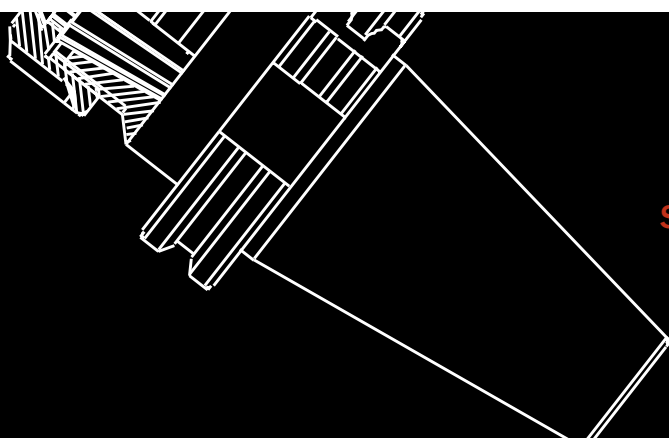
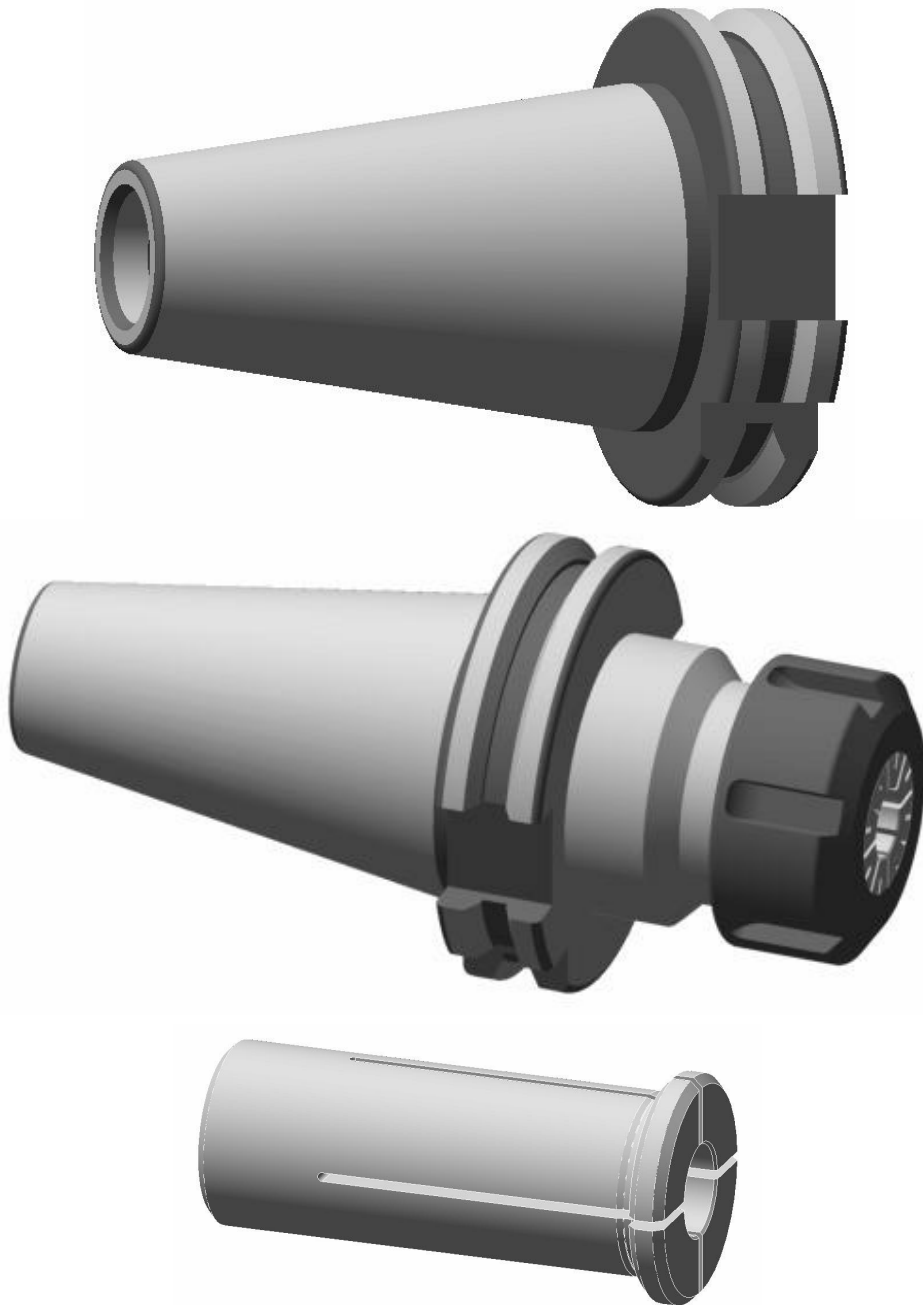




smart solutions manufacturer[®]
WE MAKE IT REAL.



CONES & ACESSÓRIOS
SOLUÇÕES PARA SUPORTE DE FRESAS E ACESSÓRIOS

HOLDERS AND ACCESSORIES
MILLING AND ACCESSORIES SUPPORT SOLUTIONS

Cones Standard

SK40	DIN 69871	Desenhos técnicos	6
		Suporte de fresas (DIN 1835)	7
		Cone Térmico	8
		Pinças	9
		Porta Pinças ER (DIN 6499)	9
		Porta Pinças	10
		Pinças - WZF	10
		Cone com adaptador (DIN 6358)	11
		Cone para fresas arbor (DIN 6357)	12
		Cone para fresas arbor com sistema de refrigeração	13
		Adaptador Cone Morse (DIN 6383)	14
		Porta Brocas	14
		Cone para fresas modulares	15
		Cone com bucha de roscagem com compensação de comprimento	15
		Cone em bruto	16
		Cone de verificação	16

BT40	JIS B 6339 (MAS BT)	Desenhos técnicos	17
		Suporte de fresas (DIN 1835)	18
		Cone Térmico	19
		Pinças	20
		Porta Pinças ER (DIN 6499)	20
		Porta Pinças	21
		Pinças - WZF	21
		Cone com adaptador (DIN 6358)	22
		Cone para fresas arbor (DIN 6357)	23
		Cone para fresas arbor com sistema de refrigeração	24
		Adaptador Cone Morse (DIN 6383)	25
		Porta Brocas	25
		Cone para fresas modulares	26
		Cone com bucha de roscagem com compensação de comprimento	26
		Cone em bruto	27
		Cone de verificação	27

SK50	DIN 69871	Desenhos técnicos	28
		Suporte de fresas (DIN 1835)	29
		Porta Pinças ER (DIN 6499)	30
		Cone com adaptador (DIN 6358)	30
		Cone para fresas arbor (DIN 6357)	31
		Cone para fresas arbor com sistema de refrigeração	32
		Adaptador Cone Morse (DIN 6383)	33
		Porta Brocas	33
		Cone para fresas modulares	34
		Cone com bucha de roscagem com compensação de comprimento	34
		Cone em bruto	35
		Cone de verificação	35

BT50

JIS B 6339 (MAS BT)	Desenhos técnicos	36
	Suporte de fresas (DIN 1835)	37
	Porta Pinças ER (DIN 6499)	38
	Cone com adaptador (DIN 6358)	38
	Cone para fresas arbor (DIN 6357)	39
	Cone para fresas arbor com sistema de refrigeração	40
	Adaptador Cone Morse (DIN 6383)	40
	Porta Brocas	41
	Cone para fresas modulares	42
	Cone com bucha de roscagem com compensação de comprimento	42
	Cone em bruto	43
	Cone de verificação	43

HSK63

Form A	Desenhos técnicos	44
	Suporte de fresas (DIN 1835)	45
	Cone Térmico ER (DIN 69893)	46
	Porta Pinças ER (DIN 6499)	47
	Porta Pinças	48
	Pinças - WZF	48
	Cone com adaptador (DIN 6358)	49
	Cone para fresas arbor (DIN 6357)	50
	Cone para fresas arbor com sistema de refrigeração	51
	Adaptador Cone Morse (DIN 6383)	51
	Porta Brocas	52
	Cone para fresas modulares	52
	Cone com bucha de roscagem com compensação de comprimento	53
	Cone em bruto	53
	Cone de verificação	54
	HSK Acessórios	54

HSK100

Form A	Desenhos técnicos	55
	Suporte de fresas (DIN 1835)	56
	Porta Pinças ER (DIN 6499)	57
	Cone com adaptador (DIN 6358)	57
	Cone para fresas arbor (DIN 6357)	58
	Cone para fresas arbor com sistema de refrigeração	58
	Adaptador Cone Morse (DIN 6383)	59
	Porta Brocas	59
	Cone para fresas modulares	60
	Cone com bucha de roscagem com compensação de comprimento	61
	Cone em bruto	61
	Cone de verificação	62
	HSK Acessórios	62

HSK63

Form F	Desenhos técnicos	63
	Suporte de fresas (DIN 1835)	64
	Cone Térmico	65
	Porta Pinças ER (DIN 6499)	66
	Cone com adaptador (DIN 6358)	66
	Cone para fresas arbor com sistema de refrigeração	67
	Adaptador Cone Morse (DIN 6383)	67
	Cone para fresas modulares	68
	Cone com bucha de roscagem com compensação de comprimento	68
	Cone em bruto	69
	Cone de verificação	69

Calibração

Serviço de calibração	70
-----------------------	----

Acessórios

Tirantes	71-73
ER – Ferramentas	74-76
Pastilhas de troca rápida para cones roscados	77-78
Porcas e acessórios para ER - Mini & MS	79-80
Porcas e chaves ER (DIN 6499)	80
Parafusos de fixação (DIN 6367)	81
Anel de acionamento (DIN 6367)	81
Chaves de aperto (DIN 6366)	82
Chaves (DIN 6366)	82
Parafusos de substituição Weldon (DIN 1835)	82



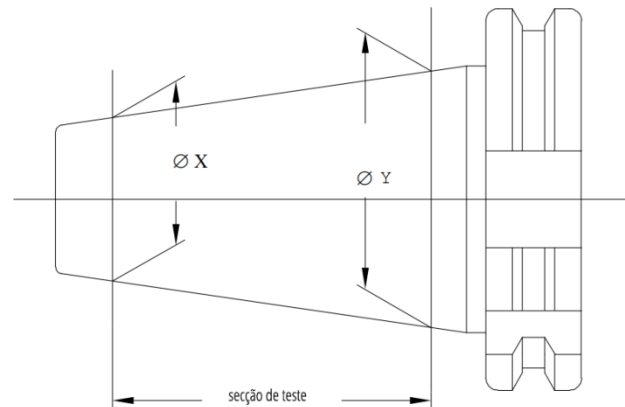
SOLUÇÕES PARA SUPORTE DE FRESAS E ACESSÓRIOS

Tolerância AT3:

Determina a tolerância da relação do cone numa determinada fase de teste comparando os valores "X" e "Y" entre si.

O valor medido no local "X" deve sempre ser zero ou negativo para garantir um rolamento completo do "Y".

Para ISO-40: AT3 = 0,003 mm

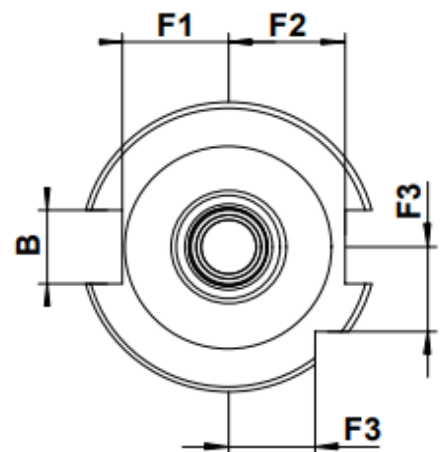
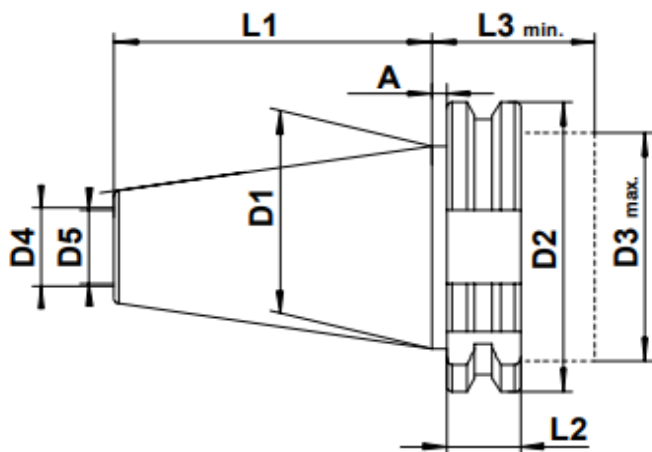
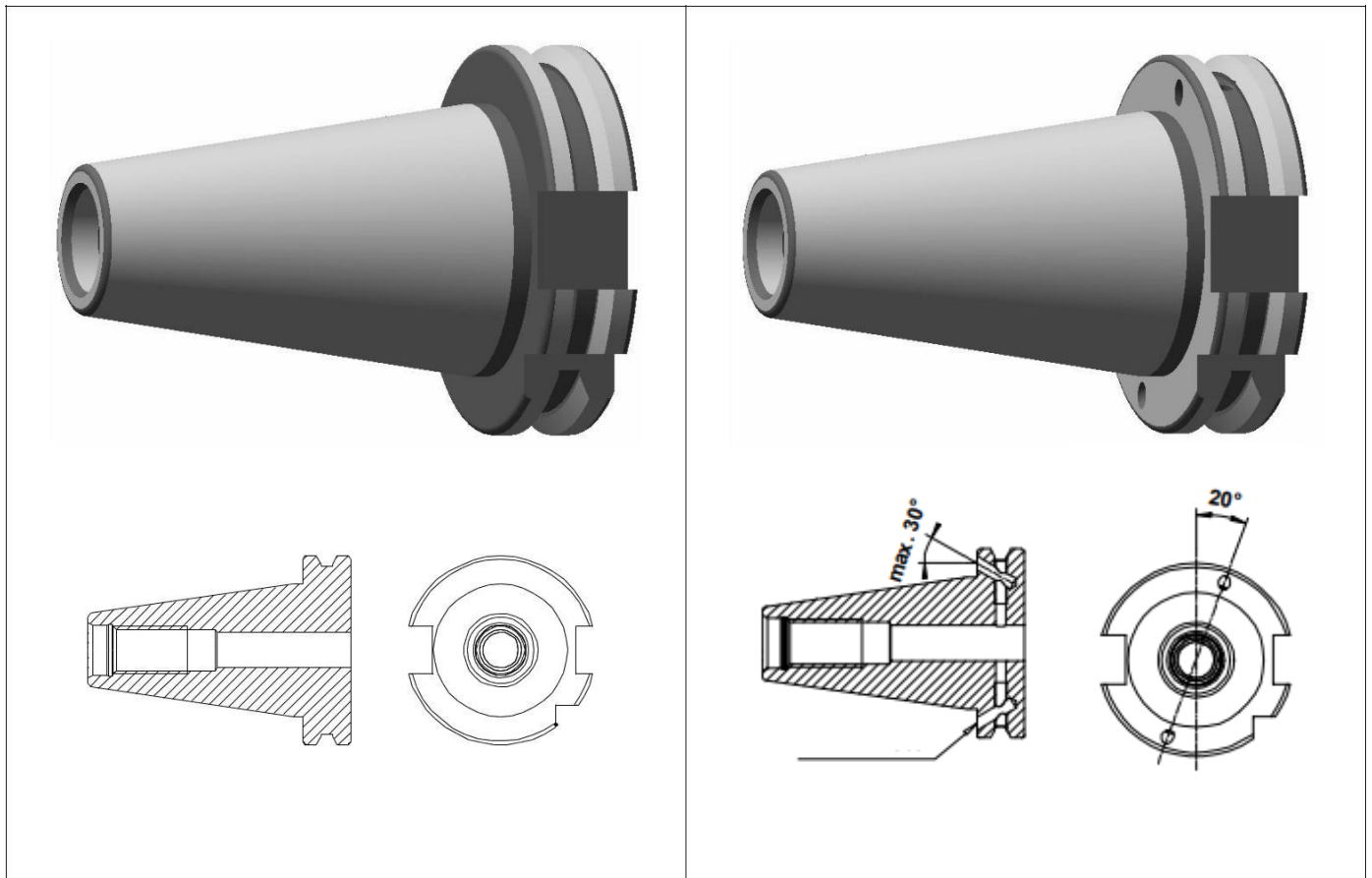


Dados técnicos do cone padrão

Exterior:	max. 0,003 mm
Interior:	max. 0,005 mm
Tolerância Cone:	AT3
Material:	16 MnCr 5
Dureza:	HRC 57 - 60
Profundidade operação:	0,6 - 0,8
A força do núcleo:	1000 - 1200 N/mm

SK40 / DIN 69871

Para CNCs com troca automática de ferramentas
For milling centers with automatic tool change

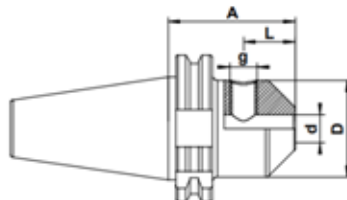
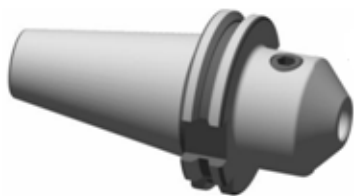


SK	D1	D2	D3	D4	D5	A	L1	L2	L3	F1	F2	F3	B
30	31,75	50	45	13	M12	3,2	47,8	15,9	35	16,4	19	15	16,1
40	44,45	63,55	50	17	M16	3,2	68,4	15,9	35	22,8	25	18,5	16,1
50	69,85	97,50	80	25	M24	3,2	101,75	15,9	35	35,5	37,7	30	25,7

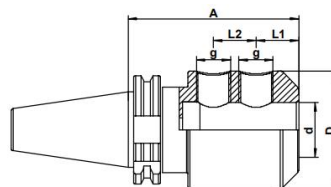
SK40 / DIN 69871

Suporte de fresas DIN 1835-B End mill holder Weldon type DIN 1835-B

G6.3 / 15.0000 μ/min



d	D	A	L	g	Referência	Preço
6	25	50	18	M6	SK40-7-001	-
6	25	100	18	M6	SK40-7-002	-
6	25	160	18	M6	SK40-7-003	-
8	28	50	18	M8	SK40-7-004	-
8	28	100	18	M8	SK40-7-005	-
8	28	160	18	M8	SK40-7-006	-
10	35	50	20	M10	SK40-7-007	-
10	35	100	20	M10	SK40-7-008	-
10	35	160	20	M10	SK40-7-009	-
12	42	50	22,5	M12	SK40-7-010	-
12	42	100	22,5	M12	SK40-7-011	-
12	42	160	22,5	M12	SK40-7-012	-
14	44	50	22,5	M12	SK40-7-013	-
14	44	100	22,5	M12	SK40-7-014	-
14	44	160	22,5	M12	SK40-7-015	-
16	48	63	24	M14	SK40-7-016	-
16	48	100	24	M14	SK40-7-017	-
16	48	160	24	M14	SK40-7-018	-
18	50	63	24	M14	SK40-7-019	-
18	50	100	24	M14	SK40-7-020	-
18	50	160	24	M14	SK40-7-021	-
20	52	63	25	M16	SK40-7-022	-
20	52	100	25	M16	SK40-7-023	-
20	52	160	25	M16	SK40-7-024	-

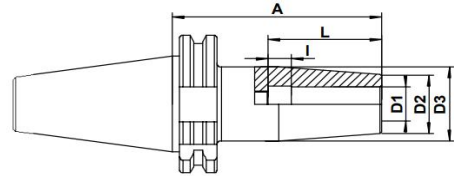
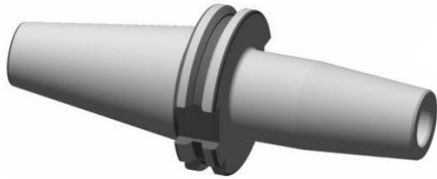


d	D	A	L1	L2	g	Referência	Preço
25	65	100	24	25	M18x2	SK40-7-025	-
25	65	160	24	25	M18x2	SK40-7-026	-
32	72	100	24	28	M20x2	SK40-7-027	-
32	72	160	24	28	M20x2	SK40-7-028	-
40	80	115	30	32	M20x2	SK40-7-029	-
40	80	160	30	32	M20x2	SK40-7-030	-

SK40 / DIN 69871

Cone Térmico / Shrink chuck

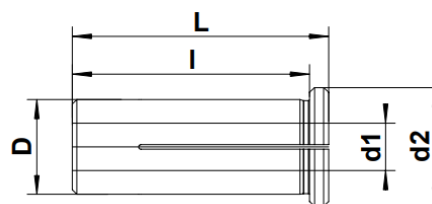
G2.5 / 20.000 U/min



D1	D2	D3	A	L	I	Referência	Preço
3	10	20	80	15	-	SK40-8-001	-
3	10	20	120	15	-	SK40-8-002	-
3	10	20	160	15	-	SK40-8-003	-
4	15	22	80	15	-	SK40-8-004	-
4	15	22	120	15	-	SK40-8-005	-
4	15	22	160	15	-	SK40-8-006	-
5	15	22	80	20	-	SK40-8-007	-
5	15	22	120	20	-	SK40-8-008	-
5	15	22	160	20	-	SK40-8-009	-
6	20	27	80	36	10	SK40-8-010	-
6	20	27	120	36	10	SK40-8-011	-
6	20	27	160	36	10	SK40-8-012	-
8	20	27	80	36	10	SK40-8-013	-
8	20	27	120	36	10	SK40-8-014	-
8	20	27	160	36	10	SK40-8-015	-
10	24	31	80	41	10	SK40-8-016	-
10	24	31	120	41	10	SK40-8-017	-
10	24	31	160	41	10	SK40-8-018	-
12	24	31	80	47	10	SK40-8-019	-
12	24	31	120	47	10	SK40-8-020	-
12	24	31	160	47	10	SK40-8-021	-
14	27	34	80	47	10	SK40-8-022	-
14	27	34	120	47	10	SK40-8-023	-
14	27	34	160	47	10	SK40-8-024	-
16	27	34	80	50	10	SK40-8-025	-
16	27	34	120	50	10	SK40-8-026	-
16	27	34	160	50	10	SK40-8-027	-
18	33	40	80	50	10	SK40-8-028	-
18	33	40	120	50	10	SK40-8-029	-
18	33	40	160	50	10	SK40-8-030	-
20	33	40	80	52	10	SK40-8-031	-
20	33	40	120	52	10	SK40-8-032	-
20	33	40	160	52	10	SK40-8-033	-
25	44	53	100	58	10	SK40-8-034	-
25	44	53	120	58	10	SK40-8-035	-
25	44	53	160	58	10	SK40-8-036	-
32	44	53	100	62	10	SK40-8-037	-
32	44	53	120	62	10	SK40-8-038	-
32	44	53	160	62	10	SK40-8-039	-

SK40 / DIN 69871

Pinças



D	d1	d2	L	I	Referência	Preço
12	3	16	40	36	SK40-9-001	-
12	4	16	40	36	SK40-9-002	-
12	5	16	40	36	SK40-9-003	-
12	6	16	40	36	SK40-9-004	-
12	8	16	40	36	SK40-9-005	-
20	3	25	60	56	SK40-9-006	-
20	4	25	60	56	SK40-9-007	-
20	5	25	60	56	SK40-9-008	-
20	6	25	60	56	SK40-9-009	-
20	8	25	60	56	SK40-9-010	-
20	10	25	60	56	SK40-9-011	-
20	12	25	60	56	SK40-9-012	-
20	14	25	60	56	SK40-9-013	-
20	16	25	60	56	SK40-9-014	-

D	d1	d2	L	I	Referência	Preço
32	6	36	64	60	SK40-9-015	-
32	8	36	64	60	SK40-9-016	-
32	10	36	64	60	SK40-9-017	-
32	12	36	64	60	SK40-9-018	-
32	14	36	64	60	SK40-9-019	-
32	16	36	64	60	SK40-9-020	-
32	18	36	64	60	SK40-9-021	-
32	20	36	64	60	SK40-9-022	-
32	25	36	64	60	SK40-9-023	-

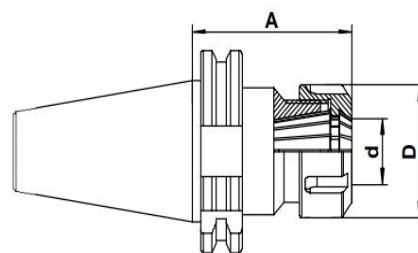
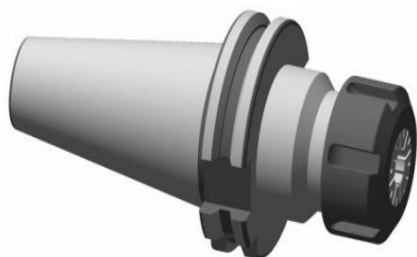
Outros tamanhos disponíveis sob consulta.

SK40 / DIN 69871

Porta Pinças ER (DIN 6499)

Collet chuck ER (DIN 6499)

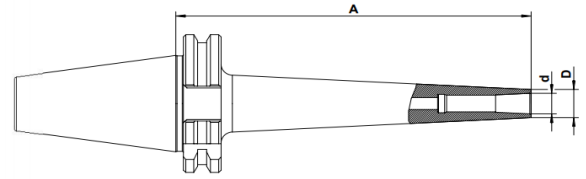
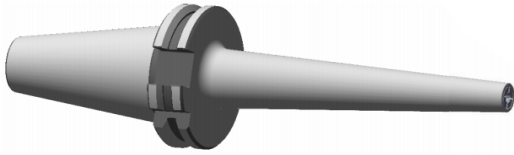
G6,3 / 15.000 U/min



ER	d = Gama	D	A	Referência	Preço
16	0,5 - 10	32	70	SK40-9-024	-
16	0,5 - 10	32	100	SK40-9-025	-
16	0,5 - 10	32	160	SK40-9-026	-
25	2 - 16	42	70	SK40-9-027	-
25	2 - 16	42	100	SK40-9-028	-
25	2 - 16	42	160	SK40-9-029	-
32	2 - 20	50	70	SK40-9-030	-
32	2 - 20	50	100	SK40-9-031	-
32	2 - 20	50	160	SK40-9-032	-
40	3 - 26	63	70	SK40-9-033	-
40	3 - 26	63	100	SK40-9-034	-
40	3 - 26	63	160	SK40-9-035	-

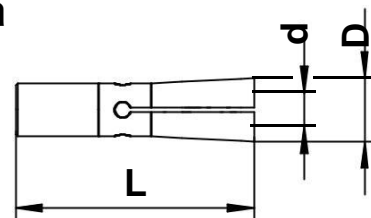
SK40

Porta Pinças



\emptyset	d	D	A	Referência	Preço
2-6	6	13	60	SK40-10-001	-
2-6	6	13	90	SK40-10-002	-
2-6	6	13	120	SK40-10-003	-
2-6	6	13	150	SK40-10-004	-
2-6	6	13	160	SK40-10-005	-
3-8	8	22	90	SK40-10-006	-
3-8	8	22	120	SK40-10-007	-
3-8	8	22	160	SK40-10-008	-
3-10	10	28	90	SK40-10-009	-
3-10	10	28	120	SK40-10-010	-

WZF - Pinça

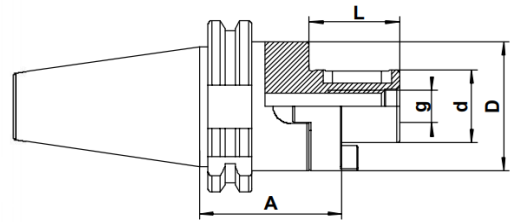
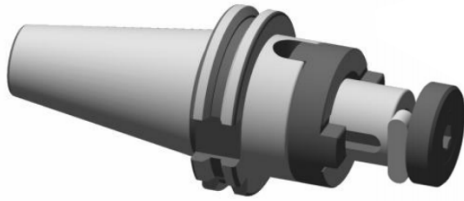


d	D	L	Referência	Preço
2	9.60	36	SK40-10-011	-
3	9.60	36	SK40-10-012	-
4	9.60	36	SK40-10-013	-
5	9.60	36	SK40-10-014	-
6	9.60	36	SK40-10-015	-
3	15.00	45	SK40-10-016	-
4	15.00	45	SK40-10-017	-
6	15.00	45	SK40-10-018	-
8	15.00	45	SK40-10-019	-
3	19.10	52	SK40-10-020	-
4	19.10	52	SK40-10-021	-
6	19.10	52	SK40-10-022	-
8	19.10	52	SK40-10-023	-
10	19.10	52	SK40-10-024	-

SK40 / DIN 69871 AD

Cone com adaptador (DIN 6358)

Combi shell mill adaptor (DIN 6358)

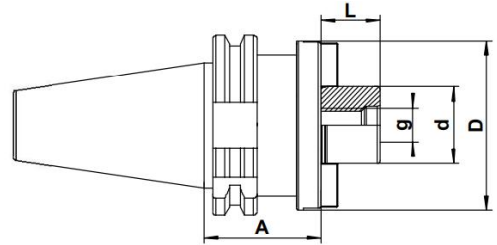
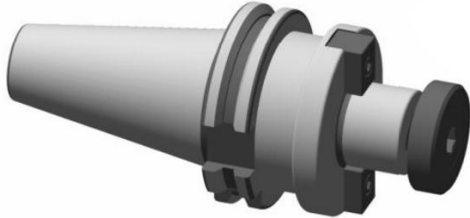


d	D	A	L	g	Referência	Preço
16	32	55	27	M8	SK40-11-001	-
16	32	100	27	M8	SK40-11-002	-
16	32	160	27	M8	SK40-11-003	-
22	40	55	31	M10	SK40-11-004	-
22	40	100	31	M10	SK40-11-005	-
22	40	160	31	M10	SK40-11-006	-
27	48	55	33	M12	SK40-11-007	-
27	48	100	33	M12	SK40-11-008	-
27	48	160	33	M12	SK40-11-009	-
32	58	60	38	M16	SK40-11-010	-
32	58	100	38	M16	SK40-11-011	-
32	58	160	38	M16	SK40-11-012	-
40	70	60	41	M20	SK40-11-013	-
40	70	100	41	M20	SK40-11-014	-
40	70	160	41	M20	SK40-11-015	-

SK40 / DIN 69871

Cone para fresas arbor (DIN 6357)
Face mill holder for cutters with driving slot (DIN 6357)

G6,3 / 15.000 U/min

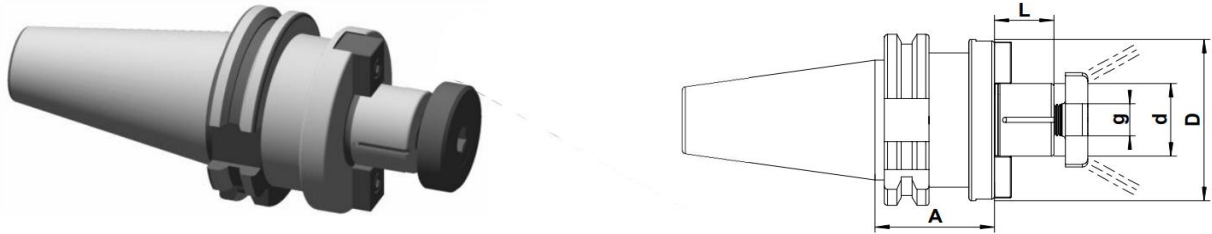


d	D	A	L	g	Referência	Preço
16	38	45	17	M8	SK40-12-001	-
16	38	100	17	M8	SK40-12-002	-
16	38	160	17	M8	SK40-12-003	-
22	48	45	19	M10	SK40-12-004	-
22	48	100	19	M10	SK40-12-005	-
22	48	160	19	M10	SK40-12-006	-
27	58	50	21	M12	SK40-12-007	-
27	58	100	21	M12	SK40-12-008	-
27	58	160	21	M12	SK40-12-009	-
32	78	55	24	M16	SK40-12-010	-
32	78	100	24	M16	SK40-12-011	-
32	78	160	24	M16	SK40-12-012	-
40	88	55	27	M20	SK40-12-013	-
40	88	100	27	M20	SK40-12-014	-
40	88	160	27	M20	SK40-12-015	-

SK40 / DIN 69871

Cone para fresas arbor com sistema de refrigeração (DIN 6357)
Face mill holder for cutters with driving slot (internal coolant)

G6,3 / 15.000 U/min



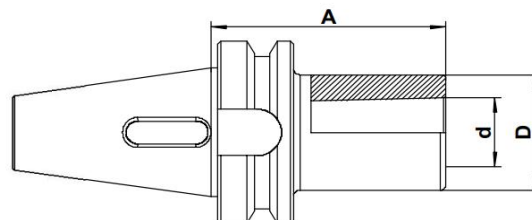
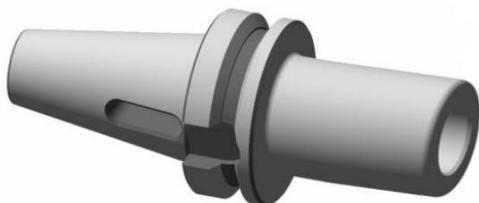
d	D	A	L	g	Referência	Preço
16	38	45	17	M8	SK40-13-001	-
16	38	100	17	M8	SK40-13-002	-
16	38	160	17	M8	SK40-13-003	-
22	48	45	19	M10	SK40-13-004	-
22	48	100	19	M10	SK40-13-005	-
22	48	160	19	M10	SK40-13-006	-
27	58	50	21	M12	SK40-13-007	-
27	58	100	21	M12	SK40-13-008	-
27	58	160	21	M12	SK40-13-009	-
32	78	55	24	M16	SK40-13-010	-
32	78	100	24	M16	SK40-13-011	-
32	78	160	24	M16	SK40-13-012	-
40	88	55	27	M20	SK40-13-013	-
40	88	100	27	M20	SK40-13-014	-
40	88	160	27	M20	SK40-13-015	-

SK40 / DIN 69871

Adaptador Cone Morse (DIN 6383)

Morse taper adaptor (DIN 6383)

G6,3 / 15.000 U/min

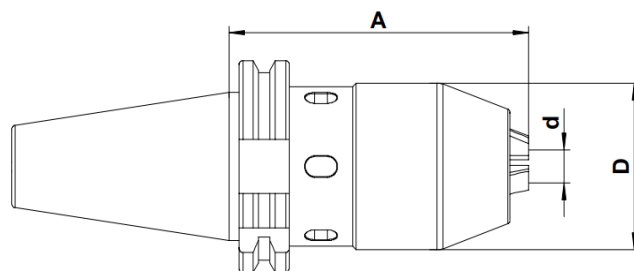


d	D	A	Referência	Preço
MK1	25	50	SK40-14-001	-
MK1	25	115	SK40-14-002	-
MK2	32	50	SK40-14-003	-
MK2	32	125	SK40-14-004	-
MK3	40	70	SK40-14-005	-
MK3	40	140	SK40-14-006	-
MK4	48	95	SK40-14-007	-

SK40 / DIN 69871 A

Porta Brocas

NC drill chuck



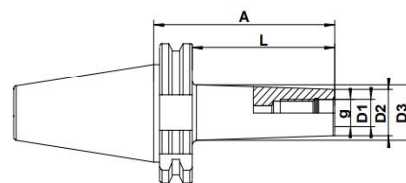
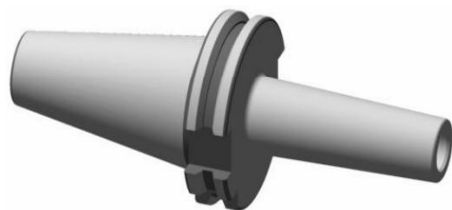
d = Gama	Tolerância	D	A	Referência	Preço
1,0 - 13	0,05 mm	50	113,5	SK40-14-008	-

SK40 / DIN 69871

Cone para fresas modulares

Milling cutter arbor for screw-on type

G2.5 / 20.000 U/min

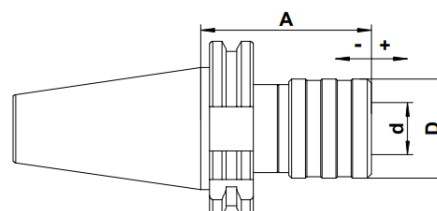
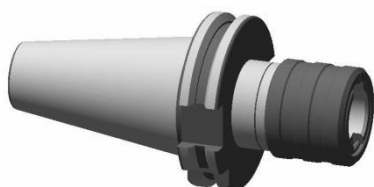


g	D1	D2	D3	A	L	Referência	Preço
M6	6,5	10	13	44	25	SK40-15-001	-
M6	6,5	10	20	69	50	SK40-15-002	-
M6	6,5	10	23	94	75	SK40-15-003	-
M8	8,5	13	15	44	25	SK40-15-004	-
M8	8,5	13	23	69	50	SK40-15-005	-
M8	8,5	13	23	94	75	SK40-15-006	-
M8	8,5	13	25	119	100	SK40-15-007	-
M10	10,5	18	20	44	25	SK40-15-008	-
M10	10,5	18	23	69	50	SK40-15-009	-
M10	10,5	18	28	94	75	SK40-15-010	-
M10	10,5	18	32	119	100	SK40-15-011	-
M12	12,5	21	24	44	25	SK40-15-012	-
M12	12,5	21	23	69	50	SK40-15-013	-
M12	12,5	21	31	94	75	SK40-15-014	-
M12	12,5	21	32	119	100	SK40-15-015	-
M12	12,5	21	36	144	125	SK40-15-016	-
M16	17	29	29	44	25	SK40-15-017	-
M16	17	29	29	69	50	SK40-15-018	-
M16	17	29	31	94	75	SK40-15-019	-
M17	17	29	32	119	100	SK40-15-020	-
M16	17	29	40	144	125	SK40-15-021	-

SK40 / DIN 69871

Cone com bucha de roscagem com compensação de comprimento

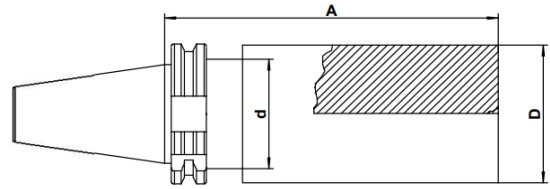
Quick-change tapping chuck with length compensation



Gama	d	D	A	Referência	Preço
M3 - M12	19	36	60	SK40-15-022	-
M5 - M20	31	53	98	SK40-15-023	-
M14 - M33	48	78	150	SK40-15-024	-
M22 - M48	60	96	152	SK40-15-025	-

SK40 / DIN 69871

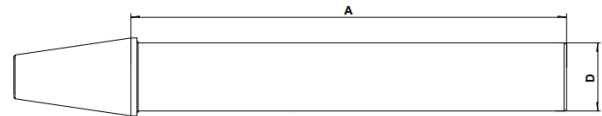
Cone em bruto
Boring bar blank



D	A	d	Referência	Preço
63	160	50	SK40-16-001	-
63	250	50	SK40-16-002	-

SK40 / DIN 69871

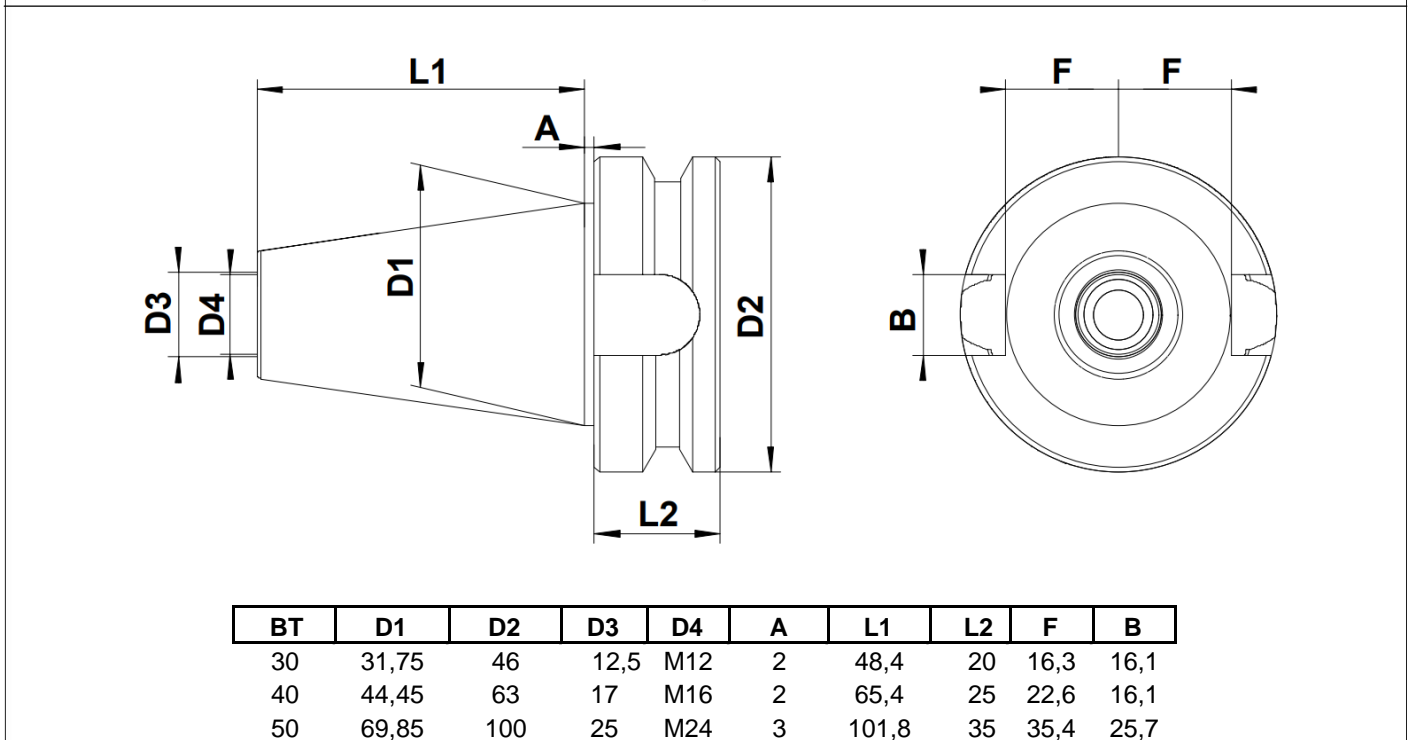
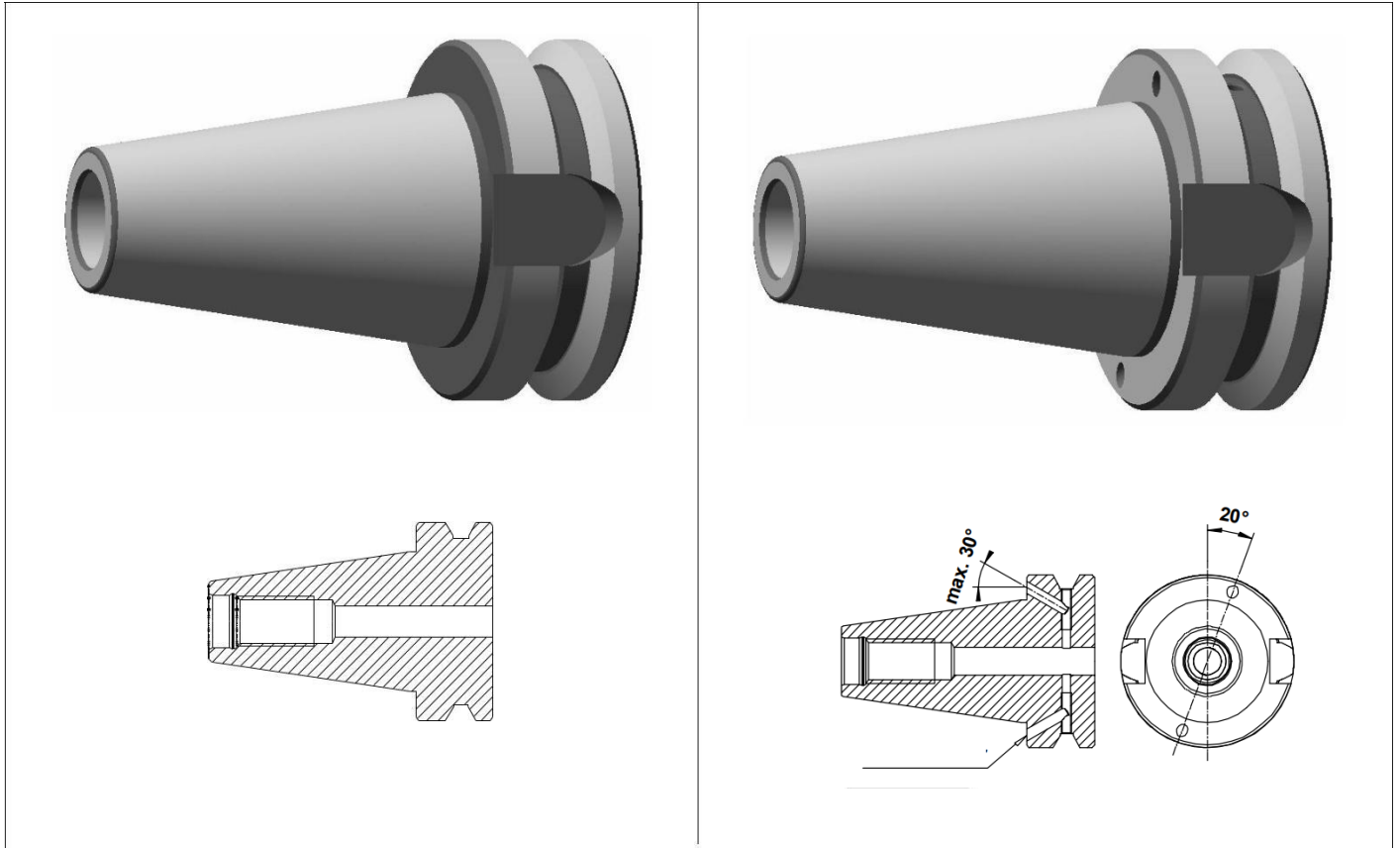
Cone de verificação
Test Arbor



D	A	Referência	Preço
40	300	SK40-16-003	-

MAS BT 40 / JIS B 6339

Para CNCs com troca automática de ferramentas
For milling centers with automatic tool change

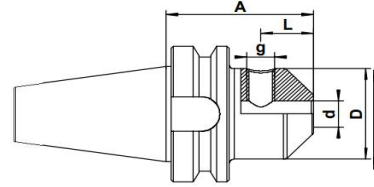
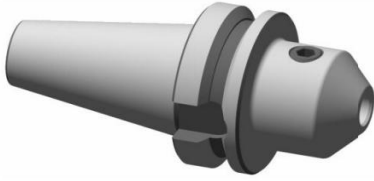


MAS BT 40 / JIS B 6339

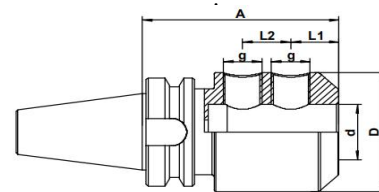
Adaptador (Weldon)

End mill holder Weldon type DIN 1835-B

G6,3 / 15.000 U/min



d	D	A	L	g	Referência	Preço
6	25	50	18	M6	BT40-18-001	-
6	25	100	18	M6	BT40-18-002	-
6	25	160	18	M6	BT40-18-003	-
8	28	50	18	M8	BT40-18-004	-
8	28	100	18	M8	BT40-18-005	-
8	28	160	18	M8	BT40-18-006	-
10	35	63	20	M10	BT40-18-007	-
10	35	100	20	M10	BT40-18-008	-
10	35	160	20	M10	BT40-18-009	-
12	42	63	22,5	M12	BT40-18-010	-
12	42	100	22,5	M12	BT40-18-011	-
12	42	160	22,5	M12	BT40-18-012	-
14	44	63	22,5	M12	BT40-18-013	-
14	44	100	22,5	M12	BT40-18-014	-
14	44	160	22,5	M12	BT40-18-015	-
16	48	63	24	M14	BT40-18-016	-
16	48	100	24	M14	BT40-18-017	-
16	48	160	24	M14	BT40-18-018	-
18	50	63	24	M14	BT40-18-019	-
18	50	100	24	M14	BT40-18-020	-
18	50	160	24	M14	BT40-18-021	-
20	52	63	25	M16	BT40-18-022	-
20	52	100	25	M16	BT40-18-023	-
20	52	160	25	M16	BT40-18-024	-



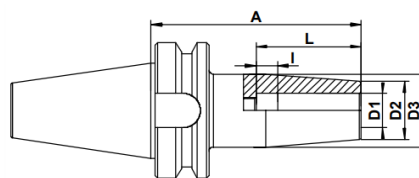
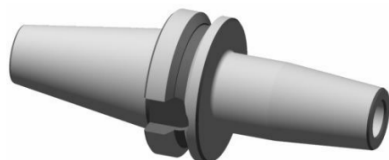
d	D	A	L1	L2	g	Referência	Preço
25	65	90	24	25	M18x2	BT40-18-025	-
25	65	160	24	25	M18x2	BT40-18-026	-
32	72	100	24	28	M20x2	BT40-18-027	-
32	72	160	24	28	M20x2	BT40-18-028	-
40	80	105	30	32	M20x2	BT40-18-029	-
40	80	160	30	32	M20x2	BT40-18-030	-

MAS BT 40 / JIS B 6339

Cone Térmico

Shrink chuck

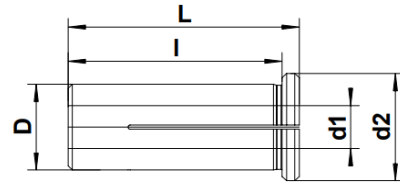
G6,3/ 15.000 U/min



D1	D2	D3	A	L	i	Referência	Preço
3	10	20	90	15	-	BT40-19-001	-
3	10	20	120	15	-	BT40-19-002	-
3	10	20	160	15	-	BT40-19-003	-
4	15	22	90	15	-	BT40-19-004	-
4	15	22	120	15	-	BT40-19-005	-
4	15	22	160	15	-	BT40-19-006	-
5	15	22	90	20	-	BT40-19-007	-
5	15	22	120	20	-	BT40-19-008	-
5	15	22	160	20	-	BT40-19-009	-
6	20	27	90	36	10	BT40-19-010	-
6	20	27	120	36	10	BT40-19-011	-
6	20	27	160	36	10	BT40-19-012	-
8	20	27	90	36	10	BT40-19-013	-
8	20	27	120	36	10	BT40-19-014	-
8	20	27	160	36	10	BT40-19-015	-
10	24	31	90	41	10	BT40-19-016	-
10	24	31	120	41	10	BT40-19-017	-
10	24	31	160	41	10	BT40-19-018	-
12	24	31	90	47	10	BT40-19-019	-
12	24	31	120	47	10	BT40-19-020	-
12	24	31	160	47	10	BT40-19-021	-
14	27	34	90	47	10	BT40-19-022	-
14	27	34	120	47	10	BT40-19-023	-
14	27	34	160	47	10	BT40-19-024	-
16	27	34	90	50	10	BT40-19-025	-
16	27	34	120	50	10	BT40-19-026	-
16	27	34	160	50	10	BT40-19-027	-
18	33	40	90	50	10	BT40-19-028	-
18	33	40	120	50	10	BT40-19-029	-
18	33	40	160	50	10	BT40-19-030	-
20	33	40	90	52	10	BT40-19-031	-
20	33	40	120	52	10	BT40-19-032	-
20	33	40	160	52	10	BT40-19-033	-
25	44	53	100	58	10	BT40-19-034	-
25	44	53	120	58	10	BT40-19-035	-
25	44	53	160	58	10	BT40-19-036	-
32	44	53	100	62	10	BT40-19-037	-
32	44	53	120	62	10	BT40-19-038	-
32	44	53	160	62	10	BT40-19-039	-

MAS BT 40 / JIS B 6339

Pinças



D	d1	d2	L	l	Referência	Preço
12	3	16	40	36	BT40-20-001	-
12	4	16	40	36	BT40-20-002	-
12	5	16	40	36	BT40-20-003	-
12	6	16	40	36	BT40-20-004	-
12	8	16	40	36	BT40-20-005	-
20	3	25	60	56	BT40-20-006	-
20	4	25	60	56	BT40-20-007	-
20	5	25	60	56	BT40-20-008	-
20	6	25	60	56	BT40-20-009	-
20	8	25	60	56	BT40-20-010	-
20	10	25	60	56	BT40-20-011	-
20	12	25	60	56	BT40-20-012	-
20	14	25	60	56	BT40-20-013	-
20	16	25	60	56	BT40-20-014	-

D	d1	d2	L	l	Referência	Preço
32	6	36	64	60	BT40-20-015	-
32	8	36	64	60	BT40-20-016	-
32	10	36	64	60	BT40-20-017	-
32	12	36	64	60	BT40-20-018	-
32	14	36	64	60	BT40-20-019	-
32	16	36	64	60	BT40-20-020	-
32	18	36	64	60	BT40-20-021	-
32	20	36	64	60	BT40-20-022	-
32	25	36	64	60	BT40-20-023	-

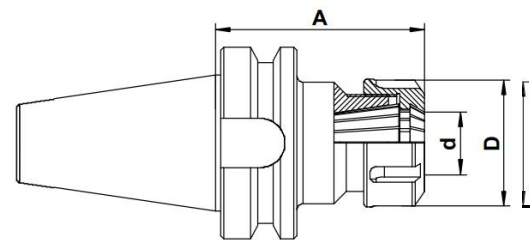
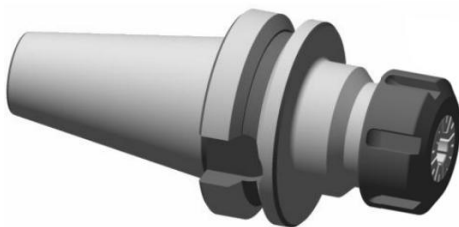
Outros tamanhos disponíveis sob consulta.

MAS BT 40 / JIS B 6339

Porta Pinças ER (DIN 6499)

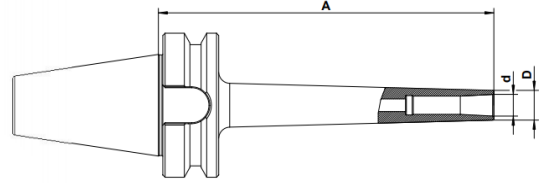
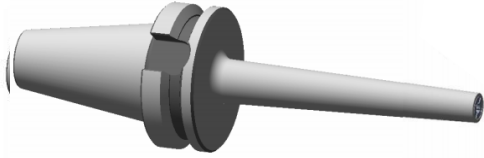
Collet chucks ER (DIN 6499)

66.3 / 15.000 U/min



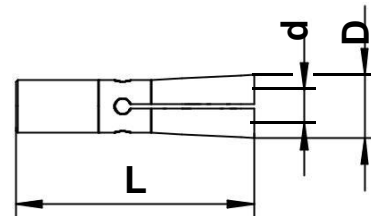
ER	d = Gama	D	A	Referência	Preço
16	0,5 - 10	32	70	BT40-20-024	-
16	0,5 - 10	32	100	BT40-20-025	-
16	0,5 - 10	32	160	BT40-20-026	-
25	2 - 16	42	70	BT40-20-027	-
25	2 - 16	42	100	BT40-20-028	-
25	2 - 16	42	160	BT40-20-029	-
32	2 - 20	50	70	BT40-20-030	-
32	2 - 20	50	100	BT40-20-031	-
32	2 - 20	50	160	BT40-20-032	-
40	3 - 26	63	70	BT40-20-033	-
40	3 - 26	63	100	BT40-20-034	-
40	3 - 26	63	160	BT40-20-035	-

BT40 Porta Pinças



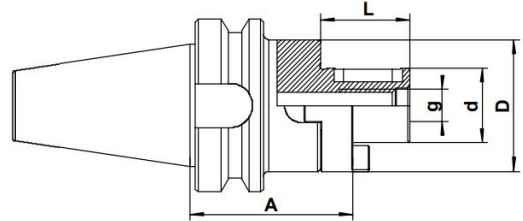
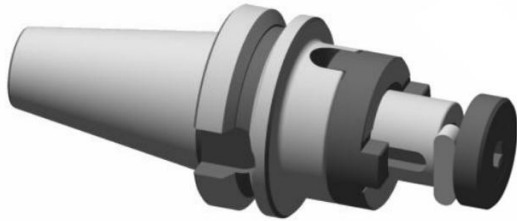
\varnothing	d	D	A	Referência	Preço
2-6	6	13	60	BT40-21-001	-
2-6	6	13	90	BT40-21-002	-
2-6	6	13	120	BT40-21-003	-
2-6	6	13	150	BT40-21-004	-
				BT40-21-005	-
3-8	8	22	90	BT40-21-006	-
3-8	8	22	120	BT40-21-007	-
				BT40-21-008	-
3-10	10	28	90	BT40-21-009	-
3-10	10	28	120	BT40-21-010	-

WZF - Pinças



d	D	L	Referência	Preço
2	9.60	36	BT40-21-009	-
3	9.60	36	BT40-21-010	-
4	9.60	36	BT40-21-011	-
5	9.60	36	BT40-21-012	-
6	9.60	36	BT40-21-013	-
			BT40-21-014	-
3	15.00	45	BT40-21-015	-
4	15.00	45	BT40-21-016	-
6	15.00	45	BT40-21-017	-
8	15.00	45	BT40-21-018	-
			BT40-21-019	-
3	19.10	52	BT40-21-020	-
4	19.10	52	BT40-21-021	-
6	19.10	52	BT40-21-022	-
8	19.10	52	BT40-21-023	-
10	19.10	52	BT40-21-024	-

MAS BT 40 / JIS B 6339
Cone com adaptador (DIN 6358)
Combi shell mill adaptor (DIN 6358)



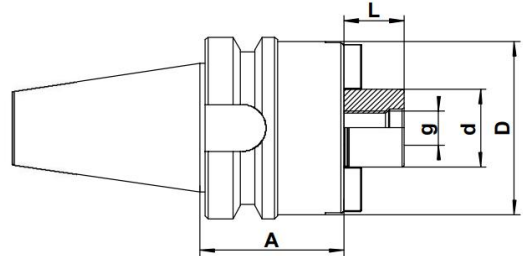
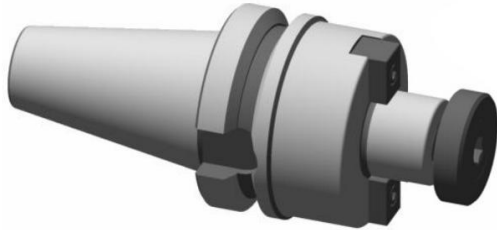
d	D	A	L	g	Referência	Preço
16	32	55	27	M8	BT40-22-001	-
16	32	100	27	M8	BT40-22-002	-
16	32	160	27	M8	BT40-22-003	-
22	40	55	31	M10	BT40-22-004	-
22	40	100	31	M10	BT40-22-005	-
22	40	160	31	M10	BT40-22-006	-
27	48	55	33	M12	BT40-22-007	-
27	48	100	33	M12	BT40-22-008	-
27	48	160	33	M12	BT40-22-009	-
32	58	60	38	M16	BT40-22-010	-
32	58	100	38	M16	BT40-22-011	-
32	58	160	38	M16	BT40-22-012	-
40	70	60	41	M20	BT40-22-013	-
40	70	100	41	M20	BT40-22-014	-
40	70	160	41	M20	BT40-22-015	-

MAS BT 40 / JIS B 6339

Cone para fresas arbor (DIN 6357)

Face mill holder for cutters with driving slot (DIN 6357)

G6,3 / 15.000 U/min

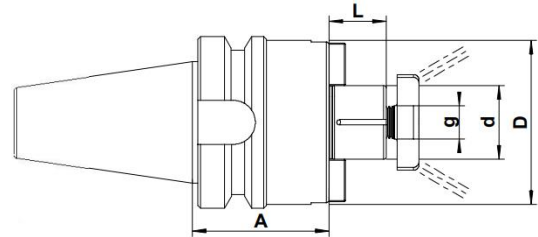
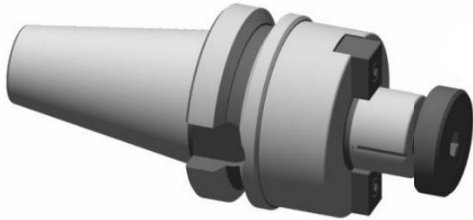


d	D	A	L	g	Referência	Preço
16	38	45	17	M8	BT40-23-001	-
16	38	100	17	M8	BT40-23-002	-
16	38	160	17	M8	BT40-23-003	-
22	48	45	19	M10	BT40-23-004	-
22	48	100	19	M10	BT40-23-005	-
22	48	160	19	M10	BT40-23-006	-
27	58	45	21	M12	BT40-23-007	-
27	58	100	21	M12	BT40-23-008	-
27	58	160	21	M12	BT40-23-009	-
32	78	50	24	M16	BT40-23-010	-
32	78	100	24	M16	BT40-23-011	-
32	78	160	24	M16	BT40-23-012	-
40	88	55	27	M20	BT40-23-013	-
40	88	100	27	M20	BT40-23-014	-
40	88	160	27	M20	BT40-23-015	-

MAS BT 40 / JIS B 6339

Cone para fresas arbor com sistema de refrigeração (DIN 6357)
Face mill holder for cutters with driving slot (internal coolant)

G6,3 / 15.000 U/min



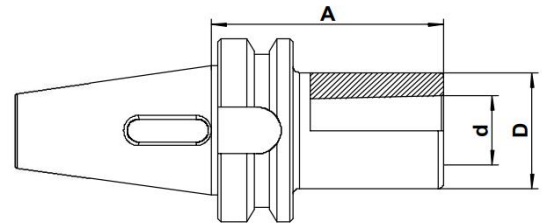
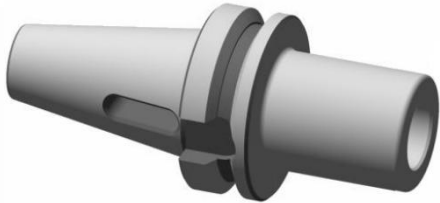
d	D	A	L	g	Referência	Preço
16	38	45	17	M8	BT40-24-001	-
16	38	100	17	M8	BT40-24-002	-
16	38	160	17	M8	BT40-24-003	-
22	48	45	19	M10	BT40-24-004	-
22	48	100	19	M10	BT40-24-005	-
22	48	160	19	M10	BT40-24-006	-
27	58	45	21	M12	BT40-24-007	-
27	58	100	21	M12	BT40-24-008	-
27	58	160	21	M12	BT40-24-009	-
32	78	50	24	M16	BT40-24-010	-
32	78	100	24	M16	BT40-24-011	-
32	78	160	24	M16	BT40-24-012	-
40	88	55	27	M20	BT40-24-013	-
40	88	100	27	M20	BT40-24-014	-
40	88	160	27	M20	BT40-24-015	-

MAS BT 40 / JIS B 6339

Adaptador Cone Morse (DIN 6383)

Morse taper adaptor (DIN 6383)

G6,3 / 15.000 U/min

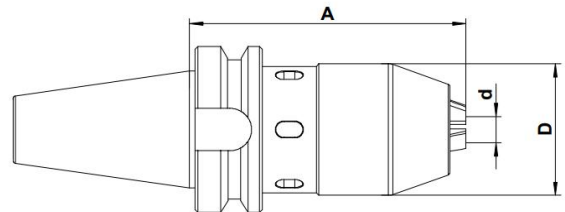


d	D	A	Referência	Preço
MK1	25	50	BT40-25-001	-
MK1	25	115	BT40-25-002	-
MK2	32	50	BT40-25-003	-
MK2	32	125	BT40-25-004	-
MK3	40	70	BT40-25-005	-
MK3	40	140	BT40-25-006	-
MK4	48	95	BT40-25-007	-

MAS BT 40 / JIS B 6339

Porta Brocas

NC drill chuck

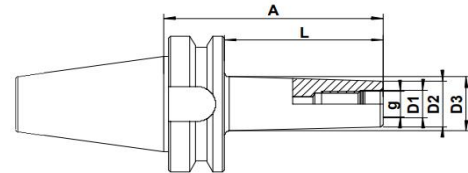
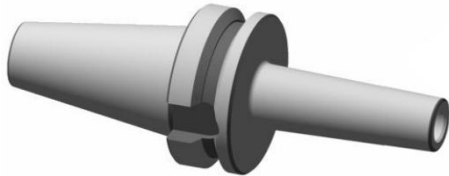


d = Gama	Tolerância	D	A	Referência	Preço
1,0 - 13	0,05 mm	50	105	BT40-25-008	-

MAS BT 40 / JIS B 6339

Cone para fresas modulares
Milling cutter arbor for screw-on type

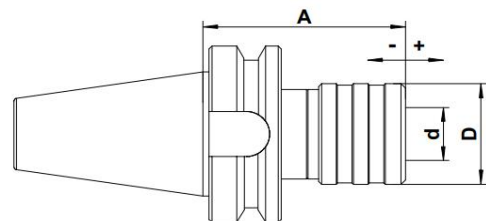
G2,5/ 20.000 U/min



g	D1	D2	D3	A	L	Referência	Preço
M6	6,5	10	13	55	25	BT40-26-001	-
M6	6,5	10	20	77	50	BT40-26-002	-
M6	6,5	10	23	102	75	BT40-26-003	-
M8	8,5	13	15	52	25	BT40-26-004	-
M8	8,5	13	23	77	50	BT40-26-005	-
M8	8,5	13	23	102	75	BT40-26-006	-
M8	8,5	13	25	120	100	BT40-26-007	-
M10	10,5	18	20	52	25	BT40-26-008	-
M10	10,5	18	23	77	50	BT40-26-009	-
M10	10,5	18	28	102	75	BT40-26-010	-
M10	10,5	18	32	127	100	BT40-26-011	-
M12	12,5	21	24	52	25	BT40-26-012	-
M12	12,5	21	28	77	50	BT40-26-013	-
M12	12,5	21	31	102	75	BT40-26-014	-
M12	12,5	21	31	138	100	BT40-26-015	-
M16	17	29	29	52	25	BT40-26-016	-
M16	17	29	34	77	50	BT40-26-017	-
M16	17	29	34	102	75	BT40-26-018	-
M16	17	29	41	138	100	BT40-26-019	-
M16	17	29	44	152	125	BT40-26-020	-
M16	17	29	50	188	150	BT40-26-021	-

MAS BT 40 / JIS B 6339

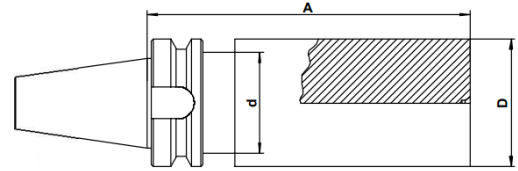
Cone com bucha de roscagem com compensação de comprimento
Quick-change tapping chuck with length compensation



Gama	d	D	A	Referência	Preço
M3 - M12	19	36	68	BT40-26-022	-
M5 - M20	31	53	95	BT40-26-023	-
M14 - M33	48	78	165	BT40-26-024	-

MAS BT 40 / JIS B 6339

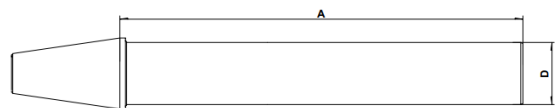
Cone em bruto
Boring bar blank



D	A	d	Referência	Preço
63	250	50	BT40-27-001	-

MAS BT 40 / JIS B 6339

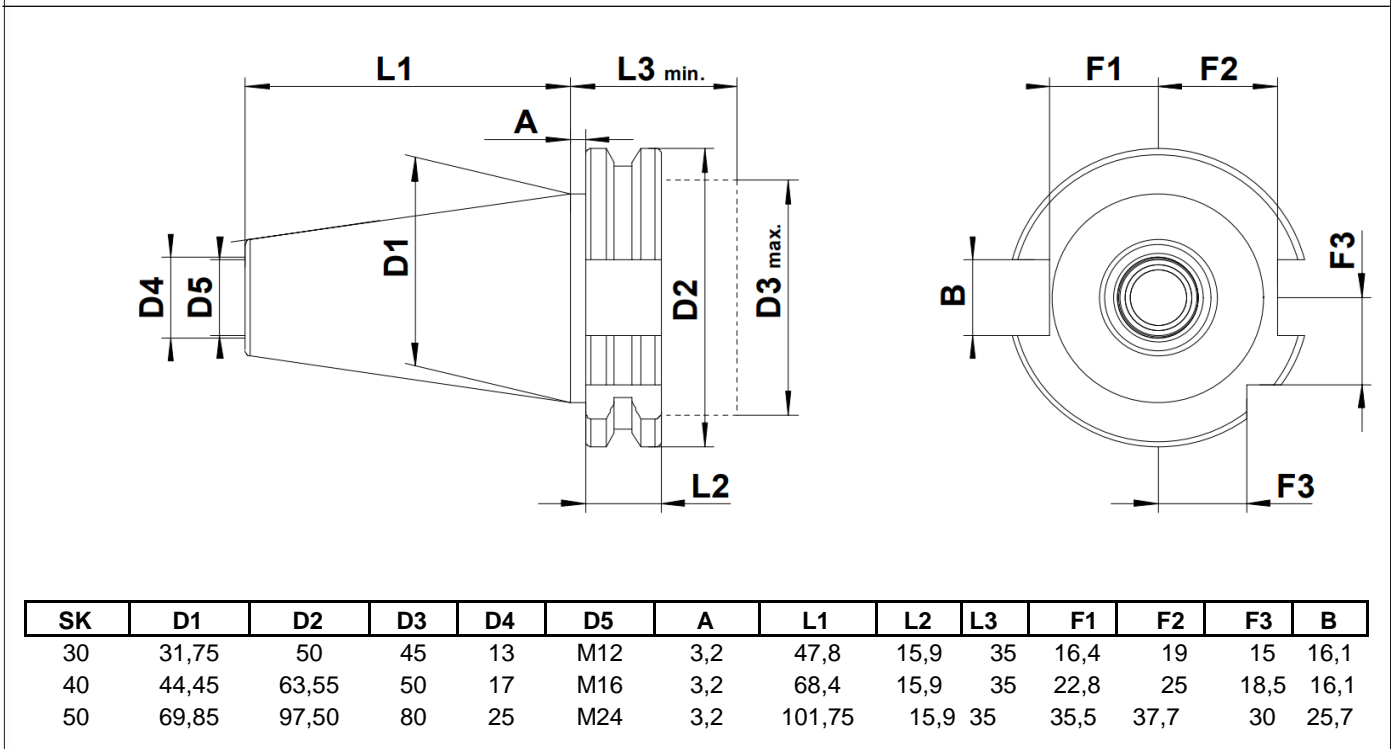
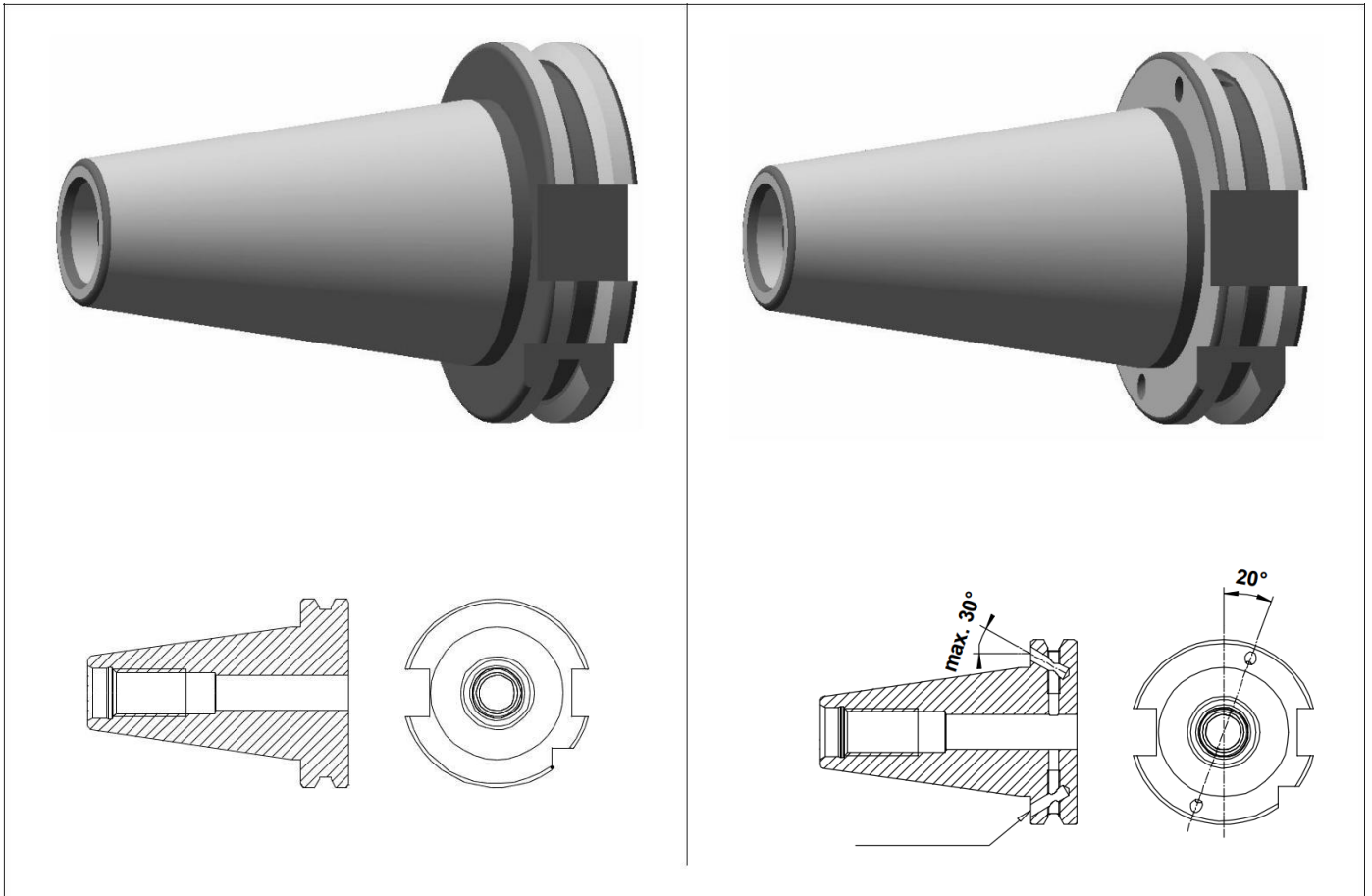
Cone de verificação
Test Arbor



D	A	Referência	Preço
40	300	BT40-27-002	-

SK50 / DIN 69871

Para CNCs com troca automática de ferramentas
For milling centers with automatic tool change

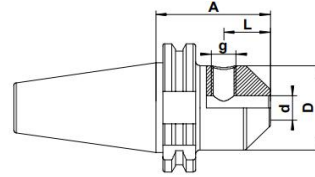
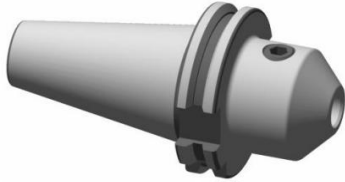


SK50 / DIN 69871

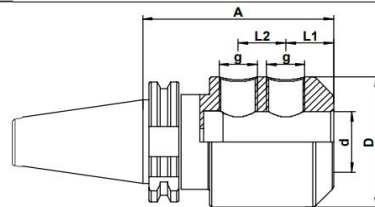
Adaptador (Weldon)

End mill holder Weldon type DIN 1835-B

G6.3 / 15.000 U/min

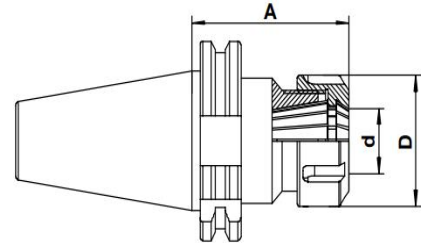
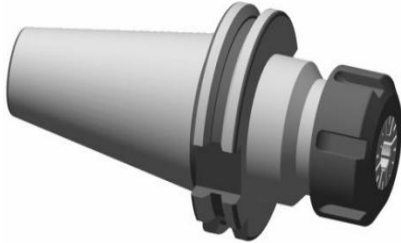


d	D	A	L	g	Referência	Preço
6	25	63	18	M6	SK50-29-001	-
6	25	100	18	M6	SK50-29-002	-
6	25	160	18	M6	SK50-29-003	-
8	28	63	18	M8	SK50-29-004	-
8	28	100	18	M8	SK50-29-005	-
8	28	160	18	M8	SK50-29-006	-
10	35	63	20	M10	SK50-29-007	-
10	35	100	20	M10	SK50-29-008	-
10	35	160	20	M10	SK50-29-009	-
12	42	63	22,5	M12	SK50-29-010	-
12	42	100	22,5	M12	SK50-29-011	-
12	42	160	22,5	M12	SK50-29-012	-
14	44	63	22,5	M12	SK50-29-013	-
14	44	100	22,5	M12	SK50-29-014	-
14	44	160	22,5	M12	SK50-29-015	-
16	48	63	24	M14	SK50-29-016	-
16	48	100	24	M14	SK50-29-017	-
16	48	160	24	M14	SK50-29-018	-
18	50	63	24	M14	SK50-29-019	-
18	50	100	24	M14	SK50-29-020	-
18	50	160	24	M14	SK50-29-021	-
20	52	63	25	M16	SK50-29-022	-
20	52	100	25	M16	SK50-29-023	-
20	52	160	25	M16	SK50-29-024	-



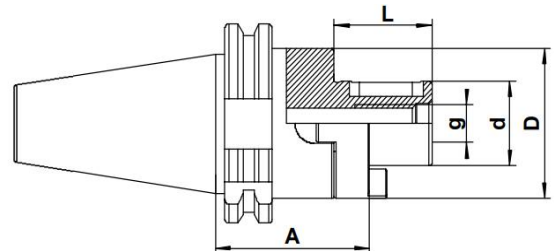
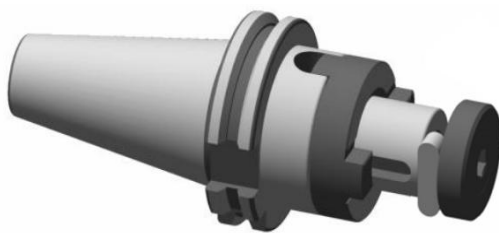
d	D	A	L1	L2	g	Referência	Preço
25	65	80	24	25	M18x2	SK50-29-025	-
25	65	100	24	25	M18x2	SK50-29-026	-
25	65	160	24	25	M18x2	SK50-29-027	-
32	72	100	24	28	M20x2	SK50-29-028	-
32	72	160	24	28	M20x2	SK50-29-029	-
40	80	120	30	32	M20x2	SK50-29-030	-
40	80	160	30	32	M20x2	SK50-29-031	-
50	100	120	35	35	M24x2	SK50-29-032	-

SK50 / DIN 69871
Porta Pinças ER (DIN 6499)
Collet chucks ER (DIN 6499)
 G6,3 / 15.000 U/min



ER	d = Gama	D	A	Referência	Preço
25	2 - 16	42	70	SK50-30-001	-
25	2 - 16	42	100	SK50-30-002	-
25	2 - 16	42	160	SK50-30-003	-
32	2 - 20	50	70	SK50-30-004	-
32	2 - 20	50	100	SK50-30-005	-
32	2 - 20	50	160	SK50-30-006	-
40	3 - 26	63	80	SK50-30-007	-
40	3 - 26	63	100	SK50-30-008	-
40	3 - 26	63	160	SK50-30-009	-

SK50 / DIN 69871
Cone com adaptador (DIN 6358)
Combi shell mill adaptor (DIN 6358)

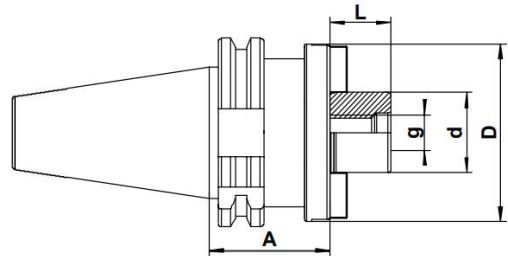
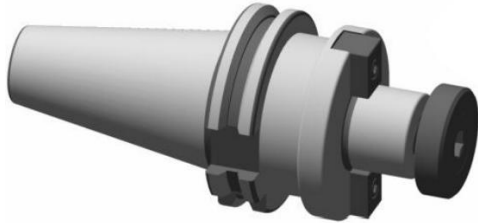


d	D	A	L	g	Referência	Preço
16	32	55	27	M8	SK50-30-010	-
16	32	100	27	M8	SK50-30-011	-
16	32	160	27	M8	SK50-30-012	-
22	40	55	31	M10	SK50-30-013	-
22	40	100	31	M10	SK50-30-014	-
22	40	160	31	M10	SK50-30-015	-
27	48	55	33	M12	SK50-30-016	-
27	48	100	33	M12	SK50-30-017	-
27	48	160	33	M12	SK50-30-018	-
32	58	55	38	M16	SK50-30-019	-
32	58	100	38	M16	SK50-30-020	-
32	58	160	38	M16	SK50-30-021	-
40	70	55	41	M20	SK50-30-022	-
40	70	100	41	M20	SK50-30-023	-
40	70	160	41	M20	SK50-30-024	-

SK50 / DIN 69871

Cone para fresas arbor (DIN 6357)
Face mill holder for cutters with driving slot (DIN 6357)

G6,3 / 15.000 U/min

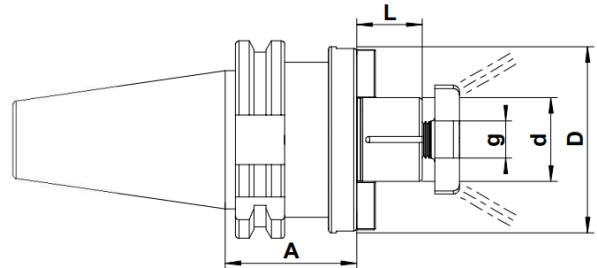
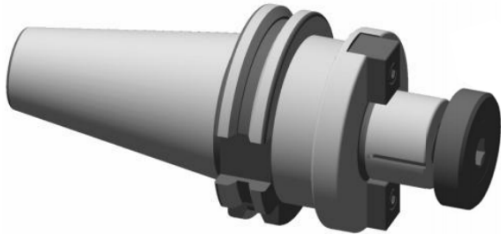


d	D	A	L	g	Referência	Preço
16	38	45	17	M8	SK50-31-001	-
16	38	100	17	M8	SK50-31-002	-
16	38	160	17	M8	SK50-31-003	-
22	48	45	19	M10	SK50-31-004	-
22	48	100	19	M10	SK50-31-005	-
22	48	160	19	M10	SK50-31-006	-
27	58	45	21	M12	SK50-31-007	-
27	58	100	21	M12	SK50-31-008	-
27	58	160	21	M12	SK50-31-009	-
32	78	50	24	M16	SK50-31-010	-
32	78	100	24	M16	SK50-31-011	-
32	78	160	24	M16	SK50-31-012	-
40	88	55	27	M20	SK50-31-013	-
40	88	100	27	M20	SK50-31-014	-
40	88	160	27	M20	SK50-31-015	-

SK50 / DIN 69871

Cone para fresas arbor com sistema de refrigeração (DIN 6357)
Face mill holder for cutters with driving slot (internal coolant)

G6,3 / 15.000 U/min



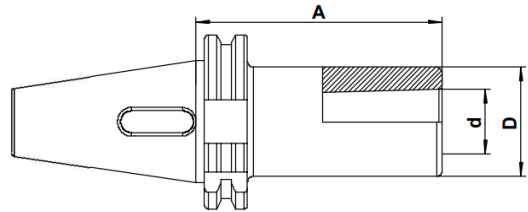
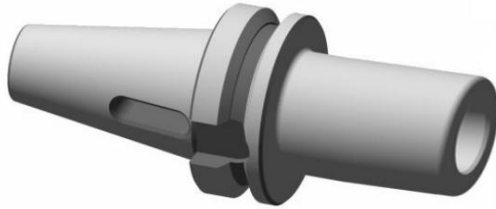
d	D	A	L	g	Referência	Preço
16	38	45	17	M8	SK50-32-001	-
16	38	100	17	M8	SK50-32-002	-
16	38	160	17	M8	SK50-32-003	-
22	48	45	19	M10	SK50-32-004	-
22	48	100	19	M10	SK50-32-005	-
22	48	160	19	M10	SK50-32-006	-
27	58	45	21	M12	SK50-32-007	-
27	58	100	21	M12	SK50-32-008	-
27	58	160	21	M12	SK50-32-009	-
32	78	50	24	M16	SK50-32-010	-
32	78	100	24	M16	SK50-32-011	-
32	78	160	24	M16	SK50-32-012	-
40	88	55	27	M20	SK50-32-013	-
40	88	100	27	M20	SK50-32-014	-
40	88	160	27	M20	SK50-32-015	-

SK50 / DIN 69871

Adaptador Cone Morse (DIN 6383)

Morse taper adaptor (DIN 6383)

G6.3 / 15.000 U/min

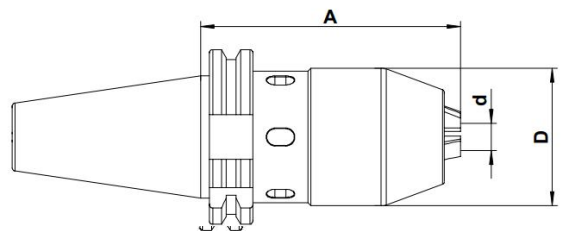


d	D	A	Referência	Preço
MK1	25	50	SK50-33-001	-
MK1	25	120	SK50-33-002	-
MK2	32	60	SK50-33-003	-
MK2	32	140	SK50-33-004	-
MK3	40	65	SK50-33-005	-
MK3	40	150	SK50-33-006	-
MK4	48	95	SK50-33-007	-
MK4	48	180	SK50-33-008	-
MK5	63	120	SK50-33-009	-
MK5	63	220	SK50-33-010	-

SK50 / DIN 69871

Porta Brocas

NC drill chuck



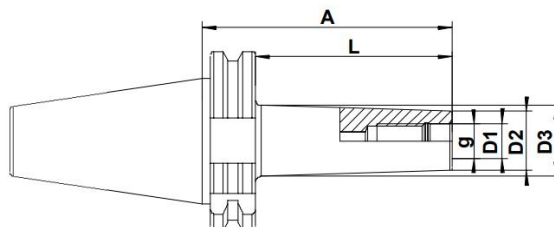
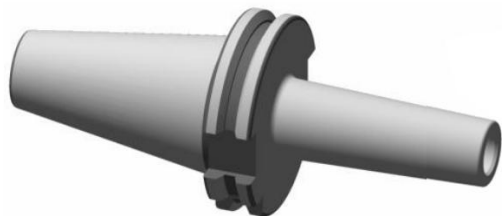
d = Gama	Tolerância	D	A	Referência	Preço
1,0 - 13	0,05 mm	50	103,5	SK50-33-011	-

SK50 / DIN 69871

Cone para fresas modulares

Milling cutter arbor for screw-on type

G2.5/ 20.000 U/min

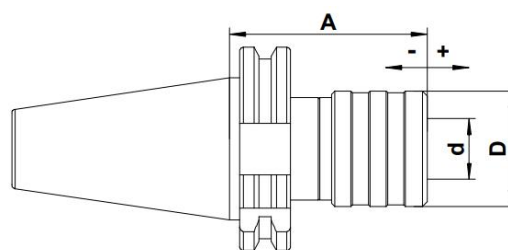
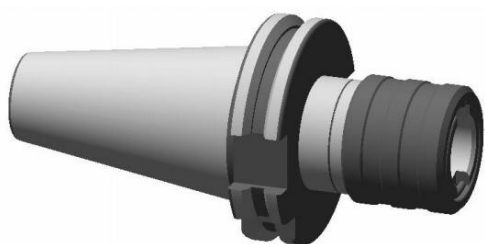


g	D1	D2	D3	A	L	Referência	Preço
M8	8,5	13	23	69	50	SK50-34-001	-
M8	8,5	13	25	119	100	SK50-34-002	-
M8	8,5	13	30	169	150	SK50-34-003	-
M10	10,5	18	23	69	50	SK50-34-004	-
M10	10,5	18	32	119	100	SK50-34-005	-
M10	10,5	18	37	169	150	SK50-34-006	-
M12	12,5	21	24	69	50	SK50-34-007	-
M12	12,5	21	33	119	100	SK50-34-008	-
M12	12,5	21	40	169	150	SK50-34-009	-
M16	17	29	34	69	50	SK50-34-010	-
M16	17	29	36	119	100	SK50-34-011	-
M16	17	29	43	169	150	SK50-34-012	-

SK50 / DIN 69871

Cone com bucha de roscagem com compensação de comprimento

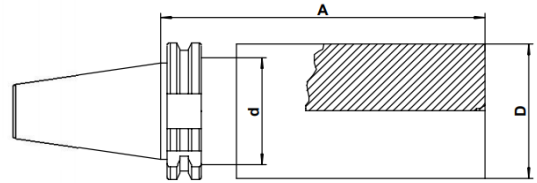
Quick-change tapping chuck with length compensation



Gama	d	D	A	Referência	Preço
M3 - M12	19	36	60	SK50-34-013	-
M5 - M20	31	53	84	SK50-34-014	-
M14 - M33	48	78	139	SK50-34-015	-
M22 - M48	60	96	152	SK50-34-016	-

SK50 / DIN 69871

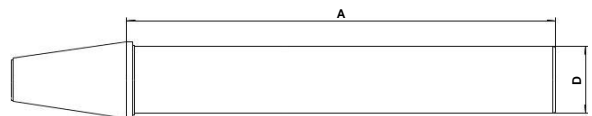
Cone em bruto
Boring bar blank



D	A	d	Referência	Preço
97	315	85	SK50-35-001	-

SK50 / DIN 69871

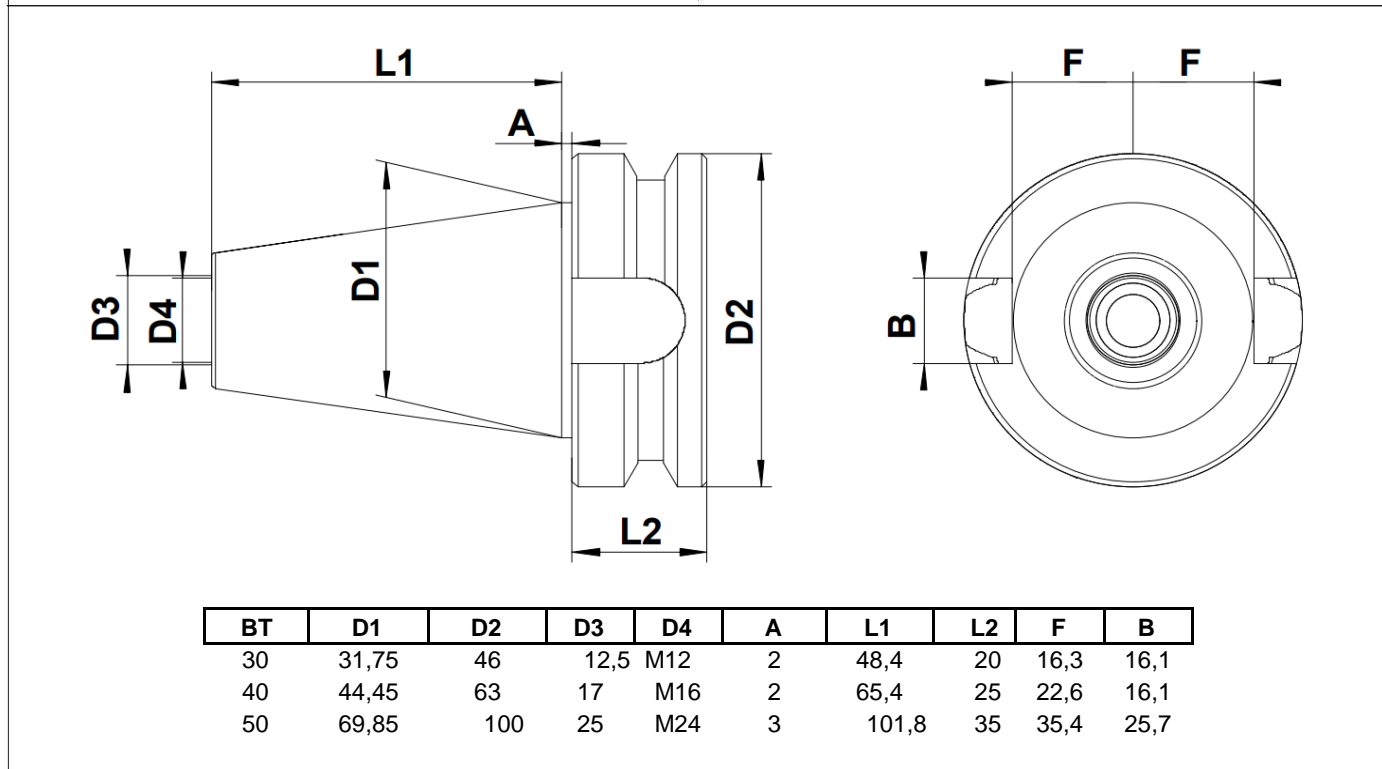
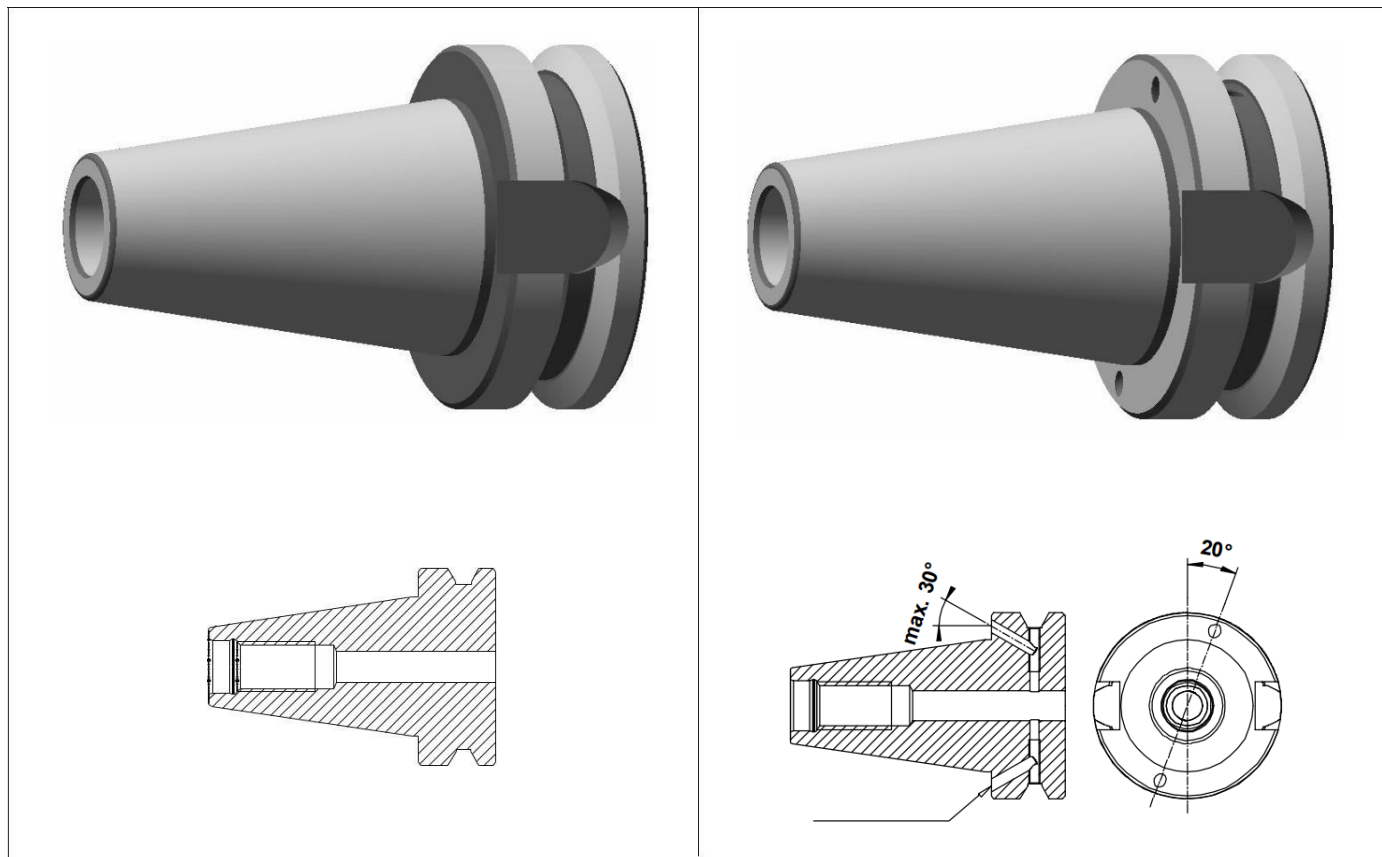
Cone de verificação
Test Arbor



D	A	Referência	Preço
50	350	SK50-35-002	-

MAS BT 50 / JIS B 6339

Para CNCs com troca automática de ferramentas
For milling centers with automatic tool change

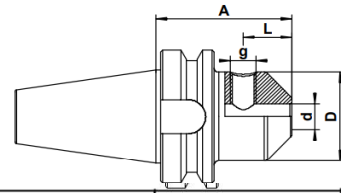
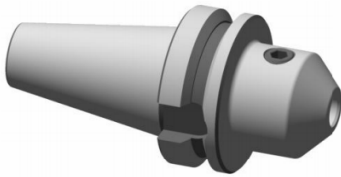


MAS BT 50 / JIS B 6339

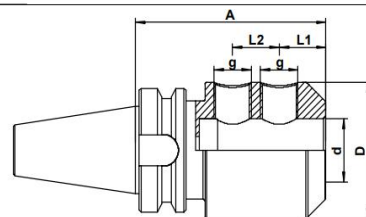
Suporte de fresas DIN 1835-B

End mill holder Weldon type DIN 1835-B

G6,3 / 15.000 U/min



d	D	A	L	g	Referência	Preço
6	25	63	18	M6	BT50-37-001	-
6	25	100	18	M6	BT50-37-002	-
6	25	160	18	M6	BT50-37-003	-
8	28	63	18	M8	BT50-37-004	-
8	28	100	18	M8	BT50-37-005	-
8	28	160	18	M8	BT50-37-006	-
10	35	63	20	M10	BT50-37-007	-
10	35	100	20	M10	BT50-37-008	-
10	35	160	20	M10	BT50-37-009	-
12	42	63	22,5	M12	BT50-37-010	-
12	42	100	22,5	M12	BT50-37-011	-
12	42	160	22,5	M12	BT50-37-012	-
14	44	63	22,5	M12	BT50-37-013	-
14	44	100	22,5	M12	BT50-37-014	-
14	44	160	22,5	M12	BT50-37-015	-
16	48	63	24	M14	BT50-37-016	-
16	48	100	24	M14	BT50-37-017	-
16	48	160	24	M14	BT50-37-018	-
18	50	63	24	M14	BT50-37-019	-
18	50	100	24	M14	BT50-37-020	-
18	50	160	24	M14	BT50-37-021	-
20	52	63	25	M16	BT50-37-022	-
20	52	100	25	M16	BT50-37-023	-
20	52	160	25	M16	BT50-37-024	-



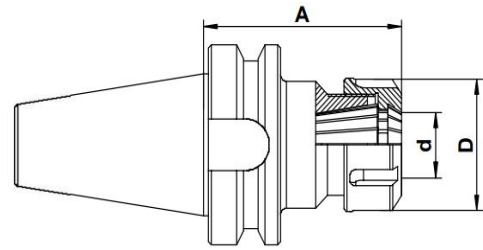
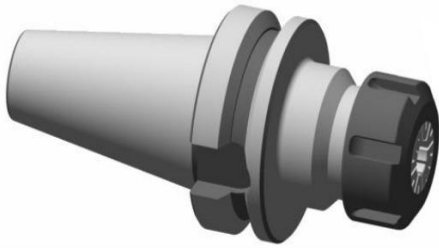
d	D	A	L1	L2	g	Referência	Preço
25	65	100	24	25	M18x2	BT50-37-025	-
25	65	160	24	25	M18x2	BT50-37-026	-
32	72	105	24	28	M20x2	BT50-37-027	-
32	72	160	24	28	M20x2	BT50-37-028	-
40	80	115	30	32	M20x2	BT50-37-029	-
40	80	160	30	32	M20x2	BT50-37-030	-
50	100	125	35	35	M24x2	BT50-37-031	-

MAS BT 50 / JIS B 6339

Porta Pinças ER (DIN 6499)

Collet chucks ER (DIN 6499)

G6,3 / 15.000 U/min

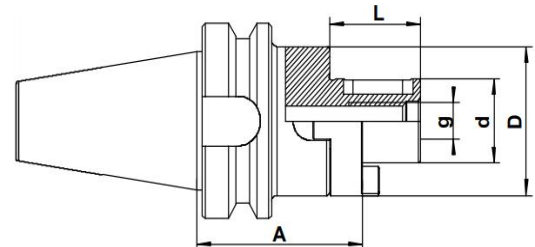
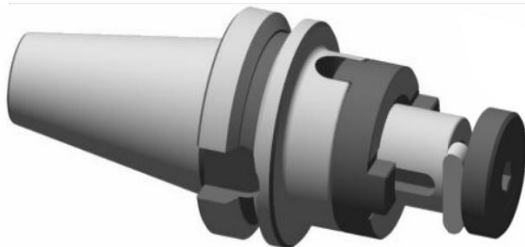


ER	d = Gama	D	A	Referência	Preço
25	2 - 16	42	80	BT50-38-001	-
25	2 - 16	42	100	BT50-38-002	-
25	2 - 16	42	160	BT50-38-003	-
32	2 - 20	50	80	BT50-38-004	-
32	2 - 20	50	100	BT50-38-005	-
32	2 - 20	50	160	BT50-38-006	-
40	3 - 26	63	80	BT50-38-007	-
40	3 - 26	63	100	BT50-38-008	-
40	3 - 26	63	160	BT50-38-009	-

MAS BT 50 / JIS B 6339

Cone com adaptador (DIN 6358)

Combi shell mill adaptor (DIN 6358)



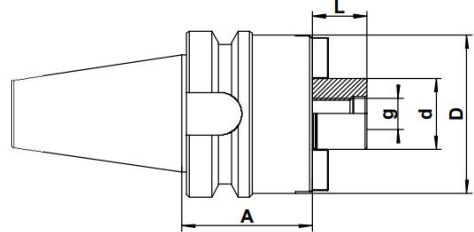
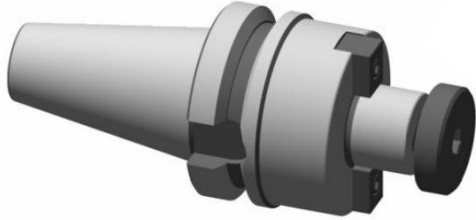
d	D	A	L	g	Referência	Preço
16	32	70	27	M8	BT50-38-010	-
16	32	100	27	M8	BT50-38-011	-
16	32	160	27	M8	BT50-38-012	-
22	40	70	31	M10	BT50-38-013	-
22	40	100	31	M10	BT50-38-014	-
22	40	160	31	M10	BT50-38-015	-
27	48	70	33	M12	BT50-38-016	-
27	48	100	33	M12	BT50-38-017	-
27	48	160	33	M12	BT50-38-018	-
32	58	70	38	M16	BT50-38-019	-
32	58	100	38	M16	BT50-38-020	-
32	58	160	38	M16	BT50-38-021	-
40	70	70	41	M20	BT50-38-022	-
40	70	100	41	M20	BT50-38-023	-
40	70	160	41	M20	BT50-38-024	-

MAS BT 50 / JIS B 6339

Cone para fresas arbor (DIN 6357)

Face mill holder for cutters with driving slot (DIN 6357)

G6,3 / 15.000 U/min

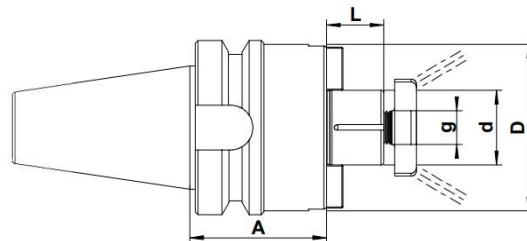
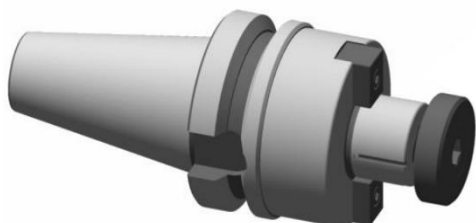


d	D	A	L	g	Referência	Preço
16	38	60	17	M8	BT50-39-001	-
16	38	100	17	M8	BT50-39-002	-
16	38	160	17	M8	BT50-39-003	-
22	48	60	19	M10	BT50-39-004	-
22	48	100	19	M10	BT50-39-005	-
22	48	160	19	M10	BT50-39-006	-
27	58	60	21	M12	BT50-39-007	-
27	58	100	21	M12	BT50-39-008	-
27	58	160	21	M12	BT50-39-009	-
32	78	60	24	M16	BT50-39-010	-
32	78	100	24	M16	BT50-39-011	-
32	78	160	24	M16	BT50-39-012	-
40	88	60	27	M20	BT50-39-013	-
40	88	100	27	M20	BT50-39-014	-
40	88	160	27	M20	BT50-39-015	-

MAS BT 50 / JIS B 6339

Cone para fresas arbor com sistema de refrigeração (DIN 6357)
Face mill holder for cutters with driving slot (internal coolant)

G6,3 / 15.000 U/min



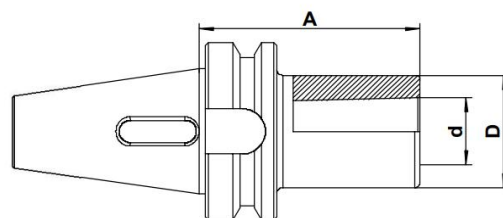
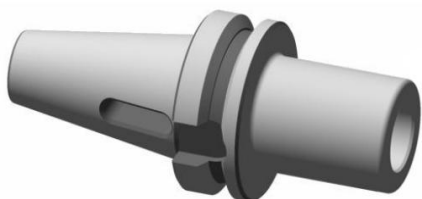
d	D	A	L	g	Referência	Preço
16	38	60	17	M8	BT50-40-001	-
16	38	100	17	M8	BT50-40-002	-
16	38	160	17	M8	BT50-40-003	-
22	48	60	19	M10	BT50-40-004	-
22	48	100	19	M10	BT50-40-005	-
22	48	160	19	M10	BT50-40-006	-
27	58	60	21	M12	BT50-40-007	-
27	58	100	21	M12	BT50-40-008	-
27	58	160	21	M12	BT50-40-009	-
32	78	60	24	M16	BT50-40-010	-
32	78	100	24	M16	BT50-40-011	-
32	78	160	24	M16	BT50-40-012	-
40	88	60	27	M20	BT50-40-013	-
40	88	100	27	M20	BT50-40-014	-
40	88	160	27	M20	BT50-40-015	-

MAS BT 50 / JIS B 6339

Adaptador Cone Morse (DIN 6383)

Morse taper adaptor (DIN 6383)

G6,3 / 15.000 U/min

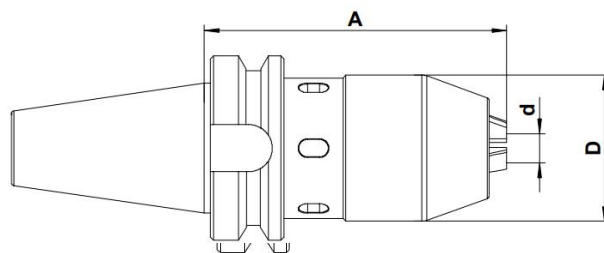


d	D	A	Referência	Preço
MK1	25	50	BT50-41-001	-
MK1	25	120	BT50-41-002	-
MK2	32	60	BT50-41-003	-
MK2	32	140	BT50-41-004	-
MK3	40	65	BT50-41-005	-
MK3	40	150	BT50-41-006	-
MK4	48	95	BT50-41-007	-
MK4	48	180	BT50-41-008	-
MK5	63	120	BT50-41-009	-
MK5	63	220	BT50-41-010	-

MAS BT 50 / JIS B 6339

Porta Brocas

NC drill chuck



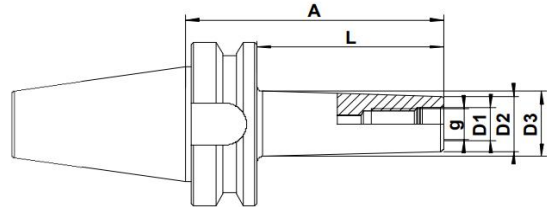
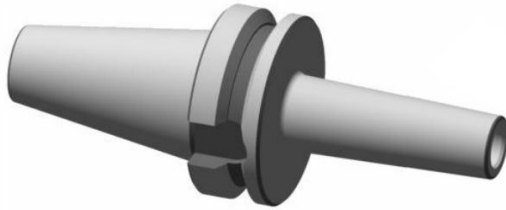
d = Gama	Tolerância	D	A	Referência	Preço
1,0 - 13	0,05 mm	50	120	BT50-41-011	-

MAS BT 50 / JIS B 6339

Cone para fresas modulares

Milling cutter arbor for screw-on type

G2,5/ 20.000 U/min

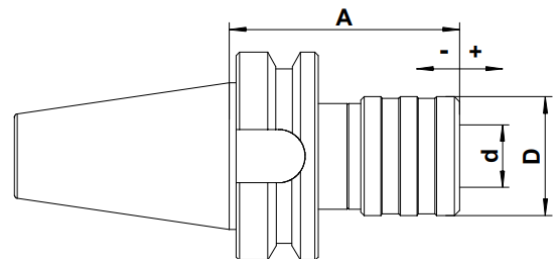
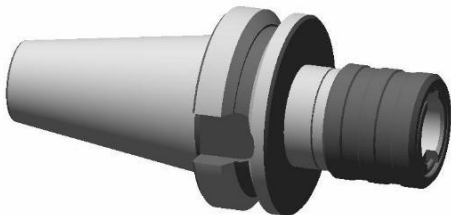


g	D1	D2	D3	A	L	Referência	Preço
M8	8,5	13	23	88	50	BT50-42-001	-
M8	8,5	13	25	138	100	BT50-42-002	-
M8	8,5	13	30	188	150	BT50-42-003	-
M10	10,5	18	23	88	50	BT50-42-004	-
M10	10,5	18	32	138	100	BT50-42-005	-
M10	10,5	18	37	188	150	BT50-42-006	-
M12	12,5	21	24	88	50	BT50-42-007	-
M12	12,5	21	33	138	100	BT50-42-008	-
M12	12,5	21	40	188	150	BT50-42-009	-
M16	17	29	34	88	50	BT50-42-010	-
M16	17	29	36	138	100	BT50-42-011	-
M16	17	29	43	188	150	BT50-42-012	-

MAS BT 50 / JIS B 6339

Cone com bucha de roscagem com compensação de comprimento

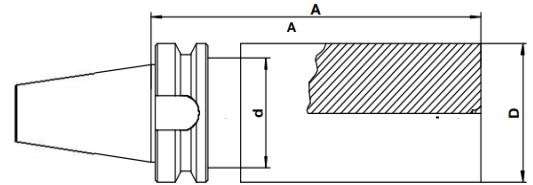
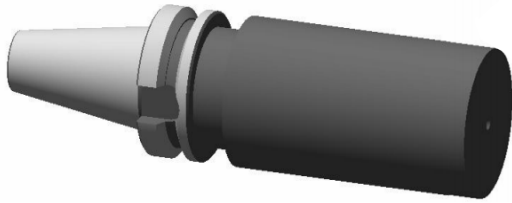
Quick-change tapping chuck with length compensation



Gama	d	D	A	Referência	Preço
M3 - M12	19	36	77	BT50-42-013	-
M5 - M20	31	53	103	BT50-42-014	-
M14 - M33	48	78	143	BT50-42-015	-
M22 - M48	60	96	165	BT50-42-016	-

MAS BT 50 / JIS B 6339

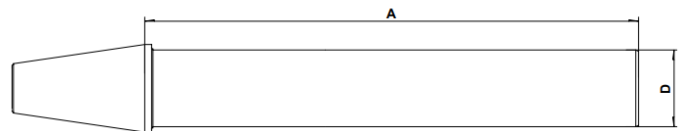
Cone em bruto
Boring bar blank



D	A	d	Referência	Preço
97	315	85	BT50-43-001	-

MAS BT 50 / JIS B 6339

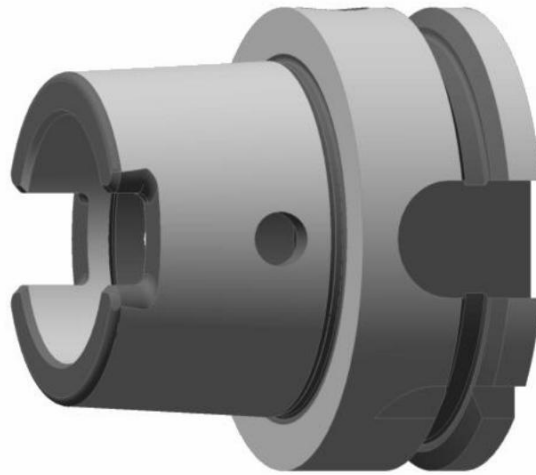
Cone de verificação
Test Arbor



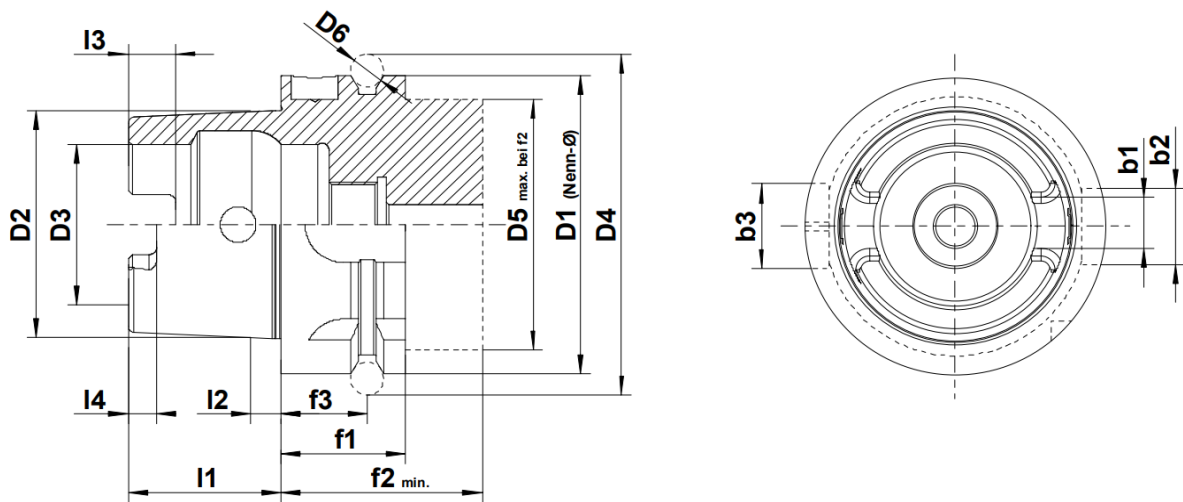
D	A	Referência	Preço
50	350	BT50-43-002	-

HSK / DIN 69893 Form "A"

Para centros de maquinação com troca automática de ferramentas
 For machining centers, milling machines with automatic tool change
 G6,3 / 20.000 U/min



HSK - DIN69893-1 - Form"A"

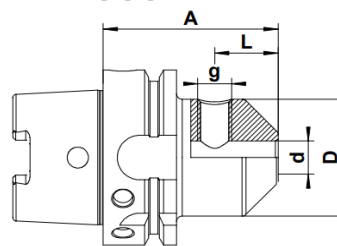
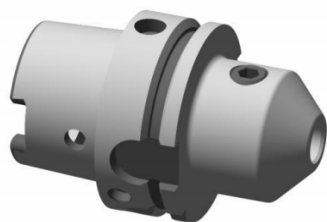


HSK	D1	D2	D3	D4	D5	D6	I1	I2	I3	I4	f1	f2	f3	b1	b2	b3
32	32	24	17	37,00	26	4	16	3,2	5	3	20	35	16	7	7	9
40	40	30	21	45,00	34	4	20	4	6	3,5	20	35	16	8	9	11
50	50	38	26	59,30	42	7	25	5	7,5	4,5	26	42	18	11	12	14
63	63	48	34	72,30	53	7	32	6,3	10	6	26	42	18	13	16	18
80	80	60	42	88,80	68	7	40	8	12	8	26	42	18	16	18	20
100	100	75	53	109,75	88	7	50	10	15	10	29	45	20	20	20	22
125	125	95	67	134,75	111	7	63	12,5	19	12	29	45	20	25	25	28
160	160	120	85	169,75	144	7	80	16	23	16	31	47	22	30	32	36

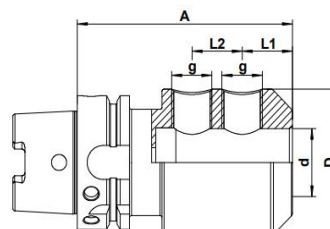
HSK63 - Form "A" / DIN 69893

Suporte de fresas DIN 1835-B

End mill holder Weldon type DIN 1835-B



d	D	A	L	g	Referência	Preço
6	25	65	18	M6	HSK63-45-001	-
6	25	100	18	M6	HSK63-45-002	-
6	25	160	18	M6	HSK63-45-003	-
8	28	65	18	M8	HSK63-45-004	-
8	28	100	18	M8	HSK63-45-005	-
8	28	160	18	M8	HSK63-45-006	-
10	35	65	20	M10	HSK63-45-007	-
10	35	100	20	M10	HSK63-45-008	-
10	35	160	20	M10	HSK63-45-009	-
12	42	80	22,5	M12	HSK63-45-010	-
12	42	100	22,5	M12	HSK63-45-011	-
12	42	160	22,5	M12	HSK63-45-012	-
14	44	80	22,5	M12	HSK63-45-013	-
14	44	100	22,5	M12	HSK63-45-014	-
14	44	160	22,5	M12	HSK63-45-015	-
16	48	80	24	M14	HSK63-45-016	-
16	48	100	24	M14	HSK63-45-017	-
16	48	160	24	M14	HSK63-45-018	-
18	50	80	24	M14	HSK63-45-019	-
18	50	100	24	M14	HSK63-45-020	-
18	50	160	24	M14	HSK63-45-021	-
20	52	80	25	M16	HSK63-45-022	-
20	52	100	25	M16	HSK63-45-023	-
20	52	160	25	M16	HSK63-45-024	-



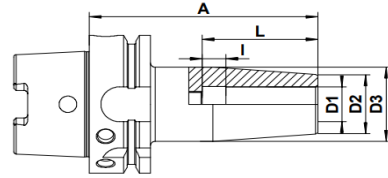
d	D	A	L1	L2	g	Referência	Preço
25	65	110	24	25	M18x2	HSK63-45-025	-
32	72	110	24	28	M20x2	HSK63-45-026	-
40	80	125	30	32	M20x2	HSK63-45-027	-

HSK63 - Form "A" / DIN 69893

Cone térmico p/ brocas HSS e fresas de metal duro

Shrink Chuck for HSS- and solid carbide shank

G2,5/ 20.000 U/min

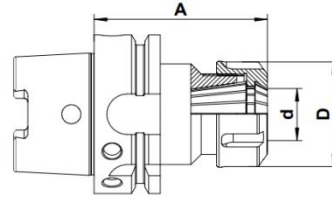
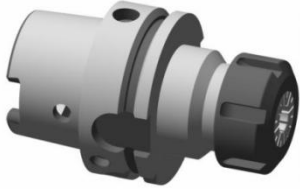


D1	D2	D3	A	L	I	Referência	Preço
3	10	20	80	15	-	HSK63-46-001	-
3	10	20	120	15	-	HSK63-46-002	-
3	10	20	160	15	-	HSK63-46-003	-
4	15	22	80	15	-	HSK63-46-004	-
4	15	22	120	15	-	HSK63-46-005	-
4	15	22	160	15	-	HSK63-46-006	-
5	15	22	80	20	-	HSK63-46-007	-
5	15	22	120	20	-	HSK63-46-008	-
5	15	22	160	20	-	HSK63-46-009	-
6	20	27	80	36	10	HSK63-46-010	-
6	20	27	120	36	10	HSK63-46-011	-
6	20	27	160	36	10	HSK63-46-012	-
8	20	27	80	36	10	HSK63-46-013	-
8	20	27	120	36	10	HSK63-46-014	-
8	20	27	160	36	10	HSK63-46-015	-
10	24	31	85	41	10	HSK63-46-016	-
10	24	31	120	41	10	HSK63-46-017	-
10	24	31	160	41	10	HSK63-46-018	-
12	24	31	90	47	10	HSK63-46-019	-
12	24	31	120	47	10	HSK63-46-020	-
12	24	31	160	47	10	HSK63-46-021	-
14	27	34	90	47	10	HSK63-46-022	-
14	27	34	120	47	10	HSK63-46-023	-
14	27	34	160	47	10	HSK63-46-024	-
16	27	34	95	50	10	HSK63-46-025	-
16	27	34	120	50	10	HSK63-46-026	-
16	27	34	160	50	10	HSK63-46-027	-
18	33	40	95	50	10	HSK63-46-028	-
18	33	40	120	50	10	HSK63-46-029	-
18	33	40	160	50	10	HSK63-46-030	-
20	33	40	100	52	10	HSK63-46-031	-
20	33	40	120	52	10	HSK63-46-032	-
20	33	40	160	52	10	HSK63-46-033	-
25	44	53	120	58	10	HSK63-46-034	-
25	44	53	160	58	10	HSK63-46-035	-
32	44	53	120	62	10	HSK63-46-036	-
32	44	53	160	62	10	HSK63-46-037	-

HSK63- Form "A" / DIN 69893

Porta Pinças ER (DIN 6499)

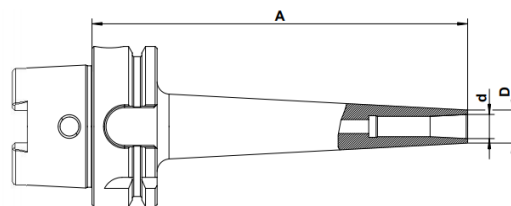
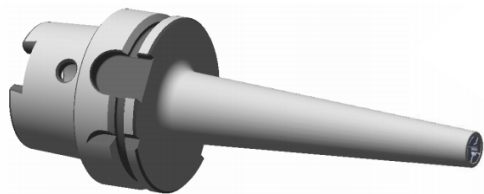
Collet chucks ER (DIN 6499)



ER	d = Gama	D	A	Referência	Preço
16	0,5 - 10	32	100	HSK63-47-001	-
16	0,5 - 10	32	160	HSK63-47-002	-
25	2 - 16	42	100	HSK63-47-003	-
25	2 - 16	42	160	HSK63-47-004	-
32	2 - 20	50	100	HSK63-47-005	-
32	2 - 20	50	160	HSK63-47-006	-
40	3 - 26	63	120	HSK63-47-007	-
40	3 - 26	63	160	HSK63-47-008	-

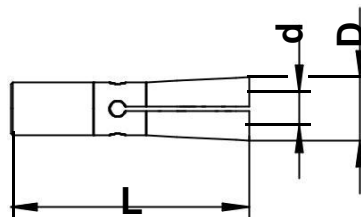
HSK63 A

Porta Pinças



\emptyset	d	D	A	Referência	Preço
2-6	6	13	75	HSK63-48-001	-
2-6	6	13	95	HSK63-48-002	-
2-6	6	13	120	HSK63-48-003	-
2-6	6	13	150	HSK63-48-004	-
2-6	6	13	160	HSK63-48-005	-
3-8	8	22	100	HSK63-48-006	-
3-8	8	22	160	HSK63-48-007	-
3-10	10	28	110	HSK63-48-008	-

WZF - Pinça

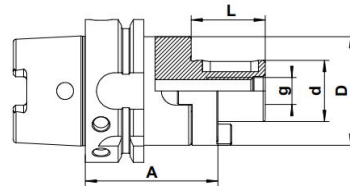
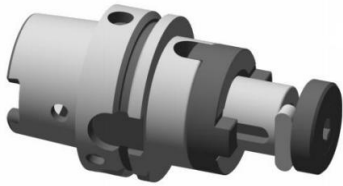


d	D	L	Referência	Preço
2	9.60	36	HSK63-48-009	-
3	9.60	36	HSK63-48-010	-
4	9.60	36	HSK63-48-011	-
5	9.60	36	HSK63-48-012	-
6	9.60	36	HSK63-48-013	-
3	15.00	45	HSK63-48-014	-
4	15.00	45	HSK63-48-015	-
6	15.00	45	HSK63-48-016	-
8	15.00	45	HSK63-48-017	-
3	19.10	52	HSK63-48-018	-
4	19.10	52	HSK63-48-019	-
6	19.10	52	HSK63-48-020	-
8	19.10	52	HSK63-48-021	-
10	19.10	52	HSK63-48-022	-

HSK63 - Form "A" / DIN 69893

Cone com adaptador (DIN 6358)

Combi shell mill adaptor (DIN 6358)

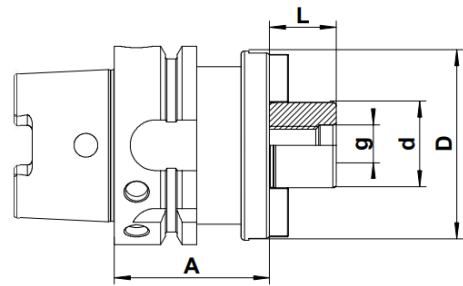


d	D	A	L	g	Referência	Preço
16	32	60	27	M8	HSK63-49-001	-
16	32	100	27	M8	HSK63-49-002	-
16	32	160	27	M8	HSK63-49-003	-
22	40	60	31	M10	HSK63-49-004	-
22	40	100	31	M10	HSK63-49-005	-
22	40	160	31	M10	HSK63-49-006	-
27	48	60	33	M12	HSK63-49-007	-
27	48	100	33	M12	HSK63-49-008	-
27	48	160	33	M12	HSK63-49-009	-
32	58	65	38	M16	HSK63-49-010	-
32	58	100	38	M16	HSK63-49-011	-
32	58	160	38	M16	HSK63-49-012	-
40	70	70	41	M20	HSK63-49-013	-
40	70	100	41	M20	HSK63-49-014	-
40	70	160	41	M20	HSK63-49-015	-

HSK63 - Form "A" / DIN 69893

Cone para fresas arbor (DIN 6357)

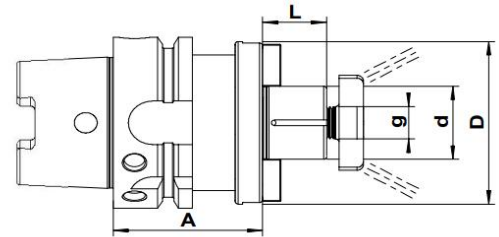
Face mill holder for cutters with driving slot (DIN 6357)



d	D	A	L	g	Referência	Preço
16	38	45	17	M8	HSK63-50-001	-
16	38	100	17	M8	HSK63-50-002	-
16	38	160	17	M8	HSK63-50-003	-
22	48	50	19	M10	HSK63-50-004	-
22	48	100	19	M10	HSK63-50-005	-
22	48	160	19	M10	HSK63-50-006	-
27	58	55	21	M12	HSK63-50-007	-
27	58	100	21	M12	HSK63-50-008	-
27	58	160	21	M12	HSK63-50-009	-
32	78	60	24	M16	HSK63-50-010	-
32	78	100	24	M16	HSK63-50-011	-
32	78	160	24	M16	HSK63-50-012	-
40	88	65	27	M20	HSK63-50-013	-
40	88	100	27	M20	HSK63-50-014	-
40	88	160	27	M20	HSK63-50-015	-

HSK63 - Form "A" / DIN 69893

Cone para fresas arbor com sistema de refrigeração (DIN 6357)
Face mill holder for cutters with driving slot (internal coolant)

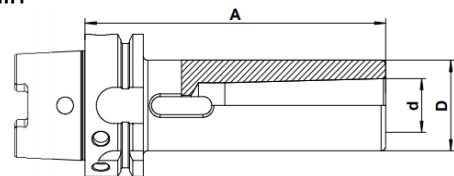


d	D	A	L	g	Referência	Preço
16	38	45	17	M8	HSK63-51-001	-
16	38	100	17	M8	HSK63-51-002	-
16	38	160	17	M8	HSK63-51-003	-
22	48	50	19	M10	HSK63-51-004	-
22	48	100	19	M10	HSK63-51-005	-
22	48	160	19	M10	HSK63-51-006	-
27	58	55	21	M12	HSK63-51-007	-
27	58	100	21	M12	HSK63-51-008	-
27	58	160	21	M12	HSK63-51-009	-
32	78	60	24	M16	HSK63-51-010	-
32	78	100	24	M16	HSK63-51-011	-
32	78	160	24	M16	HSK63-51-012	-
40	88	65	27	M20	HSK63-51-013	-
40	88	100	27	M20	HSK63-51-014	-
40	88	160	27	M20	HSK63-51-015	-

HSK63 - Form "A" / DIN 69893

Adaptador Cone Morse (DIN 6383)
Morse taper adaptor (DIN 6383)

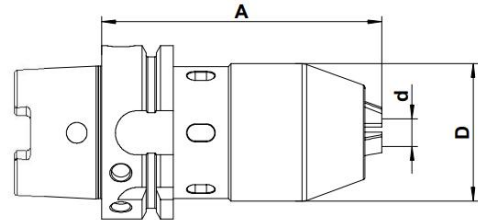
G6,3 / 15.000 U/min



d	D	A	Referência	Preço
MK1	25	100	HSK63-51-016	85 €
MK2	32	115	HSK63-51-017	-
MK3	40	135	HSK63-51-018	-
MK4	48	160	HSK63-51-019	-

HSK63 - Form "A" / DIN 69893

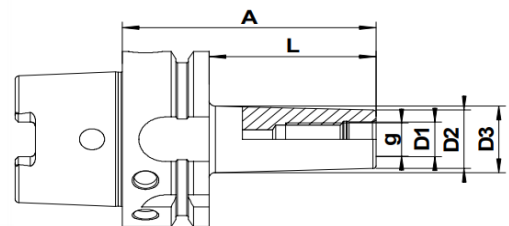
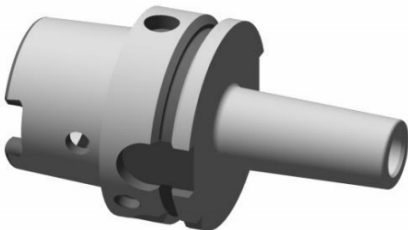
Porta Brocas
NC drill chuck



d = Gama	Tolerância	D	A	Referência	Preço
1,0 - 13	0,05 mm	50	146	HSK63-52-001	-

HSK63 - Form "A" / DIN 69893

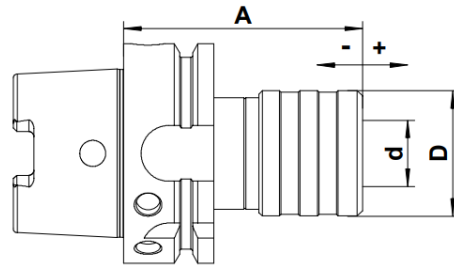
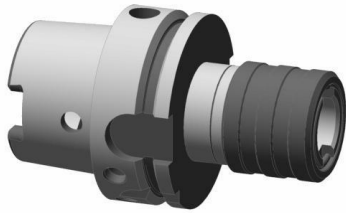
Cone para fresas modulares
Milling cutter arbor for screw-on type
G2.5 / 20.000 U/min



g	D1	D2	D3	A	L	Referência	Preço
M6	6,5	10	13	51	25	HSK63-52-002	-
M8	8,5	13	15	51	25	HSK63-52-003	-
M8	8,5	13	23	76	50	HSK63-52-004	-
M8	8,5	13	23	101	75	HSK63-52-005	-
M10	10,5	18	20	51	25	HSK63-52-006	-
M10	10,5	18	23	76	50	HSK63-52-007	-
M10	10,5	18	32	126	100	HSK63-52-008	-
M10	10,5	18	36,5	176	150	HSK63-52-009	-
M12	12,5	21	24	51	25	HSK63-52-010	-
M12	12,5	21	24	76	50	HSK63-52-011	-
M12	12,5	21	31	101	75	HSK63-52-012	-
M12	12,5	21	33	126	100	HSK63-52-013	-
M12	12,5	21	40	176	150	HSK63-52-014	-
M16	17	29	29	51	25	HSK63-52-015	-
M16	17	29	34	76	50	HSK63-52-016	-
M16	17	29	34	101	75	HSK63-52-017	-
M16	17	29	36	126	100	HSK63-52-018	-
M16	17	29	42,5	176	150	HSK63-52-019	-

HSK63 - Form "A" / DIN 69893

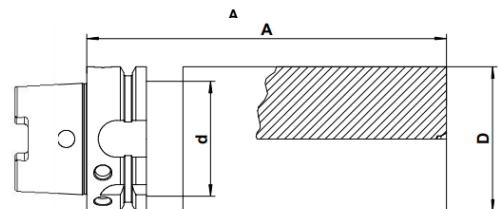
Cone com bucha de roscagem com compensação de comprimento
Quick-change tapping chuck with length compensation



Gama	d	D	A	Referência	Preço
M3 - M12	19	36	81	HSK63-53-001	-
M5 - M20	31	53	119	HSK63-53-002	-
M14 - M33	48	78	176	HSK63-53-003	-

HSK63 - Form "A" / DIN 69893

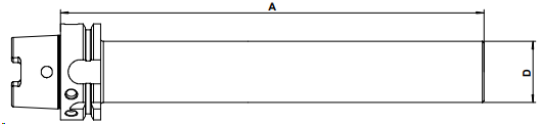
Cone em bruto
Boring bar blank



D	A	d	Referência	Preço
63	160	50	HSK63-53-004	-

HSK63 - Form "A" / DIN 69893

Cone de verificação
Test Arbor

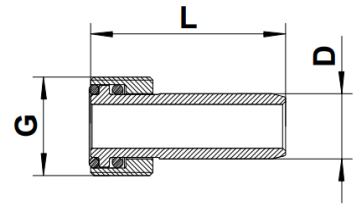


D	A	Referência	Preço
40	300	HSK63-54-001	-

HSK – Acessórios



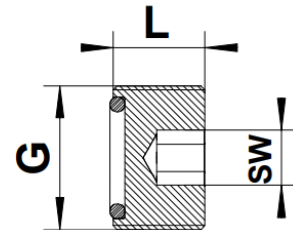
Tubo de refrigeração



Referência	Tamanho	D	G	L	Preço
HSK63-54-002	HSK 63	12	M18x1	34	-



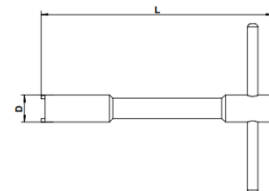
Vedação



Referência	Tamanho	SW	G	L	Preço
HSK63-54-003	HSK 63	6	M18x1	12	-



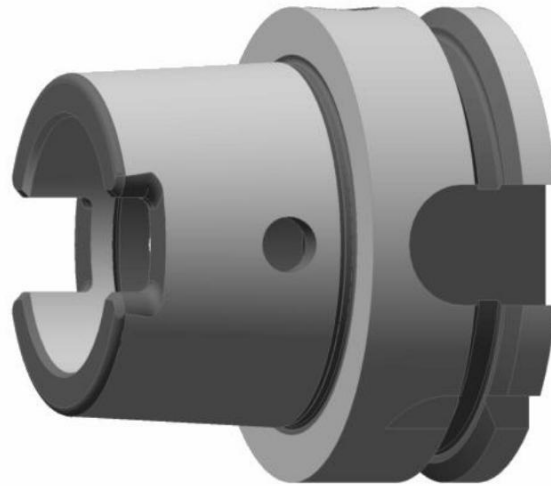
Chave HSK para
tubo de refrigeração



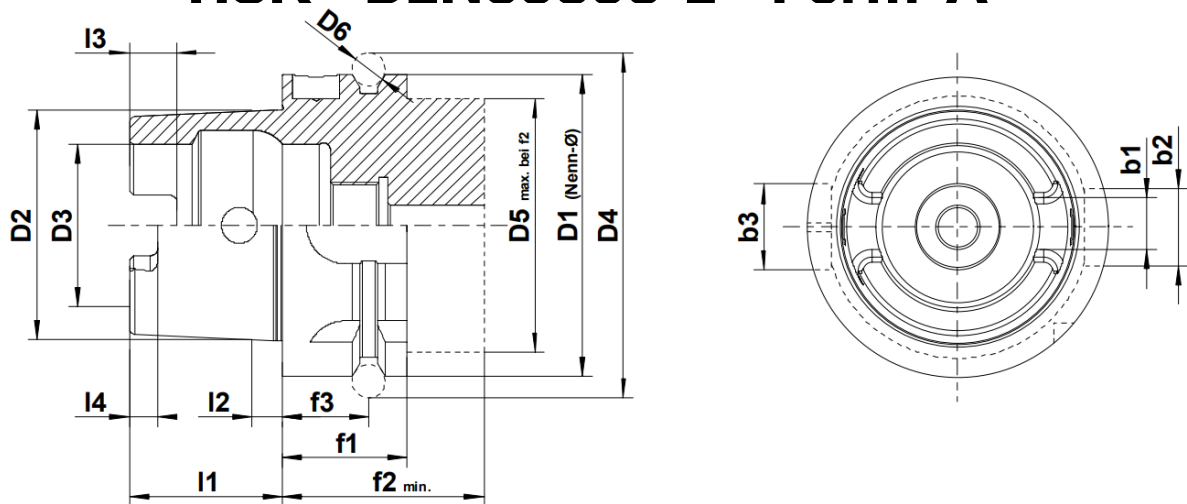
Referência	Tamanho	D	L	Preço
HSK63-54-004	HSK 63	16,5	136	-

HSK / DIN 69893 Form „A“

Para centros de maquinação com troca automática de ferramentas
 For machining centers, milling machines with automatic tool change
G6,3 / 20.000 U/min



HSK - DIN69893-1 - Form "A"

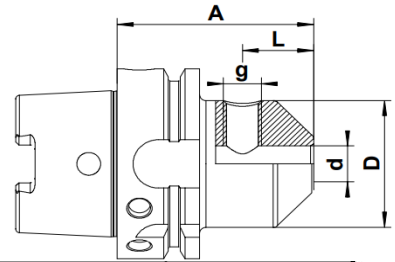
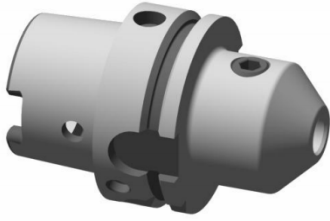


HSK	D1	D2	D3	D4	D5	D6	I1	I2	I3	I4	f1	f2	f3	b1	b2	b3
32	32	24	17	37,00	26	4	16	3,2	5	3	20	35	16	7	7	9
40	40	30	21	45,00	34	4	20	4	6	3,5	20	35	16	8	9	11
50	50	38	26	59,30	42	7	25	5	7,5	4,5	26	42	18	11	12	14
63	63	48	34	72,30	53	7	32	6,3	10	6	26	42	18	13	16	18
80	80	60	42	88,80	68	7	40	8	12	8	26	42	18	16	18	20
100	100	75	53	109,75	88	7	50	10	15	10	29	45	20	20	20	22
125	125	95	67	134,75	111	7	63	12,5	19	12	29	45	20	25	25	28
160	160	120	85	169,75	144	7	80	16	23	16	31	47	22	30	32	36

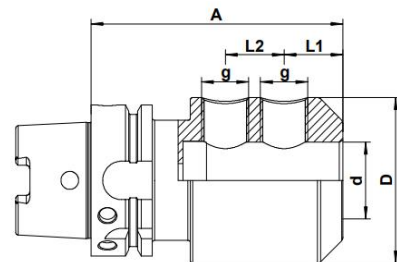
HSK100 - Form "A" / DIN 69893

Suporte de fresas DIN 1835-B

End mill holder Weldon type DIN 1835-B



d	D	A	L	g	Referência	Preço
6	25	80	18	M6	HSK100-56-001	-
6	25	160	18	M6	HSK100-56-002	-
8	28	80	18	M8	HSK100-56-003	-
8	28	160	18	M8	HSK100-56-004	-
10	35	80	20	M10	HSK100-56-005	-
10	35	160	20	M10	HSK100-56-006	-
12	42	100	22,5	M12	HSK100-56-007	-
12	42	160	22,5	M12	HSK100-56-008	-
14	44	100	22,5	M12	HSK100-56-009	-
14	44	160	22,5	M12	HSK100-56-010	-
16	48	100	24	M14	HSK100-56-011	-
16	48	160	24	M14	HSK100-56-012	-
18	50	100	24	M14	HSK100-56-013	-
18	50	160	24	M14	HSK100-56-014	-
20	52	100	25	M16	HSK100-56-015	-
20	52	160	25	M16	HSK100-56-016	-

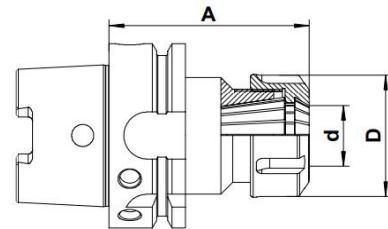
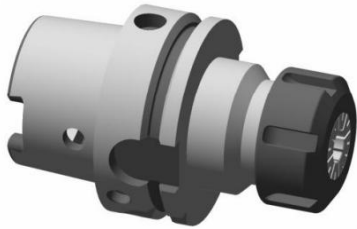


d	D	A	L1	L2	g	Referência	Preço
25	65	100	24	25	M18x2	HSK100-56-017	-
25	65	160	24	25	M18x2	HSK100-56-018	-
32	72	120	24	28	M20x2	HSK100-56-019	-
32	72	160	24	28	M20x2	HSK100-56-020	-
40	80	120	30	32	M20x2	HSK100-56-021	-

HSK100 - Form "A" / DIN 69893

Porta Pinças ER (DIN 6499)

Collet chucks ER (DIN 6499)

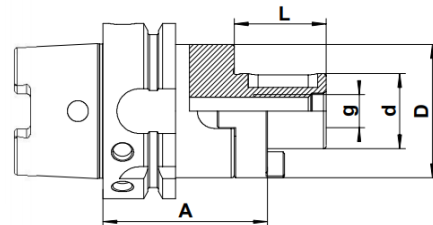
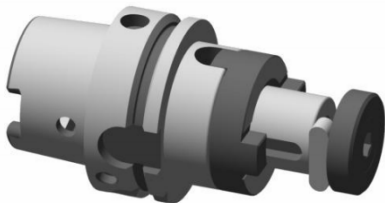


ER	d = Gama	D	A	Referência	Preço
25	2 - 16	42	100	HSK100-57-001	-
25	2 - 16	42	160	HSK100-57-002	-
32	2 - 20	50	100	HSK100-57-003	-
32	2 - 20	50	160	HSK100-57-004	-
40	3 - 26	63	120	HSK100-57-005	-
40	3 - 26	63	160	HSK100-57-006	-

HSK100 - Form "A" / DIN 69893

Cone com adaptador (DIN 6358)

Combi shell mill adaptor (DIN 6358)

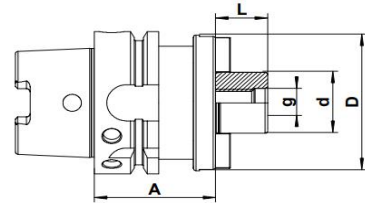


d	D	A	L	g	Referência	Preço
16	32	65	27	M8	HSK100-57-007	-
22	40	65	31	M10	HSK100-57-008	-
27	48	65	33	M12	HSK100-57-009	-
32	58	70	38	M16	HSK100-57-010	-
40	70	70	41	M20	HSK100-57-011	-

HSK100 - Form "A" / DIN 69893

Cone para fresas arbor (DIN 6357)

Face mill holder for cutters with driving slot (DIN 6357)

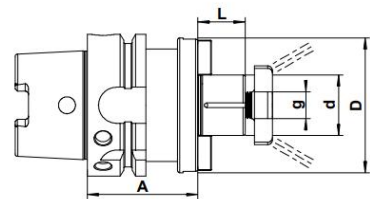


d	D	A	L	g	Referência	Preço
16	38	50	17	M8	HSK100-58-001	-
16	38	100	17	M8	HSK100-58-002	-
16	38	160	17	M8	HSK100-58-003	-
22	48	50	19	M10	HSK100-58-004	-
22	48	100	19	M10	HSK100-58-005	-
22	48	160	19	M10	HSK100-58-006	-
27	58	55	21	M12	HSK100-58-007	-
27	58	100	21	M12	HSK100-58-008	-
27	58	160	21	M12	HSK100-58-009	-
32	78	60	24	M16	HSK100-58-010	-
32	78	100	24	M16	HSK100-58-011	-
32	78	160	24	M16	HSK100-58-012	-
40	88	65	27	M20	HSK100-58-013	-
40	88	100	27	M20	HSK100-58-014	-

HSK100 - Form "A" / DIN 69893

Cone para fresas arbor com sistema de refrigeração (DIN 6357)

Face mill holder for cutters with driving slot (internal coolant)



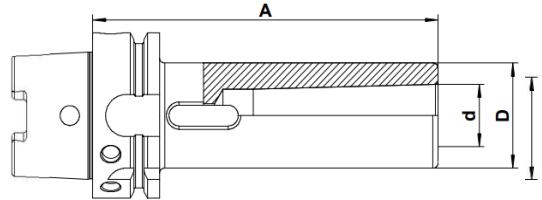
d	D	A	L	g	Referência	Preço
16	38	55	17	M8	HSK100-58-015	-
22	48	55	19	M10	HSK100-58-016	-
27	58	55	21	M12	HSK100-58-017	-
32	78	60	24	M16	HSK100-58-018	-
40	88	65	27	M20	HSK100-58-019	-

HSK100 - Form "A" / DIN 69893

Adaptador Cone Morse (DIN 6383)

Morse taper adaptor (DIN 6383)

G6.3 / 15.000 U/min

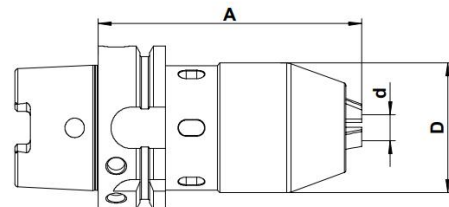


d	D	A	Referência	Preço
MK1	25	100	HSK100-59-001	-
MK2	32	120	HSK100-59-002	-
MK3	40	150	HSK100-59-003	-
MK4	48	170	HSK100-59-004	-
MK5	48	200	HSK100-59-005	-

HSK100 - Form "A" / DIN 69893

Porta Brocas

NC drill chuck

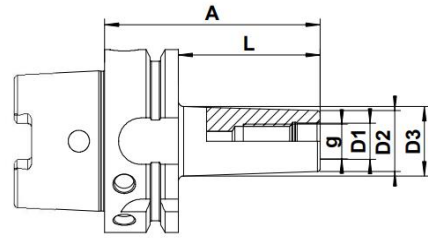
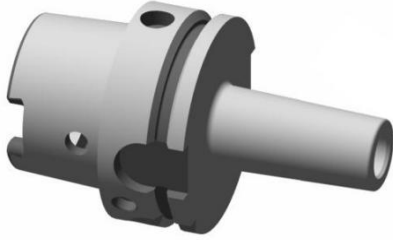


d = Gama	Tolerância	D	A	Referência	Preço
1,0 - 13	0,05 mm	50	146	HSK100-59-006	-

HSK100 - Form "A" / DIN 69893

Cone para fresas modulares

Milling cutter arbor for screw-on type

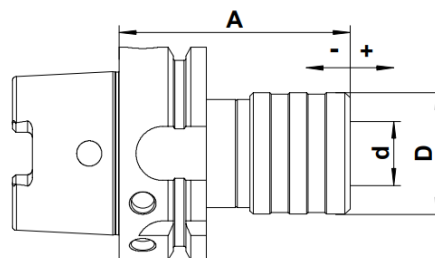
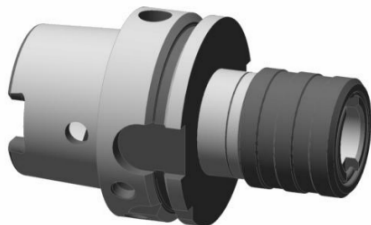


g	D1	D2	D3	A	L	Referência	Preço
M6	6,5	10	13	51	25	HSK100-60-001	-
M8	8,5	13	15	51	25	HSK100-60-002	-
M8	8,5	13	23	76	50	HSK100-60-003	-
M8	8,5	13	23	101	75	HSK100-60-004	-
M10	10,5	18	20	51	25	HSK100-60-005	-
M10	10,5	18	23	76	50	HSK100-60-006	-
M10	10,5	18	32	126	100	HSK100-60-007	-
M10	10,5	18	36,5	176	150	HSK100-60-008	-
M12	12,5	21	24	51	25	HSK100-60-009	-
M12	12,5	21	24	76	50	HSK100-60-010	-
M12	12,5	21	31	101	75	HSK100-60-011	-
M12	12,5	21	33	126	100	HSK100-60-012	-
M12	12,5	21	40	176	150	HSK100-60-013	-
M16	17	29	29	51	25	HSK100-60-014	-
M16	17	29	34	76	50	HSK100-60-015	-
M16	17	29	34	101	75	HSK100-60-016	-
M16	17	29	36	126	100	HSK100-60-017	-
M16	17	29	42,5	176	150	HSK100-60-018	-

HSK100 - Form "A" / DIN 69893

Cone com bucha de roscagem com compensação de comprimento

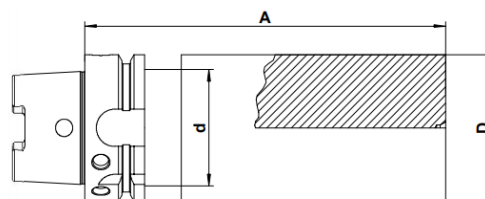
Quick-change tapping chuck with length compensation



Gama	d	D	A	Referência	Preço
M3 - M12	19	36	90	HSK100-61-001	-
M5 - M20	31	53	138	HSK100-61-002	-
M14 - M33	48	78	190	HSK100-61-003	-
M22 - M48	60	96	225	HSK100-61-004	-

HSK100 - Form "A" / DIN 69893

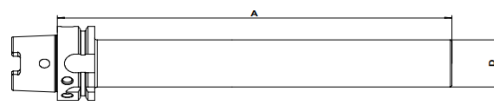
Cone em bruto
Boring bar blank



D	A	d	Referência	Preço
97	250	85	HSK100-61-005	174 €

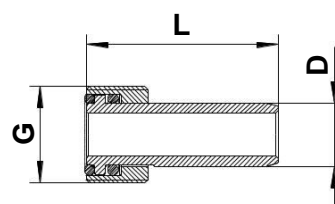
HSK100 - Form "A" / DIN 69893

Cone de verificação
Test Arbor

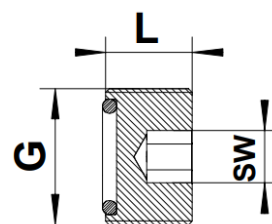


D	A	Referência	Preço
50	300	HSK100-62-001	-

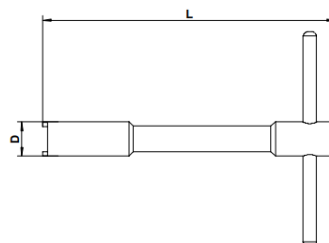
HSK – Acessórios



Referência	Tamanho	D	G	L	Preço
HSK100-62-002	HSK 100	16	M24x1,5	44	-



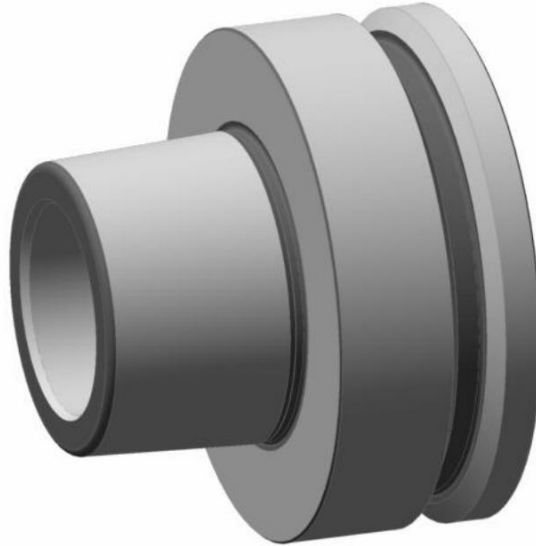
Referência	Tamanho	SW	G	L	Preço
HSK100-62-003	HSK 100	10	M24x1,5	16	-



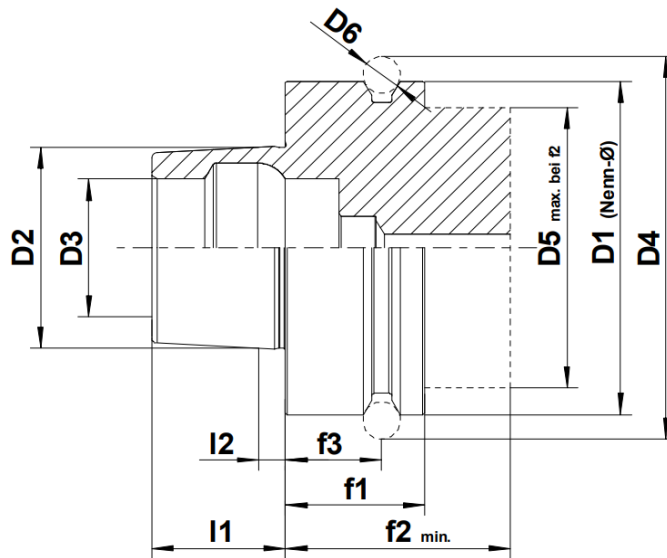
Referência	Tamanho	D	L	Preço
HSK100-62-004	HSK 100	22	136	-

HSK / DIN 69893 Form „F“

Para fresadoras de alta velocidade com troca automática de ferramentas
 For high speed milling machines with automatic tool change
G2,5 / 25.000 U/min



HSK - DIN69893-1 - Form "F"

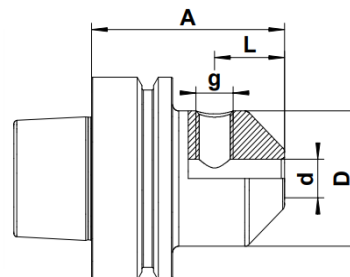


HSK	D1	D2	D3	D4	D5	D6	l1	l2	f1	f2	f3
50	50	30	21	59,30	42	7	20	4	26	42	18
63	63	38	26	72,30	53	7	25	5	26	42	18
80	80	48	34	88,80	68	7	32	6,3	26	42	18

HSK63 - Form "F"/DIN 69893

Suporte de fresas DIN 1835-B

End mill holder Weldon type DIN 1835-B

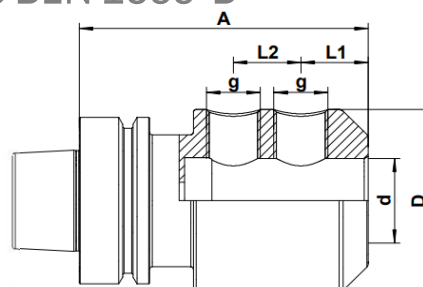


d	D	A	L	g	Referência	Preço
6	25	65	18	M6	HSK63F-64-001	-
8	28	65	18	M8	HSK63F-64-002	-
10	35	65	20	M10	HSK63F-64-003	-
12	42	80	22,5	M12	HSK63F-64-004	-
14	44	80	22,5	M12	HSK63F-64-005	-
16	48	80	24	M14	HSK63F-64-006	-
18	50	80	24	M14	HSK63F-64-007	-
20	52	80	25	M16	HSK63F-64-008	-

HSK63 - Form "F"/DIN 69893

Suporte de fresas DIN 1835-B

End mill holder Weldon type DIN 1835-B

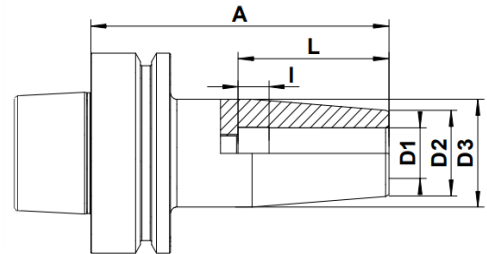
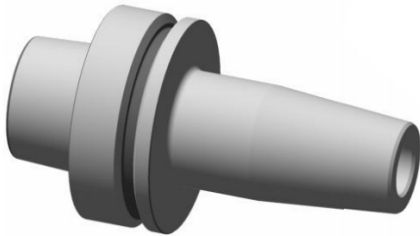


d	D	A	L1	L2	g	Referência	Preço
25	65	110	24	25	M18x2	HSK63F-64-009	-
32	72	110	24	28	M20x2	HSK63F-64-010	-

HSK63 - Form "F" / DIN 69893

Cone térmico p/ brocas HSS e fresas de metal duro

Shrink Chuck for HSS- and solid carbide shank

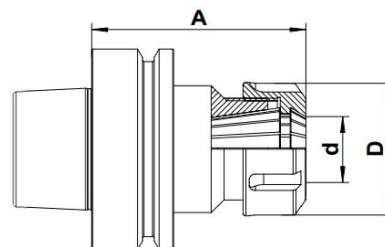
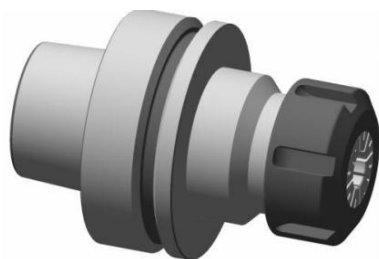


D1	D2	D3	A	L	I	Referência	Preço
3	10	20	80	15	-	HSK63F-65-001	-
3	10	20	120	15	-	HSK63F-65-002	-
3	10	20	160	15	-	HSK63F-65-003	-
4	15	22	80	15	-	HSK63F-65-004	-
4	15	22	120	15	-	HSK63F-65-005	-
4	15	22	160	15	-	HSK63F-65-006	-
5	15	22	80	20	-	HSK63F-65-007	-
5	15	22	120	20	-	HSK63F-65-008	-
5	15	22	160	20	-	HSK63F-65-009	-
6	20	27	80	36	10	HSK63F-65-010	-
6	20	27	120	36	10	HSK63F-65-011	-
6	20	27	160	36	10	HSK63F-65-012	-
8	20	27	80	36	10	HSK63F-65-013	-
8	20	27	120	36	10	HSK63F-65-014	-
8	20	27	160	36	10	HSK63F-65-015	-
10	24	31	85	41	10	HSK63F-65-016	-
10	24	31	120	41	10	HSK63F-65-017	-
10	24	31	160	41	10	HSK63F-65-018	-
12	24	31	90	47	10	HSK63F-65-019	-
12	24	31	120	47	10	HSK63F-65-020	-
12	24	31	160	47	10	HSK63F-65-021	-
14	27	34	90	47	10	HSK63F-65-022	-
14	27	34	120	47	10	HSK63F-65-023	-
14	27	34	160	47	10	HSK63F-65-024	-
16	27	34	95	50	10	HSK63F-65-025	-
16	27	34	120	50	10	HSK63F-65-026	-
16	27	34	160	50	10	HSK63F-65-027	-
18	33	40	95	50	10	HSK63F-65-028	-
18	33	40	120	50	10	HSK63F-65-029	-
18	33	40	160	50	10	HSK63F-65-030	-
20	33	40	100	52	10	HSK63F-65-031	-
20	33	40	120	52	10	HSK63F-65-032	-
20	33	40	160	52	10	HSK63F-65-033	-
25	44	53	120	58	10	HSK63F-65-034	-
25	44	53	160	58	10	HSK63F-65-035	-
32	44	53	120	62	10	HSK63F-65-036	-
32	44	53	160	62	10	HSK63F-65-037	-

HSK63 - Form "F" / DIN 69893

Porta Pinças ER (DIN 6499)

Collet chucks ER (DIN 6499)

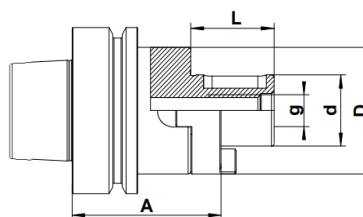
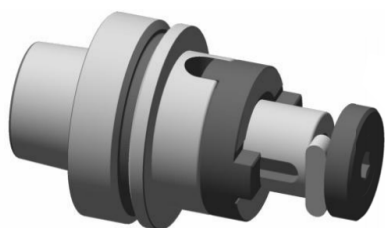


ER	d = Gama	D	A	Referência	Preço
16	0,5 - 10	32	60	HSK63F-66-001	-
16	0,5 - 10	32	100	HSK63F-66-002	-
16	0,5 - 10	32	160	HSK63F-66-003	-
25	2 - 16	42	75	HSK63F-66-004	-
25	2 - 16	42	100	HSK63F-66-005	-
25	2 - 16	42	160	HSK63F-66-006	-
32	2 - 20	50	75	HSK63F-66-007	-
32	2 - 20	50	100	HSK63F-66-008	-
32	2 - 20	50	160	HSK63F-66-009	-
40	3 - 26	63	75	HSK63F-66-010	-
40	3 - 26	63	100	HSK63F-66-011	-
40	3 - 26	63	160	HSK63F-66-012	-

HSK63 - Form "F" / DIN 69893

Cone com adaptador (DIN 6358)

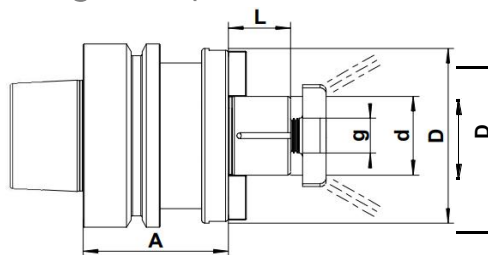
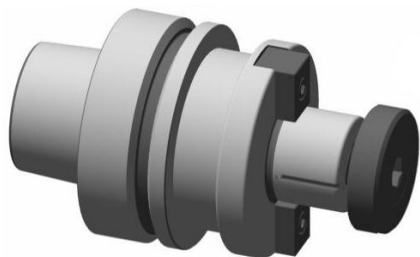
Combi shell mill adaptor (DIN 6358)



d	D	A	L	g	Referência	Preço
16	32	60	27	M8	HSK63F-66-013	-
22	40	60	31	M10	HSK63F-66-014	-
27	48	60	33	M12	HSK63F-66-015	-
32	58	65	38	M16	HSK63F-66-016	-
40	70	70	41	M20	HSK63F-66-017	-

HSK63 - Form "F" / DIN 69893

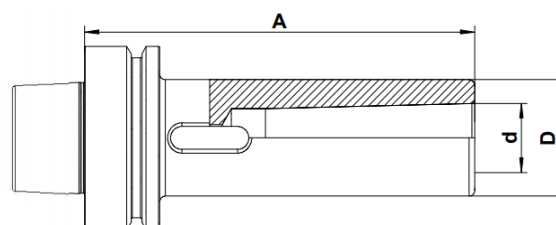
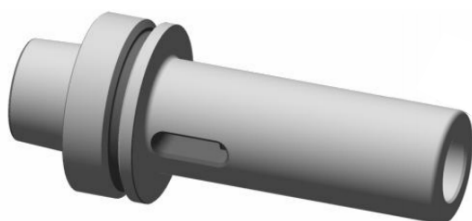
Cone para fresas arbor com sistema de refrigeração interno
Face mill holder for cutters with driving slot (internal coolant)



d	D	A	L	g	Referência	Preço
16	38	45	17	M8	HSK63F-67-001	-
16	38	100	17	M8	HSK63F-67-002	-
22	48	50	19	M10	HSK63F-67-003	-
22	48	100	19	M10	HSK63F-67-004	-
27	58	55	21	M12	HSK63F-67-005	-
27	58	100	21	M12	HSK63F-67-006	-
32	78	60	24	M16	HSK63F-67-007	-
32	78	100	24	M16	HSK63F-67-008	-
40	88	65	27	M20	HSK63F-67-009	-
40	88	100	27	M20	HSK63F-67-010	-

HSK63 - Form "F" / DIN 69893

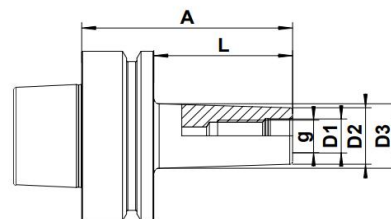
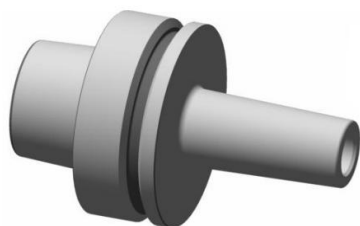
Adaptador Cone Morse (DIN 6383)
Morse taper adaptor (DIN 6383)



d	D	A	Referência	Preço
MK1	25	100	HSK63F-67-011	-
MK2	32	120	HSK63F-67-012	-
MK3	40	140	HSK63F-67-013	-
MK4	48	160	HSK63F-67-014	-

HSK63 - Form "F" / DIN 69893

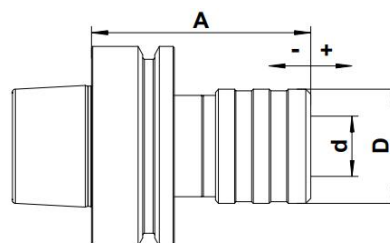
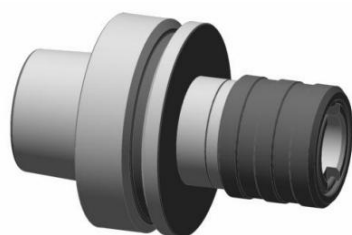
Cone para fresas modulares
Milling cutter arbor for screw-on type



g	D1	D2	D3	A	L	Referência	Preço
M6	6,5	10	13	51	25	HSK63F-68-001	-
M6	6,5	10	21	76	50	HSK63F-68-002	-
M8	8,5	13	15	51	25	HSK63F-68-003	-
M8	8,5	13	23	76	50	HSK63F-68-004	-
M10	10,5	18	20	51	25	HSK63F-68-005	-
M10	10,5	18	23	76	50	HSK63F-68-006	-
M12	12,5	21	24	51	25	HSK63F-68-007	-
M12	12,5	21	24	76	50	HSK63F-68-008	-
M12	12,5	21	33	126	100	HSK63F-68-009	-
M12	12,5	21	40	176	150	HSK63F-68-010	-
M16	17	29	29	51	25	HSK63F-68-011	-
M16	17	29	34	76	50	HSK63F-68-012	-
M16	17	29	36	126	100	HSK63F-68-013	-
M16	17	29	42,5	176	150	HSK63F-68-014	-

HSK63 - Form "F" / DIN 69893

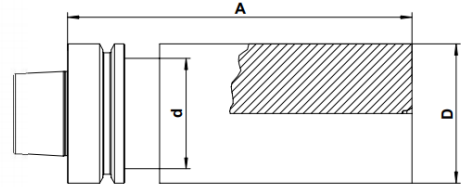
Cone com bucha de roscagem com compensação de comprimento
Quick-change tapping chuck with length compensation



Gama	d	D	A	Referência	Preço
M3 - M12	19	36	81	HSK63F-68-015	-
M5 - M20	31	53	119	HSK63F-68-016	-
M14 - M33	48	78	176	HSK63F-68-017	-

HSK63 - Form "F" / DIN 69893

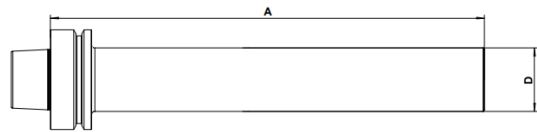
Cone em bruto
Boring bar blank



D	A	d	Referência	Preço
63	200	50	HSK63F-69-001	-

HSK63 - Form "F" / DIN 69893

Cone de verificação
Test Arbor



D	A	Referência	Preço
40	300	HSK63F-69-002	-

Calibração

Devido aos crescentes requisitos de velocidade de corte das ferramentas, o número de rotações no setor de máquinas-ferramentas está em constante crescimento. Ness sentido, os requisitos para as gravações mudaram significativamente.

Somente aqueles que usam e utilizam suas ferramentas de maneira ideal conseguem alcançar a qualidade exigida.

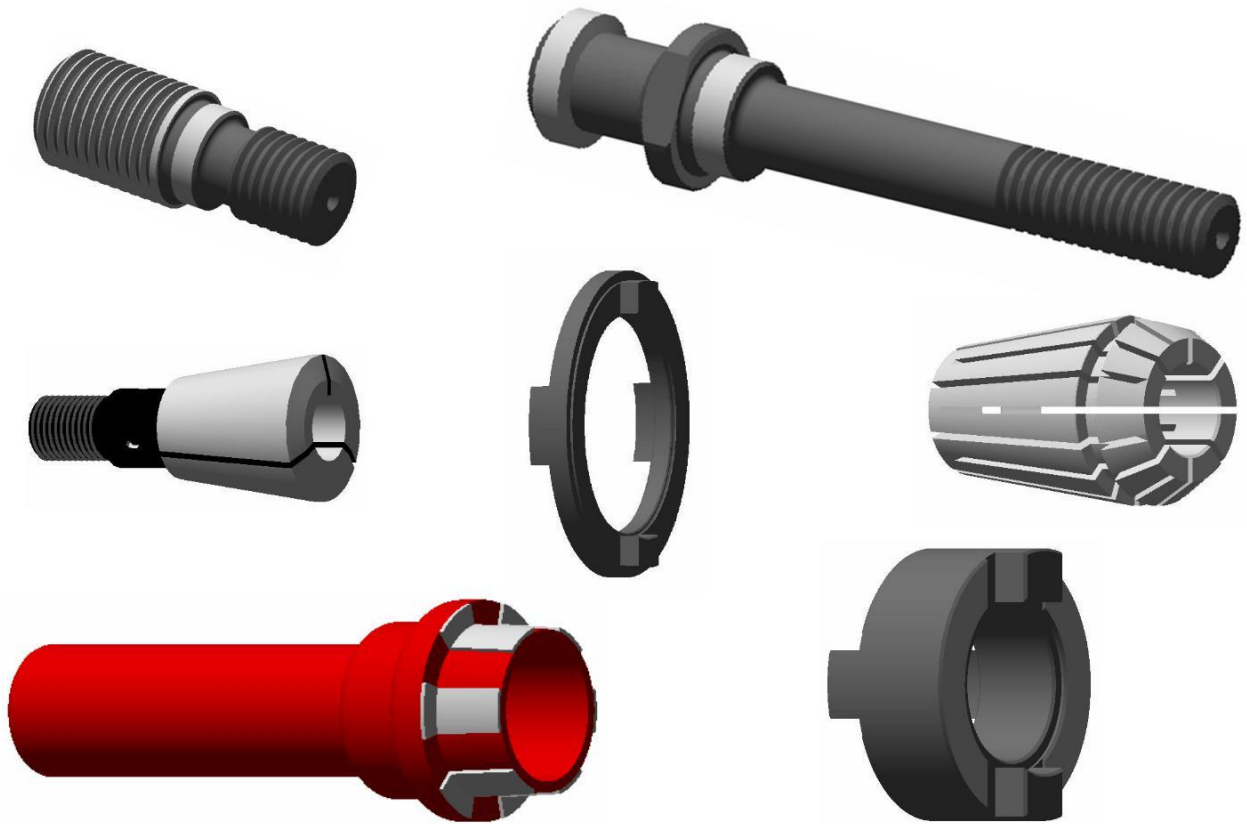


Lista de Preços para serviços

Execução	Antes - Calibração - Depois		Lote	
SK10 - SK35	Não equilibrado	> G6,3 / 15000 U/min	1	St.
SK10 - SK35	Pré-equilibrado	> G6,3 / 15000 U/min	1	St.
SK10 - SK35	Não equilibrado	> G6,3 / 25000 U/min	1	St.
SK10 - SK35	Pré-equilibrado	> G6,3 / 25000 U/min	1	St.
SK10 - SK35	No equilíbrio da qualidade G2,5		1	St.
SK/BT 40/45	Não equilibrado	> G6,3 / 15000 U/min	1	St.
SK/BT 40/45	Pré-equilibrado	> G6,3 / 15000 U/min	1	St.
SK/BT 40/45	Não equilibrado	> G6,3 / 25000 U/min	1	St.
SK/BT 40/45	Pré-equilibrado	> G6,3 / 25000 U/min	1	St.
SK/BT 40/45	No equilíbrio da qualidade G2,5		1	St.
SK/BT 50	Não equilibrado	> G6,3 / 15000 U/min	1	St.
SK/BT 50	Pré-equilibrado	> G6,3 / 15000 U/min	1	St.
SK/BT 50	Não equilibrado	> G6,3 / 25000 U/min	1	St.
SK/BT 50	Pré-equilibrado	> G6,3 / 25000 U/min	1	St.
SK/BT 50	No equilíbrio da qualidade G2,5		1	St.
HSK 63 & 100	Não equilibrado	> G6,3 / 15000 U/min	1	St.
HSK 63 & 100	Pré-equilibrado	> G6,3 / 15000 U/min	1	St.
HSK 63 & 100	Não equilibrado	> G6,3 / 25000 U/min	1	St.
HSK 63 & 100	Pré-equilibrado	> G6,3 / 25000 U/min	1	St.
HSK 63 & 100	No equilíbrio da qualidade G2,5		1	St.

Tirantes, pinças e outros acessórios

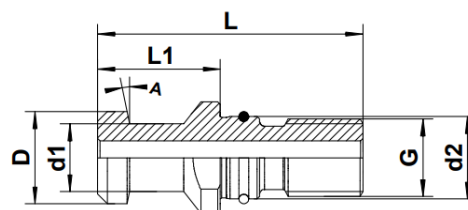
- Tirantes (SK15/SK20/SK25/SK30/SK40/SK45/SK50/SK60)
- Pinças
- Outros Acessórios



Tirante DIN69872 /SK 30/ SK40 / SK 45 / SK50 / SK60



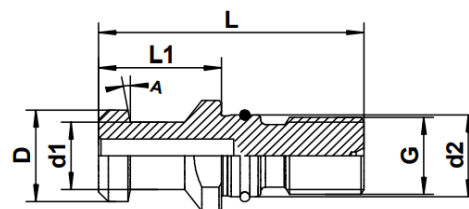
DIN 69 872 / Form A



Referência	Tamanho	D	d1	d2	G	L	L1	A	Preço
SKFA-72-001	SK40	19	14	17	M16	54	26	15°	-
SKFA-72-002	SK50	28	21	25	M24	74	34	15°	-

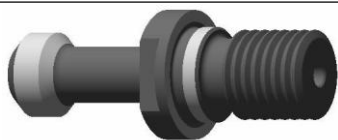


DIN 69 872 / Form B

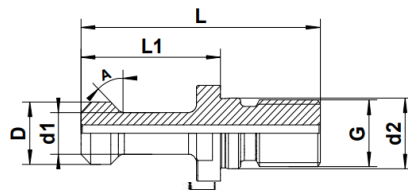


Referência	Tamanho	D	d1	d2	G	L	L1	A	Preço
SKFB-72-003	SK40	19	14	17	M16	54	26	15°	-
SKFB-72-004	SK50	28	21	25	M24	74	34	15°	-

Tirante JIS6339 (MAS BT) /SK 30/ SK40 / SK50



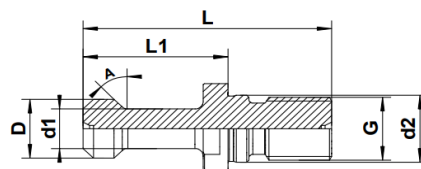
MAS BT / Form A JIS
6339 (45°/60°/90°)



Referência	Tamanho	D	d1	d2	G	L	L1	A	Preço
MASFA-73-001	SK40	15	10	17	M16	60	35	45°	-
MASFA-73-002	SK50	23	17	25	M24	85	45	45°	-
MASFA-73-003	SK40	15	10	17	M16	60	35	60°	-
MASFA-73-004	SK50	23	17	25	M24	85	45	60°	-
MASFA-73-005	SK40	15	10	17	M16	60	35	90°	-
MASFA-73-006	SK50	23	17	25	M24	85	45	90°	-

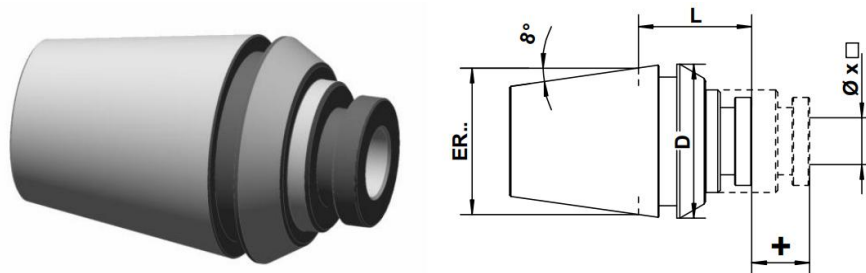


MAS BT / Form B JIS
6339 (45°/60°/90°)



Referência	Tamanho	D	d1	d2	G	L	L1	A	Preço
MASFB-73-007	SK40	15	10	17	M16	60	35	45°	-
MASFB-73-008	SK50	23	17	25	M24	85	45	45°	-
MASFB-73-009	SK40	15	10	17	M16	60	35	60°	-
MASFB-73-010	SK50	23	17	25	M24	85	45	60°	-
MASFB-73-011	SK40	15	10	17	M16	60	35	90°	-
MASFB-73-012	SK50	23	17	25	M24	85	45	90°	-

Ferramentas ER (ESX) – DIN6499



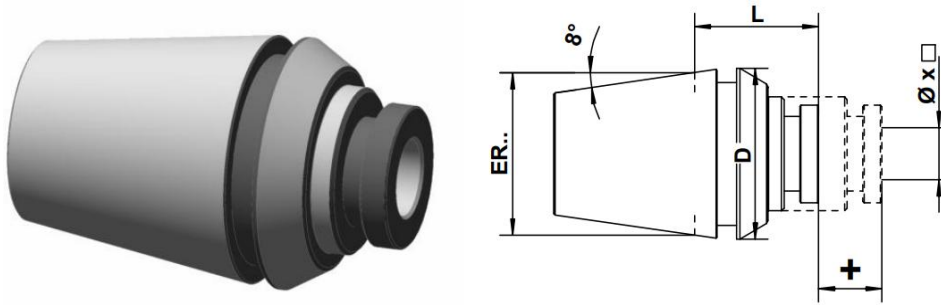
ER	Ø	x	□	DIN371	DIN374/376	ISO529	ISO529 Vs.	D	L	+	Referência	Preço
ER16	2,50	x	2,10		M1-M1,8	M3,5		17	11	6	ESX16-74-001	-
	2,80	x	2,10	M2-M2,5	M3,5-M4			17	11	6	ESX16-74-002	-
	2,80	x	2,25				M2,2-M2,5	17	11	6	ESX16-74-003	-
	3,50	x	2,70	M3	M5			17	11	6	ESX16-74-004	-
	3,55	x	2,80			M4,5	M3,5	17	11	6	ESX16-74-005	-
	4,00	x	3,00	M3,5				17	11	6	ESX16-74-006	-
	4,00	x	3,15			M5	M4	17	11	6	ESX16-74-007	-
	4,50	x	3,40	M4	M6			17	11	6	ESX16-74-008	-
	4,50	x	3,55			M6		17	11	6	ESX16-74-009	-
	5,00	x	4,00				M5	17	11	6	ESX16-74-010	-

ER	Ø	x	□	DIN371	DIN374/376	ISO529	ISO529 Vs.	D	L	+	Referência	Preço
ER20	2,80	x	2,10	M2-M2,5	M3,5-M4			21	17	7	ESX20-74-011	-
	2,80	x	2,25				M2,2-M2,5	21	17	7	ESX20-74-012	-
	3,15	x	2,50			M4	M3	21	17	7	ESX20-74-013	-
	3,50	x	2,70	M3	M5			21	17	7	ESX20-74-014	-
	3,55	x	2,80			M4,5	M3,5	21	17	7	ESX20-74-015	-
	4,00	x	3,00	M3,5				21	17	7	ESX20-74-016	-
	4,00	x	3,15			M5	M4	21	17	7	ESX20-74-017	-
	4,50	x	3,40	M4	M6			21	17	7	ESX20-74-018	-
	4,50	x	3,55			M6		21	17	7	ESX20-74-019	-
	5,00	x	4,00				M5	21	17	7	ESX20-74-020	-
	5,50	x	4,50		M7			21	17	7	ESX20-74-021	-
	6,00	x	4,90	M4,5-M6	M8			21	17	7	ESX20-74-022	-
	6,30	x	5,00			M8	M6	21	17	7	ESX20-74-023	-
	7,00	x	5,50	M7	M9-M10			21	17	7	ESX20-74-024	-

Ferramentas ER (ESX) – DIN6499

ER	Ø	x	□	DIN371	DIN374/376	ISO529	ISO529 Vs.	D	L	+	Referência	Preço
ER25	2,80	x	2,10	M2-M2,5	M4			26	18,5	8	ESX25-75-001	-
	2,80	x	2,25				M2,2-M2,5	26	18,5	8	ESX25-75-002	-
	3,15	x	2,50			M4	M3	26	18,5	8	ESX25-75-003	-
	3,50	x	2,70	M3	M5			26	18,5	8	ESX25-75-004	-
	3,55	x	2,80			M4,5	M3,5	26	18,5	8	ESX25-75-005	-
	4,00	x	3,00	M3,5				26	18,5	8	ESX25-75-006	-
	4,00	x	3,15			M5	M4	26	18,5	8	ESX25-75-007	-
	4,50	x	3,40	M4	M6			26	18,5	8	ESX25-75-008	-
	4,50	x	3,55			M6		26	18,5	8	ESX25-75-009	-
	5,00	x	4,00				M5	26	18,5	8	ESX25-75-010	-
	5,50	x	4,50		M7			26	18,5	8	ESX25-75-011	-
	6,00	x	4,90	M4,5-M6	M8			26	18,5	8	ESX25-75-012	-
	6,30	x	5,00			M8	M6	26	18,5	8	ESX25-75-013	-
	7,00	x	5,50	M7	M9-M10			26	18,5	8	ESX25-75-014	-
	8,00	x	6,20	M8				26	18,5	8	ESX25-75-015	-
	8,00	x	6,30			M10	M8	26	18,5	8	ESX25-75-016	-
	9,00	x	7,00	M9	M12			26	18,5	8	ESX25-75-017	-
	9,00	x	7,10			M12		26	18,5	8	ESX25-75-018	-
ER32	2,80	x	2,10	M2-M2,5	M4			33	18,5	10	ESX32-75-019	-
	2,80	x	2,25				M2,2-M2,5	33	18,5	10	ESX32-75-020	-
	3,15	x	2,50			M4	M3	33	18,5	10	ESX32-75-021	-
	3,50	x	2,70	M3	M5			33	18,5	10	ESX32-75-022	-
	3,55	x	2,80			M4,5	M3,5	33	18,5	10	ESX32-75-023	-
	4,00	x	3,00	M3,5				33	18,5	10	ESX32-75-024	-
	4,00	x	3,15			M5	M4	33	18,5	10	ESX32-75-025	-
	4,50	x	3,40	M4	M6			33	18,5	10	ESX32-75-026	-
	4,50	x	3,50			M6		33	18,5	10	ESX32-75-027	-
	5,00	x	4,00				M5	33	18,5	10	ESX32-75-028	-
	5,50	x	4,50		M7			33	18,5	10	ESX32-75-029	-
	6,00	x	4,90	M4,5-M6	M8			33	18,5	10	ESX32-75-030	-
	6,30	x	5,00			M8	M6	33	18,5	10	ESX32-75-031	-
	7,00	x	5,50	M7	M9-M10			33	18,5	10	ESX32-75-032	-
	7,10	x	5,60					33	18,5	10	ESX32-75-033	-
	8,00	x	6,20	M8				33	18,5	10	ESX32-75-034	-
	8,00	x	6,30			M10	M8	33	18,5	10	ESX32-75-035	-
	9,00	x	7,00	M9	M12			33	18,5	10	ESX32-75-036	-
	9,00	x	7,10			M12		33	18,5	10	ESX32-75-037	-
	10,00	x	8,00	M10			M10	33	18,5	10	ESX32-75-038	-
	11,00	x	9,00		M14			33	18,5	10	ESX32-75-039	-
11,20	x	9,00			M14		33	18,5	10	ESX32-75-040	-	
12,00	x	9,00		M16			33	18,5	10	ESX32-75-041	-	

Ferramentas ER (ESX) – DIN6499

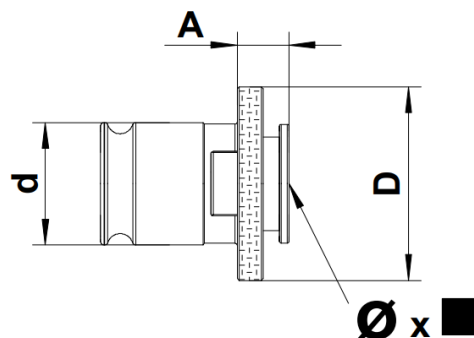


ER	Ø	x	□	DIN371	DIN374/376	ISO529	ISO529 Vs.	D	L	+	Referência	Preço
ER40	2,80	x	2,10	M2-M2,5	M3,5-M4			41	19	12	ESX40-76-001	-
	2,80	x	2,25				M2,2-M2,5	41	19	12	ESX40-76-002	-
	3,15	x	2,50			M4	M3	41	19	12	ESX40-76-003	-
	3,50	x	2,70	M3	M5			41	19	12	ESX40-76-004	-
	3,55	x	2,80			M4,5	M3,5	41	19	12	ESX40-76-005	-
	4,00	x	3,00	M3,5				41	19	12	ESX40-76-006	-
	4,00	x	3,15			M5	M4	41	19	12	ESX40-76-007	-
	4,50	x	3,40	M4	M6			41	19	12	ESX40-76-008	-
	4,50	x	3,50			M6		41	19	12	ESX40-76-009	-
	5,00	x	4,00				M5	41	19	12	ESX40-76-010	-
	5,50	x	4,50		M7			41	19	12	ESX40-76-011	-
	6,00	x	4,90	M4,5-M6	M8			41	19	12	ESX40-76-012	-
	6,30	x	5,00			M8	M6	41	19	12	ESX40-76-013	-
	7,00	x	5,50	M7	M9-M10			41	19	12	ESX40-76-014	-
	8,00	x	6,20	M8				41	19	12	ESX40-76-015	-
	8,00	x	6,30			M10	M8	41	19	12	ESX40-76-016	-
	9,00	x	7,00	M9	M12			41	19	12	ESX40-76-017	-
	9,00	x	7,10			M12		41	19	12	ESX40-76-018	-
	10,00	x	8,00	M10	M10			41	19	12	ESX40-76-019	-
	11,00	x	9,00		M14			41	19	12	ESX40-76-020	-
	11,20	x	9,00			M14		41	19	12	ESX40-76-021	-
	12,00	x	9,00		M16			41	19	12	ESX40-76-022	-
	12,50	x	10,00			M16		41	19	12	ESX40-76-023	-
	14,00	x	11,00		M18			41	19	12	ESX40-76-024	-
	14,00	x	11,20			M18-M20		41	19	12	ESX40-76-025	-
	16,00	x	12,00		M20			41	19	12	ESX40-76-026	-
	16,00	x	12,50			M22		41	19	12	ESX40-76-027	-

Pastilhas de troca rápida para cones roscados (SWE)



Tipo 201 / 202 / 203

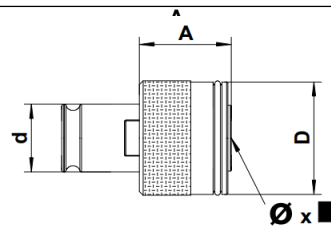


d	D	A	Ø x ■	Referência	Preço
19	30	7	2,80 x 2,10	SWE19-77-001	-
19	30	7	3,50 x 2,70	SWE19-77-002	-
19	30	7	4,00 x 3,00	SWE19-77-003	-
19	30	7	4,55 x 3,40	SWE19-77-004	-
19	30	7	6,00 x 4,90	SWE19-77-005	-
19	30	7	7,00 x 5,50	SWE19-77-006	-
19	30	7	8,00 x 6,20	SWE19-77-007	-
19	30	7	9,00 x 7,00	SWE19-77-008	-
19	30	7	10,00 x 8,00	SWE19-77-009	-
19	30	7	11,00 x 9,00	SWE19-77-010	-
31	48	11	6,00 x 4,90	SWE31-77-011	-
31	48	11	7,00 x 5,50	SWE31-77-012	-
31	48	11	8,00 x 6,20	SWE31-77-013	-
31	48	11	9,00 x 7,00	SWE31-77-014	-
31	48	11	10,00 x 8,00	SWE31-77-015	-
31	48	11	11,00 x 9,00	SWE31-77-016	-
31	48	11	12,00 x 9,00	SWE31-77-017	-
31	48	11	14,00 x 11,00	SWE31-77-018	-
31	48	11	16,00 x 12,00	SWE31-77-019	-
31	48	11	18,00 x 14,50	SWE31-77-020	-
48	63	14	11,00 x 9,00	SWE48-77-021	-
48	63	14	12,00 x 9,00	SWE48-77-022	-
48	63	14	14,00 x 11,00	SWE48-77-023	-
48	63	14	16,00 x 12,00	SWE48-77-024	-
48	63	14	18,00 x 14,50	SWE48-77-025	-
48	63	14	20,00 x 16,00	SWE48-77-026	-
48	63	14	22,00 x 18,00	SWE48-77-027	-
48	63	14	25,00 x 20,00	SWE48-77-028	-
48	63	14	28,00 x 22,00	SWE48-77-029	-

Pastilhas de troca rápida para cones roscados (SWES)

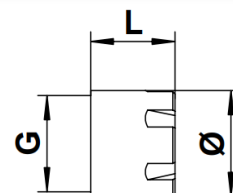


Tipo 201 / 202 / 203 / 204



	d	D	A	DIN	M	Ø x ■	Referência	Preço
1	19	32	25	371	M 2	2,80 x 2,10	SWES19-78-001	-
	19	32	25	371	M 2,5	2,80 x 2,10	SWES19-78-002	-
	19	32	25	371	M 3	3,50 x 2,70	SWES19-78-003	-
	19	32	25	371	M 3,5	4,00 x 3,00	SWES19-78-004	-
	19	32	25	371	M 4	4,55 x 3,40	SWES19-78-005	-
	19	32	25	371	M 5	6,00 x 4,90	SWES19-78-006	-
	19	32	25	371	M 6	6,00 x 4,90	SWES19-78-007	-
	19	32	25	371	M 8	8,00 x 6,20	SWES19-78-008	-
	19	32	25	376	M 10	7,00 x 5,50	SWES19-78-009	-
	19	32	25	371	M 10	10,00 x 8,00	SWES19-78-010	-
	19	32	25	376	M 12	9,00 x 7,00	SWES19-78-011	-
	19	32	25	376	M 14	11,00 x 9,00	SWES19-78-012	-
2	31	50	34	371	M 5	6,00 x 4,90	SWES31-78-013	-
	31	50	34	371	M 6	6,00 x 4,90	SWES31-78-014	-
	31	50	34	371	M 8	8,00 x 6,20	SWES31-78-015	-
	31	50	34	376	M 10	7,00 x 5,50	SWES31-78-016	-
	31	50	34	371	M 10	10,00 x 8,00	SWES31-78-017	-
	31	50	34	376	M 12	9,00 x 7,00	SWES31-78-018	-
	31	50	34	376	M 14	11,00 x 9,00	SWES31-78-019	-
	31	50	34	376	M 16	12,00 x 9,00	SWES31-78-020	-
	31	50	34	376	M 18	14,00 x 11,00	SWES31-78-021	-
	31	50	34	376	M 20	16,00 x 12,00	SWES31-78-022	-
	31	50	34	376	M 22	18,00 x 14,50	SWES31-78-023	-
	3	48	72	45	376	M 14	11,00 x 9,00	SWES48-78-024
48		72	45	376	M 16	12,00 x 9,00	SWES48-78-025	-
48		72	45	376	M 18	14,00 x 11,00	SWES48-78-026	-
48		72	45	376	M 20	16,00 x 12,00	SWES48-78-027	-
48		72	45	376	M 22	18,00 x 14,50	SWES48-78-028	-
48		72	45	376	M 24	18,00 x 14,50	SWES48-78-029	-
48		72	45	376	M 27	20,00 x 16,00	SWES48-78-030	-
48		72	45	376	M 30	22,00 x 18,00	SWES48-78-031	-
48		72	45	376	M 33	25,00 x 20,00	SWES48-78-032	-
48		72	45	376	M 36	28,00 x 22,00	SWES48-78-033	-
4	60	95	68	376	M 24	18,00 x 14,50	SWES60-78-034	-
	60	95	68	376	M 27	20,00 x 16,00	SWES60-78-035	-
	60	95	68	376	M 30	22,00 x 18,00	SWES60-78-036	-
	60	95	68	376	M 33	25,00 x 20,00	SWES60-78-037	-
	60	95	68	376	M 36	28,00 x 22,00	SWES60-78-038	-
	60	95	68	376	M 42	32,00 x 24,00	SWES60-78-039	-
	60	95	68	376	M 45	36,00 x 29,00	SWES60-78-040	-
	60	95	68	376	M 48	36,00 x 29,00	SWES60-78-041	-

Porcas e acessórios para ER - Mini & MS System



Ø	L	G	Referência	Preço
12	11	M10x0,75	ER08-79-001	-
16	12	M13x0,75	ER11-79-002	-
22	18	M19x1	ER16-79-003	-
35	21	M30x1	ER25-79-004	-



Chave de aperto para ER - Mini

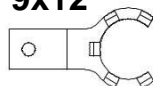


Chave	Referência	Preço
ER 11 Mini	ER11-79-005	-
ER 16 Mini	ER16-79-006	-
ER 20 Mini	ER20-79-007	-
ER 25 Mini	ER25-79-008	-



Torque para ER - Mini

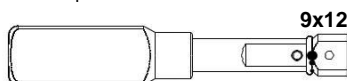
9x12



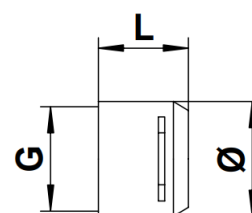
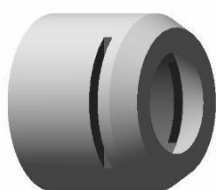
Chave	Referência	Preço
ER 11 Mini	ER11-79-009	-
ER 16 Mini	ER16-79-010	-
ER 20 Mini	ER20-79-011	-
ER 25 Mini	ER25-79-012	-



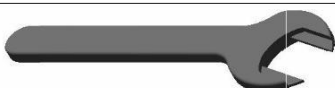
Chave de torque para Mini & MS, pré-definido, sem escala



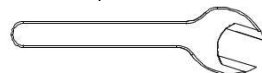
Chave	Referência	Preço
ER 11	ER11-79-013	-
ER 16	ER16-79-014	-
ER 20	ER20-79-015	-
ER 25	ER25-79-016	-



Ø	L	G	Referência	Preço
16	12	M13x0,75	ER11-79-017	-
22	18	M19x1	ER16-79-018	-
28	19,5	M24x1	ER20-79-019	-



Chaves para ER - MS

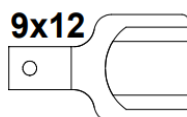


Chave	Referência	Preço
ER 11 MS	ER11-79-020	-
ER 16 MS	ER16-79-021	-
ER 20 MS	ER20-79-022	-



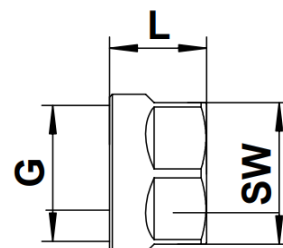
Torque para ER - MS

9x12

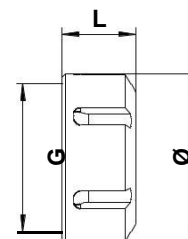


Torque	Referência	Preço
ER 11 Mini	ER11-79-023	-
ER 16 Mini	ER16-79-024	-
ER 20 Mini	ER20-79-025	-

Porcas e acessórios standard para ER - DIN6499



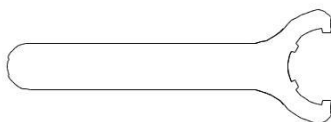
SW	L	G	Referência	Preço
25	17,5	M22x1,5	ER16-80-001	-



Ø	L	G	Referência	Preço
32	17,5	M22x1,5	ER16-80-002	-
42	20	M32x1,5	ER25-80-003	-
50	22,5	M40x1,5	ER32-80-004	-
63	25,5	M50x1,5	ER40-80-005	-
78	35	M64x2,0	ER50-80-006	-

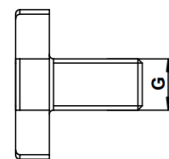


Chave de aperto ER 25 – ER50



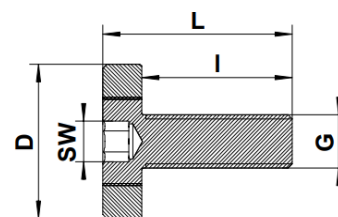
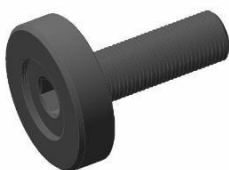
Chave	Referência	Preço
ER 25	ER25-80-007	-
ER 32	ER32-80-008	-
ER 40	ER40-80-009	-
ER 50	ER50-80-010	-

Outros Acessórios

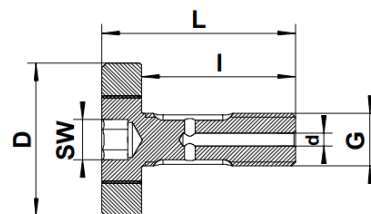


G - Ø	Referência	Preço
M8 - (Ø16)	OTH-81-001	-
M10 - (Ø22)	OTH-81-002	-
M12 - (Ø27)	OTH-81-003	-

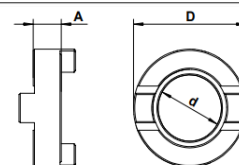
G - Ø	Referência	Preço
M16 - (Ø32)	OTH-81-004	-
M20 - (Ø40)	OTH-81-005	-



G - Ø	D	L	I	SW	Referência	Preço
M8 - (Ø16)	20	32	25	5	OTH-81-006	-
M10 - (Ø22)	28	33	25	6	OTH-81-007	-
M12 - (Ø27)	35	44	35	8	OTH-81-008	-
M16 - (Ø32)	42	45	35	10	OTH-81-009	-
M20 - (Ø40)	52	51	40	12	OTH-81-010	-

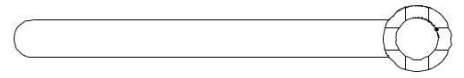


G - Ø	D	d	L	I	SW	Referência	Preço
M8 - (Ø16)	20	2,5	32	25	5	OTH-81-011	-
M10 - (Ø22)	28	3	33	25	6	OTH-81-012	-
M12 - (Ø27)	35	3	44	35	8	OTH-81-013	-
M16 - (Ø32)	42	3	45	35	10	OTH-81-014	-
M20 - (Ø40)	52	3	51	40	12	OTH-81-015	-



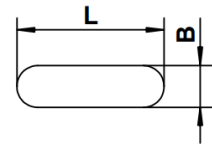
d	D	A	Referência	Preço
16	32	10	OTH-81-016	-
22	40	12	OTH-81-017	-
27	48	12	OTH-81-018	-
32	58	14	OTH-81-019	-
40	70	14	OTH-81-020	-

Outros Acessórios



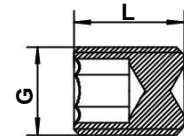
Referência	Preço
OTH-82-001	-
OTH-82-002	-
OTH-82-003	-
OTH-82-004	-

Referência	Preço
OTH-82-005	-
OTH-82-006	-
OTH-82-007	-
OTH-82-008	-



Dimensão	Referência	Preço
B / H / L	OTH-82-009	-
B / H / L	OTH-82-010	-
B / H / L	OTH-82-011	-

Dimensão	Referência	Preço
B / H / L	OTH-82-012	-
B / H / L	OTH-82-013	-
B / H / L	OTH-82-014	-



G	L	Referência	Preço
M3	7	OTH-82-015	-
M4	7	OTH-82-016	-
M5	6	OTH-82-017	-
M6	9	OTH-82-018	-
M8	9	OTH-82-019	-
M10	12	OTH-82-020	-

G	L	Referência	Preço
M12	14	OTH-82-021	-
M14	16	OTH-82-022	-
M16	16	OTH-82-023	-
M18x2	20	OTH-82-024	-
M20x2	25	OTH-82-025	-
M24x2	31	OTH-82-026	-



smart solutions manufacturer[®]
WE MAKE IT REAL.

Zona Industrial de Santiago de Riba-Ul
Rua da Boavista Nrº 529
3720-502 Oliveira de Azeméis
Portugal

T. +351 256 600 887
F. +351 256 600 889

www.ssm.pt