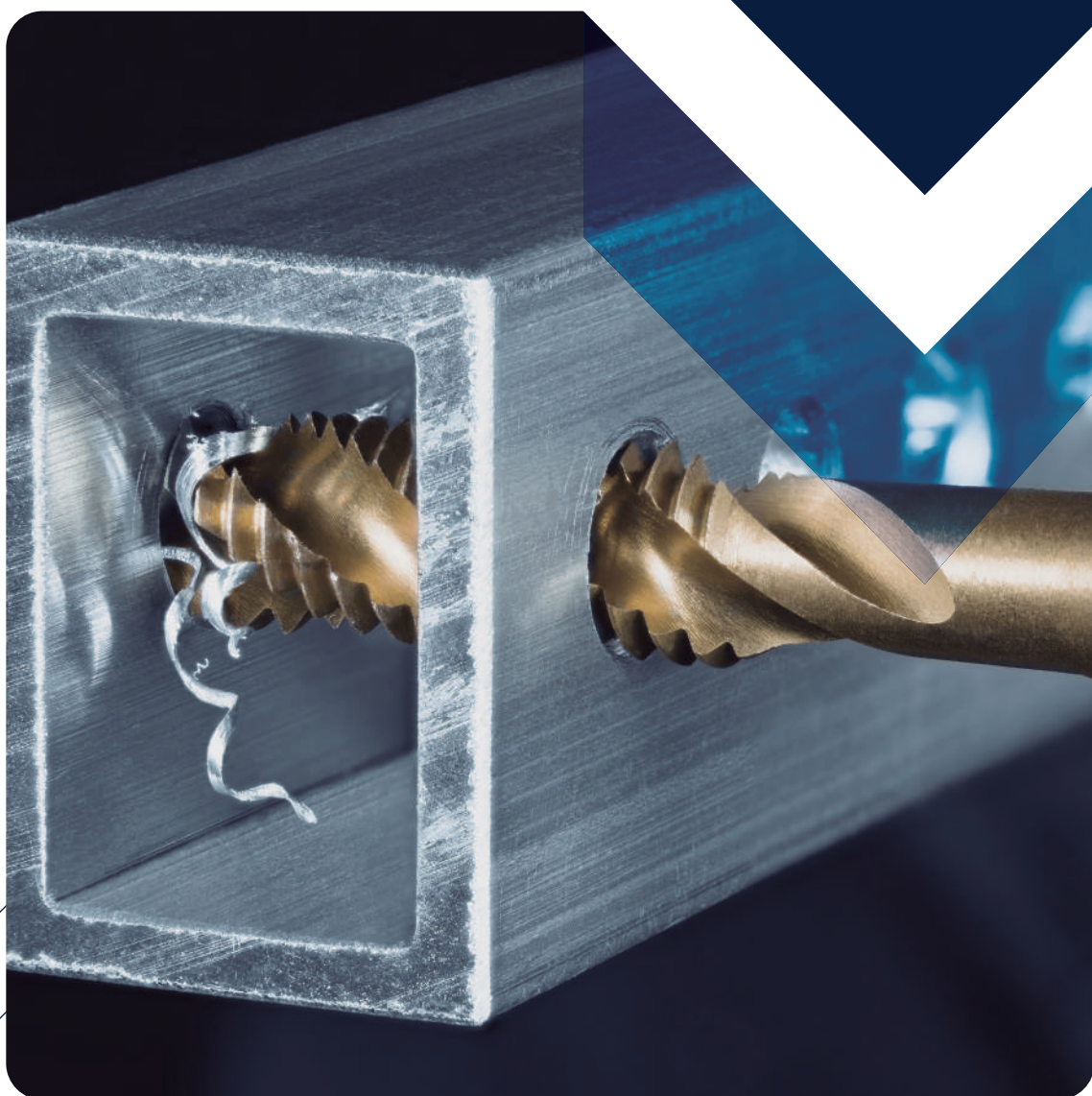


BLUE-MASTER®
by *celesa*

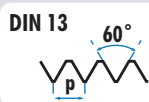


MACHOS
E CAÇONETES

JOGOS DE MACHOS E CAÇONETES HSS PARA ROSCAGEM MANUAL

Machos e Caçonetes

Verde



Ref. M0

HSS
DIN 352
DIN 2181
TOL 6H

Para materiais até 38HRc

Ref. C5

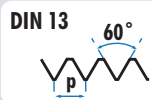
HSS
DIN 223
TOL 6g


		M0			C5		
	Uds.	\varnothing	L1 x L2 x mm	€	\varnothing x L3 mm	€	
M 5,5x0,90	3	4,60	50 x 16 x 4,9	95,70	25 x 9	109,86	
M 6x0,50	2	5,50	50 x 14 x 4,9	32,50	20 x 5	42,50	
M 6x0,75	2	5,25	50 x 14 x 4,9	27,43	25 x 9	34,86	
M 6x1,00	3	5,00	50 x 19 x 4,9	24,29*	25 x 9	31,02*	
M 6x1,25	3	4,75	50 x 19 x 4,9	157,01	25 x 9	112,49	
M 7x0,75	2	6,25	50 x 14 x 4,9	36,01	25 x 9	34,51	
M 7x1,00	3	6,00	50 x 19 x 4,9	29,59*	25 x 9	32,56*	
M 7x1,25	3	5,75	50 x 19 x 4,9	109,10	25 x 9	135,20	
M 8x0,50	2	7,50	50 x 16 x 4,9	57,32	25 x 9	51,53	
M 8x0,75	2	7,25	50 x 16 x 4,9	37,73	25 x 9	37,32	
M 8x1,00	2	7,00	56 x 18 x 4,9	27,30*	25 x 9	35,98*	
M 8x1,25	3	6,80	56 x 22 x 4,9	29,56*	25 x 9	32,91*	
M 8x1,50	3	6,50	56 x 22 x 4,9	106,11	25 x 9	117,54	
M 9x1,00	2	8,00	63 x 18 x 5,5	39,97	25 x 9	39,99	
M 9x1,25	3	7,80	63 x 22 x 5,5	48,43*	25 x 9	38,25*	
M 10x0,50	2	9,50	63 x 18 x 5,5	59,10	30 x 10	129,87	
M 10x0,75	2	9,25	63 x 18 x 5,5	60,43	30 x 11	63,85	
M 10x1,00	2	9,00	63 x 18 x 5,5	29,23	38 x 10	42,34	
M 10x1,25	2	8,80	70 x 24 x 5,5	29,63	38 x 10	45,16	
M 10x1,50	3	8,50	70 x 24 x 5,5	36,45*	38 x 10	44,05*	
M 11x0,75	2	10,25	63 x 18 x 6,2	88,73	30 x 11	140,31	
M 11x1,00	2	10,00	63 x 18 x 6,2	55,90	30 x 11	66,82	
M 11x1,25	2	9,75	63 x 20 x 6,2	55,90	30 x 11	66,81	
M 11x1,50	3	9,50	70 x 24 x 6,2	60,76	38 x 10	53,37	
M 12x0,75	2	11,25	70 x 20 x 7,0	80,68	38 x 10	72,45	
M 12x1,00	2	11,00	70 x 20 x 7,0	51,83	38 x 10	63,85	
M 12x1,25	2	10,75	70 x 20 x 7,0	51,68	38 x 10	61,56	
M 12x1,50	2	10,50	70 x 20 x 7,0	44,03*	38 x 10	55,21*	
M 12x1,75	3	10,20	75 x 29 x 7,0	51,28*	38 x 14	47,86*	
M 13x0,75	2	12,25	70 x 20 x 9,0	91,18	38 x 10	127,74	
M 13x1,00	2	12,00	70 x 20 x 9,0	87,78	38 x 10	67,84	
M 13x1,25	2	11,75	70 x 20 x 9,0	80,13	38 x 10	90,71	
M 13x1,50	2	11,50	70 x 20 x 9,0	80,13	38 x 10	71,31	
M 13x1,75	3	11,25	70 x 20 x 9,0	92,72	38 x 14	76,41	
M 14x0,75	2	13,25	70 x 20 x 9,0	104,78	38 x 10	119,77	
M 14x1,00	2	13,00	70 x 20 x 9,0	80,78	38 x 10	71,61	
M 14x1,25	2	12,80	70 x 20 x 9,0	63,10*	38 x 10	71,61*	
M 14x1,50	2	12,50	70 x 20 x 9,0	49,07	38 x 10	60,96	
M 14x1,75	2	12,25	70 x 20 x 9,0	98,13	38 x 14	203,96	
M 14x2,00	3	12,00	80 x 30 x 9,0	56,73*	38 x 14	47,39*	
M 15x1,00	2	14,00	70 x 20 x 9,0	113,18	45 x 14	77,11	
M 15x1,25	2	13,75	70 x 20 x 9,0	117,27	45 x 14	119,46	
M 15x1,50	2	13,50	70 x 20 x 9,0	104,99	45 x 14	82,61	
M 15x2,00	3	13,00	80 x 30 x 9,0	113,43	45 x 14	103,55	
M 16x1,00	2	15,00	70 x 20 x 9,0	107,16	45 x 14	87,31	
M 16x1,25	2	14,75	70 x 20 x 9,0	112,80	45 x 14	73,46	
M 16x1,50	2	14,50	70 x 20 x 9,0	61,06*	45 x 14	68,58*	
M 16x2,00	3	14,00	80 x 32 x 9,0	81,17*	45 x 18	64,25*	
M 17x1,00	2	16,00	70 x 20 x 9,0	173,07	45 x 14	124,94	
M 17x1,25	2	15,75	70 x 20 x 9,0	173,07	45 x 14	124,94	
M 17x1,50	2	15,50	70 x 20 x 9,0	173,07	45 x 14	124,94	
M 18x1,00	2	17,00	80 x 22 x 11,0	119,14	45 x 14	92,32	
M 18x1,25	2	16,75	80 x 22 x 11,0	170,07	45 x 14	96,02	

* Consulte o preço dos jogos de machos e caçonetes à esquerda disponíveis na Pag.188

* Sobrecusto por caçonetes abertos +20% sobre os preços indicados.

JOGOS DE MACHOS E CAÇONETES HSS PARA ROSCAGEM MANUAL



Ref. MO

HSS

(M)

DIN 352

(MF)

DIN 2181

TOL 6H

Ref. C5

HSS

DIN 223

TOL 6g

		MO					C5							MO					C5								
	Uds.		L1 x L2 x	€	Ø x L3 mm	€		Uds.		L1 x L2 x	€	Ø x L3 mm	€		Uds.		L1 x L2 x	€	Ø x L3 mm	€		Uds.		L1 x L2 x	€	Ø x L3 mm	€
M 18x1,50	2	16,50	80 x 22 x 11,0	80,44	45 x 14	83,06	M 33x3,50	3	29,5	125 x 50 x 20,0	390,08*	65 x 25	147,36*														
M 18x2,00	2	16,00	80 x 22 x 11,0	128,40*	45 x 14	92,80*	M 34x1,50	2	32,5	100 x 25 x 22,0	400,85	65 x 18	168,65														
M 18x2,50	3	15,50	95 x 40 x 11,0	107,13*	45 x 18	64,28*	M 34x2,00	2	32,0	100 x 25 x 22,0	479,38	65 x 18	384,96														
M 19x1,00	2	18,00	80 x 22 x 11,0	251,18	45 x 14	154,96	M 35x1,50	2	33,5	100 x 25 x 22,0	427,97	65 x 18	174,93														
M 19x1,25	2	17,75	80 x 22 x 11,0	251,18	45 x 14	175,26	M 35x2,00	2	33,0	100 x 25 x 22,0	479,38	65 x 18	300,20														
M 19x1,50	2	17,50	80 x 22 x 11,0	251,18	45 x 14	154,96	M 36x1,50	2	34,5	100 x 25 x 22,0	417,83	65 x 18	165,60														
M 19x2,00	2	17,00	80 x 22 x 11,0	298,17	45 x 14	177,03	M 36x2,00	2	34,0	125 x 33 x 22,0	550,33	65 x 18	172,71														
M 20x1,00	2	19,00	80 x 22 x 12,0	162,19	45 x 14	92,32	M 36x3,00	2	33,0	125 x 33 x 22,0	713,13*	65 x 25	173,28*														
M 20x1,25	2	18,75	80 x 22 x 12,0	250,26	45 x 14	200,36	M 36x4,00	3	32,0	150 x 53 x 22,0	502,21*	65 x 25	150,23*														
M 20x1,50	2	18,50	80 x 22 x 12,0	100,74	45 x 14	84,98	M 38x1,50	2	36,5	100 x 25 x 22,0	482,93	75 x 20	253,02														
M 20x2,00	2	18,00	80 x 22 x 12,0	136,00*	45 x 14	92,32*	M 38x2,00	2	36,0	125 x 25 x 22,0	649,97	75 x 20	373,86														
M 20x2,50	3	17,50	95 x 40 x 12,0	120,18*	45 x 18	63,27*	M 39x1,50	2	37,5	110 x 25 x 24,0	639,19	75 x 20	251,67														
M 21x1,00	2	20,00	80 x 22 x 12,0	321,81	45 x 14	189,84	M 39x2,00	2	37,0	125 x 23 x 24,0	639,19	75 x 20	265,78														
M 21x1,25	2	19,75	80 x 22 x 12,0	321,81	45 x 14	189,84	M 39x3,00	2	36,0	125 x 33 x 24,0	616,56*	75 x 30	271,46*														
M 21x1,50	2	19,50	80 x 22 x 12,0	250,52	45 x 14	200,68	M 39x4,00	3	35,0	150 x 53 x 24,0	561,94*	75 x 30	228,51*														
M 22x1,00	2	21,00	80 x 22 x 14,5	181,77	55 x 16	124,27	M 40x1,50	2	38,5	110 x 25 x 24,0	567,12	75 x 20	264,37														
M 22x1,25	2	20,75	80 x 22 x 14,5	247,85	55 x 16	202,51	M 40x2,00	2	38,0	125 x 33 x 24,0	624,51	75 x 20	245,49														
M 22x1,50	2	20,50	80 x 22 x 14,5	110,80	55 x 16	106,90	M 40x3,00	2	37,0	125 x 33 x 24,0	622,22	75 x 30	267,74														
M 22x2,00	2	20,00	80 x 22 x 14,5	176,74*	55 x 16	118,94*	M 42x1,50	2	40,5	110 x 25 x 24,0	616,44	75 x 20	293,95														
M 22x2,50	3	19,50	100 x 40 x 14,5	160,08*	55 x 22	95,08*	M 42x2,00	2	40,0	125 x 33 x 24,0	730,75	75 x 20	310,82														
M 23x1,00	2	22,00	80 x 22 x 14,5	324,61	55 x 16	205,35	M 42x3,00	2	39,0	125 x 33 x 24,0	733,90	75 x 30	293,95														
M 23x1,50	2	21,50	80 x 22 x 14,5	323,35	55 x 16	243,45	M 42x4,50	3	37,5	150 x 53 x 24,0	703,09	75 x 30	228,49														
M 24x1,00	2	23,00	90 x 22 x 14,5	196,13	55 x 16	121,20	M 45x1,50	2	43,5	110 x 25 x 29,0	673,32	90 x 22	343,49														
M 24x1,25	2	22,75	90 x 22 x 14,5	320,56	55 x 16	160,91	M 45x2,00	2	43,0	125 x 33 x 29,0	877,59	90 x 22	372,89														
M 24x1,50	2	22,50	90 x 22 x 14,5	141,24	55 x 16	108,92	M 45x3,00	2	42,0	125 x 33 x 29,0	877,59	90 x 36	389,06														
M 24x2,00	2	22,00	90 x 22 x 14,5	210,75*	55 x 16	121,20*	M 45x4,50	3	40,5	160 x 60 x 29,0	811,67	90 x 36	354,06														
M 24x3,00	3	21,00	110 x 50 x 14,5	190,94*	55 x 22	95,08*	M 48x1,50	2	46,5	140 x 33 x 29,0	751,72	90 x 22	335,65														
M 25x1,00	2	24,00	90 x 22 x 14,5	276,69	55 x 16	183,94	M 48x2,00	2	46,0	140 x 33 x 29,0	1.146,95	90 x 22	367,66														
M 25x1,25	2	23,75	90 x 22 x 14,5	362,36	55 x 16	242,19	M 48x3,00	2	45,0	140 x 33 x 29,0	1.063,46	90 x 36	354,68														
M 25x1,50	2	23,50	90 x 22 x 14,5	261,04	55 x 16	158,22	M 48x5,00	3	43,0	180 x 65 x 29,0	977,24	90 x 36	354,48														
M 25x2,00	2	23,00	90 x 22 x 14,5	471,88	55 x 16	235,47	M 50x1,50	2	48,5	140 x 33 x 29,0	822,10	90 x 22	350,00														
M 26x1,00	2	25,00	90 x 22 x 14,5	247,33	55 x 16	182,31	M 50x3,00	2	57,0	140 x 33 x 29,0	1.097,87	90 x 22	381,44														
M 26x1,50	2	24,50	90 x 22 x 14,5	232,06	55 x 16	146,98	M 52x1,50	2	50,5	140 x 33 x 32,0	862,35	90 x 22	357,40														
M 26x2,00	2	24,00	90 x 22 x 14,5	272,28	55 x 16	206,02	M 52x2,00	2	50,0	140 x 33 x 32,0	1.251,19	90 x 22	415,35														
M 27x1,00	2	26,00	90 x 22 x 16,0	272,30	65 x 18	164,00	M 52x3,00	2	49,0	140 x 33 x 32,0	1.151,95	90 x 36	453,25														
M 27x1,50	2	25,50	90 x 22 x 16,0	262,92	65 x 18	164,70	M 52x5,00	3	47,0	180 x 65 x 32,0	1.170,45	90 x 36	354,48														
M 27x2,00	2	25,00	90 x 22 x 16,0	292,08*	65 x 18	179,13*	M 56x4,00	2	52,0	180 x 47 x 32,0	1.284,50	105 x 36															
M 27x3,00	3	24,00	110 x 50 x 16,0	241,45*	65 x 25	144,22*	M 56x5,50	3	50,5	200 x 85 x 35,0	1.816,67	105 x 36															
M 28x1,00	2	27,00	90 x 22 x 16,0	459,59	65 x 18	212,00	M 60x5,50	3	54,5	200 x 85 x 35,0	1.887,89	105 x 36															
M 28x1,50	2	26,50	90 x 22 x 16,0	257,79	65 x 18	149,31	M 64x4,00	2	60,0	180 x 50 x 35,0	1.809,03	120 x 36															
M 28x2,00	2	26,00	90 x 22 x 16,0	308,43	65 x 18	209,93	M 64x6,00	3	58,0	220 x 90 x 39,0	2.233,84	120 x 36															
M 30x1,00	2	29,00	90 x 22 x 18,0	286,27	65 x 18	173,80	M 68x6,00	3	62,0	220 x 90 x 39,0	2.674,33	120 x 36															
M 30x1,50	2	28,50	90 x 22 x 18,0	274,73	65 x 18	164,69	M 72x6,00	3	66,0	235 x 90 x 39,0	2.897,34	120 x 36															
M 30x2,00	2	28,00	90 x 22 x 18,0	316,74	65 x 18	182,52	CAÇONETES COM MEDIDA EXTERIOR EM POLEGADAS																				
M 30x3,00	2	27,00	125 x 56 x 18,0	309,64*	65 x 25	203,31*						C5															
M 30x3,50	3	26,50	125 x 50 x 18,0	310,65*	65 x 25	144,59*	Ø x L3 mm	€		Ø x L3 mm	€																
M 32x1,00	2	31,00	90 x 22 x 18,0	377,52	65 x 18	224,48	M 3x0,50	25,4 x 9,5	26,59	M 8x1,25	38,1 x 12,7	28,22															
M 32x1,50	2	30,50	90 x 22 x 18,0	327,12	65 x 18	170,81	M 4x0,70	25,4 x 9,5	26,59	M 10x1,50	25,4 x 9,50	35,72															
M 32x2,00	2	30,00	90 x 22 x 18,0	468,23	65 x 18	208,05	M 5x0,80	25,4 x 9,5	27,09	M 10x1,50	38,1 x 12,7	35,72															
M 33x1,00	2	32,00	100 x 25 x 20,0	602,47	65 x 18	237,69	M 6x1,00	25,4 x 9,5	26,59	M 12x1,75	25,4 x 9,50	43,04															
M 33x1,50	2	31,50	100 x 25 x 20,0	349,86	65 x 18	161,63	M 8x1,25	25,4 x 9,5	28,22	M 12x1,75	38,1 x 12,7	43,04															
M 33x2,00	2	31,00	100 x 25 x 20,0	441,71	65 x 18	162,74																					
M 33x3,00	2	30,00	125 x 56 x 20,0	557,35*	65 x 25	251,14*																					

* Consulte o preço dos jogos de machos e caçonetes à esquerda disponíveis na Pag.188
* Sobrecusto por caçonetes abertos +20% sobre os preços indicados.

JOGOS DE MACHOS E CAÇONETES HSS PARA ROSCAGEM MANUAL


Machos e Caçonetes

Verde

UNC

Ref. M0

HSS	DIN 351	TOL 2B
HSS	DIN 223	TOL 2a




Ref. C5

UNF





Ref. M0

HSS	DIN 2181	TOL 2B
HSS	DIN 223	TOL 2a



Ref. C5



	Uds.	D1 mm		M0		C5			Uds.	D1 mm		M0		C5	
				L1 x L2 x mm	€	Ø x L3 mm	€					L1 x L2 x mm	€	Ø x L3 mm	€
UNC n°1-64h.	3	1,85	1,50	36x8x2,1	113,74	16x5		UNF n°2-64h.	2	2,18	1,85	36x8x2,1	72,83		
UNC n°2-56h.	3	2,18	1,80	36x9x2,1	80,38	16x5		UNF n°3-56h.	2	2,51	2,15	40x9x2,1	72,83		
UNC n°3-48h.	3	2,51	2,10	40x9x2,1	80,38	16x5		UNF n°4-48h.	2	2,84	2,35	40x9x2,7	45,38	20x5	46,94
UNC n°4-40h.	3	2,84	2,25	40x11x2,7	60,87	20x5	45,17	UNF n°5-44h.	2	3,17	2,70	45x10x2,7	45,38	20x5	45,29
UNC n°5-40h.	3	3,17	2,60	40x11x2,7	58,20	20x5	45,29	UNF n°6-40h.	2	3,50	2,95	45x16x3,0	43,37	20x5	45,29
UNC n°6-32h.	3	3,50	2,75	45x13x3,0	58,20	20x7	45,29	UNF n°8-36h.	2	4,17	3,50	50x12x3,4	43,37	20x7	45,29
UNC n°8-32h.	3	4,17	3,50	45x13x3,4	58,20	20x7	45,29	UNF n°10-32h.	2	4,83	4,10	50x12x4,9	43,37	20x7	45,29
UNC n°10-24h.	3	4,83	3,90	50x16x4,9	58,20	20x7	45,29	UNF n°12-28h.	2	5,49	4,60	50x12x4,9	45,38	20x7	45,29
UNC n°12-24h.	3	5,49	4,50	50x19x4,9	58,20	20x7	45,29	UNF 1/4-28h.	2	6,35	5,50	50x14x4,9	33,10*	25x9	39,98*
UNC 1/4-20h.	3	6,35	5,10	50x19x4,9	49,87*	20x7	42,68*	UNF 5/16-24h.	2	7,94	6,90	56x22x4,9	35,44*	25x9	44,63*
UNC 5/16-18h.	3	7,94	6,60	56x22x4,9	56,62*	25x9	43,80*	UNF 3/8-24h.	2	9,52	8,50	63x20x5,5	40,92*	38x10	60,89*
UNC 3/8-16h.	3	9,52	8,00	70x24x5,5	64,42*	30x11	60,89*	UNF 7/16-20h.	2	11,11	9,90	63x20x6,2	54,30	38x10	59,74
UNC 7/16-14h.	3	11,11	9,40	70x24x6,2	83,88	38x14	60,89	UNF 1/2-20h.	2	12,70	11,50	70x22x7,0	55,56*	38x10	65,09*
UNC 1/2-13h.	3	12,70	10,75	75x29x7,0	96,51*	38x14	62,59*	UNF 9/16-18h.	2	14,29	12,90	70x22x9,0	72,40	38x10	68,13
UNC 9/16-12h.	3	14,28	12,20	80x30x9,0	113,94	38x14	65,51	UNF 5/8-18h.	2	15,87	14,50	70x22x9,0	93,52*	45x14	88,80*
UNC 5/8-11h.	3	15,87	13,50	80x32x9,0	157,14*	45x18	88,80*	UNF 3/4-16h.	2	19,05	17,50	80x22x11,0	125,62*	45x14	88,80*
UNC 3/4-10h.	3	19,05	16,50	95x40x11,0	214,11*	45x18	88,80*	UNF 7/8-14h.	2	22,22	20,40	80x22x14,5	161,44*	55x16	119,19*
UNC 7/8-9h.	3	22,22	19,50	100x40x14,5	263,57	55x22	123,97	UNF 1"-12h.	2	25,40	23,25	90x22x16,0	214,06	55x16	119,19
UNC 1"-8h.	3	25,40	22,25	110x50x14,5	355,91*	55x22	119,19*	UNF 1"-14h.	2	25,40	23,60	90x22x14,5	237,14*	55x16	129,51*
UNC 1.1/8-7h.	3	28,57	25,00	125x56x18,0	536,62	65x25	177,06	UNF 1.1/8-12h.	2	28,57	26,50	90x22x18,0	315,95	65x18	145,16
UNC 1.1/4-7h.	3	31,75	28,00	125x56x18,0	675,44	65x25	177,06	UNF 1.1/4-12h.	2	31,75	29,50	90x22x20,0	385,87	65x18	184,14
UNC 1.3/8-6h.	3	34,92	30,75	150x63x22,0	856,88	65x25	177,06	UNF 1.3/8-12h.	2	34,92	32,80	125x35x22,0	520,58	65x18	192,76
UNC 1.1/2-6h.	3	38,10	34,00	150x63x24,0	1.052,07	75x30	276,06	UNF 1.1/2-12h.	2	38,10	36,00	125x40x22,0	657,67	75x20	276,06
UNC 2"-4,5h.	3	50,80	45,00	180x75x32,0	1.430,05	90x36		UNF 2"-12h.	2	50,80	48,38	140x40x29,0	1.627,34	90x22	

* Consulte o preço dos jogos de machos e caçonetes à esquerda disponíveis na Pag.188

JOGOS DE MACHOS E CAÇONETES HSS E HSSCO PARA ROSCAGEM MANUAL

Machos e Caçonetes
Verde Rosa

BSP (GAS) Ref. MO **DIN 5157 TOL ISO 228** Ref. C5 **DIN 5158** Ref. MOT Ref. MOX **DIN 5157 TOL 6H** Ref. C5T Ref. C5X **DIN 5158 TOL 6g**



Tapping Diagram	Uds.	D1 mm	Ø	L1 x L2 x L3 mm	MO		C5		Tapping Diagram	Uds.	MOT		C5T		MOX		C5X	
					HSS	€	HSS	€			HSS	€	TiN	€	HSS	€	HSSCo	OX
G 1/8-28h.	2	9,73	8,80	63 x 20 x 5,5	37,01*	38 x 10	54,45*	G 1/8-28 h.	2	80,55	101,51	92,55	69,02					
G 1/4-19h.	2	13,16	11,80	70 x 22 x 9,0	52,16*	38 x 10	54,16*	G 1/4-19 h.	2	146,54	105,05	166,30	71,19					
G 3/8-19h.	2	16,66	15,25	70 x 22 x 9,0	65,48*	45 x 14	71,73*	G 3/8-19 h.	2	178,79	118,17	206,59	84,69					
G 1/2-14h.	2	20,95	19,00	80 x 22 x 12,0	91,83*	45 x 14	71,73*	G 1/2-14 h.	2	251,98	133,77	278,74	93,71					
G 5/8-14h.	2	22,91	21,00	80 x 22 x 14,5	117,50*	55 x 16	99,51*											
G 3/4-14h.	2	26,44	24,50	90 x 22 x 16,0	143,35*	55 x 16	129,53*	G 3/4-14 h.	2	330,58	217,94	400,09	159,84					
G 7/8-14h.	2	30,20	28,25	90 x 22 x 18,0	192,98	65 x 18	154,20											
G 1"-11h.	2	33,25	30,75	100 x 25 x 20,0	227,25*	65 x 18	155,69*	G 1" -11 h.	2	576,15	291,11	658,06	190,95					
G 1.1/8-11h.	2	37,90	35,50	125 x 40 x 22,0	362,65	75 x 20	219,74											
G 1.1/4-11h.	2	41,91	39,50	125 x 40 x 24,0	395,20*	75 x 20	215,70*											
G 1.3/8-11h.	2	44,32	42,00	125 x 40 x 29,0	536,77	90 x 22	338,02											
G 1.1/2-11h.	2	47,80	45,25	140 x 40 x 29,0	597,26	90 x 22	325,60											
G 1.3/4-11h.	2	53,75	51,25	140 x 40 x 32,0	992,93	105 x 22	338,02											
G 2"-11h.	2	59,61	57,00	160 x 40 x 35,0	1.104,06	105 x 22	406,80											
G 2.1/4-11h.	2	65,71	63,00	160 x 40 x 39,0	1.823,79	105 x 22												
G 2.1/2-11h.	2	75,18	72,50	160 x 40 x 39,0	2.741,36	120 x 22												
G 2.3/4-11h.	2	81,53	79,00	160 x 40 x 39,0	3.324,15	120 x 22												
G 3"-11h.	2	87,88	85,50	160 x 40 x 39,0	3.459,76	150 x 25												
G 4"-11h.	2	113,03	110,50	180 x 45 x 44,0	5.247,27	180 x 25												

UNF 3B Ref. MO **HSS DIN 2181 TOL 3B**

Tapping Diagram	Uds.	D1 mm	Ø	L1 x L2 x L3 mm	MO-3B	€
UNF n°4-48-3B	2	2,84	2,35	40x9x2,7	57,80	
UNF n°5-44-3B	2	3,17	2,70	45x10x2,7	57,80	
UNF n°6-40-3B	2	3,50	2,95	45x16x3,0	54,53	
UNF n°8-36-3B	2	4,17	3,50	50x12x3,4	54,53	
UNF n°10-32-3B	2	4,83	4,10	50x12x4,9	54,53	
UNF n°12-28-3B	2	5,49	4,60	50x12x4,9	57,80	
UNF 1/4-28-3B	2	6,35	5,50	50x14x4,9	42,16	
UNF 5/16-24-3B	2	7,94	6,90	56x22x4,9	45,13	
UNF 3/8-24-3B	2	9,52	8,50	63x20x5,5	52,11	
UNF 7/16-20-3B	2	11,11	9,90	63x20x6,2	69,17	
UNF 1/2-20-3B	2	12,70	11,50	70x22x7,0	70,76	

* Consulte o preço dos jogos de machos e caçonetes à esquerda disponíveis na Pag.188

JOGOS DE MACHOS E CAÇONETES HSS PARA ROSCAGEM MANUAL

Machos e Caçonetes

Rosa Verde

BSW

Ref. M0

HSS

DIN 351

TOL Classe 2

Ref. C5

HSS

DIN 223

DIN BS84 55°

BSF

Ref. M0

HSS

DIN 5157

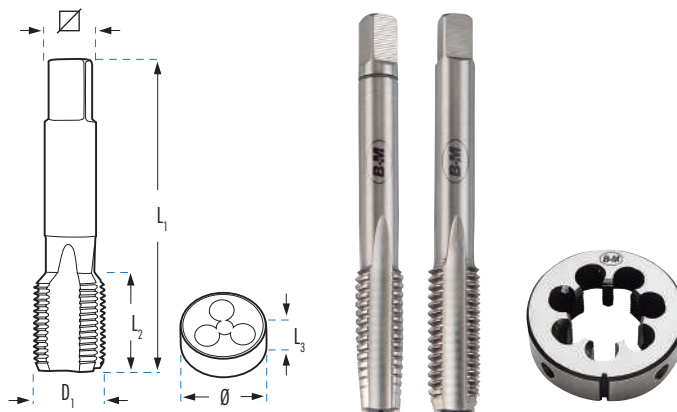
TOL ISO 228

Ref. C5

HSS

DIN 223

DIN BS84 55°



Icon	Uds.	D1 mm	Ø	L1 x L2 x mm	M0		C5	
					€	Ø x L3 mm	€	
W 1/16-60h.	3	1,59	1,15	32x8x2,1	62,53	16x5	84,15	
W 3/32-48h.	3	2,38	1,80	40x9x2,1	45,72	20x5	43,42	
W 1/8-40h.	3	3,17	2,55	40x14x2,7	32,84*	25x9	34,27*	
W 5/32-32h.	3	3,97	3,10	45x17x3,4	33,18	25x9	34,96	
W 3/16-24h.	3	4,76	3,60	50x19x4,9	32,84	25x9	34,27	
W 7/32-24h.	3	5,55	4,40	50x19x4,9	54,01	25x9	44,76	
W 1/4-20h.	3	6,35	5,10	50x20x4,9	36,99*	25x9	34,96*	
W 5/16-18h.	3	7,94	6,50	56x20x4,9	45,18*	25x9	36,46*	
W 3/8-16h.	3	9,52	7,90	63x22x5,5	49,64*	38x10	52,77*	
W 7/16-14h.	3	11,11	9,25	70x22x6,2	66,63	38x10	52,84	
W 1/2-12h.	3	12,70	10,50	75x25x7,0	71,50	38x14	51,85	
W 9/16-12h.	3	14,29	12,00	80x26x9,0	97,27	38x14	63,32	
W 5/8-11h.	3	15,87	13,40	80x27x9,0	111,86*	45x18	75,30*	
W 11/16-11h.	3	17,46	15,25	95x32x11,0	263,61	45x18	124,04	
W 3/4-10h.	3	19,05	16,50	95x32x11,0	159,24*	45x18	75,42*	
W 7/8-9h.	3	22,22	19,25	100x32x14,5	217,47*	55x22	110,89*	
W 1"-8h.	3	25,40	21,75	110x36x14,5	266,51*	55x22	111,90*	
W 1.1/8-7h.	3	28,57	24,75	125x40x18,0	395,03	65x25	176,20	
W 1.1/4-7h.	3	31,75	27,75	125x40x18,0	477,94	65x25	176,27	
W 1.3/8-6h.	3	34,92	30,50	150x50x22,0	594,34	65x25	179,53	
W 1.1/2-6h.	3	38,10	33,50	150x50x24,0	715,56	75x30	272,90	
W 1.5/8-5h.	3	41,27	46,50	150x56x24,0	996,00	75x30	339,81	
W 1.3/4-5h.	3	44,45	39,00	160x58x29,0	1.225,84	90x36	427,66	
W 1.7/8-4,5h.	3	47,62	42,00	180x65x29,0	1.583,24	90x36	467,95	
W 2"-4,5h.	3	50,80	44,50	180x65x32,0	1.662,13	90x36	490,41	
W 2.1/4-4h.	3	57,15	50,00	200x85x35,0	2.754,08	105x36		
W 2.1/2-4h.	3	63,50	56,50	220x85x39,0	3.350,38	120x36		
W 2.3/4-3,5h.	3	69,85	62,00	250x90x44,0	4.783,95	120x36		
W 3"-3,5h.	3	76,20	68,00	250x90x44,0	5.534,50	140x36		

Icon	Uds.	D1 mm	Ø	L1 x L2 x mm	M0		C5	
					€	Ø x L3 mm	€	
BSF 3/16-32h.	2	4,76	4,0	50x19x4,9	89,99	20x7	45,09	
BSF 1/4-26h.	2	6,35	5,2	50x20x4,9	50,26	20x7	49,93	
BSF 5/16-22h.	2	7,94	6,6	56x20x4,9	58,61	25x9	50,50	
BSF 3/8-20h.	2	9,52	8,1	63x22x5,5	67,83	30x11	97,01	
BSF 7/16-18h.	2	11,11	9,5	70x22x6,2	81,39	30x11	96,11	
BSF 1/2-16h.	2	12,70	11,0	75x25x7,0	92,08	38x10	83,87	
BSF 9/16-16h.	2	14,29	12,5	80x26x9,0	110,37	38x10	88,51	
BSF 5/8-14h.	2	15,88	14,0	80x26x9,0	144,44	45x14	137,98	
BSF 3/4-12h.	2	19,05	16,5	95x33x11,0	220,77	45x14	139,26	
BSF 7/8-11h.	2	22,23	19,5	100x33x14,5	263,50	55x22	186,75	
BSF 1"-10h.	2	25,40	22,5	110x40x14,5	369,88	55x22	184,68	
BSF 1.1/8-9h.	2	28,57	25,5	110x40x16,0	834,60			
BSF 1.1/4-9h.	2	31,75	28,5	125x46x18,0	952,85			
BSF 1.1/2-8h.	2	38,10	34,5	150x55x22,0	1.452,21			



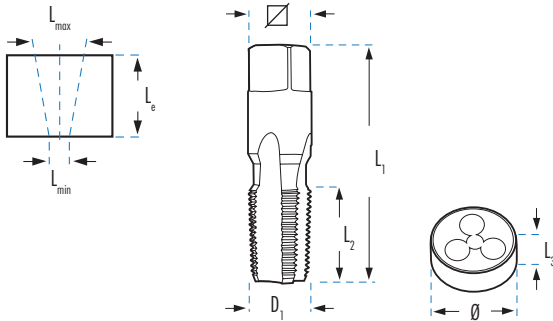
BSW **INOX** **TiN**




Icon	Uds.	L1 x L2 x mm	M0T		C5T	
			€	Ø x L3 mm	€	
W 3/16-24 h.	3	50 x 19 x 4,90	62,70	25x9	62,67	
W 1/4-20 h.	3	50 x 20 x 4,90	70,18	25x9	63,82	
W 5/16-18 h	3	56 x 20 x 4,90	76,90	25x9	66,34	
W 3/8-16 h.	3	63 x 22 x 5,50	90,51	38x10	78,42	
W 1/2-12 h.	3	75 x 25 x 7,00	127,72	38x14	105,36	

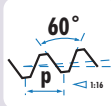
* Consulte o preço dos jogos de machos e caçonetes à esquerda disponíveis na Pag.188

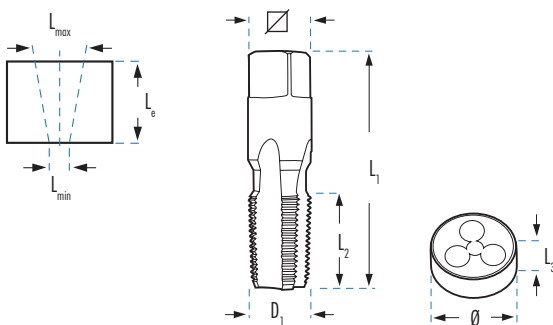
MACHOS E CAÇONETES HSS PARA ROSCAGEM MANUAL





NPTF  Rosca AMERICANA
Rosca Cônica estanque Ref. M0 **HSS** Ref. C5 **HSS** **DIN 223**



		Uds.	D1 mm		L min x L max mm	L _e mm	L1 x L2 x ∇ mm	€	Ø x L3 mm	€
NPTF 1/8-27 h.		1	10,22	8,5	8,30 x 8,76	12,0	54 x 19 x 8,0	100,75	38 x 10	220,02
NPTF 1/4-18 h.		1	13,58	11,0	10,70 x 11,40	17,5	62 x 27 x 11,0	141,21	38 x 15	220,02
NPTF 3/8-18 h.		1	17,02	14,5	14,20 x 14,84	17,6	65 x 27 x 13,0	194,93	45 x 14	287,28
NPTF 1/2-14 h.		1	21,21	17,8	17,40 x 18,33	22,8	80 x 35 x 13,0	272,58	45 x 20	287,28
NPTF 3/4-14 h.		1	26,56	23,0	22,80 x 23,68	23,0	83 x 35 x 17,0	416,66	55 x 22	547,53
NPTF 1"-11,5 h.		1	33,19	29,0	28,60 x 29,72	27,4	110 x 38 x 20,0	554,99		

NPT  Rosca AMERICANA
Rosca cônica não estanque Ref. M0 **HSS** Ref. C5 **HSS** **DIN 223**



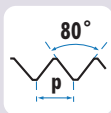
		Uds.	D1 mm			L min x L max mm	L _e mm	L1 x L2 x ∇ mm	€	Ø x L3 mm	€
NPT 1/16-27 h.		1	7,89	6,20	EMNPT1/16	6,00 x 6,38	12,0	54 x 18 x 6,0	38,25	25 x 9	126,47
NPT 1/8-27 h.		1	10,24	8,50	EMNPT1/8	8,30 x 8,73	12,0	65 x 19 x 5,5	38,25	30 x 11	93,51
NPT 1/4-18 h.		1	13,62	11,00	EMNPT1/4	10,70 x 11,35	17,5	62 x 27 x 11,0	53,67	38 x 14	93,51
NPT 3/8-18 h.		1	17,05	14,50	EMNPT3/8	14,20 x 14,80	17,6	65 x 27 x 13,0	74,07	45 x 18	122,08
NPT 1/2-14 h.		1	21,23	17,80	EMNPT1/2	17,40 x 18,32	22,8	80 x 35 x 13,0	103,57	45 x 18	122,08
NPT 3/4-14 h.		1	26,57	23,00	-	22,80 x 23,66	23,0	83 x 35 x 17,0	158,33	55 x 22	223,32
NPT 1"-11,5 h.		1	33,23	29,00	-	28,60 x 29,69	27,4	95 x 44 x 21,0	176,34	65 x 25	268,47
NPT 1.1/4-11,5 h.		1	41,98	37,50	-	37,40 x 38,45	28,1	125 x 33 x 24,0	289,12	75 x 26	333,62
NPT 1.1/2-11,5 h.		1	48,05	44,00	-	43,40 x 44,52	28,4	140 x 33 x 29,0	439,33	90 x 27	465,46
NPT 2"-11,5 h.		1	60,09	56,00	-	55,50 x 56,56	28,4	160 x 33 x 35,0	685,88	105 x 36	648,03
NPT 2.1/2"-8h.		1	73,03	67,00	-	68,68 x 69,08	28,9	200 x 45 x 39,0	838,07		
NPT 3"-8h.		1	88,90	82,00	-	84,45 x 84,86	30,5	220 x 48 x 39,0	1.178,01		

* Veja mandril previo pag.137.




MACHOS E CAÇONETES HSS PARA ROSCAGEM MANUAL

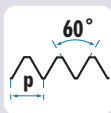
Machos e Caçonetes

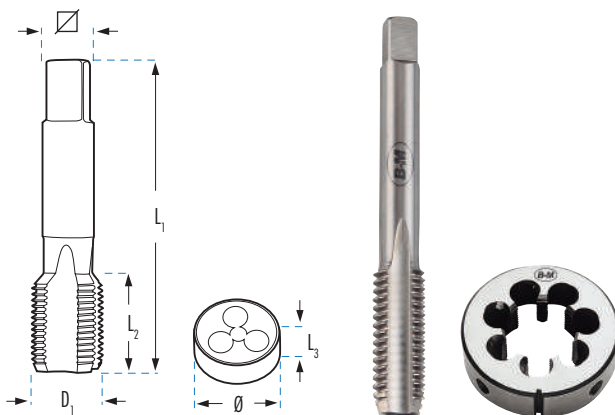
Verde




PG  Ref. MO **HSS** **DIN 40430** Ref. C5 **HSS** **DIN 223**

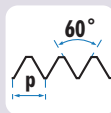


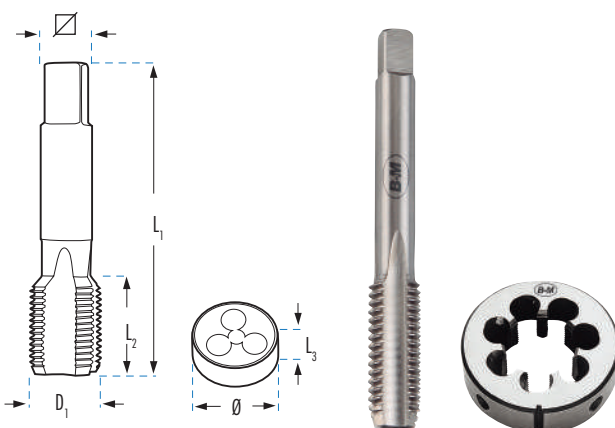
		Uds.	D1 mm		L1 x L2 x L3 mm	MO		C5	
						€	Ø x L3 mm	€	
Pg 7	20h.	1	12,5	11,50	70x20x7,0	36,68	38x10	67,44	
Pg 9	18h.	1	15,2	14,00	70x20x9,0	46,63	38x10	67,44	
Pg 11	18h.	1	18,6	17,25	80x22x11,0	64,75	45x14	84,44	
Pg 13,5	18h.	1	20,4	19,00	80x22x12,0	71,00	45x14	84,44	
Pg 16	18h.	1	22,5	21,25	80x22x14,5	85,27	55x16	108,93	
Pg 21	16h.	1	28,3	27,00	90x22x18,0	125,39	65x18	154,84	
Pg 29	16h.	1	37,0	35,50	100x25x22,0	248,98	65x18	154,84	
Pg 36	16h.	1	47,0	45,50	140x32x29,0	408,60	90x22	396,87	
Pg 42	16h.	1	54,0	52,50	140x36x32,0	485,24	105x22	396,87	
Pg 48	16h.	1	59,3	58,00	160x36x35,0	611,98	105x22	526,29	




NPSF  Rosca AMERICANA
Rosca Cilíndrica estanque Ref. MO **HSS** Ref. C5 **HSS** **DIN 223**



		Uds.	D1 mm		L1 x L2 x L3 mm	MO		C5	
						€	Ø x L3 mm	€	
NPSF 1/8-27 h.		1	10,05	8,75	63x18x5,5	151,72	38x10	264,30	
NPSF 1/4-18 h.		1	13,35	11,30	70x20x9,0	219,24	38x10	264,30	
NPSF 3/8-18 h.		1	16,78	14,70	70x20x9,0	303,25	45x14	336,22	
NPSF 1/2-14 h.		1	20,87	18,20	80x22x12,0	396,43	45x14	336,22	
NPSF 3/4-14 h.		1	26,23	23,50	90x22x16,0	603,18	55x16	726,76	

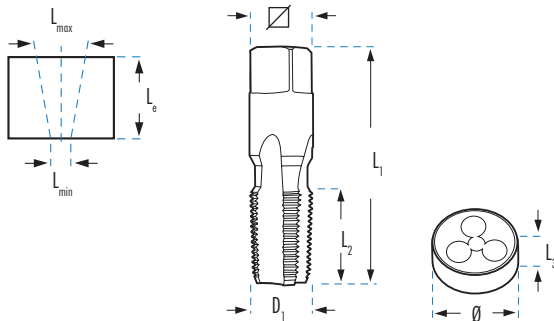
NPS (M)  Rosca AMERICANA
Rosca Cilíndrica não estanque Ref. MO **HSS** Ref. C5 **HSS** **DIN 223**







		Uds.	D1 mm		L1 x L2 x L3 mm	MO		C5	
						€	Ø x L3 mm	€	
NPS 1/8-27 h.		1	10,20	8,9	63x18x5,5	125,71	38x10	220,19	
NPS 1/4-18 h.		1	13,60	11,7	70x20x9,0	100,04	38x10	220,19	
NPS 3/8-18 h.		1	17,00	15,0	70x20x9,0	138,37	45x14	280,17	
NPS 1/2-14 h.		1	21,20	18,6	80x22x12,0	180,86	45x14	280,17	
NPS 3/4-14 h.		1	26,55	24,0	90x22x16,0	262,64	55x16	555,02	
NPS 1"-11,5 h.		1	33,20	30,0	100x25x20,0	367,24	65x18	559,34	

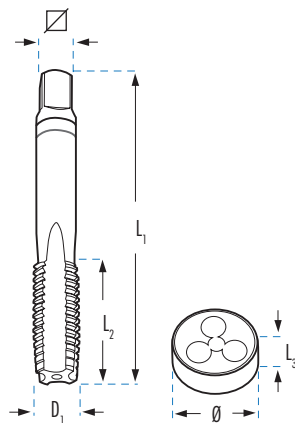
JOGOS DE MACHOS E CAÇONETES HSS PARA ROSCAGEM MANUAL





BSPT  Ref. MO **HSS** **DIN 5157** Ref. C5 **HSS** **DIN 223**

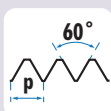


		Uds.	D1 mm		L min x L max mm	L _e mm	L1 x L2 x  mm	MO	C5
								€	Ø x L3 mm
BSPT 1/8-28 h.	1	9,73	8,30	8,00 x 8,50	10,1	65 x 19 x 5,5	34,25	30 x 11	102,09
BSPT 1/4-19 h.	1	13,16	11,00	10,70 x 11,35	15,0	70 x 25 x 9,0	48,26	38 x 14	102,09
BSPT 3/8-19 h.	1	16,66	14,50	14,15 x 14,25	15,4	70 x 25 x 9,0	67,01	45 x 16	132,96
BSPT 1/2-14 h.	1	20,95	18,10	17,60 x 18,50	20,5	80 x 31 x 12,0	93,83	55 x 22	132,96
BSPT 5/8-14 h.	1	22,91	20,00	19,50 x 20,40	22,4	80 x 36 x 14,5	164,55	55 x 19	277,45
BSPT 3/4-14 h.	1	26,44	23,50	23,00 x 24,00	21,8	85 x 33 x 16,0	153,11	55 x 22	251,09
BSPT 7/8-14 h.	1	30,20	27,25	26,65 x 28,75	24,0	100 x 36 x 18,0	290,16	65 x 22	362,48
BSPT 1"-11 h.	1	33,25	29,60	29,00 x 30,20	26,0	110 x 38 x 20,0	242,48	65 x 25	289,96

BA  Ref. MO **HSS** **DIN 352** Ref. C5 **HSS** **DIN 223**



		Uds.	D1 mm		L1 x L2 x  mm	MO	C5	
						€	Ø x L3 mm	€
BA-0	1,00	3	6,0	5,1	50 x 18 x 4,9	213,39	20 x 5	166,83
BA-1	0,90	3	5,3	4,5	50 x 18 x 4,9	213,39	20 x 5	166,83
BA-2	0,81	3	4,7	4,0	50 x 17 x 4,9	213,39	20 x 5	166,83
BA-3	0,73	3	4,1	3,4	45 x 14 x 3,4	229,31	20 x 5	166,83
BA-4	0,66	3	3,6	3,0	45 x 14 x 3,0	229,31	20 x 5	166,83
BA-5	0,59	3	3,2	2,6	45 x 14 x 3,0	273,99	20 x 5	166,83
BA-6	0,53	3	2,8	2,3	40 x 12 x 2,7	273,99	20 x 5	166,83
BA-7	0,48	3	2,5	2,0	40 x 10 x 2,1	301,23	20 x 5	166,83
BA-8	0,43	3	2,2	1,8	36 x 10 x 2,1	301,23	20 x 5	166,83

JOGOS DE MACHOS E CAÇONETES HSS PARA ROSCAGEM MANUAL
UNx8


Rosca AMERICANA

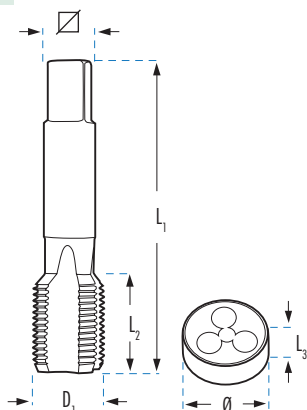
Ref. MO

HSS

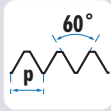
DIN
2181TOL
2B

Ref. C5

HSS

DIN
223TOL
2a

	Uds.	D1 mm	 Ø	L1 x L2 x mm	MO		C5	
					€	Ø x L3 mm	€	
UN 1"1/8-8h.	2	28,57	25,40	138x65x17,0	402,39	65x25	440,73	
UN 1"1/4-8h.	2	31,75	28,50	146x65x19,5	521,83	65x25	440,73	
UN 1"3/8-8h.	2	34,92	31,75	154x76x21,0	649,01	65x25	438,79	
UN 1"1/2-8h.	2	38,10	35,00	162x76x23,5	742,74	75x30	496,75	
UN 1"5/8-8h.	2	41,27	38,10	170x80x25,0	923,43	75x30	519,95	
UN 1"3/4-8h.	2	44,45	41,25	178x81x27,0	1.150,84	90x36	693,29	
UN 1"7/8-8h.	2	47,62	44,45	186x90x29,0	1.435,74	90x36	741,81	
UN 2"-8h.	2	50,80	47,63	194x90x31,5	1.364,97	90x36	751,06	
UN 2"1/4-8h.	2	57,15	54,00	208x90x36,0				
UN 2"1/2-8h.	2	63,50	60,35	220x100x36,0				
UN 2"3/4-8h.	2	69,85	66,70	234X104X39,0				
UN 3"-8h.	2	76,20	73,05	248x115x49,0				

UNEF


Rosca AMERICANA

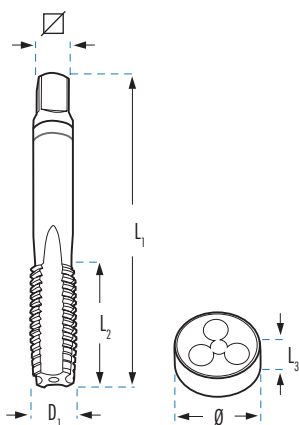
Ref. MO

HSS

DIN
2181TOL
2B

Ref. C5

HSS

DIN
223TOL
2a

	Uds.	D1 mm	 Ø	L1 x L2 x mm	MO		C5	
					€	Ø x L3 mm	€	
UNEF 1/4-32h.	2	6,35	5,55	65x28x4,9	108,15	20x7	109,81	
UNEF 5/16-32h.	2	7,94	7,15	70x30x6,0	120,83	25x9	109,81	
UNEF 3/8-32h.	2	9,52	8,70	75x33x7,0	138,28	30x11	170,51	
UNEF 7/16-28h.	2	11,11	10,20	81x38x6,0	176,02	30x11	170,51	
UNEF 1/2-28h.	2	12,70	11,80	86x44x7,0	198,89	38x10	170,51	
UNEF 9/16-24h.	2	14,29	13,20	92x44x8,0	162,59	38x10	170,51	
UNEF 5/8-24h.	2	15,87	14,80	93x47x9,0	167,47	45x14	273,30	
UNEF 3/4-20h.	2	19,05	17,80	108x52x11,0	184,31	45x14	273,30	
UNEF 7/8-20h.	2	22,22	20,95	120x58x13,0	279,71	55x16	325,10	
UNEF 1"-20h.	2	25,40	24,20	130x65x15,0	287,70	55x16	334,01	

JOGOS DE MACHOS E CAÇONETES PARA ROSCAGEM MANUAL APLICAÇÕES ESPECIAIS

1100
N/mm²

Ref. MOMD

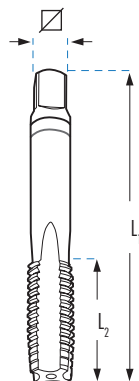
HSSCo
5%

DIN
352

OX



ESPECIAL MATERIAIS DUROS
(≤ 1100 N/mm²=40Hrc)



				MOMD	
	Uds.		L ₁ x L ₂ x mm	€	
M 3 x 0,50	3	2,50	40 x 11 x 2,7	39,47	
M 4 x 0,70	3	3,30	45 x 13 x 3,4	39,47	
M 5 x 0,80	3	4,20	50 x 17 x 4,9	40,75	
M 6 x 1,00	3	5,00	50 x 19 x 4,9	41,95	
M 8 x 1,25	3	6,80	56 x 20 x 4,9	47,70	
M 10 x 1,50	3	8,50	70 x 22 x 5,5	61,22	
M 12 x 1,75	3	10,20	75 x 24 x 7,0	87,66	
M 14 x 2,00	3	12,00	80 x 26 x 9,0	103,76	
M 16 x 2,00	3	14,00	80 x 27 x 9,0	137,87	
M 18 x 2,50	3	15,50	95 x 30 x 11,0	212,04	
M 20 x 2,50	3	17,50	95 x 32 x 12,0	235,41	

1400
N/mm²

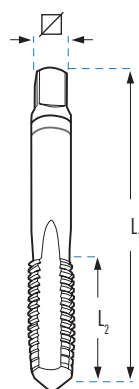
Ref. MOC

HSS
PM

TiAlSiN



ESPECIAL MATERIAIS MUITO DUROS
(≤ 1400 N/mm²=44Hrc)



				MOC	
	Uds.		L ₁ x L ₂ x mm	€	
M 3 x 0,50	3	2,50	40 x 11 x 2,7	85,89	
M 4 x 0,70	3	3,30	45 x 13 x 3,4	92,67	
M 5 x 0,80	3	4,20	50 x 17 x 4,9	93,83	
M 6 x 1,00	3	5,00	50 x 19 x 4,9	93,83	
M 8 x 1,25	3	6,80	56 x 20 x 4,9	105,76	
M 10 x 1,50	3	8,50	70 x 22 x 5,5	130,73	
M 12 x 1,75	3	10,20	75 x 24 x 7,0	158,91	
M 14 x 2,00	3	12,00	80 x 26 x 9,0	190,66	
M 16 x 2,00	3	14,00	80 x 27 x 9,0	233,64	
M 18 x 2,50	3	15,50	95 x 30 x 11,0	323,93	
M 20 x 2,50	3	17,50	95 x 32 x 12,0	356,52	

Al

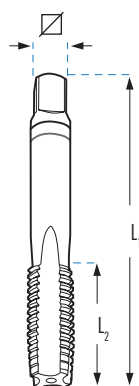
Ref. MOAL

HSS

BRILHANTE



ESPECIAL ALUMÍNIO



				MOAL	
	Uds.		L ₁ x L ₂ x mm	€	
M 3 x 0,50	3	2,50	40 x 11 x 2,7	30,74	
M 4 x 0,70	3	3,30	45 x 13 x 3,4	29,84	
M 5 x 0,80	3	4,20	50 x 17 x 4,9	31,62	
M 6 x 1,00	3	5,00	50 x 19 x 4,9	31,62	
M 8 x 1,25	3	6,80	56 x 20 x 4,9	38,81	
M 10 x 1,50	3	8,50	70 x 22 x 5,5	47,39	
M 12 x 1,75	3	10,20	75 x 24 x 7,0	66,72	
M 14 x 2,00	3	12,00	80 x 26 x 9,0	76,67	
M 16 x 2,00	3	14,00	80 x 27 x 9,0	108,83	
M 18 x 2,50	3	15,50	95 x 30 x 11,0	144,24	
M 20 x 2,50	3	17,50	95 x 32 x 12,0	162,61	

JOGOS DE MACHOS E CAÇONETES PARA ROSCAGEM MANUAL DE INOXIDÁVEL

M

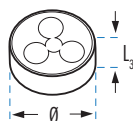
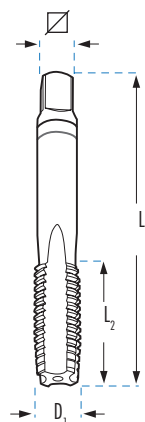
INOX

Ref. MOT
Ref. MOXDIN
352TOL
6H

TiN

Ref. CST
Ref. CSXDIN
223TOL
6g

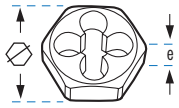
OX



		Uds.	L ₁ x L ₂ x ∇ mm	MOT	CST	MOX	CSX	Ø x L ₃ mm
				HSS	HSS	HSSCo	HSSCo	
				TiN	TiN	OX	OX	
				€	€	€	€	
M 3 x 0,50	3	40 x 11 x 2,70	44,01	64,71	40,59	35,15	20 x 5	
M 4 x 0,70	3	45 x 13 x 3,40	46,24	64,71	40,59	35,15	20 x 5	
M 5 x 0,80	3	50 x 16 x 4,90	49,06	64,71	42,26	36,85	20 x 7	
M 6 x 1,00	3	50 x 19 x 4,90	49,06	64,71	42,13	37,37	20 x 7	
M 8 x 1,00	2	50 x 19 x 4,90	43,13					
M 8 x 1,25	3	56 x 22 x 4,90	56,58	66,34	49,03	40,53	25 x 9	
M 10 x 1,00	2	63 x 18 x 5,50	49,76					
M 10 x 1,50	3	70 x 24 x 5,50	75,35	87,10	63,08	51,43	30 x 11	
M 12 x 1,50	2	70 x 20 x 7,00	63,36					
M 12 x 1,75	3	75 x 29 x 7,00	87,43	96,57	90,33	54,33	38 x 14	
M 14 x 1,50	2	70 x 20 x 9,00	76,08					
M 14 x 2,00	3	80 x 30 x 9,00	105,73	96,57	100,03	54,33	38 x 14	
M 16 x 2,00	3	80 x 32 x 9,00	132,78	119,01	137,09	72,94	45 x 18	
M 18 x 2,50	3	95 x 40 x 11,00	164,59		187,23			
M 20 x 2,50	3	95 x 40 x 12,00	170,68		207,82			
M 22 x 2,50	3	100 x 40 x 14,50	215,91					
M 24 x 3,00	3	110 x 50 x 14,50	260,17					

M

CAÇONETES SEXTAVADOS HSS PARA ROSCAGEM MANUAL



M HSS DIN 382

		C5HM	
			€
M 3 x 0,35	18 x 5		41,87
M 3 x 0,50	19 x 5		41,87
M 3,5 x 0,60	18 x 5		41,87
M 4 x 0,50	18 x 5		41,87
M 4 x 0,70	19 x 5		41,87
M 5 x 0,50	18 x 5		41,87
M 5 x 0,75	18 x 5		41,87
M 5 x 0,80	19 x 7		41,87
M 6 x 0,75	18 x 7		41,87
M 6 x 1,00	19 x 7		41,87
M 7 x 0,75	21 x 9		44,51
M 7 x 1,00	21 x 9		44,51
M 8 x 0,75	21 x 9		44,51
M 8 x 1,00	21 x 9		44,51
M 8 x 1,25	22 x 9		44,51
M 9 x 0,75	21 x 9		52,39
M 9 x 1,00	21 x 9		52,39
M 9 x 1,25	22 x 9		52,39
M 10 x 1,00	27 x 11		52,39
M 10 x 1,25	27 x 11		52,39
M 10 x 1,50	27 x 11		52,39
M 11 x 1,00	27 x 11		87,29
M 11 x 1,50	27 x 11		87,29
M 12 x 1,25	36 x 10		87,29
M 12 x 1,50	36 x 10		87,29
M 12 x 1,75	36 x 10		73,34
M 14 x 1,25	36 x 14		99,19
M 14 x 1,50	36 x 10		99,19
M 14 x 2,00	36 x 10		73,34
M 15 x 1,00	36 x 14		115,05
M 15 x 1,50	41 x 14		115,05
M 16 x 1,00	41 x 14		115,05
M 16 x 1,50	41 x 14		115,05

		C5HM	
			€
M 16 x 2,00	41 x 18		115,05
M 18 x 1,00	41 x 14		115,05
M 18 x 1,50	41 x 14		115,05
M 18 x 2,50	41 x 18		115,05
M 20 x 1,00	41 x 14		115,05
M 20 x 1,50	41 x 14		115,05
M 20 x 2,00	41 x 18		115,05
M 20 x 2,50	41 x 18		115,05
M 22 x 1,00	50 x 16		145,47
M 22 x 1,50	50 x 16		145,47
M 22 x 2,00	50 x 16		145,47
M 22 x 2,50	50 x 16		145,47
M 24 x 1,00	50 x 16		177,17
M 24 x 1,50	50 x 16		177,17
M 24 x 2,00	50 x 16		177,17
M 24 x 3,00	50 x 22		145,47
M 27 x 1,50	60 x 18		196,69
M 27 x 2,00	60 x 18		196,69
M 27 x 3,00	60 x 25		163,90
M 30 x 1,00	60 x 18		196,69
M 30 x 1,50	60 x 18		196,69
M 30 x 2,00	60 x 18		196,69
M 30 x 3,00	60 x 18		196,69
M 30 x 3,50	60 x 25		163,90
M 33 x 1,50	60 x 18		220,23
M 33 x 2,00	60 x 18		220,23
M 33 x 3,50	60 x 25		183,54
M 35 x 1,50	60 x 18		227,04
M 36 x 1,50	60 x 18		227,04
M 36 x 2,00	60 x 18		227,04
M 36 x 3,00	60 x 18		227,04
M 36 x 4,00	60 x 25		189,20

BSP (GAS) HSS DIN 382

		C5HG	
			€
G 1/8 x 28h.	27 x 11		92,20
G 1/4 x 19h.	36 x 10		92,20
G 3/8 x 19h.	41 x 14		115,30
G 1/2 x 14h.	41 x 14		115,30
G 5/8 x 14h.	50 x 16		271,47
G 3/4 x 14h.	50 x 16		271,47
G 7/8 x 14h.	60 x 18		273,88
G 1" x 11h.	60 x 18		273,88
G1.1/4 x 11h.	70 x 20		365,18
G1.1/2 x 11h.	85 x 22		616,07
G 2" x 11h.	100 x 22		927,05

UNC HSS DIN 382

		C5HNC	
			€
UNC 1/4-20h	18 x 7		38,18
UNC 5/16-18h	21 x 9		47,51
UNC 3/8-16h	27 x 11		57,35
UNC 7/16-14h	27 x 11		84,64
UNC 1/2-13h	36 x 14		84,95
UNC 9/16-12h	36 x 14		101,52
UNC 5/8-11h	41 x 18		78,65
UNC 3/4-10h	41 x 18		125,11
UNC 7/8-9h	50 x 22		177,55
UNC 1"-8h	50 x 22		177,55
UNC 1.1/8-7h	60 x 25		234,75
UNC 1.1/4-7h	60 x 25		234,75

UNF HSS DIN 382

		C5HNF	
			€
UNF 1/4-28h.	18 x 7		40,47
UNF 5/16-24h.	21 x 9		50,60
UNF 3/8-24h.	27 x 11		60,88
UNF 7/16-20h.	27 x 11		89,70
UNF 1/2-20h.	36 x 10		91,08
UNF 9/16-18h.	36 x 10		101,52
UNF 5/8-18h.	41 x 14		126,65
UNF 3/4-16h.	41 x 14		132,63
UNF 7/8-14h.	50 x 16		167,75
UNF 1"-12h.	50 x 16		175,84
UNS 1"-14h.	50 x 16		175,84
UNF 1.1/8-12h.	60 x 18		234,75
UNF 1.1/4-12h.	60 x 18		234,75

BSW HSS DIN 382

		C5HW	
			€
BSW 1/8 x 40h.	19 x 5		52,39
BSW 3/16 x 24h.	19 x 7		52,39
BSW 1/4 x 20h.	19 x 7		52,39
BSW 5/16 x 18h.	22 x 9		54,99
BSW 3/8 x 16h.	27 x 11		65,47
BSW 7/16 x 14h.	27 x 11		65,47
BSW 1/2 x 12h.	36 x 14		78,59

		C5HW	
			€
BSW 9/16 x 12h.	36 x 14		78,59
BSW 5/8 x 11h.	41 x 18		116,13
BSW 3/4 x 10h.	41 x 18		116,13
BSW 7/8 x 9h.	50 x 22		170,21
BSW 1" x 8h.	50 x 22		170,21
BSW 1.1/8 x 7h.	60 x 25		293,37

JOGOS DE MACHOS E CAÇONETES HSS PARA ROSCAGEM MANUAL, ROSCA ESQUERDA**M**
MF

Ref. MOI

HSS

(M)

DIN
352

(MF)

DIN
2181**TOL**
6H

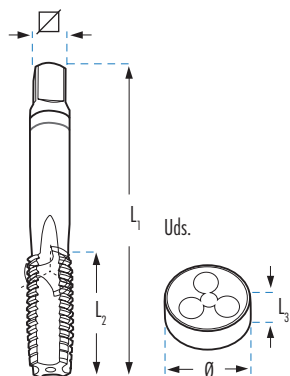
Ref. CSI



HSS**DIN**
223**TOL**
6g

Para materiais até 38HRc





ESQUERDA



**UNC**

	Uds.	D1 mm		L1 x L2 x mm	MOI		CSI	
					€	Ø x L3 mm	€	
UNC 1/4-20h.	3	6,35	5,10	50x19x4,9	99,75	20x7	85,37	
UNC 5/16-18h.	3	7,94	6,60	56x22x4,9	113,24	25x9	87,59	
UNC 3/8-16h.	3	9,52	8,00	70x24x5,5	128,83	30x11	121,79	
UNC 1/2-13h.	3	12,70	10,75	75x29x7,0	193,02	38x14	125,19	
UNC 5/8-11h.	3	15,87	13,50	80x32x9,0	314,27	45x18	177,59	
UNC 3/4-10h.	3	19,05	16,50	95x40x11,0	428,21	45x18	177,59	
UNC 1"-8h.	3	25,40	22,25	110x50x14,5	711,81	55x22	238,38	



UNF

	Uds.	D1 mm		L1 x L2 x mm	MOI		CSI	
					€	Ø x L3 mm	€	
UNF 1/4-28h.	2	6,35	5,50	50x14x4,9	66,21	25x9	79,97	
UNF 5/16-24h.	2	7,94	6,90	56x22x4,9	70,88	25x9	89,26	
UNF 3/8-24h.	2	9,52	8,50	63x20x5,5	81,84	38x10	121,79	
UNF 1/2-20h.	2	12,70	11,50	70x22x7,0	111,12	38x10	130,17	
UNF 5/8-18h.	2	15,87	14,50	70x22x9,0	187,05	45x14	177,59	
UNF 3/4-16h.	2	19,05	17,50	80x22x11,0	251,24	45x14	177,59	
UNS 1"-14h.	2	25,40	23,60	90x22x14,5	474,27	55x16	259,02	

**BSP
(GAS)**

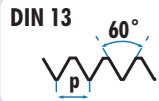
	Uds.	D1 mm		L1 x L2 x mm	MOI		CSI	
					€	Ø x L3 mm	€	
G 1/8-28h.	2	9,73	8,80	63 x 20 x 5,5	74,02	38x10	108,89	
G 1/4-19h.	2	13,16	11,80	70 x 22 x 9,0	104,32	38x10	108,31	
G 3/8-19h.	2	16,66	15,25	70 x 22 x 9,0	130,95	45x14	143,46	
G 1/2-14h.	2	20,95	19,00	80 x 22 x 12,0	183,67	45x14	143,46	
G 5/8-14h.	2	22,91	21,00	80 x 22 x 14,5	235,00	55x16	199,02	
G 3/4-14h.	2	26,44	24,50	90 x 22 x 16,0	286,69	55x16	259,07	
G 1"-11h.	2	33,25	30,75	100 x 25 x 20,0	454,50	65x18	311,39	
G 1.1/4-11h.	2	41,91	39,50	125 x 40 x 24,0	790,40	75x20	431,41	

BSW

	Uds.	D1 mm		L1 x L2 x mm	MOI		CSI	
					€	Ø x L3 mm	€	
W 1/8-40h.	3	3,17	2,55	40x14x2,7	65,67	25x9	68,54	
W 1/4-20h.	3	6,35	5,10	50x20x4,9	73,97	25x9	69,92	
W 5/16-18h.	3	7,94	6,50	56x20x4,9	90,35	25x9	72,92	
W 3/8-16h.	3	9,52	7,90	63x22x5,5	99,27	38x10	105,53	
W 5/8-11h.	3	15,87	13,40	80x27x9,0	223,72	45x18	150,61	
W 3/4-10h.	3	19,05	16,50	95x32x11,0	318,48	45x18	150,83	
W 7/8-9h.	3	22,22	19,25	100x32x14,5	434,95	55x22	221,78	
W 1"-8h.	3	25,40	21,75	110x36x14,5	533,03	55x22	223,80	

MACHO Nº3 PARA ROSCAR A MÃO, ROSCA METRICA, ESQUERDA E DIREITA

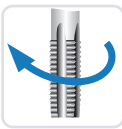
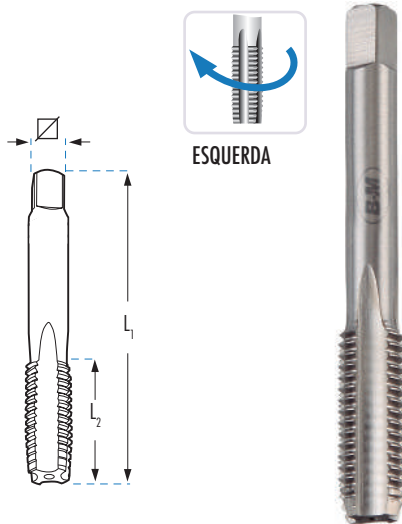
**M
MF**



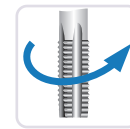
HSS

**DIN
352**

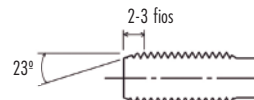
**TOL
6H**



ESQUERDA

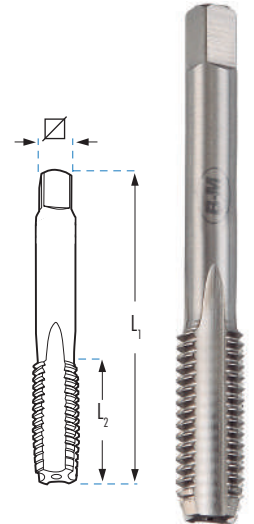


DIREITA



Ref. M03: Cone de entrada 2-3 fios

**D
CABO
FINO**
**DIN
352**



			M031
		L1 x L2 x D2 x √ mm	€
M 3x0,50	2,50	D 40 x 11 x 3,50 x 2,70	15,16
M 4x0,70	3,30	D 45 x 13 x 4,50 x 3,40	15,15
M 5x0,80	4,20	D 50 x 16 x 6,00 x 4,90	16,19
M 6x1,00	5,00	D 50 x 19 x 6,00 x 4,90	16,19
M 7x1,00	6,00	D 50 x 19 x 6,00 x 4,90	19,73
M 8x1,25	6,75	D 56 x 22 x 6,00 x 4,90	19,71
M 10x1,50	8,50	D 70 x 24 x 7,00 x 5,50	24,30
M 12x1,75	10,20	D 75 x 29 x 9,00 x 7,00	34,19
M 14x2,00	12,00	D 80 x 30 x 11,00 x 9,00	37,82
M 16x2,00	14,00	D 80 x 32 x 12,00 x 9,00	54,12
M 18x2,50	15,50	D 95 x 40 x 14,00 x 11,00	71,42
M 20x2,50	17,50	D 95 x 40 x 16,00 x 12,00	80,12

Consulte outras medidas disponíveis sob demanda.

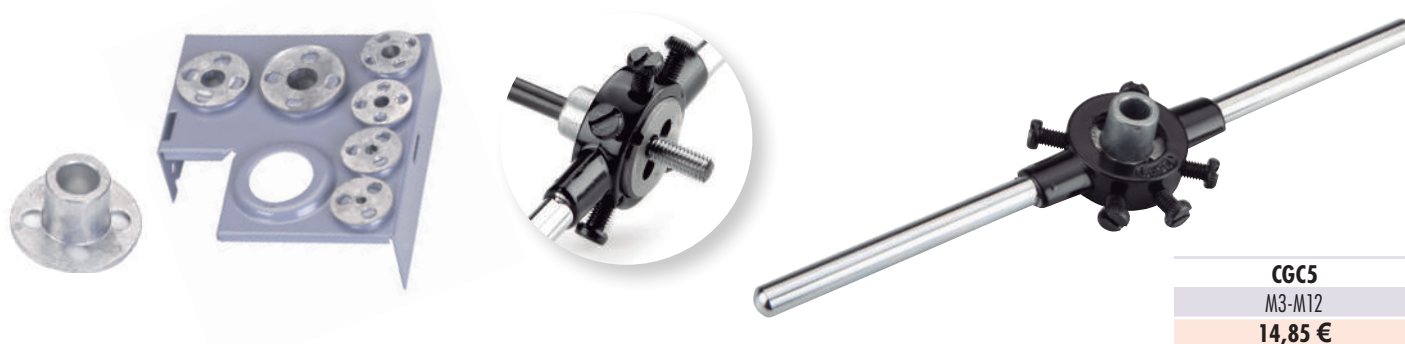
			M03
		L1 x L2 x D2 x √ mm	€
M 3x0,50	2,50	D 40 x 11 x 3,50 x 2,70	7,58
M 4x0,70	3,30	D 45 x 13 x 4,50 x 3,40	7,57
M 5x0,80	4,20	D 50 x 16 x 6,00 x 4,90	8,10
M 6x1,00	5,00	D 50 x 19 x 6,00 x 4,90	8,10
M 7x1,00	6,00	D 50 x 19 x 6,00 x 4,90	9,86
M 8x1,00	7,00	D 56 x 18 x 6,00 x 4,90	13,65
M 8x1,25	6,75	D 56 x 22 x 6,00 x 4,90	9,85
M 9x1,25	7,75	D 63 x 18 x 7,00 x 5,50	16,14
M 10x1,00	9,00	D 63 x 18 x 7,00 x 5,50	14,62
M 10x1,25	8,80	D 70 x 24 x 7,00 x 5,50	14,82
M 10x1,50	8,50	D 70 x 24 x 7,00 x 5,50	12,15
M 12x1,00	11,00	D 70 x 20 x 9,00 x 7,00	25,91
M 12x1,25	10,75	D 70 x 20 x 9,00 x 7,00	25,84
M 12x1,50	10,50	D 70 x 20 x 9,00 x 7,00	22,02
M 12x1,75	10,20	D 75 x 29 x 9,00 x 7,00	17,09
M 14x1,00	13,00	D 70 x 20 x 11,00 x 9,00	40,39
M 14x1,25	12,80	D 70 x 20 x 11,00 x 9,00	31,55
M 14x1,50	12,50	D 70 x 20 x 11,00 x 9,00	24,53
M 14x2,00	12,00	D 80 x 30 x 11,00 x 9,00	18,91
M 16x1,00	15,00	D 70 x 20 x 12,00 x 9,00	53,58
M 16x1,25	14,75	D 70 x 20 x 12,00 x 9,00	56,40
M 16x1,50	14,50	D 70 x 20 x 12,00 x 9,00	30,53
M 16x2,00	14,00	D 80 x 32 x 12,00 x 9,00	27,06
M 18x1,50	16,50	D 80 x 22 x 14,00 x 11,00	40,22
M 18x2,50	15,50	D 95 x 40 x 14,00 x 11,00	35,71
M 20x1,50	18,50	D 80 x 22 x 16,00 x 12,00	50,37
M 20x2,50	17,50	D 95 x 40 x 16,00 x 12,00	40,06
M 22x2,50	19,50	D 100 x 40 x 18,00 x 14,50	53,36
M 24x3,00	21,00	D 110 x 50 x 18,00 x 14,50	63,65
M 27x3,00	24,00	D 110 x 50 x 20,00 x 16,00	80,48
M 30x3,50	26,50	D 125 x 50 x 22,00 x 18,00	103,55

CONTA-FIOS PARA COMPROVAÇÃO DE PASSOS DE ROSCAS



	TIPOS DE ROSCA	FAIXA DE PASSOS		GAM	
		Métricos	Ingleses	€	
				GAM	Passos rosca métrica
GAMW	Passos rosca métrica / rosca Inglesa	0,25 - 6,0	62h - 4h		22,23

CONJUNTO DE GUIAS PARA CAÇONETES M3-M12

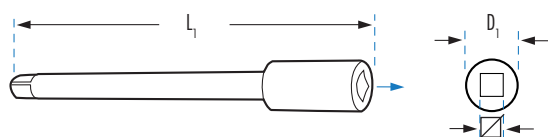


CGC5
M3-M12
14,85 €

EXTENSÃO DE MACHOS

DIN
377

DIN 10



Mesma medida do quadrado nas zonas macho e fêmea.

	∅ x L1 mm	D1 mm	AL €
AL21	2,1 x 60	6,0	8,89
AL24	2,4 x 70	6,0	8,89
AL27	2,7 x 80	7,0	8,89
AL30	3,0 x 90	7,0	8,89
AL34	3,4 x 95	8,0	9,64
AL38	3,8 x 95	9,0	10,06
AL43	4,3 x 105	10,0	11,21
AL49	4,9 x 110	11,0	11,22
AL55	5,5 x 115	12,0	11,29
AL62	6,2 x 120	14,0	13,75
AL70	7,0 x 125	15,0	14,33
AL80	8,0 x 125	17,0	17,89
AL90	9,0 x 135	19,0	18,38

	∅ x L1 mm	D1 mm	AL €
AL100	10,0 x 140	21,0	25,39
AL110	11,0 x 150	23,0	25,74
AL120	12,0 x 160	25,0	27,72
AL130	13,0 x 165	27,0	43,36
AL145	14,5 x 175	29,0	43,97
AL160	16,0 x 185	30,0	46,53
AL180	18,0 x 195	33,0	53,01
AL200	20,0 x 220	36,0	70,71
AL220	22,0 x 220	40,0	103,34
AL240	24,0 x 235	42,0	158,27
AL260	26,0 x 245	45,0	167,12
AL290	29,0 x 260	55,0	192,82
AL320	32,0 x 280	55,0	237,36

DESANDADORES DE AÇO FORJADO

Máxima Resistência
150 kg/mm²

Ref. GAPRO

- Corpo de aço forjado
- Suporta esforços até 150 kg/mm²
- Máxima resistência e durabilidade

- Maior precisão e firmeza na amarração
- A sua rosca de precisão forma um conjunto sólido e robusto
- Cabo antidesslizante, maior aderência na oficina



GAPRO

Nº NORMA	Nº 0	Nº 1	Nº 1.1/2	Nº 2	Nº 3	Nº 4	Nº 5
	M1-M8 2,00-5,00	M1-M10 2,00-6,30	M1-M12 2,50-7,00	M1-M12 2,50-8,00	M5-M20 4,00-13,00	M5-M27 4,00-16,00	M9-M32 5,50-20,00
€	22,05	23,30	24,76	31,29	44,28	70,80	149,85

Ref. GA

- Corpo de liga de zinco
- Alta resistência e durabilidade
- Alta precisão e firmeza na amarração



GA

Nº NORMA	Nº 0	Nº 1	Nº 1.1/2	Nº 2	Nº 3	Nº 4	Nº 5	Nº 7	Nº 8
	M1-M8 1,50-5,00	M1-M10 2,00-7,00	M1-M12 2,00-8,00	M4-M12 2,50-10,00	M5-M20 3,50-14,00	M9-M27 4,00-15,00	M13-M32 5,50-19,00	M22-M52 14,00-34,00	M33-M64 16,00-40,00
€	18,53	19,59	20,81	26,29	37,20	59,50	125,93	248,77	406,43

DESANDADORES DE CAÇONETES PARA ROSCAGEM

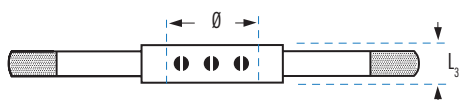
Ref. VA

DIN
225



5

IMPORTANTE: no momento de fazer as suas encomendas de desandadores, indique a espessura que corresponda, conforme ao detalhe de espessuras indicadas na tabela de caçonetes.



VA

Ø x L3 mm	16x5	20x5	20x7	25x9	30x11	38x10	38x14	45x14	45x18	55x16	55x22	65x18	65x25
€	10,29	11,39	11,39	13,00	15,75	20,59	20,56	25,28	25,46	32,67	34,22	46,81	46,81
Ø x L3 mm	75x20	75x30	90x22	90x36	105x22	105x36	120x22	120x36	130x25	130x36			
€	106,31	111,28	134,66	145,08	200,35	200,35	521,07	521,07	541,71	541,71			

Ref. VA

POLEGADAS



3



VA

Ø mm	20,60	25,40	38,10	50,80	63,50	76,20	88,90
POLEGADAS	13/16"	1"	1.1/2"	2"	2.1/2"	3"	3.1/2"
€	13,54	16,06	24,04	35,65	56,26	104,04	131,79

NOTA: os desandadores para caçonetes com Ø exteriores em polegadas estão em desuso.

DESANDADOR EM T COM ROQUETE

Ref. TC

TIPO
T


SERIE CURTA



	CAPACIDADE mm mín.-máx.	Para cabos de machos		L1 mm	PESO g	QUALIDADE	TC
		DIN	ISO				€
TC3B	2,6 - 5,5	M3 - 8	M3 - 6	85	180	1ª Qualidade	30,26
TC4B	4,6 - 8,0	M5 - 12	M6 - 12	110	300	1ª Qualidade	40,89
TC1B	2,6 - 5,5	M3 - 8	M3 - 6	85	180	2ª Qualidade	22,92
TC2B	4,6 - 8,0	M5 - 12	M6 - 12	110	300	2ª Qualidade	30,74

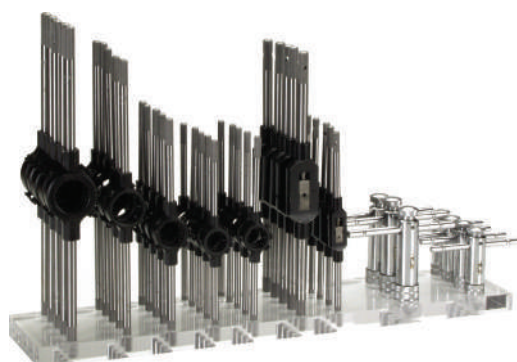
Ref. TL

TIPO
T

SERIE LONGA



	CAPACIDADE mm mín.-máx.	Para cabos de machos		L1 mm	PESO g	QUALIDADE	TL
		DIN	ISO				€
TL3	2,6 - 5,5	M3 - 8	M3 - 6	250	250	1ª Qualidade	46,03
TL4	4,6 - 8,0	M5 - 12	M6 - 12	300	440	1ª Qualidade	54,80
TL1	2,6 - 5,5	M3 - 10	M3 - 6	250	250	2ª Qualidade	36,35
TL2	4,6 - 8,0	M5 - 12	M6 - 12	300	440	2ª Qualidade	43,31

EXPOSITOR DE METACRILATO


Dimensões: 500 x 320 x 110 mm

				GV-01	€
GV-01	Nº 1 1/2 5	Nº 2 5	20 x 5 20 x 7 25 x 9 5 5 5 30 x 11 38 x 14 5 5	TC1 TC2 4 4	797,07

CONJUNTOS DE MACHOS E CAÇONETES HSS EM CAIXA METÁLICA

**M3
M12**

HSS



Ref. D624

CONTEÚDO

					Nº Peças	1ª Qualidade €	2ª Qualidade €
D624	M3 - M4 - M5 - M6 - M8 - M10 - M12	Nº 1.1/2	25 x 9	-	30	258,27	234,29

CONJUNTOS DE CAÇONETES HSS EM CAIXA METÁLICA

**M3
M12**

HSS

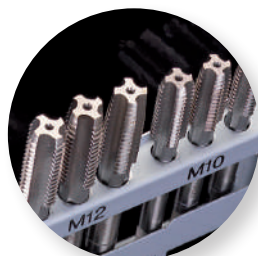


Ref. D671

CONTEÚDO

			Nº Peças	1ª Qualidade €	2ª Qualidade €
D671	M3 - M4 - M5 - M6 - M8 - M10 - M12	20 x 5 20 x 7 30 x 11 38 x 14 25 x 9	12	254,76	215,79
D6711 (esq.)	M3 - M4 - M5 - M6 - M8 - M10 - M12	20 x 5 30 x 11	12	458,57	388,41

CONJUNTOS DE MACHOS E CAÇONETES HSS E HSSCo EM CAIXA METÁLICA
**M3
M12**

HSS
**HSSCo
5%**


Ref. D621



Ref. D655

CONTEÚDO

							Nº Pecas	1ª Qualidade €	2ª Qualidade €
D621	M3 - M4 - M5 - M6 M8 - M10 - M12	2.5 / 3.3 / 4.2 / 5.0 6.8 / 8.5 / 10.2 mm	Nº 1 Nº 2	20 x 5 20 x 7 25 x 9 30 x 11 38 x 14		TC1	43	517,87	379,58
D652	M3 - M4 - M5 - M6 M8 - M10 - M12	2.5 / 3.3 / 4.2 / 5.0 6.8 / 8.5 / 10.2 mm	Nº 1 Nº 2	20 x 5 20 x 7 25 x 9 30 x 11 38 x 14		-	42	501,29	360,46
D662	M3-M4-M5-M6-M7 M8-M9-M10-M11-M12		Nº 1 Nº 2	20 x 5 20 x 7 25 x 9 30 x 11 38 x 14		TC1	48	771,48	678,57
D651	M3 - M4 - M5 - M6 M8 - M10 - M12		Nº 1 Nº 2	20 x 5 20 x 7 25 x 9 30 x 11 38 x 14		-	35	395,65	363,99
D655* (HSSCo)	M3 - M4 - M5 - M6 M8 - M10 - M12	2.5 / 3.3 / 4.2 / 5.0 6.8 / 8.5 / 10.2 mm	Nº 1 Nº 2	20 x 5 20 x 7 25 x 9 30 x 11 38 x 14		TC1	43	826,14	726,70
D6211 (esq.)	M3 - M4 - M5 - M6 M8 - M10 - M12	2.5 / 3.3 / 4.2 / 5.0 6.8 / 8.5 / 10.2 mm	Nº 1 Nº 2	20 x 5 20 x 7 25 x 9 30 x 11 38 x 14		TC1	43	932,17	683,24

*

**HSSCo
5%**

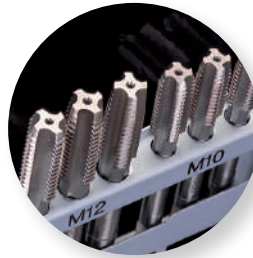

CONJUNTOS DE MACHOS E CAÇONETES HSS E HSSCo EM CAIXA METÁLICA COM GUIAS PARA CAÇONETES

**M3
M12**



HSS

**HSSCo
5%**



Ref. D656



GUIAS



Ref. D657



GUIAS

CONTEÚDO

						Nº Peças	1ª Qualidade €	2ª Qualidade €
D656	M3 - M4 - M5 - M6 M8 - M10 - M12	2.5 / 3.3 / 4.2 / 5.0 6.8 / 8.5 / 10.2 mm	Nº 1 Nº 2	20 x 5 20 x 7 25 x 9 30 x 11 38 x 14	TC1	43	578,71	512,29
D657* (HSSCo)	M3 - M4 - M5 - M6 M8 - M10 - M12	2.5 / 3.3 / 4.2 / 5.0 6.8 / 8.5 / 10.2 mm	Nº 1 Nº 2	20 x 5 20 x 7 25 x 9 30 x 11 38 x 14	TC1	43	861,50	760,39

*

**HSSCo
5%**



CONJUNTOS DE MACHOS E CAÇONETES HSS E HSSCo EM CAIXA METÁLICA
**M3
M20**
**M5
M20**
HSS
**HSSCo
5%**


Ref. D622



Ref. D623

CONTEÚDO

					Nº Peças	1ª Qualidade €	2ª Qualidade €
D622	M3 - M4 - M5 - M6 - M8 - M10 - M12 M14 - M16 - M18 - M20	Nº 1 Nº 3	20 x 5 20 x 7 25 x 9 30 x 11 38 x 14 45 x 18	TC1 TC2	54	885,75	695,91
D658	M3 - M4 - M5 - M6 - M8 - M10 - M12 M14 - M16 - M18 - M20	Nº 1 Nº 3	20 x 5 20 x 7 25 x 9 30 x 11 38 x 14 45 x 18	-	52	815,98	629,61
D6221 (esq.)	M3 - M4 - M5 - M6 - M8 - M10 - M12 M14 - M16 - M18 - M20	Nº 1 Nº 3	20 x 5 20 x 7 25 x 9 30 x 11 38 x 14 45 x 18	TC1 TC2	54	1594,35	1.252,64
D659* (HSSCo)	M3 - M4 - M5 - M6 - M8 - M10 - M12 M14 - M16 - M18 - M20	Nº 1 Nº 3	20 x 5 20 x 7 25 x 9 30 x 11 38 x 14 45 x 18	-	52	1839,88	1.618,36
D623	M5 - M6 - M8 - M10 - M12 M14 - M16 - M18 - M20	Nº 1 Nº 3	20 x 7 25 x 9 30 x 11 38 x 14 45 x 18	TC1 TC2	45	928,65	727,04
D663	M5 - M6 - M7 - M8 - M9 - M10 - M12 M14 - M16 - M18 - M20	Nº 1 Nº 3	20 x 7 25 x 9 30 x 11 38 x 14 45 x 18	-	51	1.238,09	1.113,64

*

**HSSCo
5%**


CONJUNTOS DE MACHOS E CAÇONETES HSS EM CAIXA METÁLICA

M1 M10
M5 M12
M3 M24
M5 M30
HSS



Ref. D628



Ref. D626

CONTEÚDO

						Nº Peças	1ª Qualidade €	2ª Qualidade €
D626	M1 - M1.2 - M1.4 - M1.7 - M2.0 - M2.3 M2.6 - M3 - M3.5 - M4 - M5 - M6 - M8 - M10	Nº 0 Nº 1	16 x 5 25 x 9	20 x 5 30 x 11	20 x 7	TC1 64	-	1.158,45
D627	M5 - M6 - M7 - M8 - M9 - M10 - M11 - M12	Nº 1 Nº 2	20 x 7 30 x 11	25 x 9 38 x 14		TC1 39	-	865,42
D625	M3 - M4 - M5 - M6 - M8 - M10 - M12 - M14 M16 - M18 - M20 - M22 - M24	Nº 1 Nº 4	20 x 5 30 x 11	20 x 7 38 x 14 25 x 9 45 x 18 55 x 22		- 61	2.044,04	1.508,17
D628	M5 - M6 - M8 - M10 - M12 - M14 - M16 M18 - M20 - M22 - M24 - M27 - M30	Nº 1 Nº 3 Nº 5	20 x 7 38 x 14	25 x 9 45 x 18 30 x 11 55 x 22 65 x 25		- 62	-	2.760,51





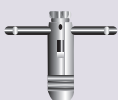
CONJUNTOS DE MACHOS E CAÇONETES HSS EM CAIXA METÁLICA
MF
HSS


Ref. D634



Ref. D636

CONTEÚDO

						Nº Peças	1ª Qualidade €	2ª Qualidade €
D634	MF 3 x 0.35 - 4 x 0.5 - 5 x 0.5 MF 6 x 0.75 - 8 x 0.75 - 8 x 1.0 MF 10 x 1.0 - 12 x 1.5		Nº 1 Nº 2	20 x 5 25 x 9 30 x 11 38 x 10	TCl	31	-	794,00
D635	MF 6 x 0.75 - 8 x 0.75 - 8 x 1.0 - 10 x 1.0 MF 12 x 1.0 - 12 x 1.5 - 14 x 1.25 - 14 x 1.5 MF 16 x 1.5 - 18 x 1.5 - 20 x 1.5		Nº 1 Nº 3	20 x 7 25 x 9 30 x 11 38 x 10 45 x 14	-	40	1.295,17	1.231,61
D636	MF 6 x 0.75 - 8 x 0.75 - 8 x 1.0 - 10 x 1.0 MF 12 x 1.0 - 12 x 1.5 - 14 x 1.25 - 14 x 1.5 MF 16 x 1.5 - 18 x 1.5 - 20 x 1.5 - 22 x 1.5 MF 24 x 1.5		Nº 1 Nº 4	20 x 7 25 x 9 30 x 11 38 x 10 45 x 14 55 x 16	-	47	1.776,74	1.642,72

CONJUNTOS DE MACHOS E CAÇONETES HSS EM CAIXA METÁLICA




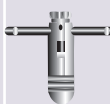
**BSP
(GAS)**

HSS



Ref. D638

CONTEÚDO

					Nº Peças	1ª Qualidade €	2ª Qualidade €
D637	6 1/8 - 1/4 - 3/8 - 1/2 - 3/4 - 1"	Nº 1 Nº 3 Nº 5	30 x 11 38 x 10 45 x 14 55 x 16 65 x 18	-	26	1.438,04	1.161,63
D638	6 1/8 - 1/4 - 3/8 - 1/2 - 5/8 - 3/4 - 7/8 - 1"	Nº 1 Nº 3 Nº 5	30 x 11 38 x 10 45 x 14 55 x 16 65 x 18	-	32	1.951,57	1.703,58
D639	6 1/4 - 3/8 - 1/2 - 3/4 - 1" - 1".1/4 - 1".1/2	Nº 2 Nº 4 Nº 7	38 x 10 45 x 14 55 x 16 65 x 18 75 x 20 90 x 22	-	30	3.600,32	3.037,02

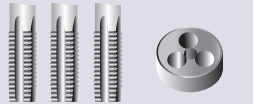


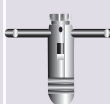
BSW

HSS



Ref. D640



CONTEÚDO

					Nº Peças	1ª Qualidade €	2ª Qualidade €
D640	BSW 1/8 - 3/16 - 1/4 - 5/16 - 3/8 - 7/16 - 1/2	Nº 1 Nº 2	20 x 5 20 x 7 25 x 9 30 x 11 38 x 14	TCl	36	802,23	685,78
D641	BSW 1/4 - 5/16 - 3/8 - 7/16 - 1/2	Nº 1 Nº 2	20 x 7 25 x 9 30 x 11 38 x 14	TCl	27	661,33	557,02
D642	BSW 1/4 - 5/16 - 3/8 - 7/16 - 1/2 - 5/8 - 3/4	Nº 1 Nº 3	20 x 7 25 x 9 30 x 11 38 x 14 45 x 18	-	35	1.183,54	1.079,93
D643	BSW 1/4 - 5/16 - 3/8 - 7/16 1/2 - 5/8 - 3/4 - 7/8 - 1"	Nº 1 Nº 4	20 x 7 25 x 9 30 x 11 38 x 14 45 x 18 55 x 22	-	44	1.673,80	1.469,54
D646	BSW 1/4 - 5/16 - 3/8 - 7/16 1/2 - 5/8 - 3/4 - 7/8 - 1" - 1".1/8 1".1/4 - 1".3/8 - 1".1/2	Nº 1 Nº 3 Nº 5	20 x 7 25 x 9 30 x 11 38 x 14 45 x 18 55 x 22 65 x 25	-	62	-	4.465,59

CONJUNTOS DE MACHOS E CAÇONETES HSS EM CAIXA METÁLICA
BSF
HSS


Ref. D648

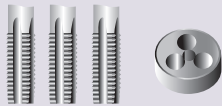



CONTEÚDO

					Nº Peças	1ª Qualidade €	2ª Qualidade €
D664	BSF 1/4 - 5/16 - 3/8 - 7/16 - 1/2	Nº 1 Nº 2	20 x 7 25 x 9 30 x 11 38 x 10	TCl	22	739,56	650,51
D648	BSF 1/4 - 5/16 - 3/8 - 7/16 - 1/2 - 5/8 - 3/4	Nº 1 Nº 3	20 x 7 25 x 9 30 x 11 38 x 10 45 x 14	-	28	1.148,09	1.079,93
D665	BSF 1/4 - 5/16 - 3/8 - 7/16 1/2 - 5/8 - 3/4 - 7/8 - 1"	Nº 1 Nº 4	20 x 7 25 x 9 30 x 11 38 x 10 45 x 14 55 x 16	-	35	1.948,12	1.713,55

**BSW
BSF**
HSS


Ref. D666






CONTEÚDO

					Nº Peças	1ª Qualidade €	2ª Qualidade €
D666	BSW 1/4 - 5/16 - 3/8 - 7/16 - 1/2 - 5/8 - 3/4 BSF 1/4 - 5/16 - 3/8 - 7/16 - 1/2 - 5/8 - 3/4	Nº 1 Nº 3	20 x 7 25 x 9 30 x 11 38 x 14 45 x 18	-	63	2.200,66	1.935,68

CONJUNTOS DE MACHOS E CAÇONETES HSS EM CAIXA METÁLICA

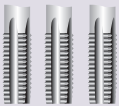






CONTEÚDO

						Nº Peças	1ª Qualidade €	2ª Qualidade €
D660	NPT 1/8 - 1/4 - 3/8 - 1/2 - 3/4 - 1"		Nº1 Nº3 Nº5	30 x 11 38 x 14 45 x 18 55 x 22 65 x 25	-	20	2.080,19	1.973,16
D661	NPT 1/8 - 1/4 - 3/8 - 1/2 - 3/4 1" - 1.1/4 - 1.1/2 - 2"		Nº 2 Nº 4 Nº 7	30 x 11 38 x 14 45 x 18 55 x 22 65 x 25 75 x 30 90 x 36 105 X 36	-	29	6.227,02	5.850,26



CONTEÚDO

						Nº Peças	1ª Qualidade €	2ª Qualidade €
D650	UNC 1/4 - 5/16 - 3/8 - 7/16 - 1/2		Nº 1 Nº 2	20 x 7 25 x 9 30 x 11 38 x 14	TCl	27	806,09	723,50
D667	UNC 1/4 - 5/16 - 3/8 - 7/16 - 1/2 - 5/8 - 3/4		Nº 1 Nº 2	20 x 7 25 x 9 30 x 11 38 x 14 45 x 18	-	35	1.298,75	1.142,36
D654	UNC 1/4 - 5/16 - 3/8 - 7/16 1/2 - 5/8 - 3/4 - 7/8 - 1"		Nº 1 Nº 4	20 x 7 25 x 9 30 x 11 38 x 14 45 x 18 55 x 22	-	44	2.095,65	1.961,26
D668	UNC 1/4 - 5/16 - 3/8 - 7/16 - 1/2 - 5/8 - 3/4 7/8 - 1" - 1.1/8 - 1.1/4 - 1.3/8 - 1.1/2"		Nº 1 Nº 3 Nº 6	20 x 7 25 x 9 30 x 11 38 x 14 45 x 18 55 x 22 65 x 25	-	62	4.906,35	4.315,59

CONJUNTOS DE MACHOS E CAÇONETES HSS EM CAIXA METÁLICA

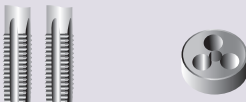


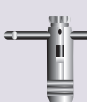
UNF

HSS



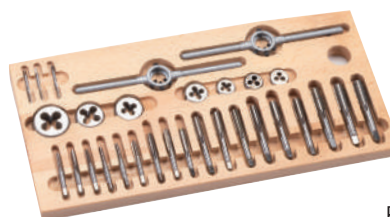
Ref. D644

CONTEÚDO

					Nº Peças	1ª Qualidade €	2ª Qualidade €
D644	UNF 1/4 - 5/16 - 3/8 - 7/16 - 1/2	Nº 1 Nº 2	20 x 7 25 x 9 30 x 11 38 x 10	TCT	22	631,65	547,58
D669	UNF 1/4-5/16 -3/8 -7/16 -1/2 -5/8 -3/4	Nº 1 Nº 3	20 x 7 25 x 9 30 x 11 38 x 10 45 x 14	-	28	1.190,50	1.047,16
D645	UNF 1/4 - 5/16 - 3/8 - 7/16 - 1/2 - 5/8 3/4 - 7/8 - 1"	Nº 1 Nº 4	20 x 7 25 x 9 30 x 11 38 x 10 45 x 14 55 x 16	-	34	1.459,80	1.323,60

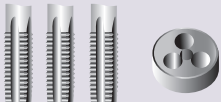



UNC
UNF

HSS



Ref. D670

CONTEÚDO

					Nº Peças	1ª Qualidade €	2ª Qualidade €
D670	UNC 1/4 - 5/16 - 3/8 - 7/16 - 1/2 - 5/8 - 3/4 UNF 1/4 - 5/16 - 3/8 - 7/16 - 1/2 - 5/8 - 3/4	Nº 1 Nº 3	20 x 7 25 x 9 30 x 11 38 x 14 45 x 18	-	35	2.200,66	1.935,68

JOGOS DE MACHOS MANUAIS HSS E TiN EM ESTOJOS METÁLICOS



Ref. JMBO



Ref. JMB2



Ref. JMBT2

CONTEÚDO

					HSS €		TiN* €
JMB2	M3 - M4 - M5 - M6 M8 - M10 - M12	-	-	-	204,49	JMBT2	406,02
JMBO	M3 - M4 - M5 - M6 M8 - M10 - M12	2.5 / 3.3 / 4.2 / 5.0 6.8 / 8.5 / 10.2 mm	-	-	233,25	JMBT0	455,63
JMB1	M3 - M4 - M5 - M6 M8 - M10 - M12	2.5 / 3.3 / 4.2 / 5.0 6.8 / 8.5 / 10.2 mm	Nº 1.1/2	-	251,04	JMBT1	390,43
JMB5	M3 - M4 - M5 - M6 M8 - M10 - M12	2.5 / 3.3 / 4.2 / 5.0 6.8 / 8.5 / 10.2 mm	Nº 1.1/2	TC1	266,64	JMBT5	409,11
JMBI2 (esq.)	M3 - M4 - M5 - M6 M8 - M10 - M12	-	-	-	368,07	JMBIT2	730,83
JMBI0 (esq.)	M3 - M4 - M5 - M6 M8 - M10 - M12	2.5 / 3.3 / 4.2 / 5.0 6.8 / 8.5 / 10.2 mm	-	-	419,86	JMBIT0	820,14
JMBI1 (esq.)	M3 - M4 - M5 - M6 M8 - M10 - M12	2.5 / 3.3 / 4.2 / 5.0 6.8 / 8.5 / 10.2 mm	Nº 1.1/2	-	451,88	JMBIT1	702,78

MACHOS MANUAIS TERCEIROS HSS E TiN EM ESTOJOS METÁLICOS



Ref. JMB3



Ref. JMB4

CONTEÚDO



3º					HSS €		TiN* €
JMB3	M3 - M4 - M5 - M6 M8 - M10 - M12	-	-	-	93,87	JMBT3	117,55
JMB4	M3 - M4 - M5 - M6 M8 - M10 - M12	2.5 / 3.3 / 4.2 / 5.0 6.8 / 8.5 / 10.2 mm	-	-	116,83	JMBT4	155,29
JMB7	M3 - M4 - M5 - M6 M8 - M10 - M12	2.5 / 3.3 / 4.2 / 5.0 6.8 / 8.5 / 10.2 mm	Nº 1.1/2	-	133,69	JMBT7	215,41
JMB6	M3 - M4 - M5 - M6 M8 - M10 - M12	2.5 / 3.3 / 4.2 / 5.0 6.8 / 8.5 / 10.2 mm	Nº 1.1/2	TC1	144,77	JMBT6	229,60
JMBI3 (esq.)	M3 - M4 - M5 - M6 M8 - M10 - M12	-	-	-	168,97	JMBIT3	211,60
JMBI4 (esq.)	M3 - M4 - M5 - M6 M8 - M10 - M12	2.5 / 3.3 / 4.2 / 5.0 6.8 / 8.5 / 10.2 mm	-	-	210,30	JMBIT4	279,53



MACHOS MANUAIS HSSCo EM ESTOJOS METÁLICOS
HSSCo
5%


Ref. JMBX0

CONTEÚDO

INOX	 MOX	 HSSCo			€
JMBX0	M3 - M4 - M5 - M6 M8 - M10 - M12	2.5 / 3.3 / 4.2 / 5.0 6.8 / 8.5 / 10.2 mm	-	-	322,33
JMBX1	M3 - M4 - M5 - M6 M8 - M10 - M12	2.5 / 3.3 / 4.2 / 5.0 6.8 / 8.5 / 10.2 mm	Nº 1.1/2	-	339,23
JMBX2	M3 - M4 - M5 - M6 M8 - M10 - M12	-	-	-	304,80


CONTEÚDO

 1100 N/mm ²	 MOMD	 HSSCo			€
JMBMD0	M3 - M4 - M5 - M6 M8 - M10 - M12	2.5 / 3.3 / 4.2 / 5.0 6.8 / 8.5 / 10.2 mm	-	-	336,62
JMBMD1	M3 - M4 - M5 - M6 M8 - M10 - M12	2.5 / 3.3 / 4.2 / 5.0 6.8 / 8.5 / 10.2 mm	Nº 1.1/2	-	354,13
JMBMD2	M3 - M4 - M5 - M6 M8 - M10 - M12	-	-	-	320,88

ESTOJOS DE CAÇONETES HSS EM CAIXAS METÁLICAS


Ref. C5B3

CONTEÚDO

		HSS €
C5B3	M3 - M4 - M5 - M6 - M8 - M10 - M12	244,31
C5B31 (esq.)	M3 - M4 - M5 - M6 - M8 - M10 - M12	439,75

EXTRATOR DE MACHOS QUEBRADOS PARA MACHOS DE CANAIS RETOS, NÃO HELICOIDAIS



EXTRADORES SOLTOS

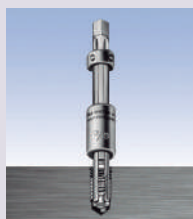
Ø MACHO A EXTRAIR		MACHOS MANUAIS	MACHOS DE MÁQUINA	€/ Ud.
BSW UNC	M			EXTRATOR INTEIRO
--	M3		W10043	46,59
1/8	M3,2		W10053	46,59
--	M3,5		W10063	46,59
5/32	M4		W10083	46,59
3/16	M5		W10103	46,59
--	M5,5	W10124	W10123	46,59
1/4	M6		W10253	47,96
5/16	M8	W10314	W10313	50,25
--	M9	W10374	W10373	49,78
3/8	M10	W10404	W10373	49,78
7/16	M11	W10434	W10433	52,55
1/2	M12	W10504	W10503	56,19
9/16	M14	W10564	W10563	77,65
5/8	M16	W10624	W10623	84,51
--	M18	W10684	W10753	104,71
3/4	M20	W10754	W10753	104,71
7/8	M22	W10874	W10873	114,58
1"	M25	W11004	W11003	127,77

VARETA DE REPOR

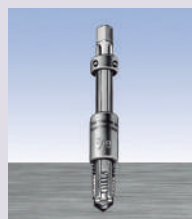
MACHOS MANUAIS	MACHOS DE MÁQUINA	€/ Ud.
		VARETA EXTRA
	W12043	2,48
	W12053	2,48
	W12063	2,48
	W12083	2,48
	W12103	3,70
	W12123	3,70
	W12253	4,51
W12314	W12313	5,09
W12374		5,09
W12404	W12373	5,25
W12434	W12433	5,34
W12504	W12503	6,72
W12564	W12563	7,49
W12624	W12623	9,58
W12684		9,58
W12754	W12753	10,14
W12874	W12873	13,13
W13004	W13003	21,86

3 SIMPLES PASSOS PARA EXTRAIR MACHOS QUEBRADOS DE CANAIS RETOS

Tirar toda a limanha do macho quebrado. Introduzir as varetas do extrator nos canais do macho quebrado com firmeza até o fundo.



Empurre o suporte para baixo, até tocar o macho quebrado. Deslize o casquilho para baixo, até tocar a zona de trabalho.



Aplicar ao quadrado do extrator um desandador. Gire a esquerdas umas quantas vezes até soltá-lo e então tire o macho quebrado.

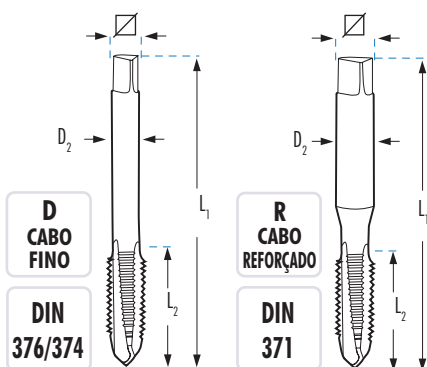




JOGOS DE EXTRADORES PARA MACHOS QUEBRADOS (CANAIS RETOS)



Nº CANAIS	MEDIDAS INCLUÍDAS	
	PARA MACHOS DE MÁQUINA E MACHOS MANUAIS: 3 e 4 CANAIS	
W180013	3	M5- M6- M8- M10- M11- M12
W180014	4	3/16 - 1/4 - 5/16 - 3/8 - 7/16 - 1/2
W180023	3	M6- M8 -M10- M11- M12- M16
W180024	4	1/4 - 5/16 - 3/8 - 7/16 - 1/2 - 5/8
W180153	3	M3- M3,2- M3,5- M4-M5- M5,50- M6- M8
W180154	4	M9- M10- M12- M16- M18- M22- M25
		322,98
		363,37
		1.016,43

MACHOS PARA ROSCAGEM A MÁQUINA HSSCo
M
MF

HSSCo
5%
TOL
6H
Vc
12 m/min


		L1 x L2 x D2 x ∇ mm	M1D	M2D	M3D	M4D	M1R	M2R	M3R	M4R
			FORMA C	FORMA B	15°	35°	FORMA C	FORMA B	15°	35°
			€	€	€	€	€	€	€	€
M 1x0,25	0,75	R 40 x 5,5 x 2,5 x 2,1					45,51			
M 1,1x0,25	0,85	R 40 x 6 x 2,5 x 2,1					44,27			
M 1,2x0,25	0,95	R 40 x 6 x 2,5 x 2,1					40,44			
M 1,4x0,30	1,10	R 40 x 7 x 2,5 x 2,1					40,44			
M 1,6x0,35	1,25	R 40 x 8 x 2,5 x 2,1					39,71			
M 1,7x0,35	1,35	R 40 x 8 x 2,5 x 2,1					38,24			
M 1,8x0,35	1,45	R 40 x 8 x 2,5 x 2,1					37,30			
M 2x0,40	1,60	R 40 x 8 x 2,8 x 2,1					17,96	19,90	22,25	22,67
M 2,2x0,45	1,75	R 40 x 9 x 2,8 x 2,1					19,41			
M 2,3x0,40	1,90	R 40 x 9 x 2,8 x 2,1					17,88			
M 2,5x0,45	2,05	R 50 x 9 x 2,8 x 2,1					17,96	19,90	31,28	22,67
M 2,6x0,45	2,10	R 50 x 9 x 2,8 x 2,1					17,99	20,25		37,68
M 3x0,50	2,50	R 56 x 11 x 3,5 x 2,7 D 56 x 11 x 2,2 x 1,8	11,90	12,88	17,93	15,46	11,90*	12,09	17,58	15,84
M 3x0,60	2,40	R 56 x 11 x 3,5 x 2,7					21,15	23,08		30,48
M 3,5x0,60	2,90	R 56 x 12 x 4,0 x 3,0 D 56 x 12 x 2,5 x 2,1					17,29	18,00	23,25	21,82
M 3,5x0,75	2,75	R 56 x 12 x 4,0 x 3,0					22,86			
M 4x0,50	3,50	R 63 x 13 x 4,5 x 3,4 D 63 x 13 x 2,8 x 2,1	26,05	28,69		30,33	24,90	27,70		32,07
M 4x0,70	3,30	R 63 x 13 x 4,5 x 3,4 D 63 x 13 x 2,8 x 2,1	12,11	13,02	19,23	15,31	13,53*	12,77	17,35	15,86
M 4x0,75	3,25	R 63 x 13 x 4,5 x 3,4					18,93	20,21		
M 4x0,80	3,20	R 63 x 13 x 4,5 x 3,4					100,49			
M 4,5x0,50	4,00	R 70 x 14 x 6,0 x 4,9						32,22		
M 4,5x0,75	3,75	R 70 x 14 x 6,0 x 4,9					23,36	25,73		
M 5x0,50	4,50	R 70 x 14 x 6,0 x 4,9 D 70 x 11 x 3,5 x 2,7	26,83	29,47		30,67	25,64	28,46		34,21
M 5x0,75	4,50	R 74 x 14 x 6,0 x 4,9 D 70 x 16 x 3,5 x 2,7					23,00	26,97		33,99
M 5x0,80	4,20	R 70 x 16 x 6,0 x 4,9 D 70 x 16 x 3,5 x 2,7	12,11	13,09	18,43	14,70	12,12*	12,79	16,64	15,20
M 5x0,90	4,10	R 70 x 15 x 6,0 x 4,9 D 70 x 16 x 3,5 x 2,7					20,00	25,77		
M 5x1,00	4,00	R 72 x 17 x 6,0 x 4,9					53,57			
M 5,5x0,90	4,60	R 80 x 17 x 6,0 x 4,9					53,57			
M 6x0,50	5,50	R 80 x 17 x 6,0 x 4,9 D 80 x 13 x 4,5 x 3,4	31,76	38,94		49,14	33,57			
M 6x0,75	5,25	R 80 x 13 x 6,0 x 4,9 D 80 x 13 x 4,5 x 3,4	20,93	24,23		28,30	21,75	25,34		30,43
M 6x1,00	5,00	R 80 x 19 x 6,0 x 4,9 D 80 x 19 x 4,5 x 3,4	13,81	14,34	19,28	16,12	13,79*	14,03	18,26	16,67

* Consulte o preço dos jogos de machos e caçonetes à esquerda disponíveis na Pag.215

MACHOS PARA ROSCAGEM A MÁQUINA HSSCo











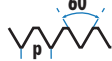
Machos e Caçonetes	Ø	L1 x L2 x D2 x mm	M1D	M2D	M3D	M4D	M1R	M2R	M3R	M4R
			FORMA C	FORMA B	15°	35°	FORMA C	FORMA B	15°	35°
			€	€	€	€	€	€	€	€
M 6x1,25	4,75	R 80 x 17 x 6,0 x 4,9					52,66			
M 7x0,75	6,25	D 80 x 13 x 5,5 x 4,3	26,94	29,88		36,91				
M 7x1,00	6,00	R 80 x 19 x 7,0 x 5,5 D 80 x 19 x 5,5 x 4,3	18,57	21,47	23,19	22,32	17,88 *	20,87	23,60	23,36
M 8x0,50	7,50	D 80 x 13 x 6 x 4,9	36,24							
M 8x0,75	7,25	D 80 x 13 x 6 x 4,9	26,25	32,19		39,92				
M 8x1,00	7,00	D 90 x 20 x 6 x 4,9	21,47	24,64	29,53	27,30				
M 8x1,25	6,80	R 90 x 22 x 8 x 6,2 D 90 x 22 x 6 x 4,9	15,49	16,18	21,95	18,82	15,58 *	15,59	21,02	19,05
M 8x1,50	6,50	D 90 x 20 x 6 x 4,9	106,20							
M 9x1,00	8,00	D 90 x 20 x 7 x 5,5	32,47	34,71		36,89				
M 9x1,25	7,80	R 90 x 22 x 9 x 7,0 D 90 x 22 x 7 x 5,5	26,09	27,42	33,20	32,46	25,84	26,18	33,47	33,39
M 10x0,50	9,50	D 90 x 20 x 7 x 5,5	105,22							
M 10x0,75	9,25	D 90 x 16 x 7 x 5,5	41,62	41,71		50,79				
M 10x1,00	9,00	D 90 x 16 x 7 x 5,5	23,77	27,38	34,86	33,21				
M 10x1,25	8,80	D 100 x 22 x 7 x 5,5	27,22	32,74	38,00	36,19				
M 10x1,50	8,50	R 100 x 24 x 10 x 8,0 D 100 x 24 x 7 x 5,5	17,50	19,57	26,09	22,55	17,66 *	19,20	24,14	22,55
M 11x1,00	10,00	D 90 x 20 x 8 x 6,2	42,61	44,01	111,26	101,24				
M 11x1,25	9,75	D 100 x 22 x 8 x 6,2	40,77	45,30	111,26	90,37				
M 11x1,50	9,50	D 100 x 24 x 8 x 6,2	33,05	38,00	81,12	73,78				
M 12x0,75	11,25	D 100 x 22 x 9 x 7,0	62,43							
M 12x1,00	11,00	D 100 x 22 x 9 x 7,0	32,33	37,00	43,01	42,55				
M 12x1,25	10,75	D 100 x 22 x 9 x 7,0	32,73	36,35	41,18	40,73				
M 12x1,50	10,50	D 100 x 22 x 9 x 7,0	29,25*	32,42	39,60	39,18				
M 12x1,75	10,20	D 110 x 28 x 9 x 7,0	21,08*	24,44	33,37	28,76				
M 13x0,75	12,25	D 100 x 22 x 11 x 9,0	108,97							
M 13x1,00	12,00	D 100 x 22 x 11 x 9,0	57,71	65,34						
M 13x1,25	11,75	D 100 x 22 x 11 x 9,0	57,71	65,34						
M 13x1,50	11,50	D 100 x 22 x 11 x 9,0	57,71	65,34						
M 13x1,75	11,25	D 100 x 28 x 11 x 9,0	57,30	65,34						
M 14x0,75	13,25	D 100 x 22 x 11 x 9,0	108,97							
M 14x1,00	13,00	D 100 x 22 x 11 x 9,0	52,04	57,25	66,31	65,75				
M 14x1,25	12,80	D 100 x 22 x 11 x 9,0	44,29	48,34	60,82	57,94				
M 14x1,50	12,50	D 100 x 22 x 11 x 9,0	34,84*	38,39	47,96	45,69				
M 14x2,00	12,00	D 110 x 30 x 11 x 9,0	34,61*	38,45	44,56	44,56				
M 15x1,00	14,00	D 100 x 22 x 12 x 9,0	66,18	70,07		89,22				
M 15x1,25	13,75	D 100 x 22 x 12 x 9,0	70,89	76,77						
M 15x1,50	13,50	D 100 x 22 x 12 x 9,0	56,66	64,62	165,08	133,91				
M 15x2,00	13,00	D 110 x 30 x 12 x 9,0	69,35	76,32						
M 16x1,00	15,00	D 100 x 22 x 12 x 9,0	62,38	66,18	92,84	90,14				
M 16x1,25	14,75	D 100 x 22 x 12 x 9,0	66,75	73,37	103,25	99,98				
M 16x1,50	14,50	D 100 x 22 x 12 x 9,0	41,19*	48,00	59,77	56,94				
M 16x2,00	14,00	D 110 x 32 x 12 x 9,0	40,73*	44,98	53,83	53,83				
M 17x1,00	16,00	D 100 x 22 x 12 x 9,0	124,11							
M 17x1,25	15,75	D 100 x 22 x 12 x 9,0	124,11							
M 17x1,50	15,50	D 100 x 22 x 12 x 9,0	124,11							
M 18x1,00	17,00	D 110 x 25 x 14 x 11,0	69,86	76,78		110,30				
M 18x1,25	16,75	D 110 x 25 x 14 x 11,0	86,58							
M 18x1,50	16,50	D 110 x 25 x 14 x 11,0	54,54*	60,02	73,45	71,46				
M 18x2,00	16,00	D 125 x 30 x 14 x 11,0	76,97	85,29	145,34	129,72				

* Consulte o preço dos jogos de machos e caçonetes à esquerda disponíveis na Pag.215

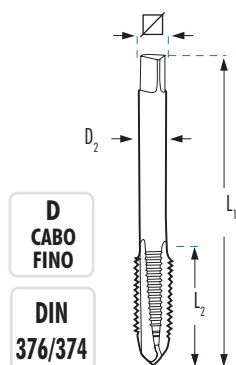
MACHOS PARA ROSCAGEM A MÁQUINA HSSCo

M
MF

DIN 13



60°

HSSCo
5%TOL
6HD
CABO
FINODIN
376/374Vc
12 m/minD
CABO
FINODIN
376/374

	Ø	L1 x L2 x D2 x ∇ mm	M1D	M2D	M3D	M4D
			FORMA C	FORMA B	15°	35°
			€	€	€	€
M 18x2,50	15,50	D 125 x 34 x 14 x 11,0	58,60*	64,07	72,48	69,80
M 19x1,00	18,00	D 110 x 22 x 14 x 11,0	163,07			
M 19x1,25	17,75	D 110 x 25 x 14 x 11,0	167,70			
M 19x1,50	17,50	D 110 x 25 x 14 x 11,0	160,06			
M 20x1,00	19,00	D 125 x 25 x 16 x 12,0	92,22	102,41		117,81
M 20x1,25	18,75	D 125 x 25 x 16 x 12,0	163,07			
M 20x1,50	18,50	D 125 x 25 x 16 x 12,0	61,77*	67,88	82,55	81,64
M 20x2,00	18,00	D 140 x 32 x 16 x 12,0	80,96	89,01		105,09
M 20x2,50	17,50	D 140 x 34 x 16 x 12,0	62,38*	69,17	77,35	77,36
M 21x1,00	20,00	D 125 x 25 x 16 x 12,0	236,76			
M 21x1,25	19,75	D 125 x 25 x 16 x 12,0	236,76			
M 21x1,50	19,50	D 125 x 25 x 16 x 12,0	226,11			
M 22x1,00	21,00	D 125 x 25 x 18 x 14,5	103,38	109,73		151,82
M 22x1,25	20,75	D 125 x 25 x 18 x 14,5	163,07			
M 22x1,50	20,50	D 125 x 25 x 18 x 14,5	74,35	81,78	90,55	85,20
M 22x2,00	20,00	D 140 x 32 x 18 x 14,5	103,38	113,70		151,82
M 22x2,50	19,50	D 140 x 34 x 18 x 14,5	75,48*	83,02	91,76	90,80
M 23x1,00	22,00	D 125 x 25 x 18 x 14,5	230,18			
M 23x1,50	21,50	D 125 x 25 x 18 x 14,5	230,18			
M 24x1,00	23,00	D 140 x 25 x 18 x 14,5	112,65	136,66		160,41
M 24x1,25	22,75	D 140 x 25 x 18 x 14,5	236,76			
M 24x1,50	22,50	D 140 x 28 x 18 x 14,5	91,44	100,54	121,03	115,29
M 24x2,00	22,00	D 140 x 28 x 18 x 14,5	116,67*	127,11		137,16
M 24x3,00	21,00	D 160 x 38 x 18 x 14,5	90,36*	98,90	110,59	110,37
M 25x1,00	24,00	D 140 x 28 x 18 x 14,5	218,39			
M 25x1,25	23,75	D 140 x 28 x 18 x 14,5	345,09			
M 25x1,50	23,50	D 140 x 28 x 18 x 14,5	142,28	150,58		
M 25x2,00	23,00	D 140 x 28 x 18 x 14,5	306,26	336,90		
M 26x1,00	25,00	D 140 x 28 x 18 x 14,5	169,55			
M 26x1,50	24,50	D 140 x 28 x 18 x 14,5	123,31	129,26	226,74	199,38
M 26x2,00	24,00	D 140 x 28 x 18 x 14,5	238,83	262,72		288,56
M 27x1,00	26,00	D 140 x 28 x 20 x 16,0	151,86	196,08		
M 27x1,50	25,50	D 140 x 28 x 20 x 16,0	134,64	142,63	329,52	297,12
M 27x2,00	25,00	D 140 x 28 x 20 x 16,0	166,54*	176,22		

* Consulte o preço dos jogos de machos e caçonetes à esquerda disponíveis na Pag.215

MACHOS PARA ROSCAGEM A MÁQUINA HSSCo

**M
MF**








HSSCo
5%

TOL
6H

D
CABO
FINO

DIN
376/374

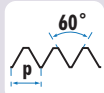
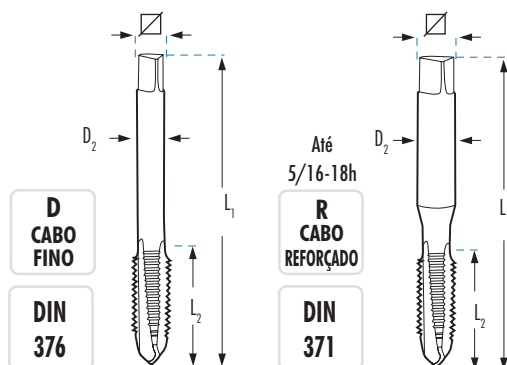
Vc
12 m/min





				L1 x L2 x D2 x ∇ mm	M1D	M2D	M3D	M4D
					FORMA C	FORMA B	 15°	 35°
					€	€	€	€
M 27x3,00				D 160 x 36 x 20 x 16	112,80*	123,70	136,06	135,80
M 28x1,00				D 140 x 28 x 20 x 16	306,26			
M 28x1,50				D 140 x 28 x 20 x 16	134,64	147,82	171,60	154,93
M 28x2,00				D 140 x 28 x 20 x 16	164,26	185,51	202,23	198,87
M 30x1,00				D 150 x 28 x 22 x 18	172,21	199,13		232,17
M 30x1,50				D 150 x 28 x 22 x 18	140,34	154,42	186,09	177,24
M 30x2,00				D 150 x 28 x 22 x 18	173,71*	184,37		255,11
M 30x3,50				D 180 x 40 x 22 x 18	144,55*	158,93	174,38	174,02
M 32x1,00				D 150 x 28 x 22 x 18	408,38	433,63		
M 32x1,50				D 150 x 28 x 22 x 18	177,58	194,96	229,28	
M 32x2,00				D 150 x 28 x 22 x 18	218,20	334,11		
M 33x1,00				D 160 x 30 x 25 x 20	376,11			
M 33x1,50				D 160 x 30 x 25 x 20	200,07	212,19		246,97
M 33x2,00				D 160 x 30 x 25 x 20	327,90	335,17		409,00
M 33x3,50				D 180 x 40 x 25 x 20	173,71*	199,88		221,70
M 34x1,50				D 170 x 30 x 28 x 22	222,82	236,04		
M 34x2,00				D 160 x 30 x 28 x 22	468,60			
M 35x1,50				D 170 x 30 x 28 x 22	234,99	258,48		282,66
M 35x2,00				D 170 x 30 x 28 x 22	432,41	476,03		
M 36x1,50				D 170 x 30 x 28 x 22	214,57	253,67		307,06
M 36x2,00				D 170 x 30 x 28 x 22	289,81	301,25		
M 36x3,00				D 200 x 50 x 28 x 22	332,50	345,58		444,41
M 36x4,00				D 200 x 50 x 28 x 22	227,99*	244,25	283,71	271,46
M 38x1,50				D 170 x 30 x 28 x 22	228,74	257,73		
M 38x2,00				D 170 x 32 x 28 x 22	486,19	534,84		
M 39x1,50				D 170 x 32 x 32 x 24	359,45			
M 39x2,00				D 170 x 32 x 32 x 24	359,45			
M 39x3,00				D 200 x 47 x 32 x 24	469,40			
M 39x4,00				D 200 x 50 x 32 x 24	273,53	284,33		350,60
M 40x1,50				D 170 x 30 x 32 x 24	299,09	329,21		
M 40x2,00				D 170 x 30 x 32 x 24	360,39			
M 40x3,00				D 200 x 47 x 32 x 24	353,35	421,56		
M 42x1,50				D 170 x 30 x 32 x 24	326,35	318,95		
M 42x2,00				D 170 x 30 x 32 x 24	412,28			
M 42x3,00				D 200 x 45 x 32 x 24	412,28	493,71		
M 42x4,50				D 200 x 56 x 32 x 24	351,73	365,51		390,84
M 45x1,50				D 180 x 32 x 36 x 29	389,78	428,72		
M 45x2,00				D 180 x 32 x 36 x 29	477,38			
M 45x3,00				D 200 x 47 x 36 x 29	477,38			
M 45x4,50				D 220 x 58 x 36 x 29	384,21	422,60		
M 48x1,50				D 190 x 32 x 36 x 29	384,21			
M 48x2,00				D 190 x 32 x 36 x 29	620,81			
M 48x3,00				D 220 x 52 x 36 x 29	578,50			
M 48x5,00				D 250 x 65 x 36 x 29	472,47	519,69		
M 50x1,50				D 190 x 32 x 36 x 29	465,66			
M 52x1,50				D 190 x 32 x 40 x 32	454,90			
M 52x2,00				D 190 x 32 x 40 x 32	719,89			
M 52x3,00				D 225 x 50 x 40 x 32	739,85			
M 52x5,00				D 250 x 65 x 40 x 32	483,87	598,70		

* Consulte o preço dos jogos de machos e caçonetes à esquerda disponíveis na Pag.215

MACHOS PARA ROSCAGEM A MÁQUINA HSSCo

UNC

HSSCo
5%TOL
2BVc
12 m/min

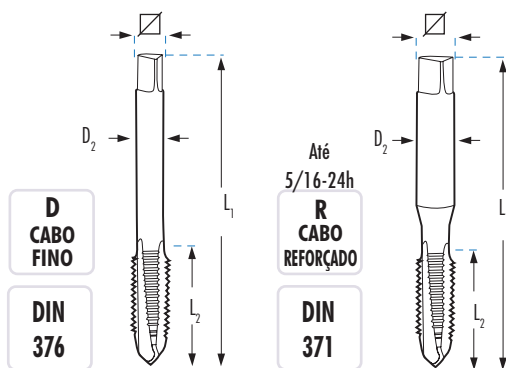
 	D1 mm	 Ø	L1 x L2 x D2 x ∇ mm	M1R	M2R	M4R
				FORMA C	FORMA B	 35°
				€	€	€
UNC nº 4-40h	2,84	2,25	R 56 x 11 x 3,5 x 2,7	26,92	32,01	36,53
UNC nº 5-40h	3,17	2,60	R 56 x 11 x 3,5 x 2,7	27,90	33,47	36,53
UNC nº 6-32h	3,50	2,75	R 56 x 12 x 4,0 x 3,0	26,55	31,91	36,37
UNC nº 8-32h	4,17	3,50	R 63 x 13 x 4,5 x 3,4	26,55	31,91	34,79
UNC nº 10-24h	4,83	3,90	R 70 x 15 x 6,0 x 4,9	27,90	33,47	38,21
UNC nº 12-24h	5,49	4,50	R 80 x 16 x 6,0 x 4,9	29,27	33,47	35,07
UNC 1/4-20h	6,35	5,10	R 80 x 17 x 7,0 x 5,5	26,08	28,43	32,81
UNC 5/16-18h	7,94	6,60	R 90 x 20 x 8,0 x 6,2	29,52	32,54	37,05

	CABO FINO			M1D	M2D	M4D
UNC 3/8-16h	9,52	8,00	D 100 x 22 x 7,0 x 5,5	33,65	35,29	39,66
UNC 7/16-14h	11,11	9,40	D 100 x 22 x 8,0 x 6,2	46,32	46,47	58,12
UNC 1/2-13h	12,70	10,75	D 110 x 24 x 9,0 x 7,0	50,26	55,69	63,57
UNC 9/16-12h	14,28	12,20	D 110 x 26 x 11,0 x 9,0	69,09	75,86	86,30
UNC 5/8-11h	15,87	13,50	D 110 x 27 x 12,0 x 9,0	67,13	73,88	83,93
UNC 3/4-10h	19,05	16,50	D 125 x 30 x 14,0 x 11,0	88,87	97,70	111,16
UNC 7/8-9h	22,22	19,50	D 140 x 32 x 18,0 x 14,5	116,94	128,48	173,94
UNC 1"-8h	25,40	22,25	D 160 x 36 x 18,0 x 14,5	154,52	168,80	218,20
UNC 1.1/8-7h	28,57	25,00	D 180 x 40 x 22,0 x 18,0	201,83		243,80
UNC 1.1/4-7h	31,75	28,00	D 180 x 40 x 22,0 x 18,0	236,57		311,89
UNC 1.3/8-6h	34,92	30,75	D 200 x 50 x 28,0 x 22,0	352,86		
UNC 1.1/2-6h	38,10	34,00	D 200 x 50 x 32,0 x 24,0	400,72		

MACHOS PARA ROSCAGEM A MÁQUINA HSSCo

UNF  **HSSCo 5%** **TOL 2B**

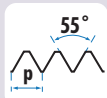
Vc
12 m/min



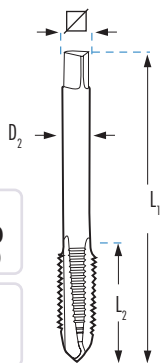
UNF nº	D1 mm	D2 mm	R	L1 x L2 x D2 x mm	M1R	M2R	M4R
					FORMA C	FORMA B	35°
					€	€	€
UNF nº 4-48h	2,84	2,35	R	56 x 11 x 3,5 x 2,7	28,18	30,68	38,51
UNF nº 5-44h	3,17	2,70	R	56 x 11 x 3,5 x 2,7	28,18	30,68	38,51
UNF nº 6-40h	3,50	2,95	R	56 x 12 x 4,0 x 3,0	26,95	32,28	38,22
UNF nº 8-36h	4,17	3,50	R	63 x 13 x 4,5 x 3,4	26,95	32,28	38,22
UNF nº 10-32h	4,83	4,10	R	70 x 15 x 6,0 x 4,9	26,95	32,28	38,22
UNF nº 12-28h	5,49	4,60	R	80 x 16 x 6,0 x 4,9	28,18	33,77	38,51
UNF 1/4-28h	6,35	5,50	R	80 x 17 x 7,0 x 5,5	22,76	24,38	28,44
UNF 5/16-24h	7,94	6,90	R	90 x 20 x 8,0 x 6,2	25,45	28,06	32,80

CABO FINO				M1D	M2D	M4D		
UNF	nº	D1 mm	D2 mm	D				
UNF	3/8-24h	9,52	8,50	D	90 x 16 x 7,0 x 5,5	27,87	32,24	41,03
UNF	7/16-20h	11,11	9,90	D	100 x 22 x 8,0 x 6,2	34,38	39,85	52,61
UNF	1/2-20h	12,70	11,50	D	100 x 22 x 9,0 x 7,0	36,60	42,37	55,97
UNF	9/16-18h	14,29	12,90	D	100 x 22 x 11,0 x 9,0	44,97	52,08	69,30
UNF	5/8-18h	15,87	14,50	D	100 x 22 x 12,0 x 9,0	50,63	58,58	77,43
UNF	3/4-16h	19,05	17,50	D	110 x 25 x 14,0 x 11,0	64,79	75,02	99,04
UNF	7/8-14h	22,22	20,40	D	125 x 25 x 18,0 x 14,5	81,47	101,91	151,49
UNF	1"-12h	25,40	23,25	D	140 x 28 x 18,0 x 14,5	122,63	133,53	178,30
UNS	1"-14h	25,40	23,60	D	140 x 28 x 18,0 x 14,5	123,18	137,36	178,31
UNF	1.1/8-12h	28,57	26,50	D	150 x 28 x 22,0 x 18,0	186,85		
UNF	1.1/4-12h	31,75	29,50	D	150 x 28 x 22,0 x 18,0	236,12		
UNF	1.1/2-12h	38,10	36,00	D	170 x 30 x 32,0 x 24,0	396,29		

MACHOS PARA ROSCAGEM A MÁQUINA HSSCo

BSP
(GAS)HSSCo
5%TOL
ISO 228

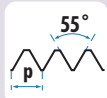
INOX

Vc
12 m/minVc
6 m/minD
CABO
FINODIN
5156

D CABO FINO	DIN 5156	D1 mm	L1 x L2 x D2 x mm	M1D		M2D		M3D		M4D		M2DX		M4DX	
				FORMA C	FORMA B	FORMA B	FORMA B	FORMA B	FORMA B	FORMA B	FORMA B				
				€	€	€	€	€	€	€	€	€	€	€	
G 1/8-28h.	9,728	8,80	D 90 x 16 x 7 x 5,5	35,64 *	40,71	41,71	43,22	62,93	62,28						
G 1/4-19h.	13,157	11,80	D 100 x 22 x 11 x 9,0	49,42 *	54,41	59,89	62,07	84,78	90,74						
G 3/8-19h.	16,662	15,25	D 100 x 22 x 12 x 9,0	59,18 *	65,11	71,54	74,12	100,58	106,64						
G 1/2-14h.	20,955	19,00	D 125 x 25 x 16 x 12,0	74,79 *	82,30	90,23	93,47	124,53	134,60						
G 5/8-14h.	22,911	21,00	D 125 x 25 x 18 x 14,5	93,20 *	97,74	112,34	111,30								
G 3/4-14h.	26,441	24,50	D 140 x 28 x 20 x 16,0	117,06	128,85	141,23	146,33	188,16	207,59						
G 7/8-14h.	30,201	28,25	D 150 x 28 x 22 x 18,0	157,36	165,54	189,95	188,17								
G 1"-11h.	33,249	30,75	D 160 x 30 x 25 x 20,0	181,71	199,84	216,86	224,70								
G 1.1/8-11h.	37,897	35,50	D 170 x 30 x 28 x 22,0	290,16	316,50		347,61								
G 1.1/4-11h.	41,910	39,50	D 170 x 30 x 32 x 24,0	340,46	358,22		396,56								
G 1.3/8-11h.	44,323	42,00	D 180 x 32 x 36 x 29,0	407,12			550,85								
G 1.1/2-11h.	47,803	45,25	D 190 x 32 x 36 x 29,0	542,89	756,81		716,95								
G 1.3/4-11h.	53,746	51,25	D 190 x 32 x 40 x 32,0	645,29	746,53										
G 2"-11h.	59,614	57,00	D 220 x 36 x 45 x 35,0	823,00	819,19										

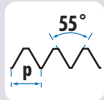
* Disponíveis também com rosca esquerda com 100% de sobrecusto sobre os preços em rosca direita.

BSF

HSSCo
5%TOL
ISO 228Vc
12 m/minD
CABO
FINODIN
5156

D CABO FINO	DIN 5156	D1 mm	L1 x L2 x D2 x mm	M1D	
				FORMA C	FORMA B
				€	€
BSF 3/16-32h.	4,762	4,00	D 70 x 16 x 3,5 x 2,7	81,54	
BSF 1/4-26h.	6,350	5,20	D 80 x 17 x 4,5 x 3,4	35,68	
BSF 5/16-22h.	7,938	6,60	D 90 x 20 x 6,0 x 4,9	42,37	
BSF 3/8-20h.	9,525	8,10	D 100 x 22 x 7,0 x 5,5	44,54	
BSF 7/16-18h.	11,113	9,50	D 100 x 22 x 8,0 x 6,2	60,03	
BSF 1/2-16h.	12,700	11,00	D 110 x 24 x 9,0 x 7,0	67,94	
BSF 9/16-16h.	14,287	12,50	D 110 x 25 x 11,0 x 9,0	71,90	
BSF 5/8-14h.	15,876	14,00	D 110 x 27 x 12,0 x 9,0	95,83	
BSF 3/4-12h.	19,051	16,50	D 125 x 30 x 14,0 x 11,0	113,44	
BSF 7/8-11h.	22,226	19,50	D 140 x 32 x 18,0 x 14,5	157,66	
BSF 1"-10h.	25,400	22,50	D 160 x 36 x 18,0 x 14,5	183,27	

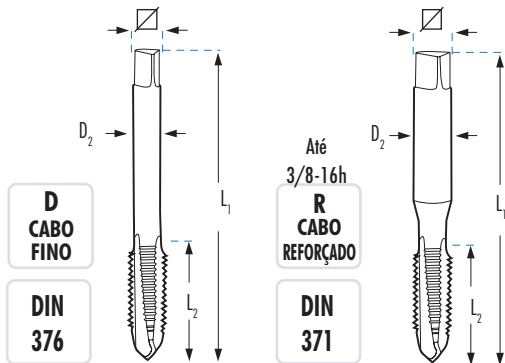
MACHOS PARA ROSCAGEM A MÁQUINA HSSCo





HSSCo
5%

TOL
Clase 2

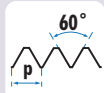
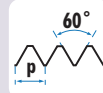
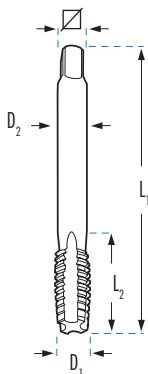
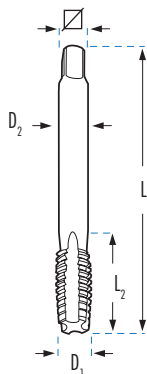
Vc
12 m/min



	D1 mm		L1 x L2 x D2 x ∇ mm	M1R	M2R	M3R	M4R
				FORMA C	FORMA B	15°	35°
				€	€	€	€
W 3/32-48h.	2,38	1,80	R 50 x 9 x 2,8 x 2,1	24,77	26,44		
W 1/8-40h.	3,17	2,55	R 56 x 11 x 3,5 x 2,7	20,66 *	22,84	26,96	25,95
W 5/32-32h.	3,97	3,10	R 63 x 13 x 4,5 x 3,4	20,66	22,84	26,96	25,95
W 3/16-24h.	4,76	3,60	R 70 x 15 x 6,0 x 4,9	22,93	22,84	26,96	25,95
W 7/32-24h.	5,56	4,40	R 80 x 16 x 6,0 x 4,9	31,37	33,17		
W 1/4-20h.	6,35	5,10	R 80 x 17 x 7,0 x 5,5	22,07	25,95	30,61	31,71
W 5/16-18h.	7,94	6,50	R 90 x 20 x 8,0 x 6,2	24,75	32,72	35,72	35,66
W 3/8-16h.	9,52	7,90	R 100 x 22 x 10,0 x 8,0	27,70	36,16	39,70	39,64

CABO FINO				M1D	M2D	M3D	M4D
W 7/16-14h.	11,11	9,25	D 100 x 22 x 8,0 x 6,2	38,52	39,83	50,04	50,40
W 1/2-12h.	12,70	10,50	D 110 x 24 x 9,0 x 7,0	36,94	41,53	47,94	48,29
W 9/16-12h.	14,29	12,00	D 110 x 26 x 11,0 x 9,0	52,95	54,99	68,76	69,25
W 5/8-11h.	15,87	13,40	D 110 x 27 x 12,0 x 9,0	50,14	51,95	65,03	65,48
W 3/4-10h.	19,05	16,50	D 125 x 30 x 14,0 x 11,0	70,17	72,84	87,12	87,74
W 7/8-9h.	22,22	19,25	D 140 x 32 x 18,0 x 14,5	90,89	94,25	117,93	113,56
W 1"-8h.	25,40	21,75	D 160 x 36 x 18,0 x 14,5	114,23	118,46	147,99	149,04
W 1.1/8-7h.	28,57	24,75	D 180 x 40 x 22,0 x 18,0	154,92	176,52	212,25	
W 1.1/4-7h.	31,75	27,75	D 180 x 40 x 22,0 x 18,0	225,05	256,48		
W 1.3/8-6h.	34,92	30,50	D 200 x 50 x 28,0 x 22,0	369,90	421,19		
W 1.1/2-6h.	38,10	33,50	D 200 x 50 x 32,0 x 24,0	401,50	457,58		
W 1.5/8-5h.	41,27	46,50	D 220 x 65 x 32,0 x 24,0	560,42	638,72		
W 1.3/4-5h.	44,45	39,00	D 220 x 58 x 36,0 x 29,0	600,27	689,06		
W 1.7/8-4,5h.	47,62	42,00	D 250 x 75 x 36,0 x 29,0	696,03	763,89		
W 2"-4,5h.	50,80	44,50	D 250 x 65 x 40,0 x 32,0	859,12			

* Disponíveis também com rosca esquerda com 100% de sobrecusto sobre os preços em rosca direita.

MACHOS PARA ROSCAGEM A MÁQUINA HSSCo
UNJC

HSSCo
5%
TOL
3B
UNJF

HSSCo
5%
TOL
3B
Vc
12 m/min

Vc
12 m/min


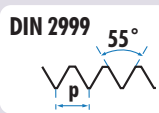
				MTR	
				FORMA C	€
UNJC nº 4-40h	2,84	2,25	R 56 x 11 x 3,5 x 2,7		40,89
UNJC nº 5-40h	3,17	2,60	R 56 x 11 x 3,5 x 2,7		40,89
UNJC nº 6-32h	3,50	2,75	R 56 x 12 x 4,0 x 3,0		40,89
UNJC nº 8-32h	4,17	3,50	R 63 x 13 x 4,5 x 3,4		40,89
UNJC nº10-24h	4,83	3,90	R 70 x 15 x 6,0 x 4,9		40,89
UNJC nº12-24h	5,49	4,50	R 80 x 16 x 6,0 x 4,9		42,89
UNJC 1/4-20h	6,35	5,10	R 80 x 17 x 7,0 x 5,5		38,16
UNJC 5/16-18h	7,94	6,60	R 90 x 20 x 8,0 x 6,2		43,18
UNJC 3/8-16h	9,52	8,00	R 100 x 22 x 8,0 x 6,2		49,22

				MTR	
				FORMA C	€
UNJF nº 4-48h	2,84	2,35	R 56 x 11 x 3,5 x 2,7		44,86
UNJF nº 5-44h	3,17	2,70	R 56 x 11 x 3,5 x 2,7		44,86
UNJF nº 6-40h	3,50	2,95	R 56 x 12 x 4,0 x 3,0		44,86
UNJF nº 8-36h	4,17	3,50	R 63 x 13 x 4,5 x 3,4		44,86
UNJF nº10-32h	4,83	4,10	R 70 x 15 x 6,0 x 4,9		44,86
UNJF nº12-28h	5,49	4,60	R 80 x 16 x 6,0 x 4,9		44,86
UNJF 1/4-28h	6,35	5,50	R 80 x 17 x 7,0 x 5,5		34,83
UNJF 5/16-24h	7,94	6,90	R 90 x 20 x 8,0 x 6,2		38,94
UNJF 3/8-24h	9,52	8,50	R 90 x 16 x 7,0 x 6,2		42,64

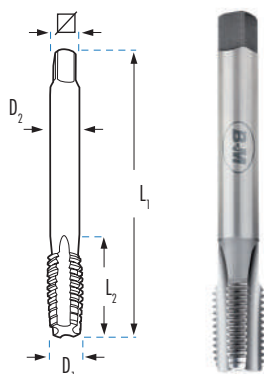
CABO FINO PASSOS NORMAIS				M1D
UNJC 7/16-14h	11,11	9,40	D 110 x 24 x 9,0 x 7,0	67,88
UNJC 1/2-13h	12,70	10,75	D 110 x 26 x 11,0 x 9,0	73,68
UNJC 9/16-12h	14,28	12,20	D 110 x 27 x 12,0 x 9,0	101,27
UNJC 5/8-11h	15,87	13,50	D 110 x 27 x 12,0 x 9,0	103,81
UNJC 3/4-10h	19,05	16,50	D 125 x 30 x 14,0 x 11,0	130,25
UNJC 7/8-9h	22,22	19,50	D 140 x 32 x 18,0 x 14,5	171,39
UNJC 1"-8h	25,40	22,25	D 160 x 36 x 18,0 x 14,5	226,44


CABO FINO PASSOS NORMAIS				M1D
UNJF 7/16-20h	11,11	9,90	D 100 x 22 x 8,0 x 6,2	58,56
UNJF 1/2-20h	12,70	11,50	D 100 x 22 x 9,0 x 7,0	62,36
UNJF 9/16-18h	14,29	12,90	D 100 x 22 x 11,0 x 9,0	76,62
UNJF 5/8-18h	15,87	14,50	D 100 x 22 x 12,0 x 9,0	86,26
UNJF 3/4-16h	19,05	17,50	D 110 x 25 x 14,0 x 11,0	110,36
UNJF 7/8-14h	22,22	20,40	D 125 x 25 x 18,0 x 14,5	138,77
UNJF 1"-12h	25,40	23,25	D 140 x 28 x 18,0 x 14,5	154,72

MACHOS PARA ROSCAGEM A MÁQUINA HSSCo

BSPP  **HSSCo**
5% **DIN**
374 **FORMA**
C

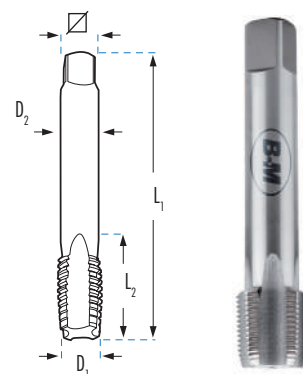
ROSCA CILÍNDRICA
INGLESA PARA TUBO




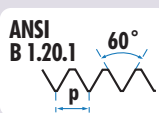
	D1 mm	L1 x L2 x D2 x ∇ mm	M1D	€
Rp 1/16-28h.	7,72	D 90 x 16 x 6 x 4,9		
Rp 1/8-28h.	9,73	D 90 x 16 x 7 x 5,5		53,18
Rp 1/4-19h.	13,16	D 100 x 22 x 11 x 9,0		73,46
Rp 3/8-19h.	16,66	D 100 x 22 x 12 x 9,0		87,96
Rp 1/2-14h.	20,95	D 125 x 25 x 16 x 12,0		111,16
Rp 3/4-14h.	26,44	D 140 x 28 x 20 x 16,0		174,07
Rp 1"-11h.	33,25	D 160 x 30 x 25 x 20,0		270,08
Rp 1.1/4-11h.	41,91	D 170 x 30 x 32 x 24,0		
Rp 1.1/2-11h.	46,80	D 190 x 32 x 36 x 29,0		
Rp 2"-11h.	59,61	D 220 x 36 x 45 x 35,0		

BSPT  **HSSCo**
5% **DIN**
5156 **FORMA**
C

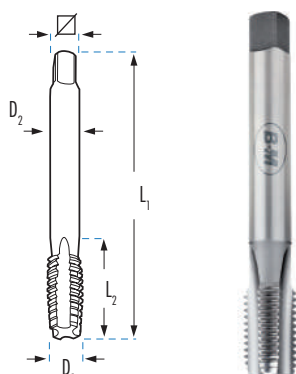
ROSCA CÔNICA
INGLESA PARA TUBO




	D1 mm	θ	L1 x L2 x D2 x ∇ mm	M1D	€
Rc 1/16-28h.	7,72		D 90 x 14 x 6 x 4		
Rc 1/8-28h.	9,73	8,30	D 90 x 15 x 7 x 5		54,41
Rc 1/4-19h.	13,16	11,00	D 100 x 19 x 11 x 9		78,26
Rc 3/8-19h.	16,66	14,50	D 100 x 21 x 12 x 9		108,76
Rc 1/2-14h.	20,95	18,10	D 125 x 26 x 16 x 12		151,12
Rc 5/8-14h.	22,91	21,00	D 140 x 36 x 18 x 19		243,77
Rc 3/4-14h.	26,44	23,50	D 140 x 28 x 20 x 16		235,69
Rc 7/8-14h.	30,20	28,25	D 160 x 36 x 22 x 18		410,13
Rc 1"-11h.	33,25	29,60	D 160 x 33 x 25 x 20		337,80

NPS (M)  **HSSCo**
5% **DIN**
374 **FORMA**
C

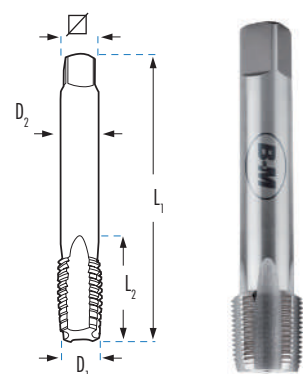
ROSCA CILÍNDRICA
AMERICANA PARA TUBO




	D1 mm	θ	L1 x L2 x D2 x ∇ mm	M1D	€
NPS 1/8-27h.	10,20	8,90	D 90 x 16 x 7 x 5,5		136,98
NPS 1/4-18h.	13,60	11,70	D 100 x 22 x 11 x 9,0		196,06
NPS 3/8-18h.	17,00	15,00	D 100 x 22 x 12 x 9,0		268,85
NPS 1/2-14h.	21,20	18,60	D 125 x 25 x 16 x 12,0		368,67
NPS 3/4-14h.	26,55	24,00	D 140 x 28 x 20 x 16,0		545,00
NPS 1"-11,5h.	33,20	30,00	D 160 x 30 x 25 x 20,0		704,79
NPS 1.1/4-11,5h.	41,60		D 170 x 30 x 32 x 24,0		
NPS 1.1/2-11,5h.	47,68		D 190 x 32 x 36 x 29,0		
NPS 2"-11,5h.	59,71		D 220 x 36 x 45 x 35,0		

NPT  **HSSCo**
5% **DIN**
374 **FORMA**
C

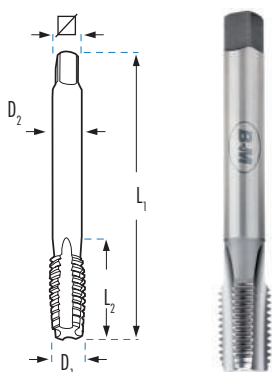
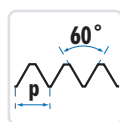
ROSCA CÔNICA
AMERICANA PARA TUBO



	D1 mm	θ	L1 x L2 x D2 x ∇ mm	M1D	€
NPT 1/16-27h.	7,89	6,2	D 90 x 14 x 6 x 5		47,66
NPT 1/8-27h.	10,24	8,5	D 90 x 15 x 8 x 6		49,84
NPT 1/4-18h.	13,62	11,0	D 100 x 19 x 11 x 9		64,37
NPT 3/8-18h.	17,05	14,5	D 100 x 21 x 12 x 9		82,74
NPT 1/2-14h.	21,22	17,8	D 125 x 26 x 16 x 12		107,64
NPT 3/4-14h.	26,57	23,0	D 140 x 28 x 20 x 16		166,77
NPT 1"-11,5h.	33,23	29,0	D 160 x 33 x 25 x 20		216,76
NPT 1.1/4-11,5h.	41,98	37,5	D 170 x 36 x 32 x 24		295,95
NPT 1.1/2-11,5h.	48,05	44,0	D 190 x 37 x 36 x 29		466,01
NPT 2"-11,5h.	60,09	56,0	D 220 x 41 x 45 x 35		730,99

MACHOS PARA ROSCAGEM A MÁQUINA HSSCo

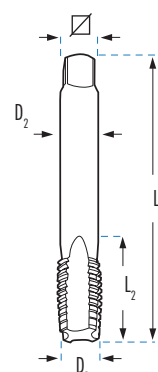
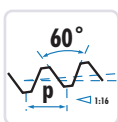
NPSF HSSCo 5% DIN 374 FORMA C



ROSCA PARA TUBO AMERICANA CILÍNDRICA

	D1 mm	\emptyset	L1 x L2 x D2 x ∇ mm	M1D €
NPSF 1/8-27h.	10,05	8,75	D 90 x 16 x 7 x 5,5	171,59
NPSF 1/4-18h.	13,33	11,30	D 100 x 22 x 11 x 9,0	236,51
NPSF 3/8-18h.	16,78	14,70	D 100 x 22 x 12 x 9,0	336,46
NPSF 1/2-14h.	20,87	18,20	D 125 x 25 x 16 x 12,0	419,58
NPSF 3/4-14h.	26,23	23,50	D 140 x 28 x 20 x 16,0	686,70
NPSF 1"-11,5h.	32,81	29,50	D 160 x 30 x 25 x 20,0	

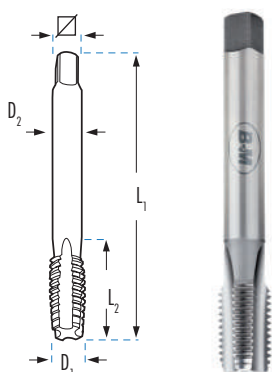
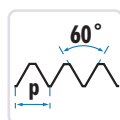
NPTF HSSCo 5% DIN 374 FORMA C



ROSCA PARA TUBO AMERICANA CÔNICA ESTANQUE

	D1 mm	\emptyset	L1 x L2 x D2 x ∇ mm	M1D €
NPTF 1/16-27h.	7,87	6,20	D 90 x 14 x 12,0 x 6	
NPTF 1/8-27h.	10,22	8,50	D 90 x 15 x 12,0 x 7	115,93
NPTF 1/4-18h.	13,58	11,00	D 100 x 21 x 17,5 x 11	162,65
NPTF 3/8-18h.	17,02	14,50	D 110 x 21 x 17,6 x 12	208,94
NPTF 1/2-14h.	21,21	17,80	D 140 x 27 x 22,8 x 16	272,00
NPTF 3/4-14h.	26,56	23,00	D 140 x 27 x 23,0 x 20	421,39

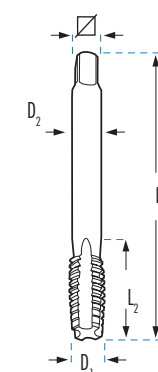
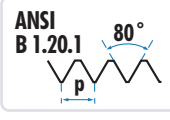
MF HSSCo 5% TOL 6H DIN 374 FORMA C



ROSCA MÉTRICA FINA PARA TUBO DE CONDUÇÃO ELÉTRICA EM 60423

	D1 mm	\emptyset	L1 x L2 x D2 x ∇ mm	M1D €
MF 12 x 1,50	12	10,5	D 100 x 22 x 9 x 7,0	29,25
MF 16 x 1,50	16	14,5	D 100 x 22 x 12 x 9,0	41,19
MF 20 x 1,50	20	18,5	D 125 x 25 x 16 x 12,0	61,77
MF 25 x 1,50	25	23,5	D 140 x 28 x 18 x 14,5	142,28
MF 32 x 1,50	32	30,5	D 150 x 28 x 22 x 18,0	177,58
MF 40 x 1,50	40	38,5	D 170 x 30 x 32 x 24,0	299,09
MF 50 x 1,50	50	48,5	D 190 x 32 x 36 x 29,0	465,66
MF 63 x 1,50	63	61,5	D 275 x 36 x 50 x 39,0	

PG HSSCo 5% DIN 40430 FORMA C

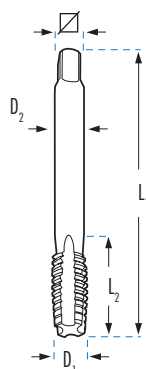
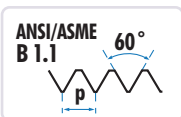


ROSCA PARA TUBO DE CONDUÇÃO ELÉTRICA

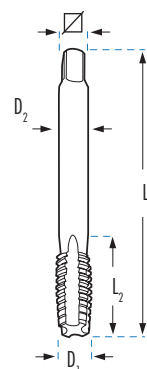
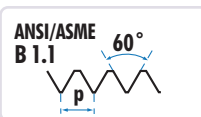
	D1 mm	\emptyset	L1 x L2 x D2 x ∇ mm	M1D €
PG 7 - 20h.	12,5	11,50	D 100 x 22 x 9 x 7,0	50,87
PG 9 - 18h.	15,2	14,00	D 100 x 22 x 12 x 9,0	70,46
PG 11 - 18h.	18,6	17,25	D 110 x 25 x 14 x 11,0	91,67
PG 13,5 - 18h.	20,4	19,00	D 125 x 25 x 16 x 12,0	102,94
PG 16 - 18h.	22,5	21,25	D 125 x 25 x 18 x 14,5	121,15
PG 21 - 16h.	28,3	27,00	D 150 x 28 x 22 x 18,0	192,33
PG 29 - 16h.	37,0	35,50	D 170 x 30 x 28 x 22,0	325,13
PG 36 - 16h.	47,0	45,50	D 190 x 32 x 36 x 29,0	528,03
PG 42 - 16h.	54,0	52,50	D 190 x 32 x 40 x 32,0	838,60
PG 48 - 16h.	59,3	58,00	D 220 x 36 x 45 x 35,0	1.022,32

MACHOS PARA ROSCAGEM A MÁQUINA HSSCo

UNx8 HSSCo 5% DIN 374 FORMA C TOL 2B



UNEF HSSCo 5% DIN 374 TOL 2B

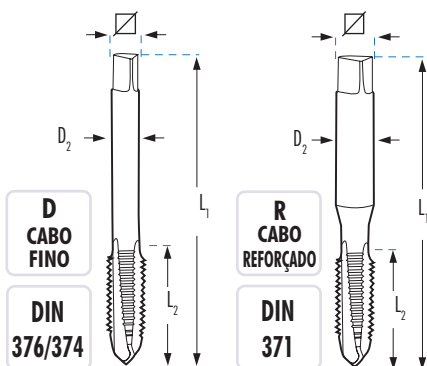
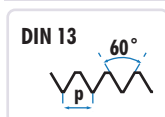


				M1D
		D2 mm	L1 x L2 x mm	FORMA C €
UN 1" 1/8-8h.	25,40	22	180 x 45 x 18	252,89
UN 1" 1/4-8h.	28,50	22	180 x 48 x 18	326,28
UN 1" 3/8-8h.	31,75	28	200 x 56 x 22	370,11
UN 1" 1/2-8h.	35,00	32	200 x 58 x 22	470,91
UN 1" 5/8-8h.	38,10	32	200 x 65 x 24	550,85
UN 1" 3/4-8h.	41,25	36	200 x 50 x 29	671,02
UN 1" 7/8-8h.	44,45	36	225 x 53 x 29	774,04
UN 2"-8h.	47,63	40	225 x 50 x 32	790,89

				M2D	M4D
		D2 mm	L1 x L2 x mm	FORMA B €	35° €
UNEF 1/4-32h.	5,55	7,0	R 82 x 16 x 5,4	104,64	117,60
UNEF 5/16-32h.	7,15	8,4	R 85 x 21 x 6,1	115,30	129,55
UNEF 3/8-32h.	8,70	7,0	D 95 x 22 x 5,4	115,36	129,62
UNEF 7/16-28h.	10,20	8,0	D 100 x 22 x 6,2	153,12	172,04
UNEF 1/2-28h.	11,80	9,0	D 100 x 22 x 7,0	161,28	181,22
UNEF 9/16-24h.	13,20	12,0	D 100 x 24 x 9,0	202,06	227,04
UNEF 5/8-24h.	14,80	12,0	D 100 x 24 x 9,0	229,94	258,36
UNEF 3/4-20h.	17,80	14,0	D 110 x 27 x 11,0	299,05	336,04
UNEF 7/8-20h.	20,95	18,0	D 125 x 26 x 14,5	321,46	344,42
UNEF 1"-20h.	24,20	18,0	D 140 x 28 x 14,5	491,94	552,74

MACHOS PARA ROSCAGEM A MÁQUINA HSSCo, ROSCA ESQUERDA

MM MF HSSCo 5% FORMA C TOL 6H

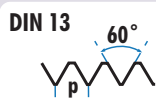
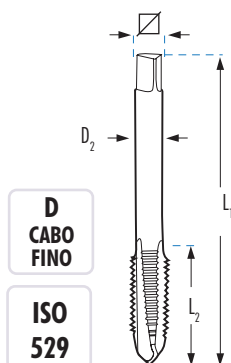
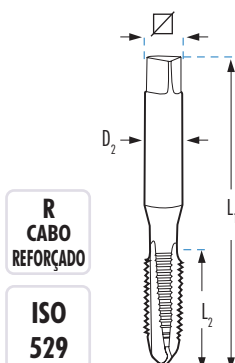





				M1RI
			L1 x L2 x D2 x mm	FORMA C €
M 3x0,50	2,50	R	56 x 11 x 3,5 x 2,7	23,79
M 4x0,70	3,30	R	63 x 13 x 4,5 x 3,4	27,07
M 5x0,80	4,20	R	70 x 16 x 6,0 x 4,9	24,23
M 6x1,00	5,00	R	80 x 17 x 6,0 x 4,9	27,57
M 7x1,00	6,00	R	80 x 17 x 7,0 x 5,5	35,76
M 8x1,25	6,80	R	90 x 20 x 8,0 x 6,2	31,16
M 10x1,50	8,50	R	100 x 22 x 10,0 x 8,0	35,32

				M1DI
		CABO FINO		
M 12x1,50	10,50	D	100 x 22 x 9,0 x 7,0	58,51
M 12x1,75	10,20	D	110 x 24 x 9,0 x 7,0	42,17
M 14x1,50	12,50	D	100 x 22 x 11,0 x 9,0	69,68
M 14x2,00	12,00	D	110 x 26 x 11,0 x 9,0	69,22
M 16x1,50	14,50	D	100 x 22 x 12,0 x 9,0	82,38
M 16x2,00	14,00	D	110 x 27 x 12,0 x 9,0	81,46
M 18x1,50	16,50	D	110 x 25 x 14,0 x 11,0	109,07
M 18x2,50	15,50	D	125 x 30 x 14,0 x 11,0	117,20
M 20x1,50	18,50	D	125 x 25 x 16,0 x 12,0	123,54
M 20x2,50	17,50	D	140 x 32 x 16,0 x 12,0	124,76
M 22x2,50	19,50	D	140 x 32 x 18,0 x 14,5	150,97
M 24x2,00	22,00	D	140 x 28 x 18,0 x 14,5	233,33
M 24x3,00	21,00	D	160 x 34 x 18,0 x 14,5	180,73
M 27x3,00	24,00	D	160 x 36 x 20,0 x 16,0	225,60
M 30x2,00	28,00	D	150 x 28 x 22,0 x 18,0	347,42
M 30x3,50	26,50	D	180 x 40 x 22,0 x 18,0	289,11
M 33x3,50	29,50	D	180 x 40 x 25,0 x 20,0	347,42
M 36x4,00	32,00	D	200 x 50 x 28,0 x 22,0	455,97

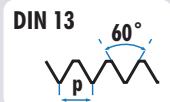
Consulte outras medidas disponíveis sob demanda.

MACHOS MÁQUINA MÉTRICA NORMA ISO 529

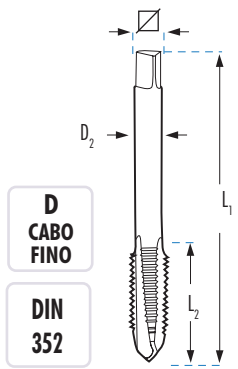
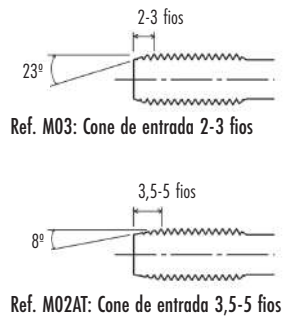
M
MFHSSCo
5%ISO
529TOL
6HD
CABO
FINOISO
529R
CABO
REFORÇADOISO
529

		L1 x L2 x D2 x ∇ mm	M1RISO	M2RISO	M4RISO	M5RISO
			FORMA C	FORMA B	 35° DENTE ALTERNADO AI	€
M 3x0,50	2,50	R 48 x 11 x 3,15 x 2,50	8,58	8,95	10,77	12,81
M 4x0,70	3,30	R 53 x 13 x 4,00 x 3,15	8,58	8,95	10,77	12,81
M 5x0,80	4,20	R 58 x 16 x 5,00 x 4,00	8,58	8,95	10,77	12,81
M 6x1,00	5,00	R 66 x 19 x 6,30 x 5,00	8,58	8,95	11,00	12,81
M 7x1,00	6,00	R 66 x 19 x 7,10 x 5,60		12,73	14,61	
M 8x1,00	7,00	R 69 x 19 x 8,00 x 6,30		17,56	18,02	
M 8x1,25	6,75	R 72 x 22 x 8,00 x 6,30	11,47	11,94	12,35	14,00
M 9x1,25	7,75	R 76 x 20 x 10,00 x 8,00		18,99	21,69	
M 10x1,00	9,00	R 76 x 20 x 10,00 x 8,00		20,14	22,00	
M 10x1,25	8,80	R 76 x 20 x 10,00 x 8,00		24,08	24,85	
M 10x1,50	8,50	R 80 x 24 x 10,00 x 8,00	14,58	15,19	15,92	17,66
CABO FINO			M1DISO	M2DISO	M4DISO	M5DISO
M 12x1,00	11,00	D 84 x 24 x 9,00 x 7,10		27,74	28,42	
M 12x1,25	10,75	D 84 x 24 x 9,00 x 7,10		27,25	28,21	
M 12x1,50	10,50	D 89 x 29 x 9,00 x 7,10		24,31	26,18	
M 12x1,75	10,20	D 89 x 29 x 9,00 x 7,10	18,74	19,52	20,67	26,42
M 14x1,00	13,00	D 90 x 25 x 11,20 x 9,00		34,74	43,22	
M 14x1,25	12,80	D 90 x 25 x 11,20 x 9,00		29,34	36,74	
M 14x1,50	12,50	D 95 x 30 x 12,50 x 9,00		25,78	28,97	
M 14x2,00	12,00	D 95 x 30 x 11,20 x 9,00	22,41	23,34	28,26	
M 16x1,00	15,00	D 95 x 25 x 12,50 x 10,00		44,21	56,89	
M 16x1,25	14,75	D 102 x 32 x 12,50 x 10,00		49,01	63,08	
M 16x1,50	14,50	D 102 x 32 x 14,00 x 10,00		30,94	34,67	
M 16x2,00	14,00	D 102 x 32 x 12,50 x 10,00	27,83	28,98	32,78	
M 18x1,50	16,50	D 104 x 29 x 14,00 x 11,20		40,88	55,86	
M 18x2,50	15,50	D 112 x 37 x 14,00 x 11,20	41,90	43,64	54,56	
M 20x1,50	18,50	D 104 x 29 x 14,00 x 11,20		52,61	64,34	
M 20x2,50	17,50	D 112 x 37 x 14,00 x 11,20	46,83	48,78	60,97	
M 22x2,50	19,50	D 118 x 38 x 16,00 x 12,50	54,15	56,41	70,51	
M 24x3,00	21,00	D 130 x 45 x 18,00 x 14,00	61,17	63,72	79,64	
M 27x3,00	24,00	D 135 x 45 x 20,00 x 16,00	75,33	78,47	98,09	
M 30x3,50	26,50	D 138 x 48 x 20,00 x 16,00	111,92	116,59	145,73	

MACHOS MÁQUINA CURTOS DIN 352



HSS HSSCo 5% DIN 352 TOL 6H



D CABO FINO
DIN 352



		$L_1 \times L_2 \times D_2 \times \square$ mm	M03	M02AT	M03X	M02DIN	M04DIN
			HSS	ALTURA ACABADA HSS	INOX HSSCo	FORMA B HSS	 HSS
			€	€	€	€	€
M 3x0,50	2,50	D 40 x 11 x 3,50 x 2,70	7,58	10,43	13,53	9,84	11,85
M 4x0,70	3,30	D 45 x 13 x 4,50 x 3,40	7,57	10,42	13,53	9,84	11,85
M 5x0,80	4,20	D 50 x 16 x 6,00 x 4,90	8,10	11,15	14,09	9,84	11,85
M 6x1,00	5,00	D 50 x 19 x 6,00 x 4,90	8,10	11,15	14,04	9,84	12,11
M 7x1,00	6,00	D 50 x 19 x 6,00 x 4,90	9,86				
M 8x1,00	7,00	D 56 x 18 x 6,00 x 4,90	13,65				
M 8x1,25	6,75	D 56 x 22 x 6,00 x 4,90	9,85	13,57	16,34	13,14	14,68
M 9x1,25	7,75	D 63 x 18 x 7,00 x 5,50	16,14				
M 10x1,00	9,00	D 63 x 18 x 7,00 x 5,50	14,62				
M 10x1,25	8,80	D 70 x 24 x 7,00 x 5,50	14,82				
M 10x1,50	8,50	D 70 x 24 x 7,00 x 5,50	12,15	16,72	21,03	16,71	18,50
M 12x1,00	11,00	D 70 x 20 x 9,00 x 7,00	25,91				
M 12x1,25	10,75	D 70 x 20 x 9,00 x 7,00	25,84				
M 12x1,50	10,50	D 70 x 20 x 9,00 x 7,00	22,02				
M 12x1,75	10,20	D 75 x 29 x 9,00 x 7,00	17,09	23,54	30,11	21,48	24,09
M 14x1,00	13,00	D 70 x 20 x 11,00 x 9,00	40,39				
M 14x1,25	12,80	D 70 x 20 x 11,00 x 9,00	31,55				
M 14x1,50	12,50	D 70 x 20 x 11,00 x 9,00	24,53				
M 14x2,00	12,00	D 80 x 30 x 11,00 x 9,00	18,91	26,03	33,34	25,67	31,09
M 16x1,00	15,00	D 70 x 20 x 12,00 x 9,00	53,58				
M 16x1,25	14,75	D 70 x 20 x 12,00 x 9,00	56,40				
M 16x1,50	14,50	D 70 x 20 x 12,00 x 9,00	30,53				
M 16x2,00	14,00	D 80 x 32 x 12,00 x 9,00	27,06		45,70	31,89	36,05
M 18x1,50	16,50	D 80 x 22 x 14,00 x 11,00	40,22				
M 18x2,50	15,50	D 95 x 40 x 14,00 x 11,00	35,71		62,41	48,01	60,02
M 20x1,50	18,50	D 80 x 22 x 16,00 x 12,00	50,37				
M 20x2,50	17,50	D 95 x 40 x 16,00 x 12,00	40,06		69,27	53,66	67,07
M 22x2,50	19,50	D 100 x 40 x 18,00 x 14,50	53,36			62,03	77,56
M 24x3,00	21,00	D 110 x 50 x 18,00 x 14,50	63,65			70,10	87,61
M 27x3,00	24,00	D 110 x 50 x 20,00 x 16,00	80,48			90,48	99,32
M 30x3,50	26,50	D 125 x 50 x 22,00 x 18,00	103,55			123,93	127,28

MACHOS DE MÁQUINA E CAÇONETES SERIE *Plus* E *Super Plus*

DIN 13

60°

TOL
6H

PARA TRABALHOS DE ALTA PRODUÇÃO
FABRICADOS EM AÇO SINTERIZADO

DIN
22568

TOL
6g



Plus

Plus TiN

Plus LUBE

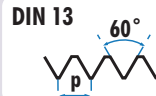
Super Plus AlTiN

QUALIDADE	M2RP		M4RP		M2RT		M4RT		M2RHL		M4RHL		M2RSP		M4RSP		C5P	
	★ ★	★ ★	★ ★ ★	★ ★ ★	★ ★ ★ ★	★ ★ ★ ★	★ ★ ★ ★	★ ★ ★ ★	★ ★ ★ ★	★ ★ ★ ★	★ ★ ★ ★	★ ★ ★ ★	★ ★ ★ ★	★ ★ ★ ★	★ ★ ★ ★			
MATERIAL	HSS PM	HSS PM	HSSCo 5%	HSSCo 5%	HSS PM	HSS PM	HSS V3	HSS V3	HSS V3	HSS V3	HSS V3	HSS V3	HSS V3	HSS V3	HSS V3	HSS		
ACABAMENTO	BRILHANTE	BRILHANTE	TiN	TiN	HARD LUBE	HARD LUBE	ALTiN	ALTiN	ALTiN	ALTiN	ALTiN	ALTiN	ALTiN	ALTiN	ALTiN	BRILHANTE		
ÂNGULO DA HÉLICE	FORMA B	FORMA B	FORMA B	FORMA B	FORMA B	FORMA B	FORMA B	FORMA B	FORMA B	FORMA B	FORMA B	FORMA B	FORMA B	FORMA B	FORMA B	FORMA B	FORMA B	
	L1 x L2 x D2 x	L1 x L2 x D2 x	L1 x L2 x D2 x	L1 x L2 x D2 x	L1 x L2 x D2 x	L1 x L2 x D2 x	L1 x L2 x D2 x	L1 x L2 x D2 x	L1 x L2 x D2 x	L1 x L2 x D2 x	L1 x L2 x D2 x	L1 x L2 x D2 x	L1 x L2 x D2 x	L1 x L2 x D2 x	L1 x L2 x D2 x	Ø x L3	€	
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
	€	€	€	€	€	€	€	€	€	€	€	€	€	€	€	€	€	€
M 3x0,50	2,50	R	56 x 11 x 3,5 x 2,7	17,59	21,74	23,68	26,17	31,71	34,32	42,61	44,59	25 x 9	32,36					
M 4x0,70	3,30	R	63 x 13 x 4,5 x 3,4	17,97	21,74	24,06	27,29	32,19	34,80	42,61	44,59	25 x 9	32,36					
M 5x0,80	4,20	R	70 x 16 x 6,0 x 4,9	17,97	20,83	24,06	27,29	32,19	34,80	45,00	46,25	25 x 9	32,36					
M 6x1,00	5,00	R	80 x 17 x 6,0 x 4,9	19,76	22,88	27,70	30,00	35,34	36,84	45,00	46,25	25 x 9	32,36					
M 8x1,00	7,00	D	90 x 20 x 6,0 x 4,9	28,20	33,46	39,71	44,19	53,61	59,67			25 x 9	45,13					
M 8x1,25	6,80	R	90 x 20 x 8,0 x 6,2	23,13	26,58	32,38	35,22	44,94	46,88	57,13	60,88	25 x 9	35,10					
M 10x1,00	9,00	D	90 x 16 x 7,0 x 5,5	31,44	39,42	46,39	53,26	62,60	73,96			30 x 10	55,16					
M 10x1,50	8,50	R	100 x 22 x 10,0 x 8,0	27,22	30,94	38,14	41,76	55,73	58,34	68,08	72,63	30 x 10	48,27					
CABO FINO			M2DP	M4DP	M2DT	M4DT	M2DHL	M4DHL	M2DSP	M4DSP								
M 12x1,50	10,50	D	100 x 22 x 9,0 x 7,0	37,30	45,09	50,24	56,56	67,52	77,44			38 x 10	57,34					
M 12x1,75	10,20	D	110 x 24 x 9,0 x 7,0	35,08	41,66	47,02	53,01	58,83	70,61	85,66	92,93	38 x 14	50,63					
M 14x1,50	12,50	D	100 x 22 x 11,0 x 9,0	44,19	55,42	59,08	65,26	79,41	91,07			38 x 10	59,94					
M 14x2,00	12,00	D	110 x 26 x 11,0 x 9,0	43,86	50,84	58,02	63,79	80,25	88,21	87,45	117,75	38 x 14	51,61					
M 16x1,50	14,50	D	100 x 22 x 12,0 x 9,0	55,28	68,16	71,01	81,19	78,41	91,53			45 x 14	82,34					
M 16x2,00	14,00	D	110 x 27 x 12,0 x 9,0	51,58	61,45	66,24	73,23	91,62	101,26	119,37	126,99	45 x 18	69,33					
M 18x2,50	15,50	D	125 x 30 x 14,0 x 11,0	73,11	82,59	90,46	98,69	129,43	137,52	177,19	191,70	45 x 18	69,33					
M 20x2,50	17,50	D	140 x 32 x 16,0 x 12,0	78,99	88,04	103,10	111,07	135,99	154,83	188,84	199,61	45 x 18	69,33					
M 22x2,50	19,50	D	140 x 32 x 18,0 x 14,5	95,56	108,64	116,52	124,72	159,50	174,05			55 x 22	103,06					
M 24x3,00	21,00	D	160 x 34 x 18,0 x 14,5	113,62	130,06	131,29	142,66	179,72	199,07			55 x 22	103,06					

MACHOS DE MÁQUINA HSS-PM PARA TRABALHOS ESPECIAIS

INOX

M

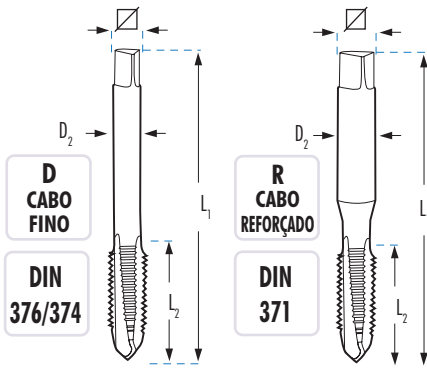


**TOL
6H**

**Vc
6 m/min**

**Vc
10 m/min**

**Vc
12 m/min**



				M2RX	M4RX	M2RXT	M4RXT	M2RXHL	M4RXHL
QUALIDADE				★★	★★	★★★	★★★	★★★★	★★★★
MATERIAL				HSS PM	HSS PM	HSSCo 5%	HSSCo 5%	HSS PM	HSS PM
ACABAMENTO				OX	OX	TiN	TiN	HARD LUBE	HARD LUBE
ÂNGULO DA HÉLICE				FORMA B	35°	FORMA B	35°	FORMA B	35°
			$L_1 \times L_2 \times D_2 \times \angle$ mm	€	€	€	€	€	€
M 3x0,50	2,50	R	56 x 11 x 3,5 x 2,7	21,02	24,98	24,28	27,47	32,11	37,76
M 4x0,70	3,30	R	63 x 13 x 4,5 x 3,4	22,07	24,98	25,46	27,92	33,73	38,75
M 5x0,80	4,20	R	70 x 16 x 6,0 x 4,9	22,07	25,17	25,46	28,34	33,73	39,33
M 6x1,00	5,00	R	80 x 17 x 6,0 x 4,9	24,18	27,22	26,96	29,63	36,93	41,15
M 8x1,00	7,00	D	90 x 20 x 6,0 x 4,9	39,04	42,78				
M 8x1,25	6,80	R	90 x 20 x 8,0 x 6,2	26,97	31,01	31,16	34,14	41,23	47,39
M 10x1,00	9,00	D	90 x 16 x 7,0 x 5,5	40,24	42,96				
M 10x1,50	8,50	R	100 x 22 x 10,0 x 8,0	32,99	36,79	36,44	40,26	50,38	56,20
CABO FINO				M2DX	M4DX	M2DXT	M4DXT	M2DXHL	M4DXHL
M 12x1,00	11,00	D	100 x 22 x 9,0 x 7,0	45,63	52,35				
M 12x1,50	10,50	D	100 x 22 x 9,0 x 7,0	46,32	54,77				
M 12x1,75	10,20	D	110 x 24 x 9,0 x 7,0	42,39	49,63	46,61	52,47	66,34	77,66
M 14x2,00	12,00	D	110 x 26 x 11,0 x 9,0	60,34	69,12	60,72	65,64	88,15	97,61
M 16x2,00	14,00	D	110 x 27 x 12,0 x 9,0	67,20	79,77	68,92	75,53	98,14	118,06
M 18x2,50	15,50	D	125 x 30 x 14,0 x 11,0	100,63	113,51	103,90	107,81	157,49	167,97
M 20x2,50	17,50	D	140 x 32 x 16,0 x 12,0	108,75	119,87	118,63	121,80	167,43	177,36
M 22x2,50	19,50	D	140 x 32 x 18,0 x 14,5	130,49	137,88	147,26	159,44		
M 24x3,00	21,00	D	160 x 34 x 18,0 x 14,5	137,19	157,47	150,13	163,09		
M 27x3,00	24,00	D	160 x 36 x 20,0 x 16,0	179,71	206,27				
M 30x3,50	26,50	D	180 x 40 x 22,0 x 18,0	229,81	263,78				



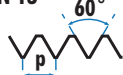
- LUBRIFICAÇÃO: CUT MAGIC XTHICK.
- Recomenda-se a aplicação do óleo de corte CUT MAGIC XTHICK para otimizar o processo de rosqueamento em Inox, Inconel, Titânio, Duplex, etc...

Ref. ACXT00250

MACHOS *Super Plus* PARA A ROSCAGEM DE LIGAS REFRAATÁRIAS

M

DIN 13

TOL
6HINOX
DUPLEX

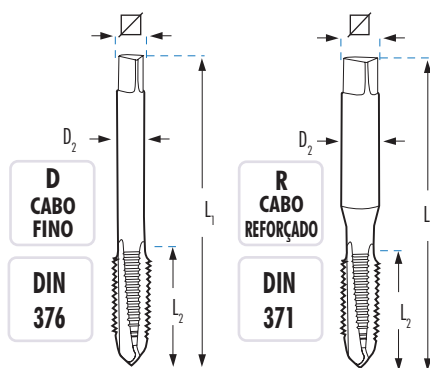
Ni



INC

Ti

 ESPECIALMENTE RECOMENDADO
 EM APLICAÇÕES AERONÁUTICAS
Vc
15
m/minINOX
DUPLEXVc
6
m/minNICKEL
INCONELVc
6
m/min

TITÂNIO



			M2RDU	M4RDU	M2RNI	M3RNI	M2RTIT	M3RTIT
QUALIDADE			★★★★	★★★★	★★★★	★★★★	★★★★	★★★★
MATERIAL			HSS V3	HSS V3	HSS PM	HSS PM	HSS PM	HSS PM
ACABAMENTO			TiCN	TiCN	BRILHANTE	BRILHANTE	OX	OX
ÂNGULO DA HÉLICE			FORMA B	41°	FORMA B	15°	FORMA B	15°
		L1 x L2 x D2 x ∇ mm	€	€	€	€	€	€
M 3x0,50	2,50	R 56 x 11 x 3,5 x 2,7	43,21	44,26	80,27	82,03	59,60	65,78
M 4x0,70	3,30	R 63 x 13 x 4,5 x 3,4	43,21	44,53	82,03	84,25	61,46	65,78
M 5x0,80	4,20	R 70 x 16 x 6,0 x 4,9	44,66	45,53	84,92	86,93	63,01	70,07
M 6x1,00	5,00	R 80 x 17 x 6,0 x 4,9	45,89	46,86	85,59	88,01	63,01	71,04
M 8x1,25	6,80	R 90 x 20 x 8,0 x 6,2	64,09	66,82	96,73	99,30	72,81	82,03
M 10x1,50	8,50	R 100 x 22 x 10,0 x 8,0	83,07	85,23	114,92	118,44	90,17	98,85
CABO FINO			M2DDU	M4DDU	M2DNI	M3DNI	M2DTIT	M3DTIT
M 12x1,75	10,20	D 110 x 24 x 9,0 x 7,0	112,30	121,26	147,82	163,44	113,17	122,81
M 14x2,00	12,00	D 110 x 26 x 11,0 x 9,0						
M 16x2,00	14,00	D 110 x 27 x 12,0 x 9,0	165,14	176,59				
M 18x2,50	15,50	D 125 x 30 x 14,0 x 11,0						
M 20x2,50	17,50	D 140 x 32 x 16,0 x 12,0	244,53	264,13				
M 22x2,50	19,50	D 140 x 32 x 18,0 x 14,5						
M 24x3,00	21,00	D 160 x 34 x 18,0 x 14,5	331,21	336,89				
M 27x3,00	24,00	D 160 x 36 x 20,0 x 16,0	425,51	446,03				
M 30x3,50	26,50	D 180 x 40 x 22,0 x 18,0	502,54	525,85				

MACHOS DE MÁQUINA PARA AÇOS ESTRUTURAIS SUPER MACIOS < DE 450 N/mm²



HSSCo
5%

OX

TOL
6H

APLICAÇÕES

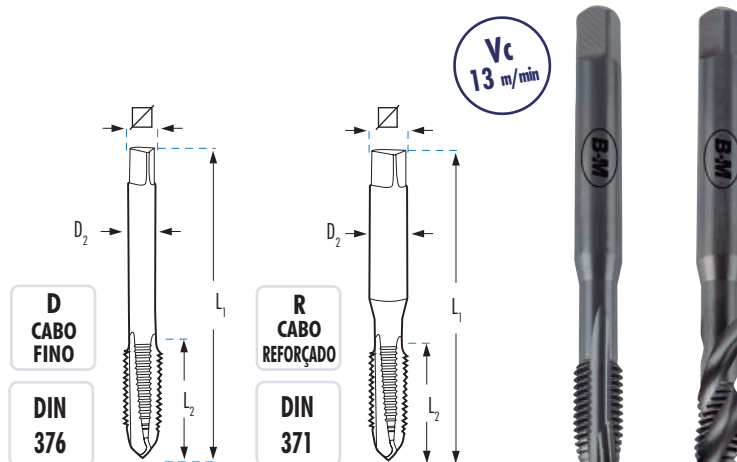






450
N/mm²

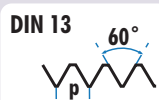
ST52

Al

Geometria de corte específica para materiais macios, não gera sobremedida e se encaixa perfeitamente a este tipo de materiais, onde os machos convencionais podem causar sobremedida ao gerar a rosca.

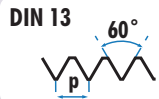
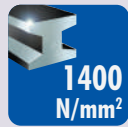


		L ₁ x L ₂ x D ₂ x  mm	M2RSS	M4RSS
			FORMA B	 35°
			€	€
M 3 x 0,50	2,50	R 56 x 11 x 3,5 x 2,7	14,97	20,00
M 4 x 0,70	3,30	R 63 x 13 x 4,5 x 3,4	15,67	20,01
M 5 x 0,80	4,20	R 70 x 16 x 6,0 x 4,9	15,69	19,19
M 6 x 1,00	5,00	R 80 x 17 x 6,0 x 4,9	17,21	21,04
M 8 x 1,25	6,80	R 90 x 20 x 8,0 x 6,2	19,31	23,80
M 10 x 1,50	8,50	R 100 x 22 x 10,0 x 8,0	23,78	28,19
CABO FINO			M2DSS	M4DSS
M 12 x 1,75	10,20	D 110 x 24 x 9,0 x 7,0	29,99	36,31
M 14 x 2,00	12,00	D 110 x 26 x 11,0 x 9,0	44,28	52,29
M 16 x 2,00	14,00	D 110 x 27 x 12,0 x 9,0	51,79	63,17
M 18 x 2,50	15,50	D 125 x 30 x 14,0 x 11,0	73,77	81,89
M 20 x 2,50	17,50	D 140 x 32 x 16,0 x 12,0	79,63	90,78
M 22 x 2,50	19,50	D 140 x 32 x 18,0 x 14,5	95,59	106,53
M 24 x 3,00	21,00	D 160 x 34 x 18,0 x 14,5	113,86	129,49
M 27 x 3,00	24,00	D 160 x 36 x 20,0 x 16,0	142,41	159,32
M 30 x 3,50	26,50	D 180 x 40 x 22,0 x 18,0	182,98	204,17

MACHOS DE MÁQUINA HSS-PM PARA TRABALHOS ESPECIAIS

**HSS
V3**
**TOL
6H**
**MATERIAIS
DUROS**


			M2RMD	M4RMD	M2RMDTX	M4RMDTX
QUALIDADE			★★★	★★★	★★★★	★★★★
MATERIAL			HSS V3	HSS V3	HSS V3	HSS V3
ACABAMENTO			OX	OX	TINALOX	TINALOX
ÂNGULO DA HÉLICE			FORMA B	35°	FORMA B	35°
		L1 x L2 x D2 x \square mm	€	€	€	€
M 3x0,50	2,50	R 56 x 11 x 3,5 x 2,7	18,45	20,20	27,06	31,82
M 4x0,70	3,30	R 63 x 13 x 4,5 x 3,4	18,51	20,27	28,43	33,32
M 5x0,80	4,20	R 70 x 16 x 6,0 x 4,9	18,51	21,26	28,43	33,32
M 6x1,00	5,00	R 80 x 17 x 6,0 x 4,9	21,01	21,97	31,14	35,04
M 8x1,25	6,80	R 90 x 20 x 8,0 x 6,2	22,45	25,92	34,76	39,95
M 10x1,50	8,50	R 100 x 22 x 10,0 x 8,0	25,86	29,85	43,98	49,06
CABO FINO			M2DMD	M4DMD	M2DMDTX	M4DMDTX
M 12x1,75	10,20	D 110 x 24 x 9,0 x 7,0	36,87	42,53	58,58	68,58
M 14x2,00	12,00	D 110 x 26 x 11,0 x 9,0	48,36	50,48	83,35	91,52
M 16x2,00	14,00	D 110 x 27 x 12,0 x 9,0	54,10	61,08	92,84	110,68
M 18x2,50	15,50	D 125 x 30 x 14,0 x 11,0	80,66	86,89	136,50	154,58
M 20x2,50	17,50	D 140 x 32 x 16,0 x 12,0	87,17	91,74	147,53	163,18

MACHOS DE MÁQUINA PARA MATERIAIS TEMPERADOS (HARDOX 450/500)



TOL
6H

HSSE

HSS
PM

MD

MATERIAIS
MUITO
DUROS

48
HRc

48-62
HRc

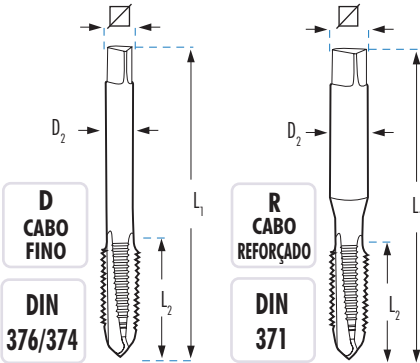


MD

Vc
5 m/min

48
HRc

48-62
HRc



				M2RC	M3RC	M2HRC	M4HRC	M1RCM		M1RHMC		
				HSSE	HSSE	HSS PM	HSS PM	HSS PM		MD		
				TiAlN	TiAlN	TINALOX	TINALOX	TiCN		TiCN		
				FORMA B	15°	FORMA B	35°	FORMA C		FORMA C		
				€	€	€	€	€	€	€	€	
M	3 x 0,50	2,50	R	56 x 11 x 3,5 x 2,7	29,52	31,40	32,64	36,56	2,60	47,28	2,60	130,98
M	4 x 0,70	3,30	R	63 x 13 x 4,5 x 3,4	29,58	33,44	33,90	37,97	3,40	41,59	3,40	130,98
M	5 x 0,80	4,20	R	70 x 16 x 6,0 x 4,9	29,86	32,68	34,23	38,34	4,30	46,47	4,30	130,98
M	6 x 1,00	5,00	R	80 x 17 x 6,0 x 4,9	32,28	36,18	35,69	39,97	5,10	59,50	5,10	163,73
M	8 x 1,25	6,80	R	90 x 20 x 8,0 x 6,2	37,28	42,54	44,37	49,71	6,90	66,00	6,90	184,26
M	10 x 1,50	8,50	R	100 x 22 x 10,0 x 8,0	44,63	52,70	53,11	55,77	8,60	85,56	8,60	282,73
		CABO FINO		M2DC	M3DC	M2HDC	M4HDC	M1RCM		M1DHMC		
M	12 x 1,75	10,20	D	110 x 24 x 9,0 x 7,0	66,74	79,22	81,07	88,38	10,40	113,20 *	10,40	442,80
M	14 x 2,00	12,00	D	110 x 26 x 11,0 x 9,0	90,11	105,40	96,14	108,13	12,10	143,12 *	12,10	510,23
M	16 x 2,00	14,00	D	110 x 27 x 12,0 x 9,0	101,67	121,07	106,89	123,95	14,10	153,09 *	16,10	666,25
M	18 x 2,50	15,50	D	125 x 30 x 14,0 x 11,0	128,75	140,20	132,32	144,23			15,75	813,95
M	20 x 2,50	17,50	D	140 x 32 x 16,0 x 12,0	155,93	162,29	156,26	170,33			17,75	1.287,53
M	22 x 2,50	19,50	D	140 x 32 x 18,0 x 14,5	220,88	230,33						
M	24 x 3,00	21,00	D	160 x 34 x 18,0 x 14,5	226,13	236,63	235,97	257,22				
M	27 x 3,00	24,00	D	160 x 36 x 20,0 x 16,0	236,63	254,48						
M	30 x 3,50	26,50	D	180 x 40 x 22,0 x 18,0	253,31	268,13						

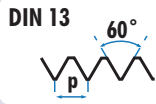
* Cabo Reforçado: M12 - Ø 12 x 9
M14 - Ø 14 x 11
M16 - Ø 16 x 12

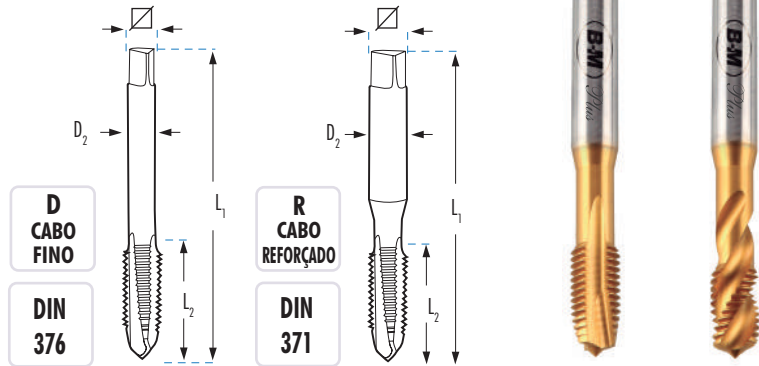


- LUBRIFICAÇÃO: CUT MAGIC XTHICK.
- Recomenda-se roscar a peça sobre a mesma ferramenta utilizada para a furação previa e na mesma posição, para garantir a coaxialidade entre o macho e o furo previo.

Ref. ACXT00250

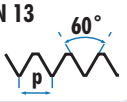
HRc	Vc (m/min)
48 Hrc	8 m/min
56 Hrc	6 m/min
62Hrc	3 m/min

MACHOS DE MÁQUINA TODO-O-TERRENO
TODO-O-TERRENO

HSSCo
5%
TiN
TOL
6H
APLICAÇÕES

Al
FUNDIÇÃO
Ti
INOX
Vc
13 m/min


			M2RD		M4RD	
			FORMA B	35°	FORMA B	35°
		L1 x L2 x D2 x Ø mm	€	€	€	€
M 3 x 0,50	2,50	R 56 x 11 x 3,5 x 2,7	27,71		34,64	
M 4 x 0,70	3,30	R 63 x 13 x 4,5 x 3,4	29,65		34,64	
M 5 x 0,80	4,20	R 70 x 16 x 6,0 x 4,9	31,54		35,88	
M 6 x 1,00	5,00	R 80 x 17 x 6,0 x 4,9	32,64		37,24	
M 8 x 1,25	6,80	R 90 x 20 x 8,0 x 6,2	38,24		42,49	
M 10 x 1,50	8,50	R 100 x 22 x 10,0 x 8,0	44,12		50,34	
CABO FINO			M2DD		M4DD	
M 12 x 1,75	10,20	D 110 x 24 x 9,0 x 7,0	55,60		66,19	
M 14 x 2,00	12,00	D 110 x 26 x 11,0 x 9,0	72,61		79,79	
M 16 x 2,00	14,00	D 110 x 27 x 12,0 x 9,0	81,36		88,06	
M 18 x 2,50	15,50	D 125 x 30 x 14,0 x 11,0	127,14		130,38	
M 20 x 2,50	17,50	D 140 x 32 x 16,0 x 12,0	129,51		134,36	

MACHOS DE MÁQUINA HSSCo PARA TRABALHOS ESPECIAIS

Al
FUNDIÇÃO
LATÃO
DIN 13

HSSCo
5%
MD
TOL
6H

Vc
18 m/min



Vc
11 m/min



Vc
21 m/min



Vc
16 m/min



Vc
19 m/min



Vc
19 m/min



D
CABO
FINO





DIN
376

R
CABO
REFORÇADO



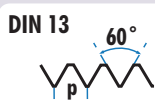
DIN
371

				M5R	M6R	M1RFM	MHM1R	M1RL	M1RLCRN
APLICAÇÃO				Al	Al	FUNDIÇÃO	FUNDIÇÃO	LATÃO	LATÃO
MATERIAL				HSSCo 5%	HSSCo 5%	HSSCo 5%	MD	HSSCo 5%	HSSCo 5%
ACABAMENTO				BRILHANTE	BRILHANTE	OX	BRILHANTE	BRILHANTE	CrN
FORMA				DENTE ALTERNADO	2 CANAIS	FORMA C	FORMA C	FORMA C	FORMA C
		L1 x L2 x D2 x ∇ mm		€	€	€	€	€	€
M 3x0,50	2,50	R	56 x 11 x 3,5 x 2,7	23,91	25,65	16,92	85,74	20,25	23,01
M 4x0,70	3,30	R	63 x 13 x 4,5 x 3,4	24,05	25,65	17,48	85,74	21,50	25,36
M 5x0,80	4,20	R	70 x 16 x 6,0 x 4,9	23,91	26,20	17,48	85,74	21,50	25,45
M 6x1,00	5,00	R	80 x 17 x 6,0 x 4,9	25,20	28,33	19,86	97,80	23,56	27,79
M 8x1,25	6,80	R	90 x 20 x 8,0 x 6,2	30,17	33,95	22,24	109,20	26,87	33,79
M 10x1,50	8,50	R	100 x 22 x 10,0 x 8,0	36,37	40,14	25,44	136,86	32,32	41,12
CABO FINO				M5D	M6D	M1DFM	MHM1D	M1DL	M1DLCRN
M 12x1,75	10,20	D	110 x 24 x 9,0 x 7,0	46,23	50,45	32,60	190,92	38,42	50,63
M 14x2,00	12,00	D	110 x 26 x 11,0 x 9,0	83,72	87,13	53,59	297,42	47,17	61,70
M 16x2,00	14,00	D	110 x 27 x 12,0 x 9,0	91,25	98,81	63,05	353,84	54,26	68,99
M 18x2,50	15,50	D	125 x 30 x 14,0 x 11,0			88,20	433,74	71,17	87,37
M 20x2,50	17,50	D	140 x 32 x 16,0 x 12,0			88,55	525,24	79,88	97,27



- LUBRIFICAÇÃO: CUT MAGIC ALUMINIUM.
- Recomenda-se a aplicação do óleo de corte CUT MAGIC ALUMINIUM para otimizar o processo de rosqueamento em alumínio e as suas fundições.

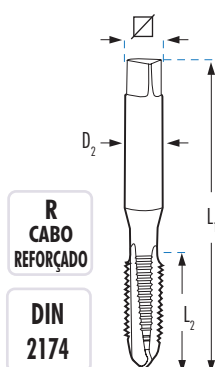
MACHOS DE MÁQUINA PARA ROSCAGEM POR LAMINAÇÃO

LAMINAÇÃO

DIN 13

HSSCo
5%
HSSCo
8%
TOL
6HX

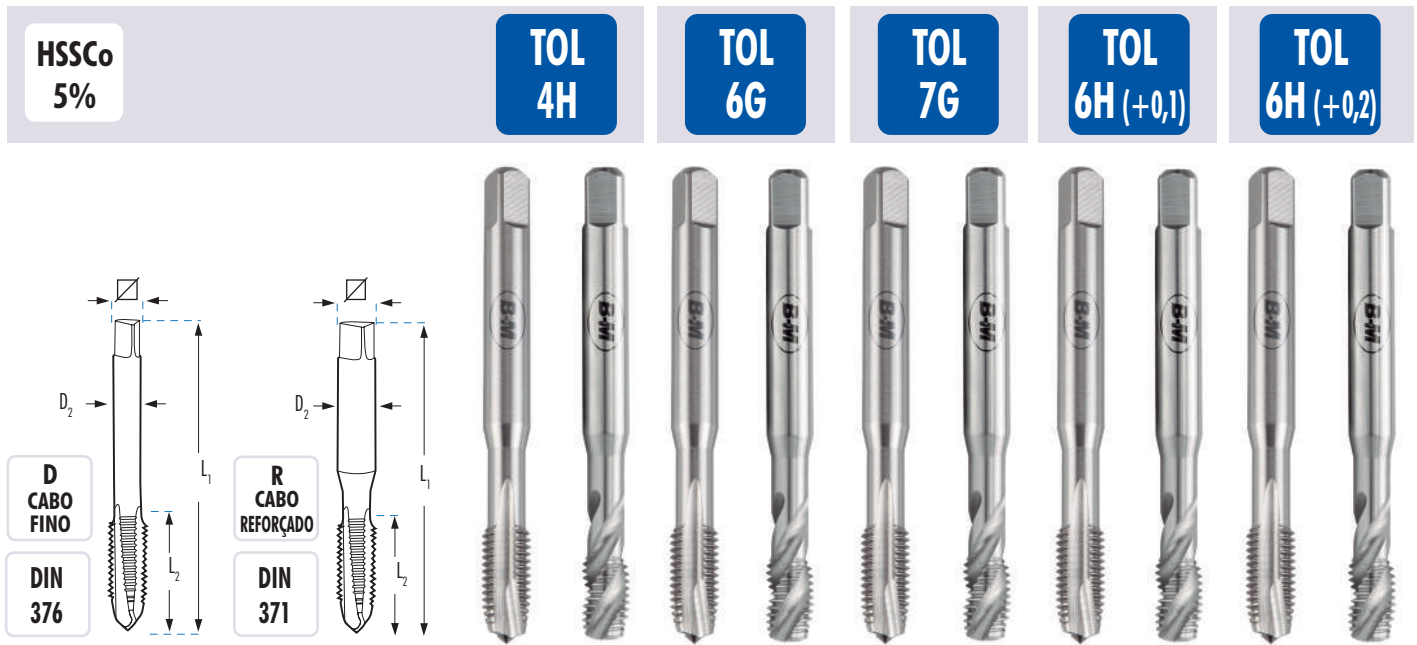
APLICAÇÕES


800
 N/mm²
Al
FUNDIÇÃO

1400
 N/mm²
INOX
Plus

R
CABO
REFORÇADO
DIN
2174


				M07R	M07RT	M07RCR	M07RCCR	M09RCCR	M07RXTCR
		APLICAÇÃO		LAMINAÇÃO	LAMINAÇÃO	LAMINAÇÃO	LAMINAÇÃO	LAMINAÇÃO	LAMINAÇÃO
		MATERIAL		HSSCo 5%	HSSCo 5%	HSSCo 5%	HSSCo 5%	HSSCo 8%	HSSCo 5%
		ACABAMENTO		OX	TiN	OX	TiCN	TiCN	TiN
		FORMA							
			L1 x L2 x D2 x mm	€	€	€	€	€	€
M	3x0,50	2,75	R 56 x 11 x 3,5 x 2,7	33,82	36,72	37,22	46,70	112,36	83,79
M	3,5x0,60	3,20	R 56 x 11 x 3,5 x 2,7	35,55	40,49	38,45	49,43		
M	4x0,70	3,65	R 63 x 13 x 4,5 x 3,4	33,82	38,29	37,22	48,71	113,78	83,79
M	5x0,80	4,60	R 70 x 16 x 6,0 x 4,9	33,82	38,29	37,22	48,71	115,29	90,43
M	6x1,00	5,50	R 80 x 17 x 6,0 x 4,9	36,52	40,47	40,16	51,48	117,12	90,43
M	8x1,25	7,40	R 90 x 20 x 8,0 x 6,2	42,56	53,41	46,82	67,97	129,92	108,22
M	10x1,50	9,30	R 100 x 22 x 10,0 x 8,0	47,33	59,89	52,08	74,80	155,12	132,12
CABO FINO				M07D	M07DT	M07DCR	M07DCCR	M09DCCR	M07DXTCR
M	12x1,75	11,20	D 110 x 24 x 9,0 x 7,0	55,79	78,32	59,09	85,66	183,62	172,05
M	14x2,00	13,05	D 110 x 26 x 11,0 x 9,0	100,57	123,69	104,48	139,06	228,52	247,51
M	16x2,00	15,05	D 110 x 27 x 12,0 x 9,0	118,06	139,31	122,63	147,21	314,30	251,80
M	18x2,50	16,80	D 125 x 30 x 14,0 x 11,0	135,48	166,58	140,72	173,94	372,40	
M	20x2,50	18,80	D 140 x 32 x 16,0 x 12,0	178,51	252,17	185,43	264,43	412,29	

MACHOS DE MÁQUINA HSSCo TOLERÂNCIAS ESPECIAIS E SOBREMEDIDAS



		M2R4H	M4R4H	M2R6G	M4R6G	M2R7G	M4R7G	M2R+0,1	M4R+0,1	M2R+0,2	M4R+0,2	
		TOL 4H	TOL 4H	TOL 6G	TOL 6G	TOL 7G	TOL 7G	TOL 6H (+0,1)	TOL 6H (+0,1)	TOL 6H (+0,2)	TOL 6H (+0,2)	
		HSSCo 5%	HSSCo 5%	HSSCo 5%	HSSCo 5%	HSSCo 5%	HSSCo 5%	HSSCo 5%	HSSCo 5%	HSSCo 5%	HSSCo 5%	
		BRILHANTE	BRILHANTE	BRILHANTE	BRILHANTE	BRILHANTE	BRILHANTE	BRILHANTE	BRILHANTE	BRILHANTE	BRILHANTE	
		FORMA B	35°	FORMA B	35°	FORMA B	35°	FORMA B	35°	FORMA B	35°	
		€	€	€	€	€	€	€	€	€	€	
M 3x0,50	2,50	R 56 x 11 x 3,5 x 2,7	23,14	28,61	16,98	20,20	23,14	28,61	23,89	31,87	27,41	33,94
M 4x0,70	3,30	R 63 x 13 x 4,5 x 3,4	23,68	28,61	16,98	20,20	23,68	28,61	24,45	31,87	28,04	33,94
M 5x0,80	4,20	R 70 x 16 x 6,0 x 4,9	23,68	27,42	16,98	19,82	23,68	27,42	24,45	30,52	28,04	32,49
M 6x1,00	5,00	R 80 x 17 x 6,0 x 4,9	26,02	30,08	18,28	21,77	26,02	30,08	26,85	33,50	30,82	35,66
M 8x1,00	7,00	D 90 x 20 x 6,0 x 4,9			35,60	39,36						
M 8x1,25	6,75	R 90 x 20 x 8,0 x 6,2	29,14	34,35	21,25	25,52	29,14	34,35	30,08	38,22	34,52	40,71
M 10x1,00	9,00	D 90 x 16 x 7,0 x 5,5			42,04	48,93						
M 10x1,50	8,50	R 100 x 22 x 10,0 x 8,0	35,83	40,77	26,15	29,18	35,83	40,77	37,01	45,33	42,48	48,26
CABO FINO		M2D4H	M4D4H	M2D6G	M4D6G	M2D7G	M4D7G	M2D+0,1	M4D+0,1	M2D+0,2	M4D+0,2	
M 12x1,50	10,50	D 100 x 22 x 9,0 x 7,0		76,60	90,81							
M 12x1,75	10,20	D 110 x 24 x 9,0 x 7,0	46,20	54,85	34,48	41,54	46,20	54,85	46,35	58,76	52,66	62,57
M 14x2,00	12,00	D 110 x 26 x 11,0 x 9,0			42,36	50,89			75,61	93,53	85,92	99,61
M 16x2,00	14,00	D 110 x 27 x 12,0 x 9,0			52,35	61,47			88,92	113,03	101,08	120,37
M 18x2,50	15,50	D 125 x 30 x 14,0 x 11,0			73,83	76,10			134,46	152,24	143,18	162,11
M 20x2,50	17,50	D 140 x 32 x 16,0 x 12,0			76,25	87,48			145,29	161,99	154,71	172,50

4H.- Para roscas muito precisas. Ajuste mais exato.

6G.- Para roscas com revestimentos. Espessuras entre 20 - 40 µ

7G.- Para roscas com revestimentos. Espessuras entre 40 - 50 µ

6H. (+0,1)- Para obter roscas com sobremedidas ou para compensar deformações de tratamentos térmicos.

6H. (+0,2)- Rosca de perfil completo, para terminar o diâmetro exterior da rosca.

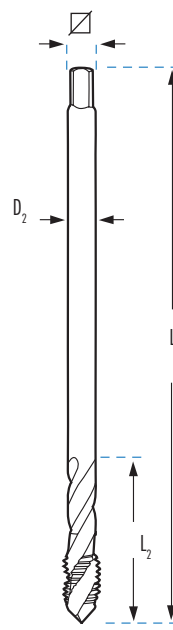
MACHOS DE MÁQUINA EXTRA-LONGOS HSSCo

FORMA
BHSSCo
5%

BRILHANTE

TOL
6HR
CABO
REFORÇADODIN
371D
CABO
FINODIN
376

				M2L
			L1 x L2 x D2 x ∇ mm	FORMA B €
M2LM03X0,50	M 3x0,50	2,50	R 100 x 10 x 3,5 x 2,7	38,63
M2LM04X0,70	M 4x0,70	3,30	R 120 x 12 x 4,5 x 3,4	39,48
M2LM05X0,80	M 5x0,80	4,20	R 140 x 14 x 6,0 x 4,9	39,48
M2LM06X1,00-120	M 6x1,00	5,00	R 120 x 16 x 6,0 x 4,9	41,67
M2LM06X1,00	M 6x1,00	5,00	R 160 x 16 x 6,0 x 4,9	43,38
M2LM07X1,00	M 7x1,00	6,00	R 160 x 17 x 7,0 x 5,5	49,27
M2LM08X1,25-150	M 8x1,25	6,80	R 150 x 18 x 8,0 x 6,2	49,34
M2LM08X1,25	M 8x1,25	6,80	R 180 x 18 x 8,0 x 6,2	50,86
				M2L-D
				CABO FINO
M2LM06X1,00D	M 6x1,00	5,00	D 160 x 16 x 4,5 x 3,4	45,03
M2LM08X1,25D	M 8x1,25	6,80	D 180 x 18 x 6,2 x 5,0	52,84
M2LM10X1,50-150	M 10x1,50	8,50	D 150 x 20 x 7,0 x 5,5	58,13
M2LM10X1,50	M 10x1,50	8,50	D 200 x 20 x 7,0 x 5,5	62,61
M2LM12X1,75-150	M 12x1,75	10,20	D 150 x 22 x 8,5 x 6,5	72,11
M2LM12X1,75	M 12x1,75	10,20	D 220 x 22 x 8,5 x 6,5	77,04
M2LM14X2,00	M 14x2,00	12,00	D 220 x 25 x 10,5 x 8,0	119,55
M2LM16X2,00	M 16x2,00	14,00	D 220 x 28 x 12,5 x 10,0	140,64
M2LM18X2,50	M 18x2,50	15,50	D 250 x 32 x 14,0 x 11,0	255,90
M2LM20X2,50	M 20x2,50	17,50	D 250 x 32 x 16,0 x 12,0	276,57
M2LM22X2,50	M 22x2,50	19,50	D 250 x 35 x 18,0 x 14,5	315,32
M2LM24X3,00	M 24x3,00	21,00	D 250 x 38 x 18,0 x 14,5	385,57

HSSCo
5%

BRILHANTE

TOL
6HR
CABO
REFORÇADODIN
371D
CABO
FINODIN
376

				M4L
			L1 x L2 x D2 x ∇ mm	FORMA B €
M4LM03X0,50	M 3x0,50	2,50	R 100 x 10 x 3,5 x 2,7	47,80
M4LM04X0,70	M 4x0,70	3,30	R 120 x 12 x 4,5 x 3,4	47,80
M4LM05X0,80	M 5x0,80	4,20	R 140 x 14 x 6,0 x 4,9	45,79
M4LM06X1,00-120	M 6x1,00	5,00	R 120 x 16 x 6,0 x 4,9	47,21
M4LM06X1,00	M 6x1,00	5,00	R 160 x 16 x 6,0 x 4,9	50,23
M4LM07X1,00	M 7x1,00	6,00	R 160 x 17 x 7,0 x 5,5	57,03
M4LM08X1,25-150	M 8x1,25	6,80	R 150 x 18 x 8,0 x 6,2	57,86
M4LM08X1,25	M 8x1,25	6,80	R 180 x 18 x 8,0 x 6,2	61,04
				M4L-D
				CABO FINO
M4LM06X1,00D	M 6x1,00	5,00	D 160 x 16 x 4,5 x 3,4	52,19
M4LM08X1,25D	M 8x1,25	6,80	D 180 x 18 x 6,2 x 5,0	62,15
M4LM10X1,50-150	M 10x1,50	8,50	D 150 x 20 x 7,0 x 5,5	65,48
M4LM10X1,50	M 10x1,50	8,50	D 200 x 20 x 7,0 x 5,5	70,74
M4LM12X1,75-150	M 12x1,75	10,20	D 150 x 22 x 8,5 x 6,5	80,18
M4LM12X1,75	M 12x1,75	10,20	D 220 x 22 x 8,5 x 6,5	91,51
M4LM14X2,00	M 14x2,00	12,00	D 220 x 25 x 10,5 x 8,0	133,96
M4LM16X2,00	M 16x2,00	14,00	D 220 x 28 x 12,5 x 10,0	194,13
M4LM18X2,50	M 18x2,50	15,50	D 250 x 32 x 14,0 x 11,0	289,75
M4LM20X2,50	M 20x2,50	17,50	D 250 x 32 x 16,0 x 12,0	308,37
M4LM22X2,50	M 22x2,50	19,50	D 250 x 35 x 18,0 x 14,5	345,44
M4LM24X3,00	M 24x3,00	21,00	D 250 x 38 x 18,0 x 14,5	393,79

MACHO PARA PORCAS DE ROSCA MÉTRICA DIN 357



HSSCo
5%

BRILHANTE

TOL
6H

DIN
357

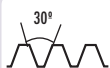


				MTU	
				FORMA A	
				€	
			L1 x L2 x D2 x ∇ mm		
M	3x0,50**	2,50	D 70 x 22 x 2,2	25,34	
M	4x0,70	3,30	D 90 x 25 x 2,8 x 2,1	25,34	
M	5x0,80	4,20	D 100 x 28 x 3,5 x 2,7	25,34	
M	6x1,00	5,00	D 110 x 32 x 4,5 x 3,4	25,34	
M	8x1,25	6,80	D 125 x 40 x 6,0 x 4,9	30,54	
M	10x1,50	8,50	D 140 x 45 x 7,0 x 5,5	29,85	
M	12x1,75	10,20	D 180 x 50 x 9,0 x 7,0	36,15	
M	14x2,00	12,00	D 200 x 56 x 11,0 x 9,0	57,13	
M	16x2,00	14,00	D 200 x 63 x 12,0 x 9,0	70,73	
M	18x2,50	15,50	D 220 x 63 x 14,0 x 11,0	95,15	
M	20x2,50	17,50	D 250 x 70 x 16,0 x 12,0	134,33*	
M	22x2,50	19,50	D 280 x 80 x 18,0 x 14,5	164,81*	
M	24x3,00	21,00	D 280 x 80 x 18,0 x 14,5	224,25*	

** Cabo cilíndrico.

*Até o fim das existências

MACHO DE MÁQUINA ROSCA TRAPEZOIDAL HSS



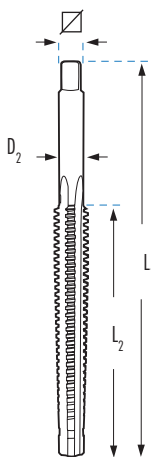
HSS

BRILHANTE



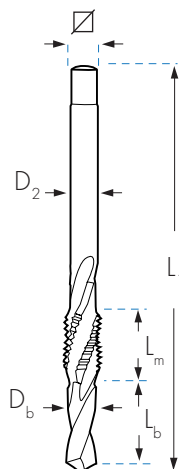
DIN
103


TOL
7H



				MRTM	
				€	
			L1 x L2 x D2 x ∇ mm		
Tr	14 x 3	11,25	160 x 105 x 10,5 x 8,0	598,95	
Tr	16 x 4	12,25	205 x 110 x 11,5 x 9,0	623,53	
Tr	18 x 4	14,25	215 x 120 x 13,0 x 10,0	657,30	
Tr	20 x 4	16,25	230 x 130 x 15,0 x 12,0	660,38	
Tr	22 x 5	17,25	270 x 165 x 16,0 x 12,0	869,25	
Tr	24 x 5	19,25	280 x 165 x 18,0 x 14,5	985,98	
Tr	26 x 5	21,25	290 x 170 x 20,0 x 16,0	1.020,18	
Tr	28 x 5	23,25	300 x 180 x 22,0 x 18,0	1.155,64	
Tr	30 x 6	24,25	345 x 200 x 23,0 x 18,0	1.329,98	

BROCA MACHO HSSCo

HSSCo
5%
BRILHANTE
TOL
6H
R
CABO
REFORÇADO
DIN
371
D
CABO
FINO
DIN
376


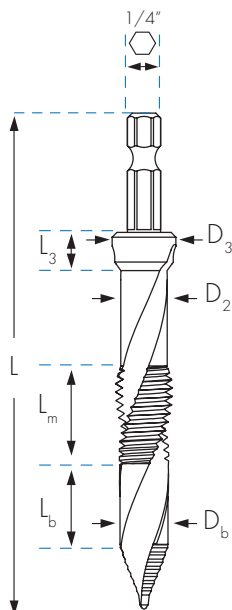
								M8M	
		Lb mm	Lm mm	L1 mm	Db mm	D2 mm		€	
M	3x0,50	R	9,0	12,5	62,0	2,5	3,5	2,7	38,84
M	4x0,70	R	10,0	16,0	66,0	3,30	4,5	3,4	38,84
M	5x0,80	R	12,5	18,0	75,5	4,20	6,0	4,9	40,36
M	6x1,00	R	14,0	20,0	81,0	5,00	6,0	4,9	44,57
M	8x1,00	R	20,0	14,0	91,0	7,00	6,0	4,9	52,32
M	8x1,25	R	20,0	14,0	91,0	6,75	8,0	6,2	50,25




CABO FINO

M	8x1,25	D	20,0	14,0	91,0	6,75	6,0	4,9	54,29
M	10x1,00	D	20,0	15,0	95,0	9,00	7,0	5,5	64,94
M	10x1,50	D	25,0	18,0	105,0	8,50	7,0	5,5	68,93
M	12x1,50	D	24,0	18,0	110,0	10,50	9,0	7,0	75,23
M	12x1,75	D	28,0	20,0	118,0	12,50	11,0	9,0	74,79
M	14x1,50	D	28,0	20,0	118,0	12,50	11,0	9,0	119,05
M	14x2,00	D	28,0	22,0	130,0	12,00	11,0	9,0	135,41
M	16x2,00	D	36,0	24,0	139,0	14,00	12,0	9,0	178,09
M	18x2,50	D	40,0	26,0	151,0	15,50	14,0	11,0	259,75
M	20x2,50	D	45,0	30,0	168,0	17,50	16,0	2,0	373,02

Nota: nunca use a broca-macho em furos cegos ou passantes com mais profundidade do que Lb.

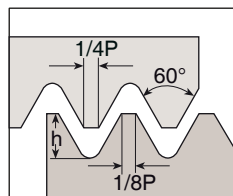
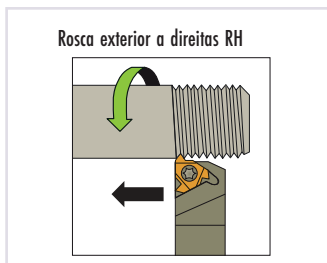
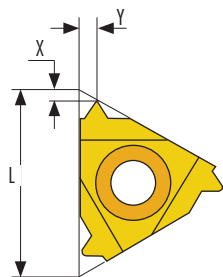
BROCA MACHO ESCAREADOR HSSCo STEP CUT
NEW

HSSCo
5%
BRILHANTE
TOL
6H
D
CABO
FINO
1/4"
STEP CUT


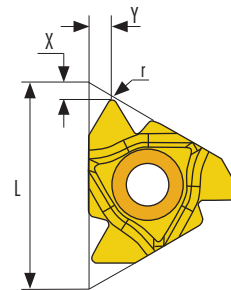
									MTKM		
		Lb mm	Lm mm	L3 mm	L mm	Db mm	D2 mm	D3 mm		€	
M	3x0,50	D	7,0	6,0	6,0	57,0	2,5	2,2	7,3	1/4"	28,21
M	4x0,70	D	7,0	8,5	6,0	62,0	3,3	3,0	7,3	1/4"	28,21
M	5x0,80	D	9,0	10,0	6,0	69,0	4,2	3,7	7,3	1/4"	29,44
M	6x1,00	D	10,0	12,0	6,0	73,0	5,0	4,5	7,3	1/4"	30,66
M	8x1,25	D	12,0	16,0	6,0	87,0	6,8	6,3	9,4	1/4"	42,38
M	10x1,50	D	14,0	20,0	6,0	96,0	8,5	8,0	11,4	1/4"	51,14
M	12x1,75	D	16,0	24,0	8,0	112,0	10,3	9,8	13,4	1/4"	56,36

Nota: nunca use a broca-macho escareador em furos cegos ou passantes com mais profundidade do que Lb.

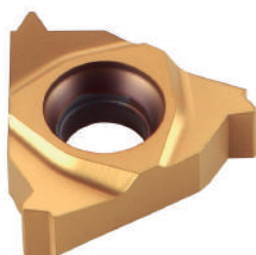
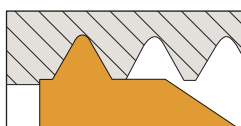
PASTILHAS PARA ROSCAGEM DE EXTERIOR



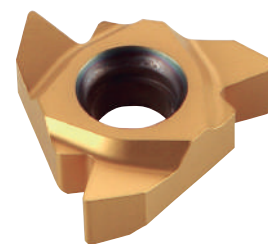
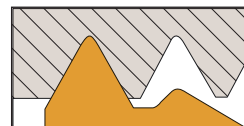
Norma: R262 (DIN 13)
Tolerância classe: 6g/6H



Perfil Total



Perfil Parcial



Rosca de perfil completo, para terminar o diâmetro exterior da rosca. Utilizaremos uma pastilha diferente para cada passo.

Não termina o diâmetro exterior da rosca. A mesma pastilha pode ser utilizada para uma gama de diferentes passos, que tenham o mesmo ângulo de rosca.

PERFIL TOTAL 60°

ROSCAGEM EXTERIOR	L	PASSO	h	X	Y	€
PRE-16-075		0,75	0,46	0,6	0,6	26,84*
PRE-16-100		1,00	0,61	0,7	0,7	26,84*
PRE-16-125		1,25	0,77	0,8	0,9	26,84*
PRE-16-150	16	1,50	0,92	0,8	1	26,84*
PRE-16-175		1,75	1,07	0,9	1,2	26,84*
PRE-16-200		2,00	1,23	1	1,3	26,84*
PRE-16-250		2,50	1,53	1,1	1,5	26,84*
PRE-16-300		3,00	1,84	1,2	1,6	26,84*

*Até o fim das existências.

PERFIL PARCIAL 60°

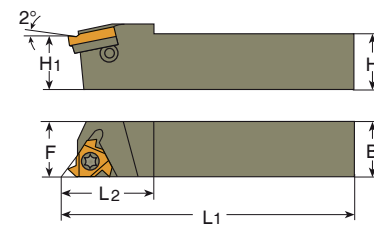
ROSCAGEM EXTERIOR	L	FAIXAS MÉTRICAS	FAIXAS POLEGADAS	r	X	Y	€
PPRE-16-150	16	0,50-1,50	48 - 16	0,05	0,80	0,90	26,84*

*Até o fim das existências.

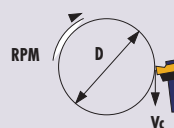
PORTA-FERRAMENTAS PARA ROSCAGEM DE EXTERIORES

ROSCAGEM EXTERIOR	H1=H=B=F	L1	L2	€
PEXT-25-16	25	153	30	196,21*

*Até o fim das existências.



FÓRMULA MATEMÁTICA PARA OBTER A VELOCIDADE DE GIRO DA PEÇA (RPM)

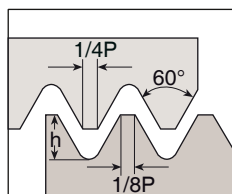
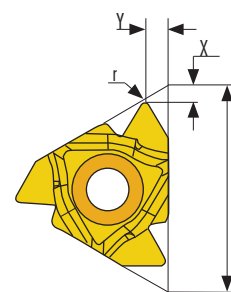
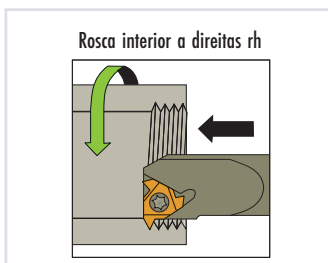
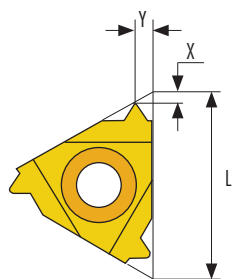


$$RPM = \frac{1000 \times Vc}{\pi \times D}$$

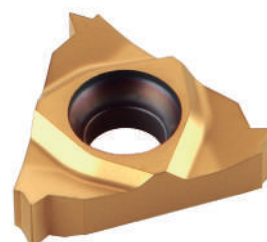
RPM: revoluções por minuto
Vc: velocidade de corte (m/min)
D: diâmetro da peça (mm)
As RPMs obtêm-se em função de Vc e D

	Vc		Vc
<div style="background-color: yellow; width: 15px; height: 15px; display: inline-block;"></div> AÇO BAIXA LIGA 70 kg/mm ²	25 m / min	<div style="background-color: green; width: 15px; height: 15px; display: inline-block;"></div> ALUMÍNIO	50 m / min
<div style="background-color: red; width: 15px; height: 15px; display: inline-block;"></div> AÇO TRATADO 120 kg/mm ²	13 m / min	<div style="background-color: yellow; width: 15px; height: 15px; display: inline-block;"></div> TITÂNIO	18 m / min
<div style="background-color: blue; width: 15px; height: 15px; display: inline-block;"></div> INOXIDÁVEL	11 m / min	<div style="background-color: grey; width: 15px; height: 15px; display: inline-block;"></div> FUNDIÇÃO	25 m / min
		<div style="background-color: pink; width: 15px; height: 15px; display: inline-block;"></div> LATÃO	50 m / min

PASTILHAS PARA ROSCAGEM DE INTERIORES



Norma: R262 (DIN 13)
Tolerância classe: 6g/6H



PERFIL TOTAL 60°

ROSCAGEM INTERIOR	L	PASSO	h	X	Y	€
PRI-16-075	16	0,75	0,43	0,6	0,6	26,84*
PRI-16-100		1,00	0,58	0,6	0,7	26,84*
PRI-16-125		1,25	0,72	0,8	0,9	26,84*
PRI-16-150		1,50	0,87	0,8	1,0	26,84*
PRI-16-175		1,75	1,01	0,9	1,2	26,84*
PRI-16-200		2,00	1,15	1,0	1,3	26,84*
PRI-16-250		2,50	1,44	1,1	1,5	26,84*
PRI-16-300		3,00	1,73	1,1	1,5	26,84*

*Até o fim das existências.

PERFIL PARCIAL 60°

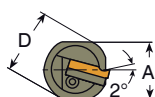
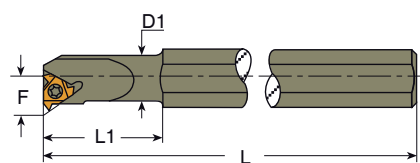
ROSCAGEM INTERIOR	L	FAIXAS MÉTRICAS	FAIXAS POLEGADAS	r	X	Y	€
PPRI-16-150	16	0,50-1,50	48 - 16	0,05	0,80	0,90	26,84*
PPRI-16-300		1,75-3,00	14 - 8	0,16	1,20	1,70	26,84*

*Até o fim das existências.

PORTA-FERRAMENTAS PARA ROSCAGEM DE INTERIORES

ROSCAGEM INTERIOR	L	L1	D	D1	A	Ø MÍN. AGUJERO	€
PINT-25-16	200	45	25	24,6	22,6	29	236,46*

*Até o fim das existências.



MACHOS PARA MÁQUINA HSSCo EM ESTOJOS METÁLICOS

USO GERAL

HSSCo 5%



Ref. JM6



Ref. JM2






Ref. JM8



Ref. JM4



CONTEÚDO

	FORMA C	FORMA B	 15°	 35°	 HSS	HSSCo 5% €
JM5	M3 - M4 - M5 - M6 M8 - M10 - M12	-	-	-	-	111,81
JM1	M3 - M4 - M5 - M6 M8 - M10 - M12	-	-	-	2.5/3.3/4.2/5.0/6.8/8.5/10.2 mm	133,74
JM6	-	M3 - M4 - M5 - M6 M8 - M10 - M12	-	-	-	119,13
JM2	-	M3 - M4 - M5 - M6 M8 - M10 - M12	-	-	2.5/3.3/4.2/5.0/6.8/8.5/10.2 mm	133,98
JM7	-	-	M3 - M4 - M5 - M6 M8 - M10 - M12	-	-	148,42
JM3	-	-	M3 - M4 - M5 - M6 M8 - M10 - M12	-	2.5/3.3/4.2/5.0/6.8/8.5/10.2 mm	177,35
JM8	-	-	-	M3 - M4 - M5 - M6 M8 - M10 - M12	-	150,98
JM4	-	-	-	M3 - M4 - M5 - M6 M8 - M10 - M12	2.5/3.3/4.2/5.0/6.8/8.5/10.2 mm	175,46



MACHOS DE MÁQUINA EM ESTOJOS METÁLICOS
Plus


Ref. JMPT2



CONTEÚDO

	FORMA B	BRILHANTE	 35°	BRILHANTE	 HSSCo 5%	HSS PM €	TiN €
JMP6	M3 - M4 - M5 - M6 M8 - M10 - M12		-		-	124,14	JMPT6 179,05
JMP2	M3 - M4 - M5 - M6 M8 - M10 - M12		-		2.5/3.3/4.2/5.0/6.8/8.5/10.2 mm	162,80	JMPT2 217,85
JMP8	-		M3 - M4 - M5 - M6 M8 - M10 - M12		-	179,05	JMPT8 197,20
JMP4	-		M3 - M4 - M5 - M6 M8 - M10 - M12		2.5/3.3/4.2/5.0/6.8/8.5/10.2 mm	217,85	JMPT4 236,13

INOX
CONTEÚDO

	FORMA B	OX	 35°	OX	 HSSCo 5%	HSS PM €	TiN €
JMX6	M3 - M4 - M5 - M6 M8 - M10 - M12		-		-	160,16	JMXT6 174,71
JMX2	M3 - M4 - M5 - M6 M8 - M10 - M12		-		2.5/3.3/4.2/5.0/6.8/8.5/10.2 mm	198,98	JMXT2 213,53
JMX8	-		M3 - M4 - M5 - M6 M8 - M10 - M12		-	182,77	JMXT8 201,50
JMX4	-		M3 - M4 - M5 - M6 M8 - M10 - M12		2.5/3.3/4.2/5.0/6.8/8.5/10.2 mm	221,57	JMXT4 240,29


1200
 N/mm²
CONTEÚDO

	FORMA B	OX	 35°	OX	 HSSCo 5%	HSS V3 €	TINALOX €
JMMD6	M3 - M4 - M5 - M6 M8 - M10 - M12		-		-	145,58	JMMDT6 206,68
JMMD2	M3 - M4 - M5 - M6 M8 - M10 - M12		-		2.5/3.3/4.2/5.0/6.8/8.5/10.2 mm	184,39	JMMDT2 245,48
JMMD8	-		M3 - M4 - M5 - M6 M8 - M10 - M12		-	166,15	JMMDT8 238,33
JMMD4	-		M3 - M4 - M5 - M6 M8 - M10 - M12		2.5/3.3/4.2/5.0/6.8/8.5/10.2 mm	204,95	JMMDT4 277,13

MACHOS DE MÁQUINA EM ESTOJOS METÁLICOS

1400
N/mm²



Ref. JMC2

CONTEÚDO

	FORMA B	TiCN	15°	TiCN	HSSCo 5%	HSS-PM €
JMC6	M3 - M4 - M5 - M6 - M8 - M10 - M12		-		-	247,65
JMC2	M3 - M4 - M5 - M6 - M8 - M10 - M12		-		2.5/3.3/4.2/5.0/6.8/8.5/10.2 mm	286,46
JMC8	-		M3 - M4 - M5 - M6 - M8 - M10 - M12		-	281,89
JMC4	-		M3 - M4 - M5 - M6 - M8 - M10 - M12		2.5/3.3/4.2/5.0/6.8/8.5/10.2 mm	320,70

TODO-O TERRENO

CONTEÚDO

	FORMA B	TiN	35°	TiN	HSSCo 5%	HSSCo 5% €
JMD6	M3 - M4 - M5 - M6 - M8 - M10 - M12		-		-	223,80
JMD2	M3 - M4 - M5 - M6 - M8 - M10 - M12		-		2.5/3.3/4.2/5.0/6.8/8.5/10.2 mm	262,61
JMD8	-		M3 - M4 - M5 - M6 - M8 - M10 - M12		-	252,38
JMD4	-		M3 - M4 - M5 - M6 - M8 - M10 - M12		2.5/3.3/4.2/5.0/6.8/8.5/10.2 mm	291,19

AI

CONTEÚDO

	DENTE ALTERNADO	BRILHANTE	2 CANAIS	BRILHANTE	HSS	HSSCo 5% €
JMAL6	M3 - M4 - M5 - M6 - M8 - M10 - M12		-		-	177,20
JMAL2	M3 - M4 - M5 - M6 - M8 - M10 - M12		-		2.5/3.3/4.2/5.0/6.8/8.5/10.2 mm	216,00
JMAL8	-		M3 - M4 - M5 - M6 - M8 - M10 - M12		-	175,22
JMAL4	-		M3 - M4 - M5 - M6 - M8 - M10 - M12		2.5/3.3/4.2/5.0/6.8/8.5/10.2 mm	214,03

MACHOS DE MÁQUINAS EM ESTOJOS
**USO
GERAL**
CONTEÚDO

	FORMA B	BRILHANTE	 35°	BRILHANTE	HSSCo 5% €
PT01	M4 - M5 - M6 - M8 - M10	M4 - M5 - M6 - M8 - M10	M4 - M5 - M6 - M8 - M10	M4 - M5 - M6 - M8 - M10	135,91



Ref. PT01


Plus
CONTEÚDO

	FORMA B	BRILHANTE	 35°	BRILHANTE	HSS PM €	TiN €
PT02	M4 - M5 - M6 - M8 - M10	M4 - M5 - M6 - M8 - M10	M4 - M5 - M6 - M8 - M10	M4 - M5 - M6 - M8 - M10	170,97	PT03 251,09



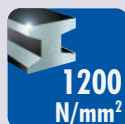
Ref. PT03


INOX
CONTEÚDO

	FORMA B	OX	 35°	OX	HSS PM €	TiN €
PT05	M4 - M5 - M6 - M8 - M10	M4 - M5 - M6 - M8 - M10	M4 - M5 - M6 - M8 - M10	M4 - M5 - M6 - M8 - M10	224,65	PT13 239,07



Ref. PT05



CONTEÚDO

	FORMA B	OX	 35°	OX	HSS V3 €	TINALOX €
PT04	M4 - M5 - M6 - M8 - M10	M4 - M5 - M6 - M8 - M10	M4 - M5 - M6 - M8 - M10	M4 - M5 - M6 - M8 - M10	192,79	PT14 289,73



Ref. PT04


CONTEÚDO

	FORMA B	TiCN	 15°	TiCN	HSS PM €
PT11	M4 - M5 - M6 - M8 - M10	M4 - M5 - M6 - M8 - M10	M4 - M5 - M6 - M8 - M10	M4 - M5 - M6 - M8 - M10	349,27



Ref. PT11

MACHOS DE MÁQUINAS EM ESTOJOS

AI



Ref. PT06

CONTEÚDO

	DENTE ALTERNADO	2 CANAIS	HSSCo 5% €
PT06	M4 - M5 - M6 M8 - M10	M4 - M5 - M6 M8 - M10	213,14

FUNDIÇÃO



Ref. PT07

CONTEÚDO

	FORMA C	HSSCo 5% €
PT07	M4 - M5 - M6 - M8 - M10 M4 - M5 - M6 - M8 - M10	161,08

LATÃO



Ref. PT10

CONTEÚDO

	FORMA C	HSSCo 5% €
PT10	M4 - M5 - M6 - M8 - M10 M4 - M5 - M6 - M8 - M10	195,81




LAMINAÇÃO



Ref. PT08

CONTEÚDO

		HSSCo 5% €
PT08	M4 - M5 - M6 - M8 - M10 M4 - M5 - M6 - M8 - M10	294,81



Ref. PT09

CONTEÚDO


		HSSCo 5% €
PT09	M4 - M5 - M6 - M8 - M10 M4 - M5 - M6 - M8 - M10	397,16

TOL 6G



Ref. PT12

CONTEÚDO

	FORMA B	 35°	HSSCo 5% €
PT12	M4 - M5 - M6 M8 - M10	M4 - M5 - M6 M8 - M10	220,24

EXPOSITORES DE METACRILATO PARA MACHOS DE MÁQUINA
EXPOSITOR DE METACRILATO

MM-03

Composição: machos de máquina, serie normal.

HSSCo
5%


Ref. MM-03

FORMA
B

Furos passantes, Ref. 2

M4	M5	M6	M8	M10	M12	M14
5	10	10	10	10	5	4



35°

Furos cegos, Ref. 4

M4	M5	M6	M8	M10	M12	M14
5	10	10	10	10	5	4

Dimensões: largo 240 x fundo 240 x altura 245 mm

2.091,99 €



Ref. MM-04

EXPOSITOR DE METACRILATO

MM-04

Composição: Machos de máquina, Serie Plus.
Fabricados em aço sinterizado.
HSS
PM
Plus
FORMA
B

Furos passantes, Ref. 2

M4	M5	M6	M8	M10	M12	M14
5	10	10	10	10	5	4



35°

Furos cegos, Ref. 4

M4	M5	M6	M8	M10	M12	M14
5	10	10	10	10	5	4

Dimensões: largo 240 x fundo 240 x altura 245 mm

2.854,15 €

EXPOSITOR DE METACRILATO

MM-05

Composição: machos de máquina para trabalhos especiais.

FORMA
B

Furos passantes, Ref. 2



35°

Furos cegos, Ref. 4

1200
N/mm²

M4	M5	M6	M8	M10	M12	M14
1	2	2	2	2	1	1

1200
N/mm²

M4	M5	M6	M8	M10	M12	M14
1	2	2	2	2	1	1



INOX

M4	M5	M6	M8	M10	M12	M14
1	2	2	2	2	1	1



INOX

M4	M5	M6	M8	M10	M12	M14
1	2	2	2	2	1	1



AI

M4	M5	M6	M8	M10	M12	M14
1	2	2	2	2	1	1



AI

M4	M5	M6	M8	M10	M12	M14
1	2	2	2	2	1	1



TiN

M4	M5	M6	M8	M10	M12	M14
1	2	2	2	2	1	1



TiN

M4	M5	M6	M8	M10	M12	M14
1	2	2	2	2	1	1

1400
N/mm²

M4	M5	M6	M8	M10	M12
1	2	2	2	2	1

1400
N/mm²

M4	M5	M6	M8	M10	M12
1	2	2	2	2	1

Dimensões: largo 240 x fundo 240 x altura 245 mm

3.565,05 €