2005	31	21,0	5	0,040
	ER2006	31	21,0	6	0,040
	ER2007	31	21,0	7	0,035
	ER2008	31	21,0	8	0,035
	ER2009	31	21,0	9	0,030
	ER2010	31	21,0	10	0,025
	ER2011	31	21,0	11	0,025
	ER2012	31	21,0	12	0,020
	ER2013	31	21,0	13	0,020
	ER2501	35	26,0	1	0,075
	ER2502	35	26,0	2	0,075
	ER2503	35	26,0	3	0,075
	ER2504	35	26,0	4	0,070
	ER2505	35	26,0	5	0,070
	ER2506	35	26,0	6	0,070
	ER2507	35	26,0	7	0,070
	ER2508	35	26,0	8	0,070
	ER2509	35	26,0	9	0,065
	ER2510	35	26,0	10	0,065
	ER2511	35	26,0	11	0,065
	ER2512	35	26,0	12	0,060
	ER2513	35	26,0	13	0,060
	ER2514	35	26,0	14	0,055
	ER2515	35	26,0	15	0,045
	ER2516	35	26,0	16	0,045
	ER3202	40	33,0	2	0,130
	ER3203	40	33,0	3	0,135
	ER3204	40	33,0	4	0,140
	ER3205	40	33,0	5	0,140
	ER3206	40	33,0	6	0,135
	ER3207	40	33,0	7	0,135
	ER3208	40	33,0	8	0,135
	ER3209	40	33,0	9	0,140
	ER3210	40	33,0	10	0,135
	ER3211	40	33,0	11	0,130
	ER3212	40	33,0	12	0,130
	ER3213	40	33,0	13	0,125
	ER3214	40	33,0	14	0,120
	ER3215	40	33,0	15	0,115
	ER3216	40	33,0	16	0,110
	ER3217	40	33,0	17	0,105
	ER3218	40	33,0	18	0,100

Ref.		L	D	d	Kg
	ER3219	40	33,0	19	0,095
	ER3220	40	33,0	20	0,085
	ER4003	46	41,0	3	0,250
	ER4004	46	41,0	4	0,255
	ER4005	46	41,0	5	0,255
	ER4006	46	41,0	6	0,260
	ER4007	46	41,0	7	0,260
	ER4008	46	41,0	8	0,255
	ER4009	46	41,0	9	0,255
	ER4010	46	41,0	10	0,260
	ER4011	46	41,0	11	0,270
	ER4012	46	41,0	12	0,265
	ER4013	46	41,0	13	0,260
	ER4014	46	41,0	14	0,255
	ER4015	46	41,0	15	0,245
	ER4016	46	41,0	16	0,240
	ER4017	46	41,0	17	0,250
	ER4018	46	41,0	18	0,230
	ER4019	46	41,0	19	0,225
	ER4020	46	41,0	20	0,215
	ER4021	46	41,0	21	0,210
	ER4022	46	41,0	22	0,200
	ER4023	46	41,0	23	0,190
	ER4024	46	41,0	24	0,180
	ER4025	46	41,0	25	0,170
	ER4026	46	41,0	26	0,155

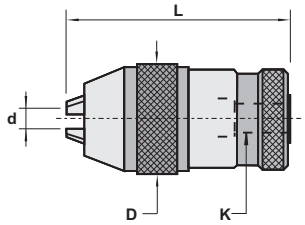
Characteristics:
Collets type C.



C

Ref.	d	D	L	Kg
C2006	6	20	55	0,100
C2008	8	20	55	0,090
C2010	10	20	55	0,080
C2012	12	20	55	0,065
C2016	16	20	55	0,045
C3206	6	32	65	0,255
C3208	8	32	65	0,250
C3210	10	32	65	0,260
C3212	12	32	65	0,255
C3216	16	32	65	0,235
C3220	20	32	65	0,215
C3225	25	32	65	0,155

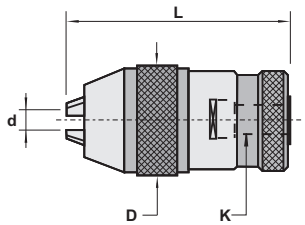
Characteristics:
Keyless drill chucks, precision class.
DIN 238



SP-B

Ref.	d	K	Lmin	Lmax	D	Kg
SP08-B12	0-8	B12	67	74	38	0,450
SP10-B12	0-10	B12	81	89	43	0,700
SP10-B16	0-10	B16	81	89	43	0,700
SP13-B16	1-13	B16	88	103	49	1,000
SP16-B16	3-16	B16	95	107	55	1,300
SP16-B18	3-16	B18	95	107	55	1,300

Characteristics:
Keyless drill chucks, with supplementary gripping tongue, precision class.
DIN 238

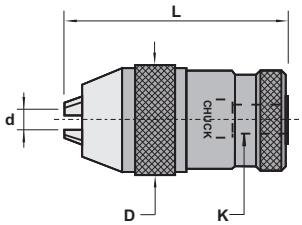


SPX-B

Ref.	d	K	Lmin	Lmax	D	Kg
SPX08-B12	0-8	B12	67	74	38	0,700
SPX13-B16	1-13	B16	91	103	49	1,200
SPX16-B16	3-16	B16	95	107	55	1,550
SPX16-B18	3-16	B18	95	107	55	1,550

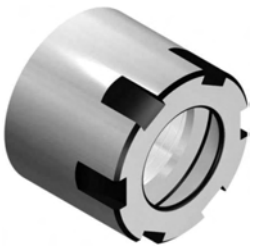
Inserts
Face milling cutters
Square shoulder cutters
Slot cutters
Porcupine cutters
Specific applications and Sets
Profile milling
Solid carbide
Drills
Boring heads
Arbors and adaptors

Characteristics:
Keyless drill chucks, standard class.



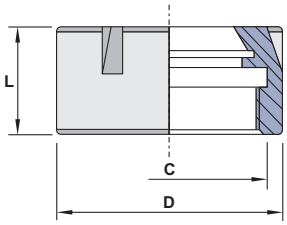
CK-B

Ref.		d	K	Lmin	Lmax	D	Kg
	CK08-B12	0-8	B12	61	68	34	0,300
	CK10-B12	0-10	B12	73	80	39	0,450
	CK13-B16	1-13	B16	86	95	44	0,650
	CK16-B16	3-16	B16	102	115	51	1,100
	CK16-B18	3-16	B18	102	115	51	1,100
	CK20-B18	5-20	B18	127	140	64	2,250



Characteristics:
Clamping nuts DIN 6499/E.

Applications:
Clamping nuts for collets ER16 and ER20.

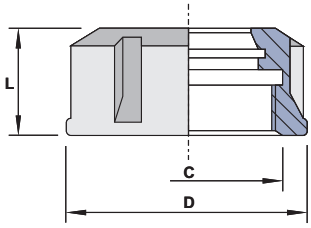


2090..2091

Ref.		L	C	D	Collet	Kg
	2090	18	M19X1	22	ER16	0,020
	2091	19	M24X1	28	ER20	0,030

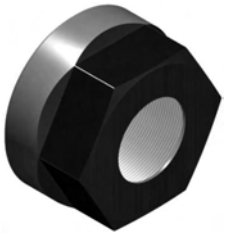
Characteristics:
Clamping nuts DIN 6499/E.

Applications:
Clamping nuts for collets ER25 and ER40.



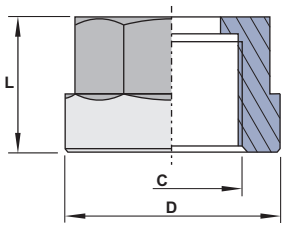
2092..2094

Ref.		L	C	D	Collet	Kg
	2092	20,0	M32x1,5	42	ER25	0,100
	2093	22,3	M40x1,5	50	ER32	0,150
	2094	25,3	M50x1,5	63	ER40	0,270



Characteristics:
Clamping nuts DIN 6499/E.

Applications:
Clamping nuts for collets ER16 and ER20.



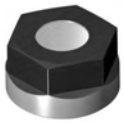
2190..2191

Ref.		L	C	D	Collet	Kg
	2190	17	M22x1,5	28	ER16	0,030
	2191	19	M25x1,5	34	ER20	0,060

Inserts
Face milling cutters
Square shoulder cutters
Slot cutters
Porcupine cutters
Specific applications and Sets
Profile milling
Solid carbide
Drills
Boring heads
Arbors and adaptors

Characteristics:
Spanners for clamping nuts.

Applications:
For 2190 and 2191 clamping nuts.



5116..5120

Ref.		Clamping nut	Kg
	5116	2190	0,125
	5120	2191	0,150

Characteristics:
Spanners for clamping nuts.

Applications:
For 2090 and 2091 clamping nuts.

5216..5220

Ref.		Clamping nut	Kg
	5216	2090	0,040
	5220	2091	0,050

Characteristics:
Spanners for clamping nuts.

Applications:
For 2092, 2093 and 2094 clamping nuts.

5225..5240

Ref.		Clamping nut	Kg
	5225	2092	0,220
	5232	2093	0,370
	5240	2094	0,500

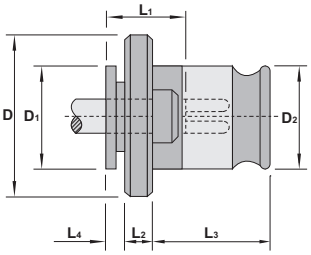
Characteristics:
Hexagonal key lock system.

Applications:
For HX system Arbors.

HX

Ref.		h	L	H	Kg
	HX-12	9	100	100	0,070

Characteristics:
Quick-change tap adaptor.

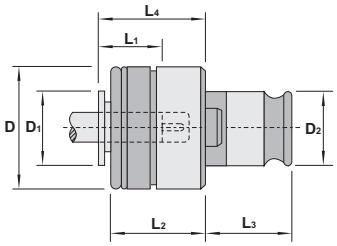


70..73

Ref.		Thread range	D	D1	D2	L1	L2	L3	L4	Kg
	70XX	M1-M10	22	13	13	15	4	19,5	7	0,020 - 0,040
	71XX	M3-M12	30	19	19	17	4	21,5	7	0,045 - 0,060
	72XX	M8-M20	48	30	31	30	5	35,0	11	0,195 - 0,265
	73XX	M14-M33	70	48	48	44	6	55,5	14	0,720 - 0,830

"xx": Two digits indicating the sizes of shank diameter and square of the tap, according to tables on page K.54

Characteristics:
Quick-change tap adaptor with clutch.



74..77

Ref.		Thread range	D	D1	D2	L1	L2	L3	L4	Kg
	74XX	M1-M10	22	13	13	15	20	19,5	21	0,060 - 0,100
	75XX	M3-M12	30	19	19	17	25	21,5	25	0,140 - 0,150
	76XX	M8-M20	48	30	31	30	31	35,0	34	0,495 - 0,510
	77XX	M14-M33	70	48	48	44	41	55,5	45	1,525 - 1,500

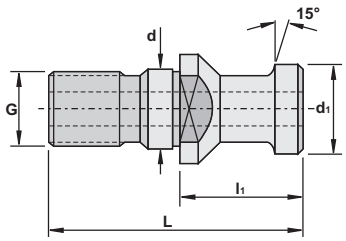
"xx": Two digits indicating the sizes of shank diameter and square of the tap, according to tables on page K.54

Table of adaptors

DIN	Ø x ☐	DIN 352	DIN 5156/5157	DIN 371	DIN 374	DIN 376	DIN 371	DIN 374/376
01	2,5 x 2,1	M1/1,8		M 1/1,8	M3,5	M3,5	1/16" Nr. 0/1	
02	2,8 x 2,1	M2 M2,2 M2,5		M2 M2,2 M2,5	M4	M4	3/32" Nr. 2 Nr. 3	
03	3,5 x 2,7	M3		M3	M5	M5	1/8" Nr. 4 Nr. 5	
04	4 x 3	M3,5		M3,5	M5,5	M5,5	Nr. 6	
05	4,5 x 3,4	M4		M4	M6	M6	5/32" Nr. 8	
06	5,5 x 4,3	-			M7	M7		
07	6 x 4,9	M4,5 M5 M6 M7 M8	G 1/16"	M4,5 M5 M6	M8	M8	Nr. 10/12 3/16" 7/32"	1/4" 5/16"
08	7 x 5,5	M10	G 1/8"	M7	M10	M10	1/4"	3/8"
09	8 x 6,2	M11		M8	M11	M11	5/16"	7/16"
10	9 x 7	M12		M9	M12	M12	3/8"	1/2"
11	10 x 8			M10				
12	11 x 9	M14	G 1/4"		M14	M14		9/16"
13	12 x 9	M16	G 3/8"		M16	M16		5/8"
14	14 x 11	M18			M18	M18		11/16" 3/4"
15	16 x 12	M20	G 1/2"		M20	M20		13/16"
16	18 x 14,5	M22 M24	G 5/8"		M22 M24	M22 M24		7/8" 15/16"
17	20 x 16	M27	G 3/4"		M27	M27		1"
18	22 x 18	M30	G 7/8"		M30	M30		1 1/8"
19	25 x 20	M33	G 1"		M33	M33		1 1/4"
20	28 x 22	M36	G 1 1/8 "		M36	M36		1 3/8"
21	32 x 24	M39 M42	G 1 1/4 "		M39 M42	M39 M42		1 1/2" 1 5/8"
22	36 x 29	M45 M48	G 1 3/8" G 1 1/2"		M45 M48	M45 M48		1 3/4" 1 7/8"

ISO 529	Ø x ☐	M - MF		UNC - UNF		BSW - BSF		BA
		Reduced Shank	Reinforced Shank	Reduced Shank	Reinforced Shank	Reduced Shank	Reinforced Shank	Reduced Shank
30	2,24 x 1,8	M3		Nr. 5		1/8		
31	2,5 x 2,0	M3,5	M1/2	Nr. 6	Nr. 0 Nr. 1			Nr. 11 Nr. 10 Nr. 9
32	2,8 x 2,24		M2,2 M2,5		Nr. 2 Nr. 3			Nr. 8 Nr. 7 Nr. 6
33	3,15 x 2,5	M4	M3	Nr. 8	Nr. 4 Nr. 5		1/8	Nr. 5
34	3,55 x 2,8	M4,5	M3,5	Nr. 10	Nr. 6	3/16		Nr. 4
35	4,0 x 3,15	M5	M4	Nr. 12		7/32		
36	4,5 x 3,55	M6	M4,5	1/4	Nr. 8	1/4		Nr. 3
37	5,0 x 4,0		M5		Nr. 10		3/16	Nr. 2
38	5,6 x 4,5	M7			Nr. 12	9/32	7/32	Nr. 1
39	6,3 x 5,0	M8	M6	5/16	1/4	5/16	1/4	Nr. 0
40	7,1 x 5,6	M9	M7	3/8		3/8	9/32	
41	8,0 x 6,3	M10	M8	7/16	5/16	7/16	5/16	
42	9,0 x 7,1	M12	M9	1/2		1/2		
11	10 x 8,0		M10		3/8		3/8	
43	11,2 x 9,0	M14		9/16		9/16		
44	12,5 x 10	M16		5/8		5/8		
45	14 x 11	M18 M20		3/4		11/16 3/4		
46	16 x 12,5	M22		7/8		7/8		
47	18 x 14	M24		1		1		
17	20 x 16	M27 M30		1 1/8		1 1/8		
48	22,4 x 18	M33		1 1/4		1 1/4		
19	25 x 20	M36		1 3/8		1 3/8		
49	28 x 22,4	M39 M42		1 1/2		1 1/2		
50	31,5 x 25	M45 M48		1 3/4		1 3/4		
51	35,5 x 28	M52		2		2		

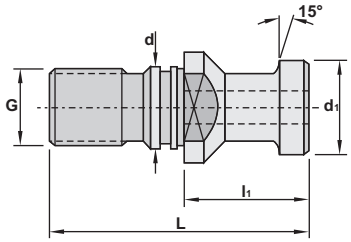
Characteristics:
Pull studs
DIN 69872 - FORM A



1960..1961

Ref.	ISO	G	d	d1	L	l1	Kg
1960	40	M16	17	19	54	26	0,070
1961	50	M24	25	28	74	34	0,200

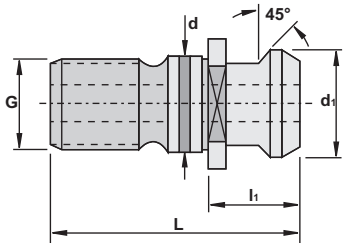
Characteristics:
Pull studs
DIN 69872 - FORM B



1962..1963

Ref.	ISO	G	d	d1	L	l1	Kg
1962	40	M16	17	19	54	26	0,075
1963	50	M24	25	28	74	34	0,250

Characteristics:
Pull studs
ISO 7388/2 - FORM B

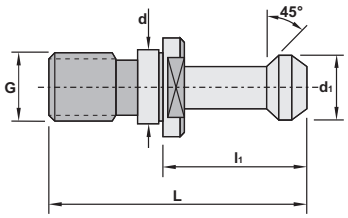


1964..1965

Ref.	ISO	G	d	d1	L	l1	Kg
1964	40	M16	17	18,95	44,5	16,40	0,050
1965	50	M24	25	29,10	65,5	25,55	0,200

Inserts
Face milling cutters
Square shoulder cutters
Slot cutters
Porcupine cutters
Specific applications and Sets
Profile milling
Solid carbide
Drills
Boring heads
Arbors and adaptors

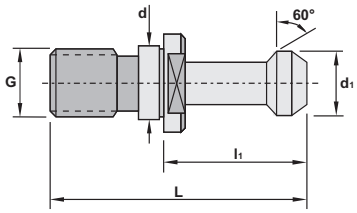
Characteristics:
Pull studs
MAS BT - TYPE I



1966..1967

Ref.	ISO	G	d	d1	L	l1	Kg
1966	40	M16	17	15	60	35	0,070
1967	50	M24	25	23	85	45	0,250

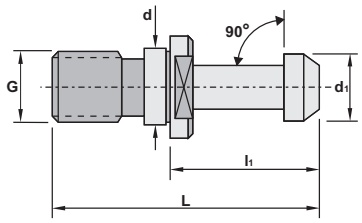
Characteristics:
Pull studs
MAS BT - TYPE II



1968..1969

Ref.	ISO	G	d	d1	L	l1	Kg
1968	40	M16	17	15	60	35	0,070
1969	50	M24	25	23	85	45	0,300

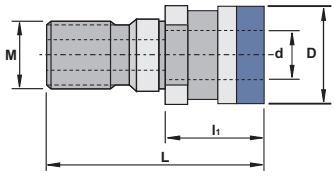
Characteristics:
Pull studs
MAS BT - TYPE III



1970..1971

Ref.	ISO	G	d	d1	L	l1	Kg
1970	40	M16	17	15	60	35	0,070
1971	50	M24	25	23	85	45	0,250

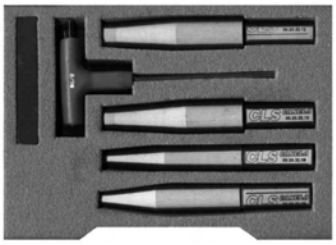
Characteristics:
Pull studs
DIN 2080



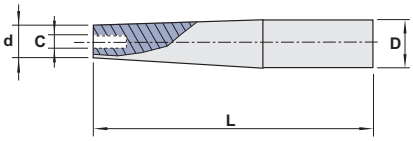
1972..1974

Ref.		M	d	D	l_1	L	Kg
	1972	M16	M16	25,00	53	25	0,080
	1973	M16	M16	25,00	56	28	0,090
	1974	M24	M24	39,29	68	25	0,200

Inserts
Face milling cutters
Square shoulder cutters
Slot cutters
Porcupine cutters
Specific applications and Sets
Profile milling
Solid carbide
Drills
Boring heads
Arbors and adaptors



Characteristics:
Complete case with CLS extensions and spanner.

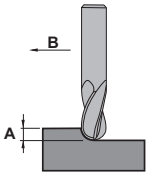


00_32

Ref.	C	d	L	D	Kg
00.20.32.06	6	12	150	20	0,180
00.20.32.08	8	15	150	20	0,350
00.20.32.10	10	18	150	20	0,450
00.20.32.12	12	20	150	20	0,530

CUTTING CONDITIONS SUGGESTED

Ref.	A	B		
00.20.32.06	1,0	0,05 x Z	5204	5201
00.20.32.08	1,0	0,05 x Z	5204	5201
00.20.32.10	1,5	0,05 x Z	5205	5201
00.20.32.12	1,5	0,05 x Z	5205	5201

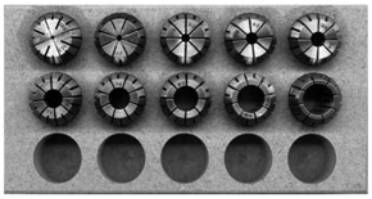


Instructions:
To obtain from CLS extensions a proper operation is very important to insert the end mill completely. CLS handle could get damaged due to a bad end mill position.

Characteristics:
Strong hold milling chucks and collets.

SET C32

Ref.	Composition	Kg
SET BT40 C20	1 49.40.34.20 + 5 collets C20: Ø6, 8, 10, 12, 16	4,500
SET TC40 C20	1 47.40.34.20 + 5 collets C20: Ø6, 8, 10, 12, 16	4,500
SET BT40 C32	1 49.40.34.32 + 7 collets C32: Ø6, 8, 10, 12, 16, 20, 25	6,800
SET TC40 C32	1 47.40.34.32 + 7 collets C32: Ø6, 8, 10, 12, 16, 20, 25	6,700
SET BT50 C32	1 49.50.34.32 + 7 collets C32: Ø6, 8, 10, 12, 16, 20, 25	9,300
SET TC50 C32	1 47.50.34.32 + 7 collets C32: Ø6, 8, 10, 12, 16, 20, 25	9,150



Characteristics:
Set of collets in case type (ER) DIN 6499/B.

SER

Ref.		Size of collets	Kg
	SER16	ER16 = 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10	0,250
	SER20	ER20 = 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 - 11 - 12 - 13	0,650
	SER25	ER25 = 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14 - 15 - 16	1,600
	SER32	ER32 = 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 20	2,500
	SER40	ER40 = 4 - 5 - 6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 20 - 21 - 22 - 23 - 24 - 25 - 26	5,600

Characteristics:
Complete case with chuck, spanner and collets.

SET

Ref.		Chuck	Collet	Size of collets	Clamping nut	Kg
	SET 443016	44.30.31.16	ER16	10 (1-10)	2090	0,950
	SET 443020	44.30.31.20	ER20	12 (2-13)	2091	1,300
	SET 443025	44.30.31.25	ER25	15 (2-16)	2092	2,300
	SET 443032	44.30.31.32	ER32	18 (3-20)	2093	4,750
	SET 443040	44.30.31.40	ER40	23 (4-26)	2094	9,000
	SET 444032	44.40.31.32	ER32	18 (3-20)	2093	5,200
	SET 444040	44.40.31.40	ER40	23 (4-26)	2094	9,200
	SET 445032	44.50.31.32	ER32	18 (3-20)	2093	7,200
	SET 445040	44.50.31.40	ER40	23 (4-26)	2094	12,550
	SET 474032	47.40.31.32	ER32	18 (3-20)	2093	5,000
	SET 474040	47.40.31.40	ER40	23 (4-26)	2094	9,350
	SET 475032	47.50.31.32	ER32	18 (3-20)	2093	7,200
	SET 475040	47.50.31.40	ER40	23 (4-26)	2094	11,850
	SET 494032	49.40.31.32	ER32	18 (3-20)	2093	5,100
	SET 494040	49.40.31.40	ER40	23 (4-26)	2094	9,250
	SET 495032	49.50.31.32	ER32	18 (3-20)	2093	7,900
	SET 495040	49.50.31.40	ER40	23 (4-26)	2094	12,350