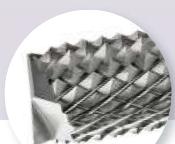
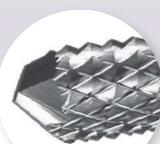


FRESAS DE METAL DURO PARA MATERIALES COMPUETOS: FIBRA DE CARBONO, PANEL FENÓLICO, ETC...

MD

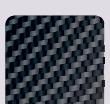
REVOLUCIONES Y AVANCES

D ₁ mm	RPM rev./min	AVANCE mm/min
1,50	60.000	3.000
2,00	50.000	2.500
3,00	32.000	1.600
5,00	20.000	1.200
6,00	16.000	1.000
6,35	14.000	1.000
8,00	9.000	700
10,00	7.000	550
12,00	6.000	450

**RFC****RFCTL****RF****RFTL****RFF****RFFT**

D ₁ mm	L ₁ mm	L ₂ mm	D ₂ mm		€	TiAIN	€		€	TiAIN	€		€	TiAIN	€
1,50	38	5	3,00	RFC0150	19,38	RFC0150TL	29,29	RF0150	18,37	RF0150TL	28,28	RFF0150		RFF0150TL	
2,00	38	10	3,00	RFC0200	19,38	RFC0200TL	29,29	RF0200	18,37	RF0200TL	28,28	RFF0200		RFF0200TL	
3,00	38	12	3,00	RFC0300	19,38	RFC0300TL	29,29	RF0300	18,37	RF0300TL	28,28	RFF0300	19,38	RFF0300TL	29,29
5,00	50	16	5,00	RFC0500	38,46	RFC0500TL	48,39	RF0500	34,93	RF0500TL	44,84	RFF0500	38,46	RFF0500TL	48,39
6,00	63	25	6,00	RFC0600	45,74	RFC0600TL	57,79	RF0600	41,46	RF0600TL	53,54	RFF0600	45,74	RFF0600TL	57,79
6,35	75	30	6,35	RFC0635	50,78	RFC0635TL	62,88	RF0635	46,49	RF0635TL	58,56	RFF0635	50,78	RFF0635TL	62,88
8,00	63	25	8,00	RFC0800	76,15	RFC0800TL	87,56	RF0800	69,13	RF0800TL	80,51	RFF0800	76,15	RFF0800TL	87,56
10,00	63	25	10,00	RFC1000	96,74	RFC1000TL	108,71	RF1000	87,97	RF1000TL	99,93	RFF1000	96,74	RFF1000TL	108,71
12,00	75	25	12,00	RFC1200	121,62	RFC1200TL	136,45	RF1200	110,60	RF1200TL	125,40	RFF1200	121,62	RFF1200TL	136,45

FRESAS DE METAL DURO PARA FIBRA DE CARBONO, FIBRA DE VIDRIO Y PANEL FENÓLICO

NEW**MD**

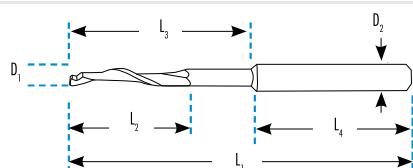
REVOLUCIONES Y AVANCES		
D ₁ mm	RPM rev./min	AVANCE mm/min
3,00	15.000	2.250
4,00	12.000	1.800
5,00	10.000	1.800
6,00	8.500	1.700
8,00	6.500	1.950
10,00	5.500	1.650
12,00	4.500	1.550

**FC11****FC12****FC13****FC14**

D ₁ mm	L ₁ mm	L ₂ mm	D ₂ mm	Derecha	€	Recta	€	Izquierda	€	Bola	€
3,00	45	10	3,00	FC1133	34,95	FC1233	34,95	FC1333	34,95	FC1433	36,47
3,00	60	10	6,00	FC1136	39,89	FC1236	39,89	FC1336	39,89	FC1436	39,89
4,00	60	15	4,00	FC1144	45,59	FC1244	45,59	FC1344	45,59	FC1444	49,01
4,00	60	15	6,00	FC1146	72,18	FC1246	72,18	FC1346	45,59	FC1446	73,70
5,00	60	15	5,00	FC1155	61,16	FC1255	61,16	FC1355	61,16	FC1455	61,16
6,00	70	25	6,00	FC1166	74,46	FC1266	74,46	FC1366	74,46	FC1466	70,28
8,00	80	30	8,00	FC1188	113,97	FC1288	113,97	FC1388	113,97	FC1488	122,32
10,00	80	35	10,00	FC111010	170,95	FC121010	170,95	FC131010	170,95	FC141010	170,95
12,00	90	40	12,00	FC111212	227,55	FC121212	227,55	FC131212	227,55	FC141212	235,53

FRESAS DE 1 LABIO HSSCo

HSSCo AI PVC TOL D1
k12 TOL D2
h6



SERIE CORTA



SERIE LARGA



	FF13					
	D ₁ mm	L ₁ mm	L ₂ mm	D ₂ mm	HSSCo €	TiN €
FF1381	1,0	60	10	8	46,49	65,48
FF1382	2,0	60	10	8	46,49	65,48
FF1383	3,0	60	10	8	17,71	25,84
FF1384	4,0	60	12	8	17,71	25,84
FF1385	5,0	60	13	8	17,71	25,84
FF1386	6,0	60	14	8	18,69	26,78
FF1387	7,0	60	14	8	21,61	30,39
FF1388	8,0	80	14	8	21,61	30,39
FF131010	10,0	80	15	10	23,97	31,49
FF131212	12,0	80	35	12	58,70	73,37
FF131414	14,0	100	40	12	70,79	88,49
FF131616	16,0	100	40	16	75,61	94,51
FF132020	20,0	100	40	20	85,71	107,14
FF1361	1,0	45	6	6	32,45	43,02
FF13615	1,5	45	6	6	32,45	43,02
FF1362	2,0	45	6	6	32,45	43,02
FF1363	3,0	60	12	6	16,81	23,57
FF1364	4,0	60	12	6	16,86	23,57
FF1365	5,0	60	12	6	16,86	23,57
FF1366	6,0	60	14	6	16,86	23,57

ALUMINIO LACADO



	FF50						
	D ₁ mm	L ₁ mm	L ₂ mm	L ₃ mm	D ₂ mm	HSSCo €	TiN €
FF5084	4	80	16	35	8	23,57	32,16
FF5085	5	80	18	35	8	23,57	32,16

MEDIDAS ESPECIALES

	D ₁ mm	L ₁ mm	L ₂ mm	L ₃ mm	D ₂ mm	HSSCo €
FF148412020	4	120	20	-	8	28,42
FF14856018	5	60	18	-	8	23,43
FF14859025	5	90	25	-	8	30,57
FF148510025	5	100	25	-	8	28,41
FF148512014	5	120	14	-	8	28,41
FF14851001817	5	100	18	35	8	28,87
FF14851201461	5	120	14	75	8	38,87
FF14851201817	5	120	18	35	8	38,87
FF1486801421	6	80	14	35	8	32,20
FF14861001835	6	100	18	35	8	32,20
FF14861201461	6	120	14	75	8	46,58

	D ₁ mm	L ₁ mm	L ₂ mm	L ₃ mm	D ₂ mm	HSSCo €	TiN €
FF1483	3	80	16	45	8	30,48	38,69
FF1484	4	80	16	45	8	26,20	34,35
FF1485	5	80	16	45	8	26,20	34,35
FF1486	6	90	16	45	8	26,20	34,35
FF1487	7	90	20	50	8	33,60	42,36
FF1488	8	100	30	70	8	30,38	39,05
FF1465	5	80	14	45	6	25,93	34,35
FF1466	6	80	14	45	6	25,95	34,35

SERIE EXTRA LARGA



FF14-E

	D ₁ mm	L ₁ mm	L ₂ mm	L ₃ mm	D ₂ mm	L ₄ mm	HSSCo €	TiN €
FF1485-E	5	100	30	55	8	45	25,41	31,81
FF1485-EL	5	100	50	-	8	50	30,42	43,20

BROCA FRESA 1 LABIO PARA TALADRADO EN PERILERÍA METÁLICA



FF14

	D ₁ mm	L ₁ mm	L ₃ mm	D ₂ mm	HSSCo €	TiN €
FF14848040	4	80	40	8	61,22	70,40
FF148411040	4	110	40	8	81,49	93,72
FF14858040	5	80	40	8	59,92	68,91
FF148511040	5	110	40	8	83,18	95,66
FF14868040	6	80	40	8	50,29	57,84
FF148611040	6	110	40	8	83,18	95,66



	D ₁ mm	L ₁ mm	L ₂ mm	L ₃ mm	D ₂ mm	HSSCo €
FF14861003045	6	100	30	45	8	39,07
FF14861006040	6	100	60	-	8	50,15
FF14888025	8	80	25	-	8	25,37
FF148810014	8	100	14	-	8	28,06
FF148812014	8	120	14	-	8	30,46
FF14881201476	8	120	14	90	8	36,76
FF14898014	9	80	14	-	8	29,42
FF148108014	10	80	14	-	8	31,32
FF1410101003040	10	100	30	70	10	38,23
FF1410101201481	10	120	14	95	10	40,72
FF14101012014	10	120	14	-	10	32,82
FF148128014	12	80	14	-	8	35,52

FRESAS DE 1 LABIO DE METAL DURO

MD

Al

PVC

TOL
h10TOL D2
h6

Fresos

Rosa

HÉLICE A - SERIE CORTA



HÉLICE A - SERIE LARGA



FMGA13

Hélice A	D ₁ mm	L ₁ mm	L ₂ mm	D ₂ mm	MD €
FMGA13305	0,5	39	1,5	3	54,01
FMGA1331	1,0	39	3,0	3	41,40
FMGA13315	1,5	39	4,0	3	37,26
FMGA1322	2,0	40	10,0	2	31,40
FMGA13325	2,5	40	12,0	3	31,40
FMGA1333	3,0	40	12,0	3	26,59
FMGA1336	3,0	64	12,0	6	46,52
FMGA1338	3,0	64	12,0	8	67,38
FMGA1344	4,0	50	16,0	4	29,23
FMGA1346	4,0	64	16,0	6	46,99
FMGA1348	4,0	64	16,0	8	78,41
FMGA135550	5,0	50	16,0	5	30,34
FMGA1355	5,0	64	16,0	5	33,24
FMGA1356	5,0	64	16,0	6	52,89
FMGA1358	5,0	64	16,0	8	80,18
FMGA136650	6,0	50	16,0	6	40,79
FMGA1366	6,0	64	20,0	6	44,94
FMGA1368	6,0	64	20,0	8	81,40
FMGA1378	7,0	64	20,0	8	91,26
FMGA138816	8,0	66	16,0	8	46,27
FMGA1388	8,0	76	38,0	8	61,36
FMGA13101015	10,0	76	15,0	10	72,36
FMGA131010	10,0	76	30,0	10	76,90

FMGA13E

Hélice A	D ₁ mm	L ₁ mm	L ₂ mm	D ₂ mm	MD €
FMGA133312E	3	70	12	3	30,75
FMGA133322E	3	70	22	3	32,05
FMGA133332E	3	70	32	3	34,11
FMGA134415E	4	70	15	4	39,99
FMGA134425E	4	70	25	4	42,36
FMGA134435E	4	70	35	4	45,25
FMGA135517E	5	80	17	5	52,36
FMGA1355E	5	80	38	5	58,59
FMGA136620E	6	85	20	6	58,36
FMGA1366E	6	85	40	6	64,71
FMGA138825E	8	90	25	8	78,36
FMGA1388E	8	90	38	8	83,18
FMGA1388EX	8	110	43	8	109,13
FMGA131010E	10	100	40	10	119,26
FMGA131010EL	10	120	60	10	154,59

HÉLICE A - CON CUELLO



VELOCIDADES DE CORTE

	HSSCo		MD	
D ₁ mm	Aluminio (R.P.M.)	PVC (R.P.M.)	Aluminio (R.P.M.)	PVC (R.P.M.)
3,00	12000	12000	19000	19000
4,00	11000	11000	18000	18000
5,00	10000	10000	18000	18000
6,00	10000	10000	17000	17000
7,00	9000	9000	17000	17000
8,00	9000	9000	16000	16000
9,00	9000	9000	16000	16000
10,00	9000	9000	16000	16000

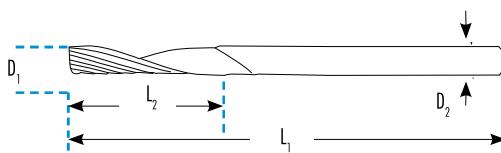
NOTA: Para la serie larga conviene reducir las RPM en un 15%

Hélice A	D ₁ mm	L ₁ mm	L ₂ mm	D ₂ mm		MD €
FMGA13488016	4	8	80	16	29	69,95
FMGA13588016	5	8	80	16	29	69,95
FMGA13689016	6	8	90	16	29	69,95

FRESAS DE 1 LABIO DE METAL DURO

MD AI PVC TOL h10 TOL D2 h6

HÉLICE B



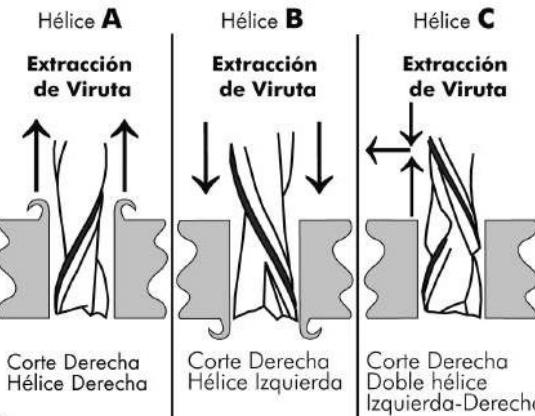
	FMGA13HI				MD	€
	D1 mm	L1 mm	L2 mm	D2 mm		
FMGA1333HI	3	50	8	3	34,64	
FMGA1344HI	4	64	12	4	34,64	
FMGA1355HI	5	64	16	5	37,51	
FMGA1366HI	6	64	20	6	56,63	
FMGA1388HI	8	76	38	8	74,94	
FMGA131010HI	10	76	35	10	91,60	

CANAL RECTO



	FMGA13R				MD	€
	D1 mm	L1 mm	L2 mm	D2 mm		
FMGA1346R	4	64	16	6	50,76	
FMGA1356R	5	64	20	6	50,76	
FMGA1366R	6	64	25	6	59,10	
FMGA1388R	8	64	25	8	87,42	
FMGA131010R	10	88	35	10	114,42	
FMGA131212R	12	88	35	12	165,14	

TIPOS DE HÉLICES



FRESA DE METAL DURO PARA REPARACIÓN DE PINCHAZOS

MD



	D1 mm	L1 mm	L2 mm	D2 mm	€
RN0300	3,00	50	25	3	18,86
RN0600	6,00	80	50	6	45,51
RN0800	8,00	110	50	8	51,25
RN1000	10,00	110	60	10	80,43

FRESAS DE METAL DURO ACCESORIOS TIPO ROTOZIP



Ref.: RR0317

Ref.: RR0635

Ref.: RR0435

Ref.: RR0247

	D1 mm	L1 mm	L2 mm	D2 mm	RR	€
RR0317	3,17	50	25	3,17	21,75*	
RR0635	6,35	50	25	6,35	36,45*	
RR0435	6,35	52	32	6,35	45,61*	
RR0247	2,47	38	14	3,17	15,98*	

*Hasta fin de existencias