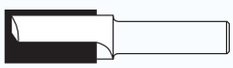
Router bits for hand portable machines S=∅10 - S=∅12 - S=∅12,7 (1/2")

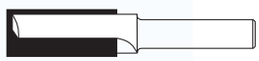
2

2



HW STRAIGHT BITS S=10
Page 2.05

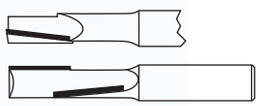
HW STRAIGHT BITS S=10 LONG TYPE
Page 2.05



HW STRAIGHT BITS S=12
Page 2.05

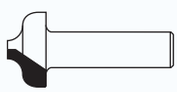
HW STRAIGHT BITS Z=2
Page 2.05

HW STRAIGHT BITS Z=2 LONG TYPE
Page 2.06

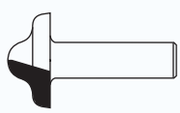


HW STAGGER BITS Z=2
Page 2.06

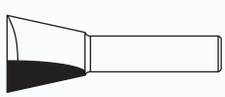
HW PANEL PILOT BITS Z=1+1
Page 2.06



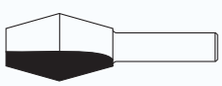
HW PLUNGE TYPE OGEE BITS Z=2
Page 2.06



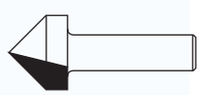
HW PLUNGE TYPE OGEE BITS Z=2
Page 2.06



HW DOVETAIL BITS Z=2
Page 2.06

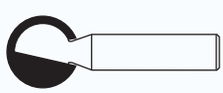


HW 14° BUTTERFLY SPLINE BITS Z=2
Page 2.07

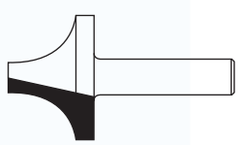


HW V-GROOVE BITS Z=2
Page 2.07

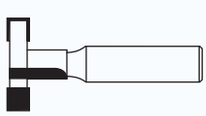
HW CORE BOX BITS Z=2
Page 2.07



HW BALL AND PLUNGE BITS Z=2
Page 2.07



HW PLUNGING ROUND-OVER BITS Z=2
Page 2.07



HW T-SLOT ROUTER BITS Z=2
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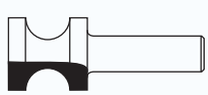
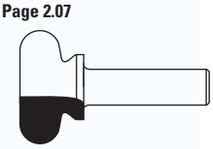
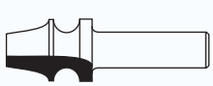


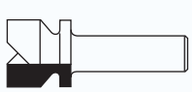
HW BULL NOSE RADIUS BITS Z=2
Page 2.08



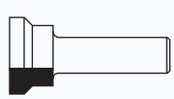
HW FINGER GRIP BITS Z=2
Page 2.08



HW EDGE BEADING BITS Z=2
Page 2.08

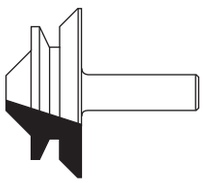


HW FINGER GRIP BITS Z=2
Page 2.08

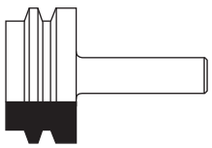


HW DRAWER LOCK BITS Z=2
Page 2.08

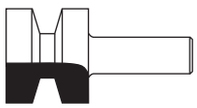
Klein®



HW 45° LOCK MITRE BITS Z=2
Page 2.08



HW GLUE JOINT BITS Z=2
Page 2.08



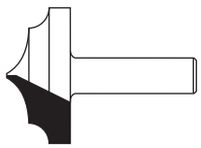
HW WEDGE TONGUE AND GROOVE BITS Z=2
Page 2.09

HW PROFILE BITS Z=2
Page 2.09

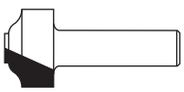
HW CROWN MOULDING BITS Z=2
Page 2.09

HW CROWN MOULDING BITS Z=2
Page 2.09

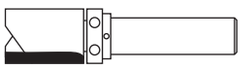
HW CROWN MOULDING BITS Z=2
Page 2.09



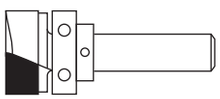
HW PROFILE BITS Z=2
Page 2.09



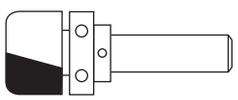
HW PROFILE BITS Z=2
Page 2.09



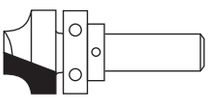
HW FLUSH TRIM BITS WITH UPPER BALL BEARING GUIDE Z=2
Page 2.10



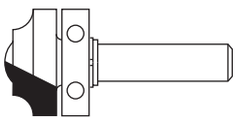
HW PLUNGE BITS WITH UPPER BALL BEARING GUIDE Z=2
Page 2.10



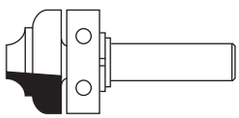
HW BOWL AND TRAY BITS WITH UPPER BALL BEARING GUIDE Z=2
Page 2.10



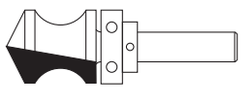
HW BEADING BITS WITH UPPER BALL BEARING GUIDE Z=2
Page 2.10



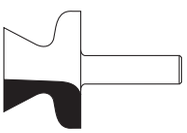
HW CLASSICAL PLUNGE BITS WITH UPPER BALL BEARING GUIDE Z=2
Page 2.10



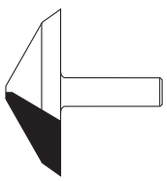
HW CLASSICAL PLUNGE BITS WITH UPPER BALL BEARING GUIDE Z=2
Page 2.11



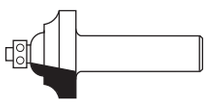
HW HAND GRIP PLUNGE BITS WITH UPPER BALL BEARING GUIDE Z=2
Page 2.11



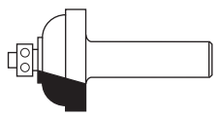
HW WINDOW SILL EDGE BITS Z=2
Page 2.11



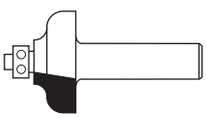
HW RAISED PANEL BITS Z=2
Page 2.11



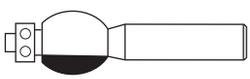
HW DOUBLE RADIUS BITS Z=2
Page 2.11



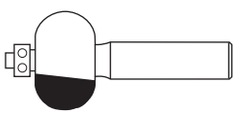
HW COVE BITS Z=2
Page 2.11



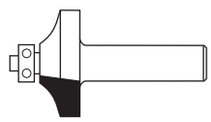
HW FLAT SUNK BEAD BITS Z=2
Page 2.12



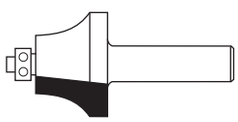
HW SUNK BEAD BITS Z=2
Page 2.12



HW SUNK BEAD BITS Z=2
Page 2.12

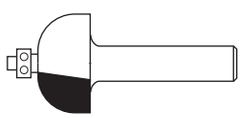


HW FLAT ROUNDING-OVER BITS Z=2
Page 2.12

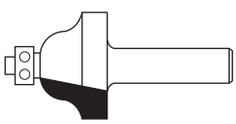


HW SUNK BEAD BITS Z=2
Page 2.12

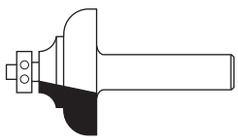
HW FLUSH TRIM BITS WITH BALL BEARING GUIDE Z=2
Page 2.12



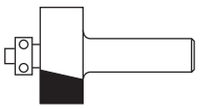
HW COVE BITS WITH BALL BEARING GUIDE
Page 2.13



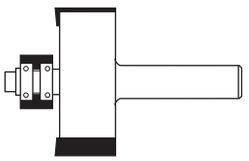
HW ROMAN OGEE BITS WITH BALL BEARING GUIDE Z=2
Page 2.13



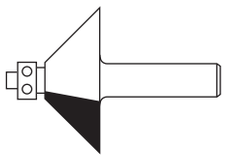
HW CLASSICAL OBEE BITS WITH BALL BEARING GUIDE Z=2
Page 2.13



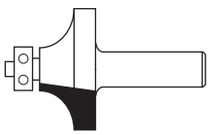
HW RABBETING BITS WITH BALL BEARING GUIDE Z=2
Page 2.13



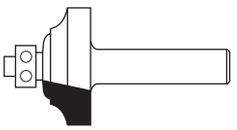
HW RABBETING BITS WITH BALL BEARING GUIDE Z=2
Page 2.14



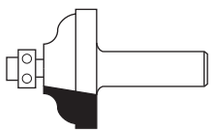
HW BEVEL TRIM BITS WITH BALL BEARING GUIDE Z=2
Page 2.14



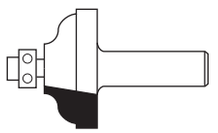
HW CORNER ROUNDING BITS WITH BALL BEARING GUIDE Z=2
Page 2.14



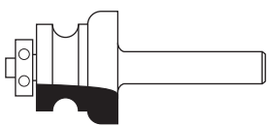
HW CLASSICAL BITS WITH BALL BEARING GUIDE Z=2
Page 2.14



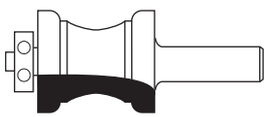
HW OGEE BITS WITH BALL BEARING GUIDE Z=2
Page 2.15



HW MOULDING BITS WITH BALL BEARING GUIDE Z=2
Page 2.15

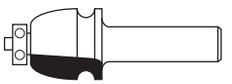


HW MOULDING BITS WITH BALL BEARING GUIDE Z=2
Page 2.15



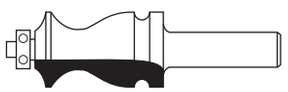
HW MOULDING BITS WITH BALL BEARING GUIDE Z=2
Page 2.15

HW DRAWING LINE BITS WITH BALL BEARING GUIDE Z=2
Page 2.15



HW DRAWING LINE BITS WITH BALL BEARING GUIDE Z=2
Page 2.15

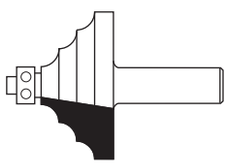
HW DRAWING LINE BITS WITH BALL BEARING GUIDE Z=2
Page 2.16



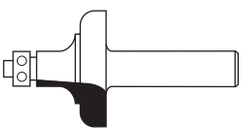
HW ARCHITECTURAL MOULDING LINE BITS WITH BALL BEARING GUIDE Z=2
Page 2.16

HW ARCHITECTURAL MOULDING LINE BITS WITH BALL BEARING GUIDE Z=2
Page 2.16

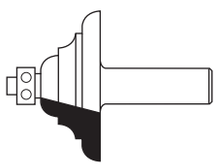
HW ARCHITECTURAL MOULDING LINE BITS WITH BALL BEARING GUIDE Z=2
Page 2.16



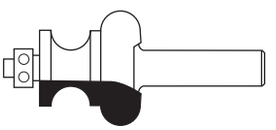
HW MULTI RADIUS BITS Z=2
Page 2.16



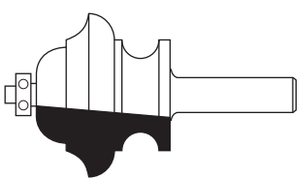
HW MULTIPLE PROFILE BITS Z=2
Page 2.16



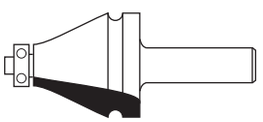
HW MULTIPLE PROFILE BITS Z=2
Page 2.17



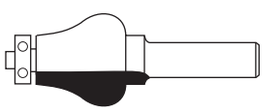
HW MULTIPLE PROFILE BITS Z=2
Page 2.17



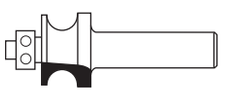
HW CLASSICAL MULTI-FORM BITS WITH BALL BEARING GUIDE Z=2
Page 2.17



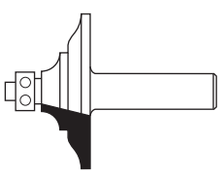
HW HANDRAIL BITS WITH BALL BEARING GUIDE Z=2
Page 2.17



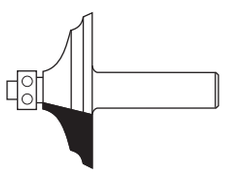
HW HANDRAIL BITS WITH BALL BEARING GUIDE Z=2
Page 2.18



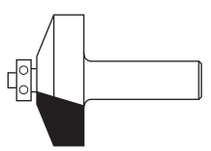
HW EDGE BEADING BITS Z=2
Page 2.18



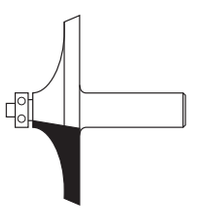
HW HANDRAIL AND TABLE EDGE BITS Z=2
Page 2.18



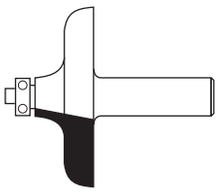
HW HANDRAIL AND TABLE EDGE BITS Z=2
Page 2.18



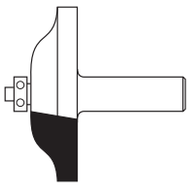
HW RAISED PANEL BITS WITH BALL BEARING GUIDE Z=2
Page 2.18



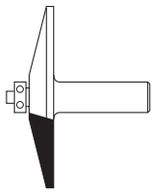
HW HANDRAIL-TABLE EDGE BITS WITH BALL BEARING GUIDE Z=2
Page 2.18



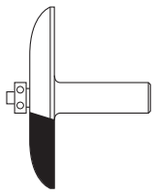
HW HANDRAIL-TABLE EDGE BITS WITH BALL BEARING GUIDE Z=2
Page 2.19



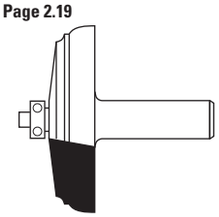
HW RAISED PANEL BITS WITH BALL BEARING GUIDE Z=2
Page 2.19



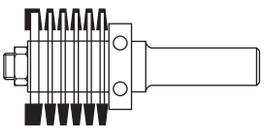
HW RAISED PANEL BITS WITH BALL BEARING GUIDE Z=2
Page 2.19



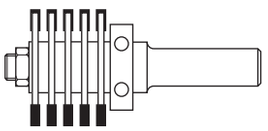
HW RAISED PANEL BITS WITH BALL BEARING GUIDE Z=2
Page 2.19



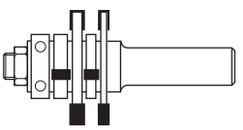
HW RAISED PANEL BITS WITH BALL BEARING GUIDE Z=2
Page 2.19



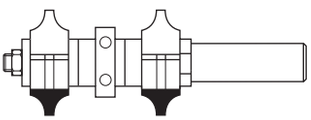
HW FINGER JOINT ASSEMBLY WITH BALL BEARING GUIDE Z=2
Page 2.20



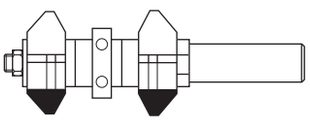
HW FINGER JOINT ASSEMBLY WITH BALL BEARING GUIDE Z=3
Page 2.20



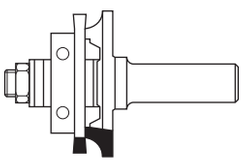
HW SLOT CUTTER SET WITH BALL BEARING GUIDE Z=2
Page 2.21



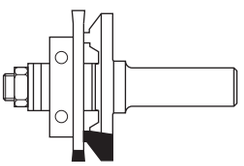
HW DOUBLE CORNER ROUND ASSEMBLY WITH BALL BEARING GUIDE Z=3
Page 2.21



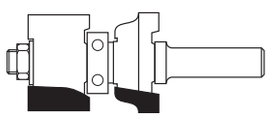
HW DOUBLE CHAMFER ASSEMBLY WITH BALL BEARING GUIDE Z=3
Page 2.22



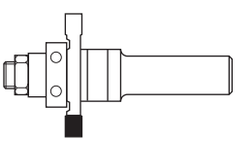
HW BEAD PANELING ASSEMBLY WITH BALL BEARING GUIDE Z=2
Page 2.22



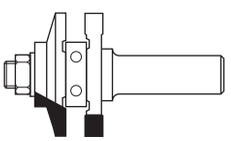
HW V PANELING ASSEMBLY WITH BALL BEARING GUIDE Z=2
Page 2.23



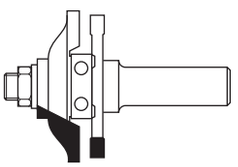
HW OGEE WINDOW SASH ASSEMBLY WITH BALL BEARING GUIDE Z=2
Page 2.23



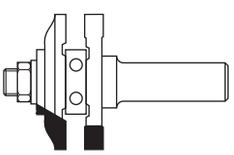
HW TONGUE AND GROOVE ASSEMBLY WITH BALL BEARING GUIDE Z=2
Page 2.24



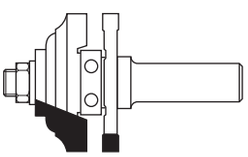
HW STILE AND RAIL ASSEMBLY WITH BALL BEARING GUIDE Z=2
Page 2.24



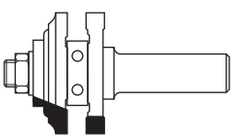
HW STILE AND RAIL ASSEMBLY WITH BALL BEARING GUIDE Z=2
Page 2.25



HW STILE AND RAIL ASSEMBLY WITH BALL BEARING GUIDE Z=2
Page 2.25



HW STILE AND RAIL ASSEMBLY WITH BALL BEARING GUIDE Z=2
Page 2.26



HW STILE AND RAIL ASSEMBLY WITH BALL BEARING GUIDE Z=2
Page 2.26

HW BEADING BITS FOR RADIUS WINDOW Z=2
Page 2.27

2 PIECE SET FOR CABINET DOORS MAKER "TYPE 1"
Page 2.28

2 PIECE SET FOR CABINET DOORS MAKER "TYPE 2"
Page 2.28

2 PIECE SET FOR CABINET DOORS MAKER "TYPE 3"
Page 2.29

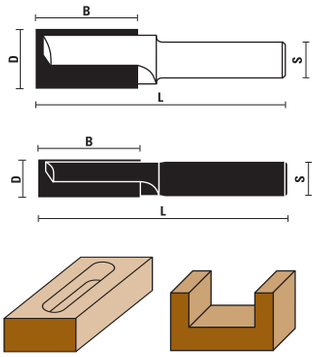
3 PIECE SET FOR CABINET DOORS MAKER AND JOINTS "TYPE 1"
Page 2.29

3 PIECE SET FOR CABINET DOORS MAKER AND JOINTS "TYPE 2"
Page 2.30

3 PIECE SET FOR CABINET DOORS MAKER AND JOINTS "TYPE 3"
Page 2.30

HW STRAIGHT BITS S=10

ART. D101



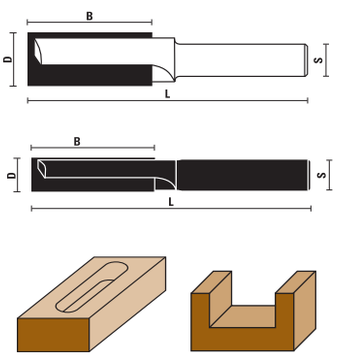
- Straight cut Z=2+1, plunging
- To be used also for working plastic materials, acrylic, polypropylene, HDPE, acetates and polycarbonates
- Also for C.N.C. machines

S ∅ 10	D	B	L
D101.040.R ▲	4	13	49
D101.050.R ▲	5	15	49
D101.060.R ▲	6	16	53
D101.070.R ▲	7	20	55
D101.080.R ▲	8	23	60
D101.090.R ▲ NEW	9	23	60
D101.100.R ▲	10	23	70
D101.120.R	12	23	70
D101.140.R	14	23	70
D101.150.R	15	23	70
D101.160.R	16	23	70
D101.180.R	18	23	70
D101.200.R	20	23	70
D101.220.R	22	23	70
D101.240.R	24	23	70

▲ Solid carbide

HW STRAIGHT BITS S=10 LONG TYPE

ART. D102



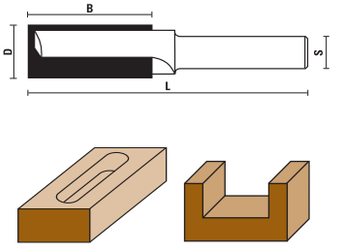
- Straight cut Z=2+1, plunging
- To be used also for working plastic materials, acrylic, polypropylene, HDPE, acetates and polycarbonates
- Also for C.N.C. machines

S ∅ 10	D	B	L
D102.100.R ▲	10	40	87
D102.120.R	12	40	87
D102.140.R	14	40	87
D102.160.R	16	45	87
D102.180.R	18	45	87
D102.200.R	20	45	87

▲ Solid carbide

HW STRAIGHT BITS S=12

ART. D103

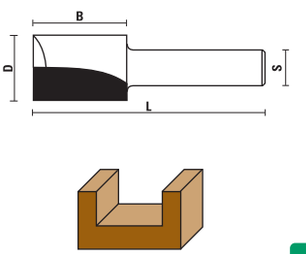


- Straight cut Z=2+1, plunging
- To be used also for working plastic materials, acrylic, polypropylene, HDPE, acetates and polycarbonates
- Also for C.N.C. machines

S ∅ 12	D	B	L
D103.100.R	10	35	90
D103.120.R	12	35	90
D103.121.R	12	45	90
D103.140.R	14	35	90
D103.141.R	14	50	100
D103.160.R	16	35	90
D103.161.R	16	50	100
D103.180.R	18	35	90
D103.181.R	18	50	100
D103.200.R	20	35	90
D103.201.R	20	50	100
D103.220.R	22	35	90
D103.240.R	24	35	90

HW STRAIGHT BITS Z=2

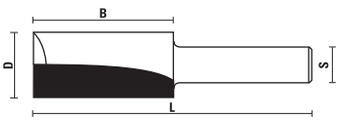
ART. E101 - G101

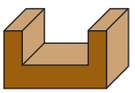


S ∅ 12	S ∅ 12,7 (1/2")	D	B	L
E101.040.R		4	11	63
E101.050.R		5	11	60
E101.060.R	G101.060.R	6	19	63
	G101.064.R	6,4	19	63
E101.070.R		7	19	63
E101.080.R	G101.080.R	8	19	63
	G101.095.R	9,5	25	70
E101.100.R	G101.100.R	10	25	70
E101.120.R		12	25	70
	G101.127.R	12,7	25	66
E101.140.R		14	32	73
	G101.143.R	14,3	32	73
E101.150.R		15	25	66
E101.160.R	G101.160.R	16	32	73
E101.170.R		17	32	73
	G101.175.R	17,5	32	73
E101.180.R		18	32	73
E101.200.R		20	32	73
E101.220.R		22	32	73
E101.250.R		25	32	73
	G101.254.R	25,4	32	73
E101.300.R		30	32	73
E101.350.R		35	32	73
E101.400.R		40	32	73

HW STRAIGHT BITS Z=2 LONG TYPE

ART. E102 - G102 / E103 - G103

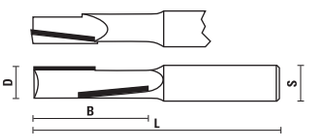


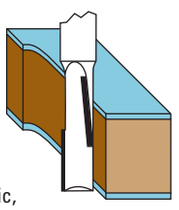


S ∅ 12	S ∅ 12,7 (1/2")	D	B	L
E102.080.R		8	25	70
	G102.095.R	9,5	32	76
E102.100.R	G102.100.R	10	32	76
E102.120.R	G102.120.R	12	38	80
	G102.127.R	12,7	38	80
E102.160.R	G102.160.R	16	38	80
E102.190.R	G102.190.R	19	38	80
E103.120.R	G103.120.R	12	50	108
	G103.127.R	12,7	50	108
E103.180.R		18	50	92
E103.200.R		20	50	92
E103.220.R		22	50	92

HW STAGGER BITS Z=2

ART. E104 - G104



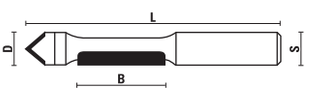


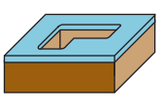
- Excellent for working laminated, panel, melaminic, veneered and plywood
- Good finishing top/bottom

S ∅ 12	S ∅ 12,7 (1/2")	D	B	L
E104.127.R	G104.127.R	12,7	38	79
E104.128.R	G104.128.R	12,7	54	108

HW PANEL PILOT BITS Z=1+1

ART. E105 - G105

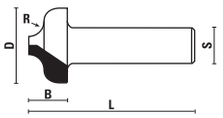


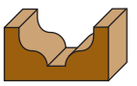


S ∅ 12	S ∅ 12,7 (1/2")	D	B	L
E105.127.R	G105.127.R	12,7	30	90

HW PLUNGE TYPE OGEE BITS Z=2

ART. E106 - G106

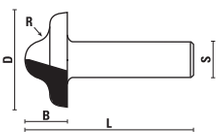


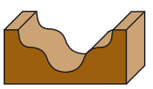


S ∅ 12	S ∅ 12,7 (1/2")	D	R	B	L
E106.190.R	G106.190.R	19	3,5	13	68
E106.254.R	G106.254.R	25,4	3,2	9,5	50
E106.350.R	G106.350.R	35	3,2	9,5	59

HW PLUNGE TYPE OGEE BITS Z=2

ART. E107 - G107

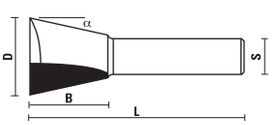


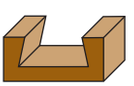


S ∅ 12	S ∅ 12,7 (1/2")	D	R	B	L
E107.270.R	G107.270.R	27	6	12	57

HW DOVETAIL BITS Z=2

ART. E108 - G108

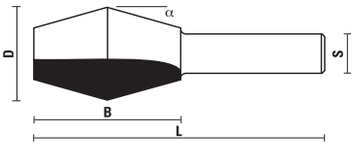


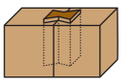


S ∅ 12	S ∅ 12,7 (1/2")	D	α	B	L
E108.160.R	G108.160.R	16	7°	16	59
E108.161.R	G108.161.R	16	7°	22	65
E108.190.R	G108.190.R	19	14°	19	65
E108.191.R	G108.191.R	19	7°	22	65
E108.220.R	G108.220.R	22	14°	22	67
E108.221.R	G108.221.R	22	7°	22	60
E108.254.R	G108.254.R	25,4	14°	25,4	70

HW 14° BUTTERFLY SPLINE BITS Z=2

ART. E109 - G109

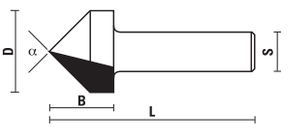


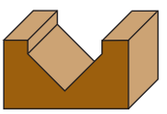


S ∅ 12	S ∅ 12,7 (1/2")	D	α	B	L
E109.280.R	G109.280.R	28	14°	46	84

HW V-GROOVE BITS Z=2

ART. E110 - G110

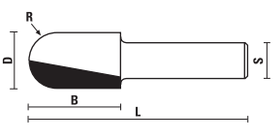


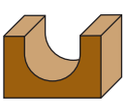


S ∅ 12	S ∅ 12,7 (1/2")	D	α	B	L
E110.127.R	G110.127.R	12,7	90°	13	54
E110.160.R	G110.160.R	16	90°	13	51
E110.190.R	G110.190.R	19	90°	16	54
E110.254.R	G110.254.R	25,4	90°	19	57
E110.320.R	G110.320.R	32	90°	25	64
E110.381.R	G110.381.R	38,1	90°	32	70
E110.501.R	G110.501.R	51	90°	44	83

HW CORE BOX BITS Z=2

ART. E111 - G111

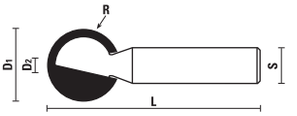


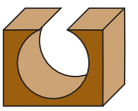


S ∅ 12	S ∅ 12,7 (1/2")	D	R	B	L
E111.127.R	G111.127.R	12,7	6,4	32	73
E111.160.R	G111.160.R	16	8	32	70
E111.190.R	G111.190.R	19	9,5	32	70
E111.220.R	G111.220.R	22	11	32	70
E111.254.R	G111.254.R	25,4	12,7	32	70
E111.317.R	G111.317.R	32	16	32	70
E111.380.R	G111.380.R	38	19	32	70
E111.500.R	G111.500.R	50	25	32	70

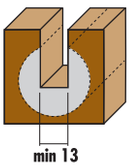
HW BALL AND PLUNGE BITS Z=2

ART. E112 - G112





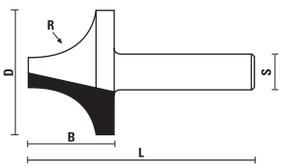
These tools can produce grooves for sliding panels or electrical wires, after a first groove which allows the tool shank moving

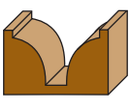


S ∅ 12	S ∅ 12,7 (1/2")	D1	D2	R	L
E112.127.R	G112.127.R	12,7	6,5	6,4	57
E112.160.R	G112.160.R	16	7,5	8	60
E112.190.R	G112.190.R	19	8,5	9,5	64
E112.254.R	G112.254.R	25,4	9	12,7	70
E112.286.R	G112.286.R	28,6	10,3	14,3	70
E112.320.R	G112.320.R	32	12,7	16	73

HW PLUNGING ROUND-OVER BITS Z=2

ART. E113 - G113

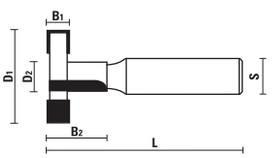


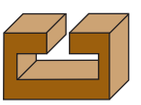


S ∅ 12	S ∅ 12,7 (1/2")	D	R	B	L
E113.160.R	G113.160.R	16	5	11	49
E113.190.R	G113.190.R	19	6,4	13	51
E113.220.R	G113.220.R	22	8	14	52
E113.254.R	G113.254.R	25,4	9,5	16	54
E113.349.R	G113.349.R	34,9	12,7	25,4	63,5
E113.445.R	G113.445.R	44,5	16	31,8	70
E113.510.R	G113.510.R	51	19	36	75

HW T-SLOT ROUTER BITS Z=2

ART. E114 - G114

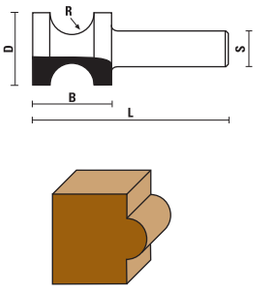




S ∅ 12	S ∅ 12,7 (1/2")	D1	D2	B1	B2	L
E114.280.R	G114.280.R	28	9,5	8	21	65
E114.350.R	G114.350.R	35	13	9,5	22	65

HW BULL NOSE RADIUS BITS Z=2

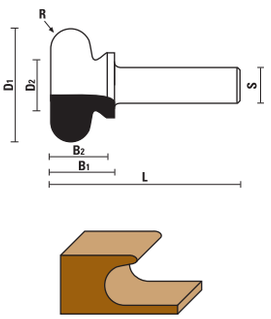
ART. E115 - G115



S ∅ 12	S ∅ 12,7 (1/2")	D	R	B	L
E115.220.R	G115.220.R	22	5	19	57
E115.260.R	G115.260.R	26	6,8	25	63
E115.280.R	G115.280.R	28	8	25	64
E115.333.R	G115.333.R	33,3	9,5	35	73
E115.429.R	G115.429.R	42,9	12,7	40	78
E115.510.R	G115.510.R	51	16	50	88
E115.600.R	G115.600.R - max RPM 18.000	60	19	50	88

HW FINGER GRIP BITS Z=2

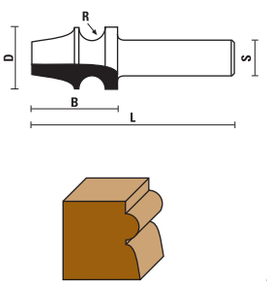
ART. E116 - G116



S ∅ 12	S ∅ 12,7 (1/2")	D1	D2	R	B1	B2	L
E116.190.R	G116.190.R	19	10	4,8	19	14	57
E116.381.R	G116.381.R	38,1	17	6	21	18	59
E116.445.R	G116.445.R	44,5	17	8	25	22	63

HW EDGE BEADING BITS Z=2

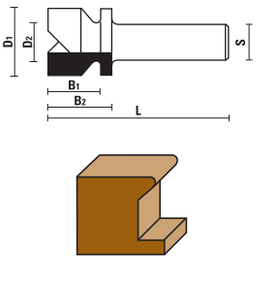
ART. E117 - G117



S ∅ 12	S ∅ 12,7 (1/2")	D	R	B	L
E117.220.R	G117.220.R	22	4	26	64

HW FINGER GRIP BITS Z=2

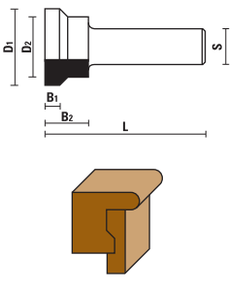
ART. E118 - G118



S ∅ 12	S ∅ 12,7 (1/2")	D1	D2	B1	B2	L
E118.220.R	G118.220.R	22	13	17	21	59

HW DRAWER LOCK BITS Z=2

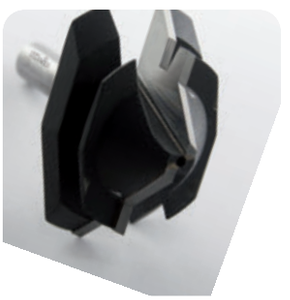
ART. E119 - G119

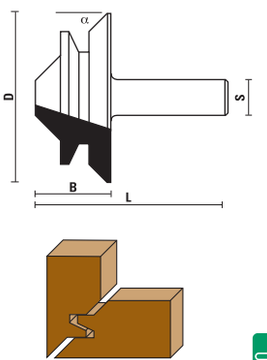


S ∅ 12	S ∅ 12,7 (1/2")	D1	D2	B1	B2	L
E119.254.R	G119.254.R	25,4	18,5	4	13	49

HW 45° LOCK MITRE BITS Z=2

ART. E120 - G120

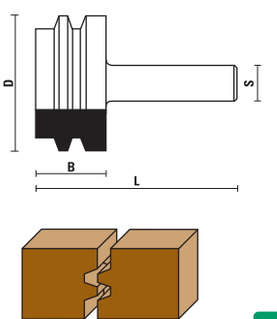




S ∅ 12	S ∅ 12,7 (1/2")	D	α	B	L
E120.445.R	G120.445.R	44,5	45°	20	58
E120.680.R	G120.680.R - max RPM 18.000	68	45°	29,5	68

HW GLUE JOINT BITS Z=2

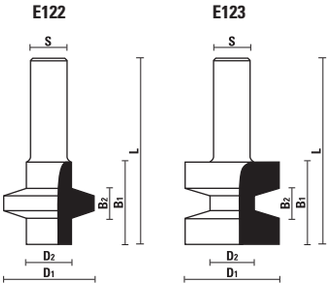
ART. E121 - G121



S ∅ 12	S ∅ 12,7 (1/2")	D	B	L
E121.470.R	G121.470.R	47	28	66

HW WEDGE TONGUE AND GROOVE BITS Z=2

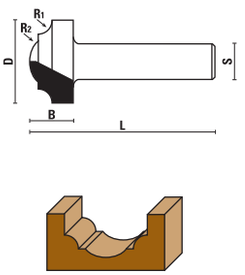
ART. E122 - G122 / E123 - G123



S ∅ 12	S ∅ 12,7 (1/2")	D1	D2	α	B1	B2	L
E122.320.R	G122.320.R	32	14	15°	32	11	70
E123.320.R	G123.320.R	32	14	15°	32	11	70

HW PROFILE BITS Z=2

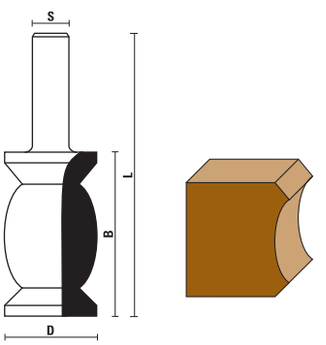
ART. E124 - G124



S ∅ 12	S ∅ 12,7 (1/2")	D	R1	R2	B	L
E124.190.R	G124.190.R	19	3,6	4	13	70
E124.254.R	G124.254.R	25,4	5	6,4	17,5	73

HW CROWN MOULDING BITS Z=2

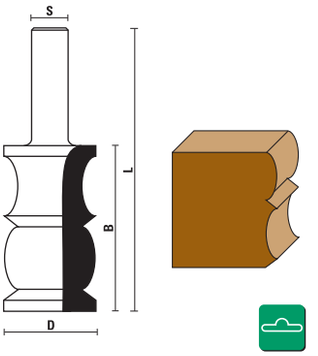
ART. E125 - G125



S ∅ 12	S ∅ 12,7 (1/2")	D	B	L
E125.320.R	G125.320.R	32	58	96

HW CROWN MOULDING BITS Z=2

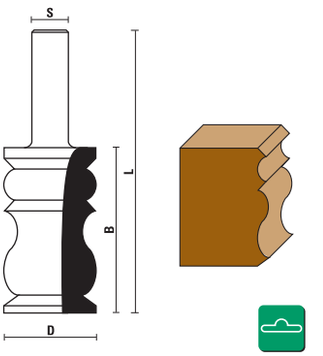
ART. E126 - G126



S ∅ 12	S ∅ 12,7 (1/2")	D	B	L
E126.320.R	G126.320.R	32	58	96

HW CROWN MOULDING BITS Z=2

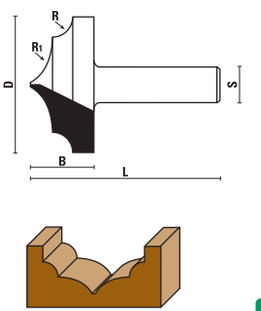
ART. E127 - G127



S ∅ 12	S ∅ 12,7 (1/2")	D	B	L
E127.320.R	G127.320.R	32	58	96

HW PROFILE BITS Z=2

ART. E128 - G128

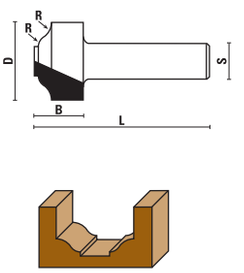


For producing ornaments

S ∅ 12	S ∅ 12,7 (1/2")	D	R1	R2	B	L
E128.410.R	G128.410.R	41	6,4	15	18	56

HW PROFILE BITS Z=2

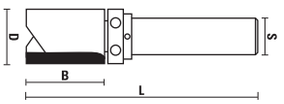
ART. E129 - G129

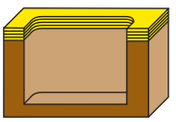


S ∅ 12	S ∅ 12,7 (1/2")	D	D1	R	B	L
E129.254.R	G129.254.R	25,4	9,5	4,8	15	53
E129.300.R	G129.300.R	30	12	6	15	53

HW FLUSH TRIM BITS WITH UPPER BALL BEARING GUIDE Z=2

ART. E130 - G130





S ∅ 12	S ∅ 12,7 (1/2")	D	B	L
E130.190.R	G130.190.R	19	25,4	77
E130.191.R NEW	G130.191.R NEW	19	51	92

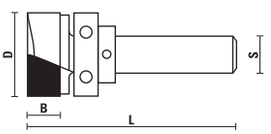
Z050.012.N Z058.002.N Z051.005.N

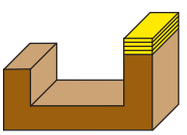
S ∅ 12	S ∅ 12,7 (1/2")	D	B	L
E130.254.R	G130.254.R	25,4	45	95

Z050.009.N Z058.002.N Z051.005.N

HW PLUNGE BITS WITH UPPER BALL BEARING GUIDE Z=2

ART. E131 - G131





S ∅ 12	S ∅ 12,7 (1/2")	D	B	L
E131.190.R	G131.190.R	19	11	64

Z050.012.N Z058.002.N Z051.005.N

S ∅ 12	S ∅ 12,7 (1/2")	D	B	L
E131.254.R	G131.254.R	25,4	11	64

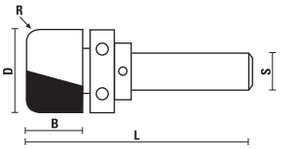
Z050.009.N Z058.002.N Z051.005.N

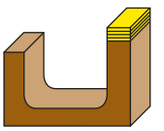
S ∅ 12	S ∅ 12,7 (1/2")	D	B	L
E131.380.R	G131.380.R	38	16	69

Z050.013.N Z058.003.N Z051.005.N

HW BOWL AND TRAY BITS WITH UPPER BALL BEARING GUIDE Z=2

ART. E132 - G132





S ∅ 12	S ∅ 12,7 (1/2")	D	R	B	L
E132.190.R	G132.190.R	19	6,4	16	67

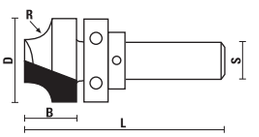
Z050.012.N Z058.002.N Z051.005.N

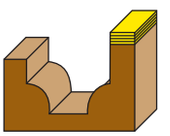
S ∅ 12	S ∅ 12,7 (1/2")	D	R	B	L
E132.286.R	G132.286.R	28,6	6,4	16	67

Z050.015.N Z058.003.N Z051.005.N

HW BEADING BITS WITH UPPER BALL BEARING GUIDE Z=2

ART. E133 - G133



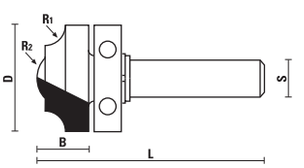


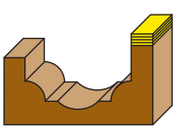
S ∅ 12	S ∅ 12,7 (1/2")	D	R	B	L
E133.286.R	G133.286.R	28,6	8	15	58

Z050.015.N Z058.003.N Z051.005.N

HW CLASSICAL PLUNGE BITS WITH UPPER BALL BEARING GUIDE Z=2

ART. E134 - G134





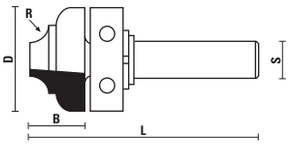
For producing ornaments

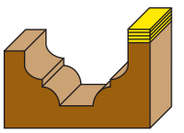
S ∅ 12	S ∅ 12,7 (1/2")	D	R1	R2	B	L
E134.350.R	G134.350.R	35	6,4	10	15	68

Z050.014.N DIN 471-15

HW CLASSICAL PLUNGE BITS WITH UPPER BALL BEARING GUIDE Z=2

ART. E135 - G135



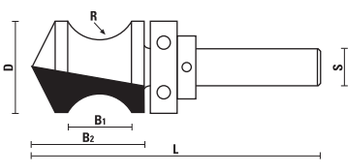


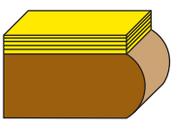
S ∅ 12	S ∅ 12,7 (1/2")	D	R	B	L
E135.350.R	G135.350.R	35	5	14	67

Z050.014.N DIN 471-15

HW HAND GRIP PLUNGE BITS WITH UPPER BALL BEARING GUIDE Z=2

ART. E136 - G136



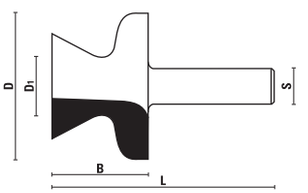


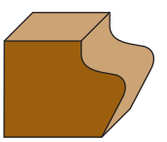
S ∅ 12	S ∅ 12,7 (1/2")	D	R	B1	B2	L
E136.286.R	G136.286.R	28,6	13	22	40	92

Z050.015.N Z058.003.N Z051.005.N

HW WINDOW SILL EDGE BITS Z=2

ART. E137 - G137

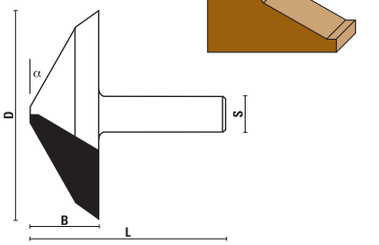


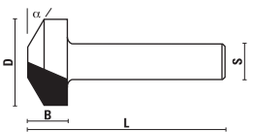


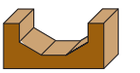
S ∅ 12	S ∅ 12,7 (1/2")	D	D1	B	L
E137.510.R	G137.510.R	51	19	32	70

HW RAISED PANEL BITS Z=2

ART. E138 - G138



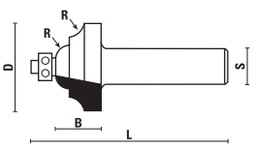


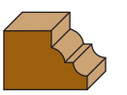


S ∅ 12	S ∅ 12,7 (1/2")	D	α	B	L
E138.286.R	G138.286.R	28,6	30°	13	70
E138.690.R	G138.690.R - max RPM 18.000	69	25°	19	57

HW DOUBLE RADIUS BITS Z=2

ART. E139 - G139



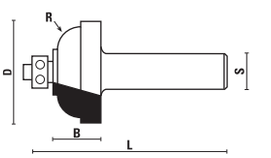


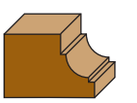
S ∅ 12	S ∅ 12,7 (1/2")	D	R	B	L
E139.254.R	G139.254.R	25,4	4	16	63
E139.350.R	G139.350.R	35	6,4	20	67

Z050.001.N Z053.001.N Z054.001.N Z051.001.R

HW COVE BITS Z=2

ART. E140 - G140



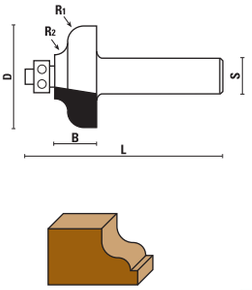


S ∅ 12	S ∅ 12,7 (1/2")	D	R	B	L
E140.286.R	G140.286.R	28,6	4,8	13	61
E140.350.R	G140.350.R	35	8	16	64

Z050.003.N Z053.003.N Z054.002.N Z051.002.R

HW FLAT SUNK BEAD BITS Z=2

ART. E141 - G141

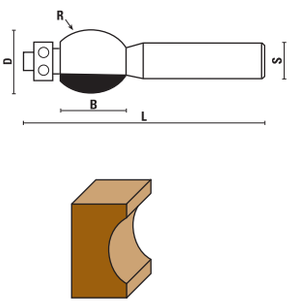


S ∅ 12	S ∅ 12,7 (1/2")	D	R1	R2	B	L
E141.286.R	G141.286.R	28,6	4,5	4	13	60
E141.350.R	G141.350.R	35	6	5	17,5	65

Z050.002.N Z053.002.N Z054.002.N Z051.002.R

HW SUNK BEAD BITS Z=2

ART. E142 - G142

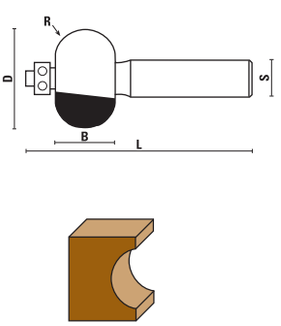


S ∅ 12	S ∅ 12,7 (1/2")	D	R	B	L
E142.190.R	G142.190.R	19	8	13	70
E142.220.R	G142.220.R	22	12	19	78
E142.254.R	G142.254.R	25,4	32	38	98

Z050.003.N Z053.003.N Z054.002.N Z051.002.R

HW SUNK BEAD BITS Z=2

ART. E143 - G143

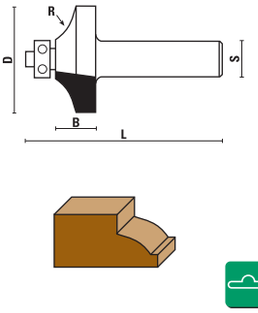


S ∅ 12	S ∅ 12,7 (1/2")	D	R	B	L
E143.330.R	G143.330.R	33	10	20	75

Z050.003.N Z053.003.N Z054.002.N Z051.002.R

HW FLAT ROUNDING-OVER BITS Z=2

ART. E144 - G144

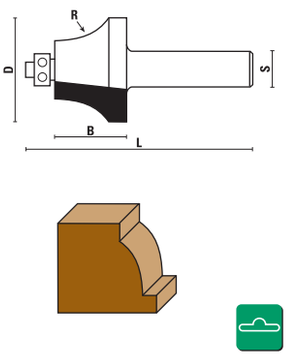


S ∅ 12	S ∅ 12,7 (1/2")	D	R	B	L
E144.300.R	G144.300.R	30	12	10	57

Z050.003.N Z053.003.N Z054.002.N Z051.002.R

HW SUNK BEAD BITS Z=2

ART. E145 - G145

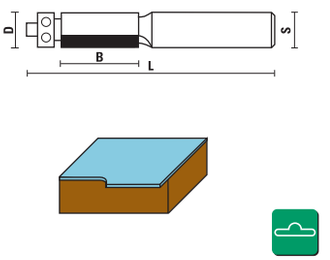


S ∅ 12	S ∅ 12,7 (1/2")	D	R	B	L
E145.270.R	G145.270.R	27	17	17	67

Z050.003.N Z053.003.N Z054.002.N Z051.002.R

HW FLUSH TRIM BITS WITH BALL BEARING GUIDE Z=2

ART. E146 - G146



S ∅ 12	S ∅ 12,7 (1/2")	D	B	L
E146.126.R NEW	G146.126.R NEW	12,7	13	71
E146.127.R	G146.127.R	12,7	25	84
E146.128.R	G146.128.R	12,7	38	98
E146.129.R	G146.129.R	12,7	51	106

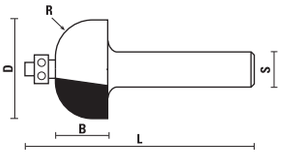
Z050.003.N Z053.003.N Z054.002.N Z051.002.R

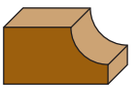
S ∅ 12	S ∅ 12,7 (1/2")	D	B	L
E146.190.R	G146.190.R	19	25	82
E146.191.R NEW	G146.191.R NEW shear angle	19	38	98
E146.192.R NEW	G146.192.R NEW shear angle	19	51	108

Z050.005.N Z053.002.N Z054.002.N Z051.004.R

HW COVE BITS WITH BALL BEARING GUIDE

ART. E147 - G147





S ∅ 12	S ∅ 12,7 (1/2")	D	R	B	L	Z
E147.222.R	G147.222.R	22,2	6,4	14	60	2
E147.254.R	G147.254.R	25,4	8	14	60	2
E147.286.R	G147.286.R	28,6	9,5	14	62	2
E147.350.R	G147.350.R	35	12,7	17	64	2
E147.410.R	G147.410.R	41	16	18	65	2

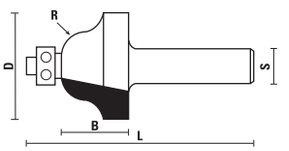
Z050.001.N Z053.001.N Z054.001.N Z051.001.R

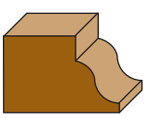
S ∅ 12	S ∅ 12,7 (1/2")	D	R	B	L	Z
E147.570.R	G147.570.R	57	22	32	81	2

Z050.003.N Z053.003.N Z054.002.N Z051.002.R

HW ROMAN OGEE BITS WITH BALL BEARING GUIDE Z=2

ART. E148 - G148



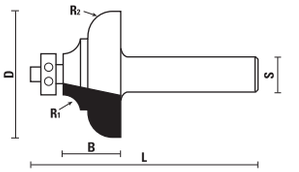


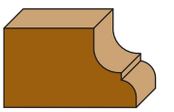
S ∅ 12	S ∅ 12,7 (1/2")	D	R	B	L
E148.254.R	G148.254.R	25,4	4	16	63
E148.350.R	G148.350.R	35	6,4	20	67

Z050.001.N Z053.001.N Z054.001.N Z051.001.R

HW CLASSICAL OBEE BITS WITH BALL BEARING GUIDE Z=2

ART. E149 - G149



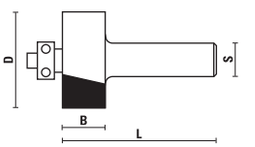


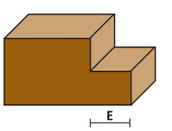
S ∅ 12	S ∅ 12,7 (1/2")	D	R1	R2	B	L
E149.286.R	G149.286.R	28,6	4	4	13	60
E149.350.R	G149.350.R	35	6	4,8	18	64
E149.380.R	G149.380.R	38	4,7	8	16	65
E149.510.R	G149.510.R	51	9,5	9,5	23	72

Z050.003.N Z053.003.N Z054.002.N Z051.002.R

HW RABBETING BITS WITH BALL BEARING GUIDE Z=2

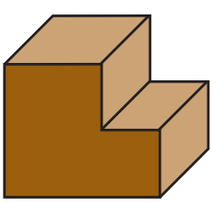
ART. E150 - G150

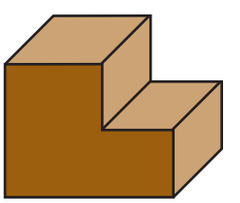




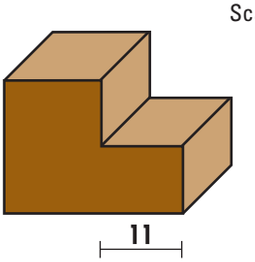
S ∅ 12	S ∅ 12,7 (1/2")	D	B	E	L
E150.240.R	G150.240.R	24	13	4	63
E150.320.R	G150.320.R	32	13	9,5	60
E150.350.R	G150.350.R	35	13	11	60
E150.850.R	G150.850.R	35	13	8-9,5-11-12,7	60

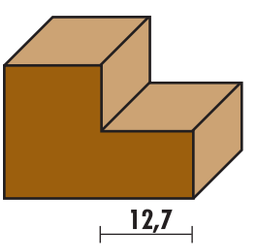
Art. E150.850.R/G150.850.R
Supplied with ball bearing set





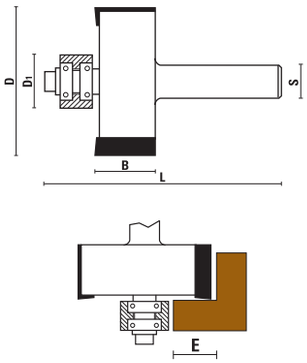
Scale 1:1





HW RABBETING BITS WITH BALL BEARING GUIDE Z=2

ART. E150 - G150



For several thickness rebates 1,6 up to 19 mm

S ∅ 12	S ∅ 12,7 (1/2")	D	D1	B	E	L
E150.510.R	G150.510.R	51	19	22,5	16	78

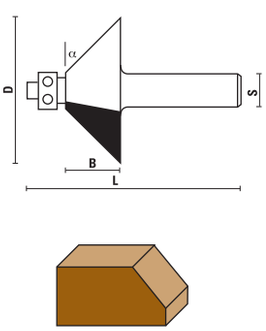
Z050.007.N Z057.010.N Z051.008.R

Spare rings	D1	E
Z050.901.N	14,3	18,25
Z050.902.N	16	17,5
Z050.903.N	19	16
Z050.904.N	20,6	15,2
Z050.905.N	22,2	14,3
Z050.906.N	25,4	12,7
Z050.907.N	27	12
Z050.908.N	28,6	11,1
Z050.909.N	31,8	9,5
Z050.910.N	32,5	9,25
Z050.911.N	35	8
Z050.912.N	38	6,4
Z050.913.N	39	6
Z050.914.N	41,3	4,8
Z050.915.N	44,4	3,2
Z050.916.N	47,6	1,6

Z050.999.N 16 rings set

HW BEVEL TRIM BITS WITH BALL BEARING GUIDE Z=2

ART. E151 - G151

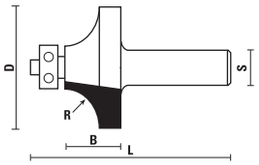


S ∅ 12	S ∅ 12,7 (1/2")	D	α	B	L
E151.351.R	G151.351.R	35	60°	20,6	60
E151.508.R	G151.508.R	50,8	45°	19	68
E151.635.R	G151.635.R	60,5	45°	25	74

Z050.003.N Z053.003.N Z054.002.N Z051.002.R

HW CORNER ROUNDING BITS WITH BALL BEARING GUIDE Z=2

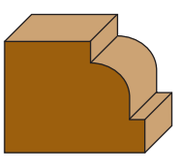
ART. E152 - G152



S ∅ 12	S ∅ 12,7 (1/2")	D	R	B	L
E152.191.R	G152.191.R	19,1	3,2	9,5	59
E152.207.R	G152.207.R	20,7	4	10	59
E152.220.R	G152.220.R	22	5	13	62
E152.254.R	G152.254.R	25,4	6,4	13	62
E152.286.R	G152.286.R	28,6	8	14	62
E152.318.R	G152.318.R	31,8	9,5	16	65
E152.327.R	G152.327.R	32,7	10	16	65
E152.367.R	G152.367.R	36,7	12	20	67
E152.380.R	G152.380.R	38	12,7	19	67
E152.410.R	G152.410.R	41	14	20	70
E152.427.R	G152.427.R	42,7	15	22	70
E152.445.R	G152.445.R	44,5	16	22,2	71
E152.487.R	G152.487.R	48,7	18	26	72
E152.508.R	G152.508.R	50,8	19	25,4	73
E152.527.R	G152.527.R	52,7	20	27	73
E152.570.R	G152.570.R	57	22	29	78
E152.635.R	G152.635.R	63,5	25	32	81
E152.700.R	G152.700.R - max RPM 18.000	70	28	35	84
E152.726.R	G152.726.R - max RPM 18.000	72,6	30	36	85
E152.760.R	G152.760.R - max RPM 18.000	76	32	38	87
E152.825.R	G152.825.R - max RPM 16.000	82,5	35	41	90
E152.890.R	G152.890.R - max RPM 16.000	89	38	45	94

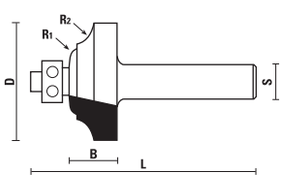
Z050.003.N Z053.003.N Z054.002.N Z051.002.R

Changing the ball bearing art. **Z050.003.N** with art. **Z050.002.N** the profile shown can be obtained



HW CLASSICAL BITS WITH BALL BEARING GUIDE Z=2

ART. E153 - G153

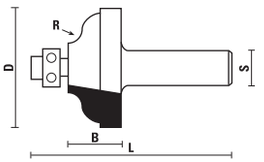


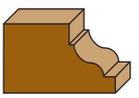
S ∅ 12	S ∅ 12,7 (1/2")	D	R1	R2	B	L
E153.381.R	G153.381.R	38,1	5,5	6	15,9	63,5

Z050.003.N Z053.003.N Z054.002.N Z051.002.R

HW OGEE BITS WITH BALL BEARING GUIDE Z=2

ART. E154 - G154



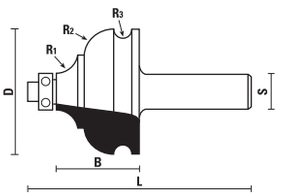


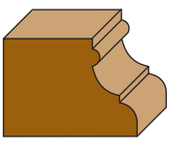
S ∅ 12	S ∅ 12,7 (1/2")	D	R	B	L
E154.350.R	G154.350.R	35	4	13	61
E154.413.R	G154.413.R	41,3	6,4	19	67
E154.570.R	G154.570.R	57	9,5	25	75

Z050.002.N | Z053.002.N | Z054.002.N | Z051.002.R

HW MOULDING BITS WITH BALL BEARING GUIDE Z=2

ART. E156 - G156



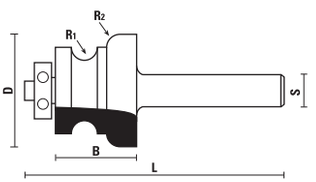


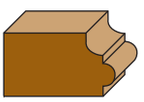
S ∅ 12	S ∅ 12,7 (1/2")	D	R1	R2	R2	B	L
E156.413.R	G156.413.R	41,3	6,4	9,5	3,2	28,5	75,5

Z050.003.N | Z053.003.N | Z054.002.N | Z051.002.R

HW MOULDING BITS WITH BALL BEARING GUIDE Z=2

ART. E157 - G157



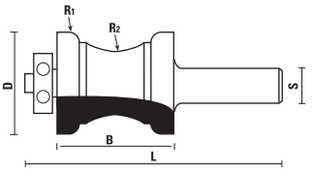


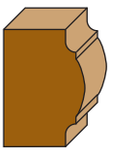
S ∅ 12	S ∅ 12,7 (1/2")	D	R1	R2	B	L
E157.400.R	G157.400.R	40	5,5	6	30	78

Z050.004.N | Z053.004.N | Z054.002.N | Z051.002.R

HW MOULDING BITS WITH BALL BEARING GUIDE Z=2

ART. E158 - G158



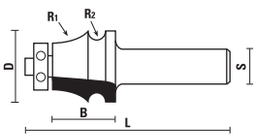


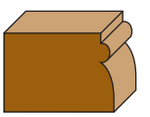
S ∅ 12	S ∅ 12,7 (1/2")	D	R1	R2	B	L
E158.350.R	G158.350.R	35	5	13	40	88

Z050.004.N | Z053.004.N | Z054.002.N | Z051.002.R

HW DRAWING LINE BITS WITH BALL BEARING GUIDE Z=2

ART. E159 - G159



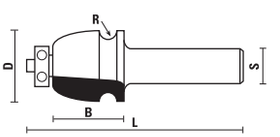


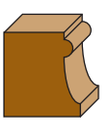
S ∅ 12	S ∅ 12,7 (1/2")	D	R1	R2	B	L
E159.254.R	G159.254.R	25,4	19	3,2	22	70

Z050.004.N | Z053.004.N | Z054.002.N | Z051.002.R

HW DRAWING LINE BITS WITH BALL BEARING GUIDE Z=2

ART. E160 - G160



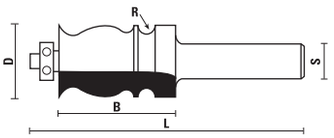


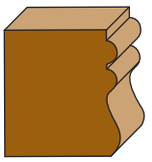
S ∅ 12	S ∅ 12,7 (1/2")	D	R	B	L
E160.260.R	G160.260.R	26	3,5	25	74

Z050.003.N | Z053.003.N | Z054.002.N | Z051.002.R

HW DRAWING LINE BITS WITH BALL BEARING GUIDE Z=2

ART. E161 - G161



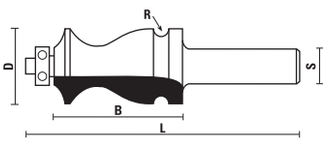


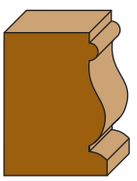
S ∅ 12	S ∅ 12,7 (1/2")	D	R	B	L
E161.254.R	G161.254.R	25,4	3,5	45	94

Z050.003.N Z053.003.N Z054.002.N Z051.002.R

HW ARCHITECTURAL MOULDING LINE BITS WITH BALL BEARING GUIDE Z=2

ART. E162 - G162



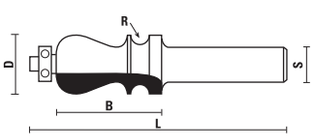


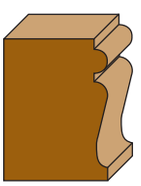
S ∅ 12	S ∅ 12,7 (1/2")	D	R	B	L
E162.270.R	G162.270.R	27	3	45	94

Z050.003.N Z053.003.N Z054.002.N Z051.002.R

HW ARCHITECTURAL MOULDING LINE BITS WITH BALL BEARING GUIDE Z=2

ART. E163 - G163



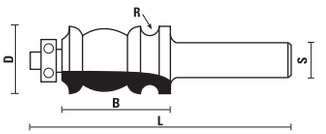


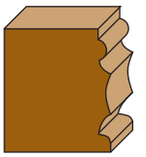
S ∅ 12	S ∅ 12,7 (1/2")	D	R	B	L
E163.220.R	G163.220.R	22	4	38	87

Z050.003.N Z053.003.N Z054.002.N Z051.002.R

HW ARCHITECTURAL MOULDING LINE BITS WITH BALL BEARING GUIDE Z=2

ART. E164 - G164



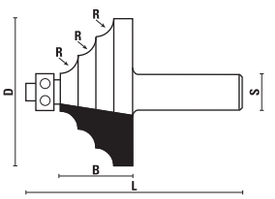


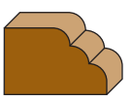
S ∅ 12	S ∅ 12,7 (1/2")	D	R	B	L
E164.240.R	G164.240.R	24	3,5	39	89

Z050.003.N Z053.003.N Z054.002.N Z051.002.R

HW MULTI RADIUS BITS Z=2

ART. E165 - G165



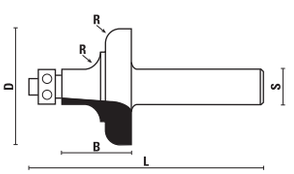


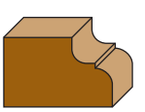
S ∅ 12	S ∅ 12,7 (1/2")	D	R	B	L
E165.470.R	G165.470.R	47	6	24	73

Z050.003.N Z053.003.N Z054.002.N Z051.002.R

HW MULTIPLE PROFILE BITS Z=2

ART. E166 - G166



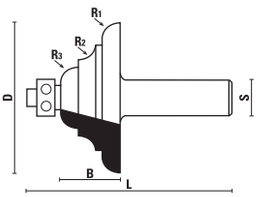


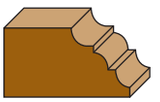
S ∅ 12	S ∅ 12,7 (1/2")	D	R	B	L
E166.510.R	G166.510.R	51	8,5	31	80

Z050.003.N Z053.003.N Z054.002.N Z051.002.R

HW MULTIPLE PROFILE BITS Z=2

ART. E167 - G167



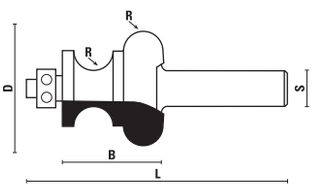


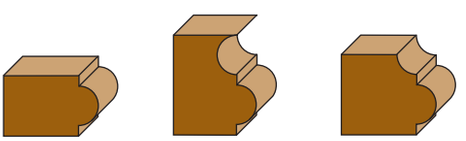
S ∅ 12	S ∅ 12,7 (1/2")	D	R1	R2	R3	B	L
E167.590.R	G167.590.R	59	6,5	6,5	7,5	22	70

Z050.003.N Z053.003.N Z054.002.N Z051.002.R

HW MULTIPLE PROFILE BITS Z=2

ART. E168 - G168



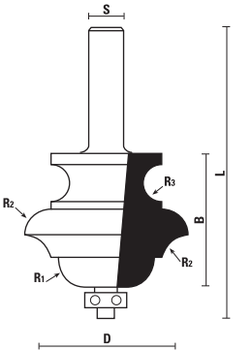


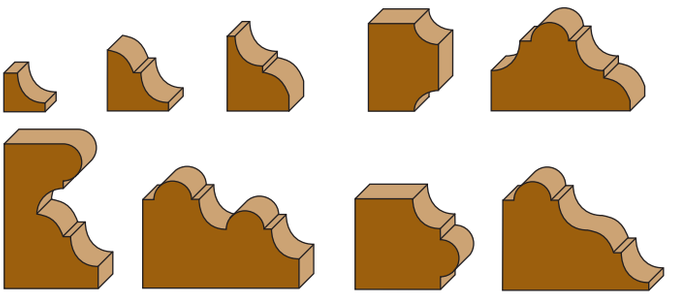
S ∅ 12	S ∅ 12,7 (1/2")	D	R	B	L
E168.510.R	G168.510.R	51	6,4	32	80

Z050.004.N Z053.004.N Z054.002.N Z051.002.R

HW CLASSICAL MULTI-FORM BITS WITH BALL BEARING GUIDE Z=2

ART. E169 - G169



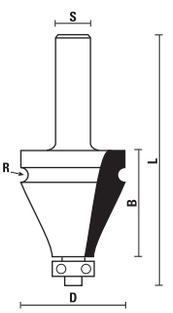


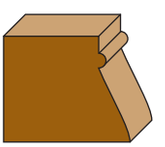
S ∅ 12	S ∅ 12,7 (1/2")	D	R1	R2	R3	B	L
E169.540.R	G169.540.R max RPM 18.000	54	9	8,5	6,4	47	96

Z050.003.N Z053.003.N Z054.002.N Z051.002.R

HW HANDRAIL BITS WITH BALL BEARING GUIDE Z=2

ART. E170 - G170



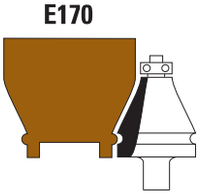


S ∅ 12	S ∅ 12,7 (1/2")	D	R	B	L
E170.350.R	G170.350.R	35	3,2	37	86

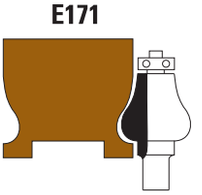
Z050.003.N Z053.003.N Z054.002.N Z051.002.R

SAMPLE OF HANDRAIL PATTERNS

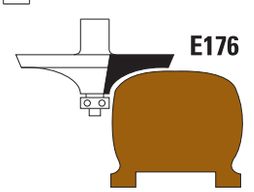
E170



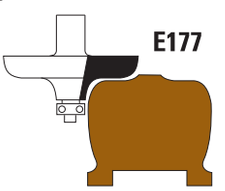
E171



E176

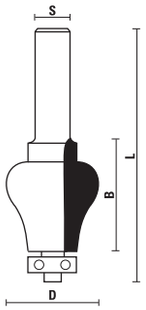


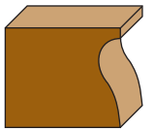
E177



HW HANDRAIL BITS WITH BALL BEARING GUIDE Z=2

ART. E171 - G171



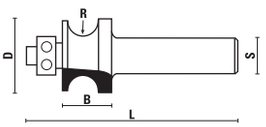


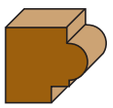
S ∅ 12	S ∅ 12,7 (1/2")	D	R	B
E171.320.R	G171.320.R	32	38	87

Z050.003.N Z053.003.N Z054.002.N Z051.002.R

HW EDGE BEADING BITS Z=2

ART. E172 - G172



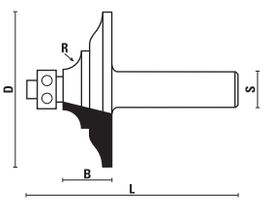


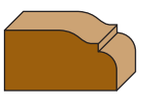
S ∅ 12	S ∅ 12,7 (1/2")	D	R	B	L
E172.220.R	G172.220.R	22	3,2	14	63
E172.280.R	G172.280.R	28	4,8	16	66
E172.320.R	G172.320.R	32	6,4	19	67
E172.380.R	G172.380.R	38	9,5	25	74

Z050.004.N Z053.004.N Z054.002.N Z051.002.R

HW HANDRAIL AND TABLE EDGE BITS Z=2

ART. E173 - G173



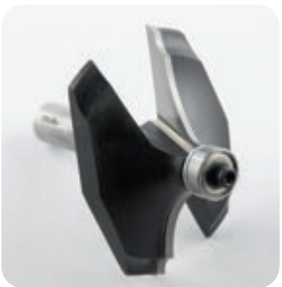


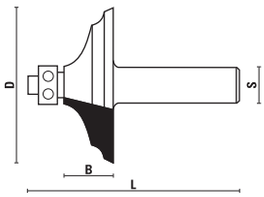
S ∅ 12	S ∅ 12,7 (1/2")	D	R	B	L
E173.640.R	G173.640.R - max RPM 18.000	64	6,5	20	69

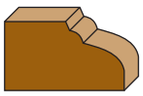
Z050.003.N Z053.003.N Z054.002.N Z051.002.R

HW HANDRAIL AND TABLE EDGE BITS Z=2

ART. E174 - E174





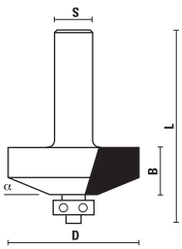


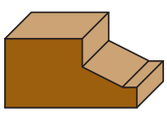
S ∅ 12	S ∅ 6,4 (1/4")	D	B	L
E174.660.R	G174.660.R - max RPM 18.000	66	20	69

Z050.003.N Z053.003.N Z054.002.N Z051.002.R

HW RAISED PANEL BITS WITH BALL BEARING GUIDE Z=2

ART. E175 - E175



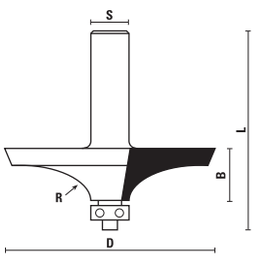


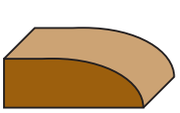
S ∅ 12	S ∅ 12,7 (1/2")	D	α	B	L
E175.420.R	G175.420.R	42	25°	13	62

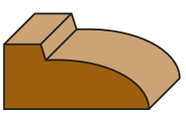
Z050.003.N Z053.003.N Z054.002.N Z051.002.R

HW HANDRAIL-TABLE EDGE BITS WITH BALL BEARING GUIDE Z=2

ART. E176 - G176





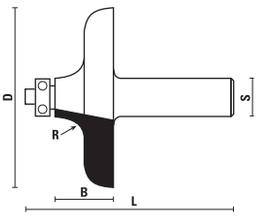


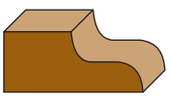
S ∅ 12	S ∅ 6,4 (1/4")	D	R	B	L
E176.690.R	G176.690.R - max RPM 18.000	69	43	16	64

Z050.003.N Z053.003.N Z054.002.N Z051.002.R

HW HANDRAIL-TABLE EDGE BITS WITH BALL BEARING GUIDE Z=2

ART. E177 - G177



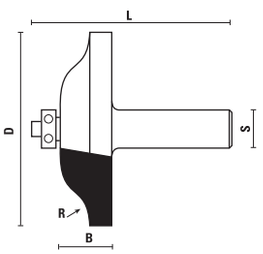


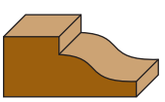
S ∅ 12	S ∅ 12,7 (1/2")	D	R	B	L
E177.640.R	G177.640.R - max RPM 18.000	64	9,5	20	69

Z050.003.N Z053.003.N Z054.002.N Z051.002.R

HW RAISED PANEL BITS WITH BALL BEARING GUIDE Z=2

ART. E178 - G178



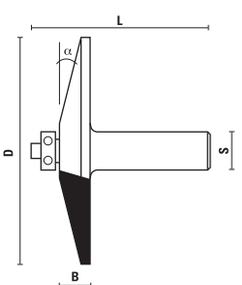


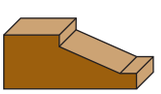
S ∅ 12	S ∅ 12,7 (1/2")	D	R	B	L
E178.670.R	G178.670.R - max RPM 18.000	67	19	17	65
E178.860.R	G178.860.R - max RPM 16.000	86	22	16	65

Z050.003.N Z053.003.N Z054.002.N Z051.002.R

HW RAISED PANEL BITS WITH BALL BEARING GUIDE Z=2

ART. E178 - G178



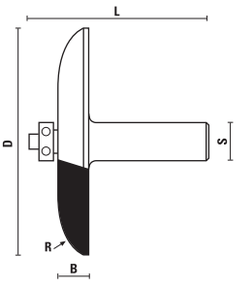


S ∅ 12	S ∅ 12,7 (1/2")	D	α	B	L
E178.861.R	G178.861.R - max RPM 16.000	86	15°	13	61

Z050.003.N Z053.003.N Z054.002.N Z051.002.R

HW RAISED PANEL BITS WITH BALL BEARING GUIDE Z=2

ART. E178 - G178

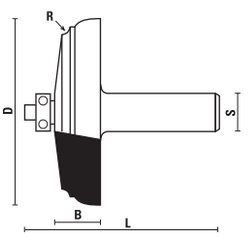


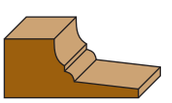
S ∅ 12	S ∅ 12,7 (1/2")	D	R	B	L
E178.862.R	G178.862.R - max RPM 16.000	86	40	13	61

Z050.003.N Z053.003.N Z054.002.N Z051.002.R

HW RAISED PANEL BITS WITH BALL BEARING GUIDE Z=2

ART. E179 - G179



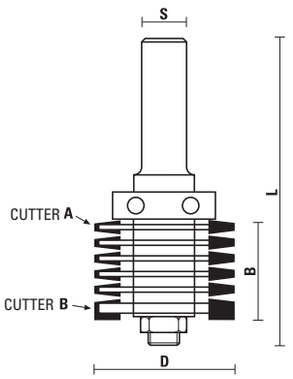


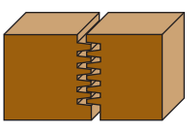
S ∅ 12	S ∅ 12,7 (1/2")	D	R	B	L
E179.640.R	G179.640.R - max RPM 18.000	64	3	13	62

Z050.003.N Z053.003.N Z054.002.N Z051.002.R

HW FINGER JOINT ASSEMBLY WITH BALL BEARING GUIDE Z=2

ART. E180 - G180





Working height 11 to 36 mm

S ∅ 12	S ∅ 12,7 (1/2")	D	B	L	Z
E180.397.R	G180.397.R	39,7	36	96	2

SPARE PARTS

Arbor	
S ∅ 12	**S ∅ 12,7 (1/2")**
E117.120.R	G117.120.R

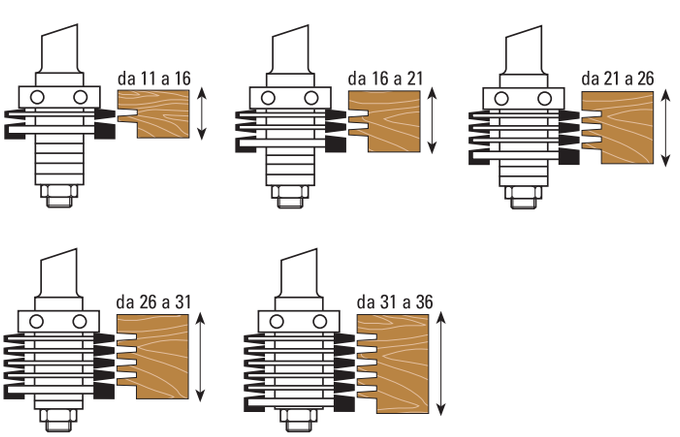
Finger cutter "A" (5 pcs.) ∅ 39,2/∅ 8 Z=2 Sp.=1,85
C180.500.R

Straight cutter "B" (1 pcs.) ∅ 39,7/∅ 8 Z=2 Sp.=5,5
C180.501.R

Z050.010.N

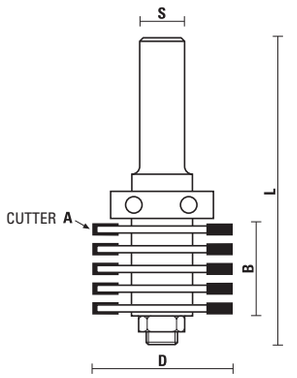
Z057.001.N - 6 pcs.

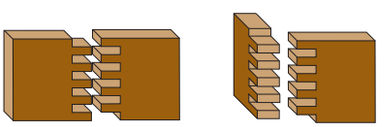
Z057.002.N - 2 pcs.
Z057.003.N - 1 pcs.
Z057.004.N - 10 pcs.



HW FINGER JOINT ASSEMBLY WITH BALL BEARING GUIDE Z=3

ART. E181 - G181





- Working height 22 to 45 mm
- Supplied with nr. 3 ball bearings for producing nr. 3 different cutting depths (E=9,8 - E=9,3 - E=6,8)

S ∅ 12	S ∅ 12,7 (1/2")	D	B	L	Z	E
E181.476.R	G181.476.R	47,6	36	96	3	9,8

SPARE PARTS

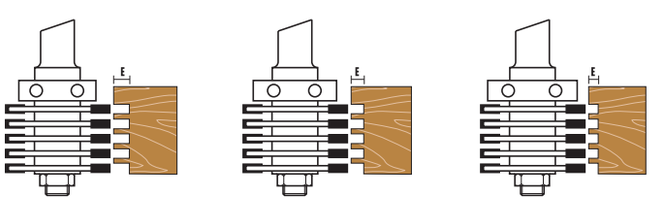
Arbor	
S ∅ 12	**S ∅ 12,7 (1/2")**
E117.120.R	G117.120.R

Finger cutter "A" (5 pcs.) ∅ 47,6/∅ 8 Z=3 Sp.=4
C118.340.R

Z050.107.N - 1 pcs.
Z050.108.N - 1 pcs.
Z050.109.N - 1 pcs.

Z057.009.N - 4 pcs.

Z057.004.N - 4 pcs.
Z057.008.N - 8 pcs.



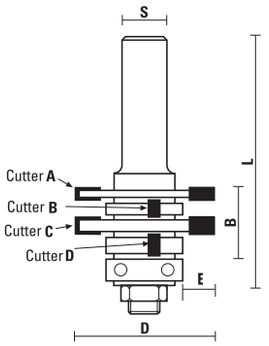
Z050.107.N
Ball bearing ∅28
E=9,8

Z050.108.N
Ball bearing ∅29
E=9,3

Z050.109.N
Ball bearing ∅34
E=6,8

HW SLOT CUTTER SET WITH BALL BEARING GUIDE Z=2

ART. E182 - G182



- For groovings **3,2** mm up to **18** mm
- Some possible combinations to obtain different measures of grooves
- Adding or removing the spacers included in the kit, can be obtained more measures (see drawing)

S ∅ 12	S ∅ 12,7 (1/2")	D	B	L	Z	E
E182.476.R	G182.476.R	47,6	3,2÷18	76	2	12,8

SPARE PARTS

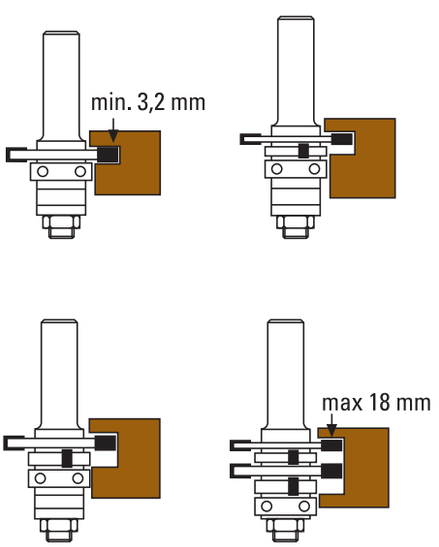
Arbor			
S ∅ 12	**S ∅ 12,7 (1/2")**		
E117.123.R	G117.123.R		

Cutter (4 pcs.)			
"A" - C118.232.R	∅ 47,6/∅ 8	Z=2	Sp.=3,2
"B" - C118.240.R	∅ 47,6/∅ 8	Z=2	Sp.=4
"C" - C118.248.R	∅ 47,6/∅ 8	Z=2	Sp.=4,8
"D" - C118.264.R	∅ 47,6/∅ 8	Z=2	Sp.=6,4

Z050.008.N - 1 pcs.

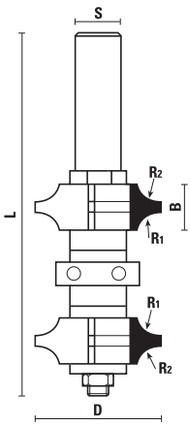
Z057.006.N - 3 pcs.
Z057.002.N - 5 pcs.

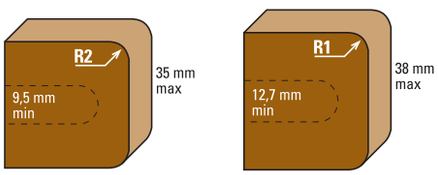
Z057.003.N - 5 pcs.
Z057.004.N - 10 pcs.



HW DOUBLE CORNER ROUND ASSEMBLY WITH BALL BEARING GUIDE Z=3

ART. E186 - G186 - C186





- R2 = 4,8 mm
- Working height 9,5 to 35 mm
- R1 = 6,4 mm
- Working height 12,7 to 38 mm

S ∅ 12	S ∅ 12,7 (1/2")	S ∅ 8	D	R1	R2	B	L
E186.350.R	G186.350.R	C186.350.R	35	6,4	4,8	14	108

SPARE PARTS

Arbor					
S ∅ 12	**S ∅ 12,7 (1/2")**	**S ∅ 8**			
E117.121.R	G117.121.R	C117.081.R			
Top cutter		∅ 35/∅ 8	Z=3	R1=6,4	R2=4,8
C186.500.R					
Bottom cutter		∅ 35/∅ 8	Z=3	R1=6,4	R2=4,8
C186.501.R					

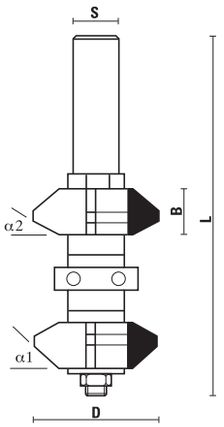
Z050.008.N - 1 pcs.

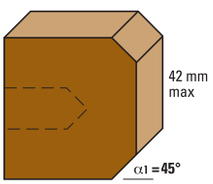
Z057.002.N - 2 pcs.
Z057.005.N - 2 pcs.
Z057.006.N - 2 pcs.

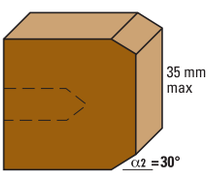
Z057.003.N - 1 pcs.
Z057.004.N - 4 pcs.

HW DOUBLE CHAMFER ASSEMBLY WITH BALL BEARING GUIDE Z=3

ART. E187 - G187 - C187







- α1 =45° (Working height 0 to 42 mm)
- α2 = 30° (Working height 0 to 35 mm)

S ∅ 12	S ∅ 12,7 (1/2")	S ∅ 8	D	B	α1	α2	L
E187.350.R	G187.350.R	C187.350.R	35	14	45°	30°	108

SPARE PARTS

Arbor					
S ∅ 12	S ∅ 12,7 (1/2")	S ∅ 8			
E117.121.R	G117.121.R	C117.081.R			
Top cutter		∅ 35/∅ 8	Z=3	α1=45°	α2=30°
C187.500.R					
Bottom cutter		∅ 35/∅ 8	Z=3	α1=45°	α2=30°
C187.501.R					

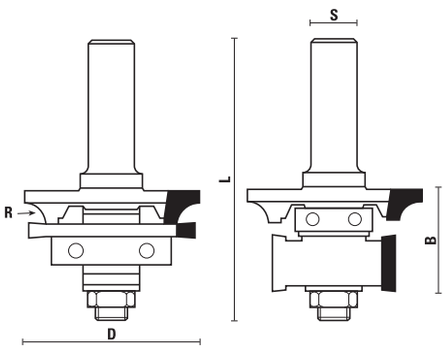
Z050.008.N - 1 pcs.

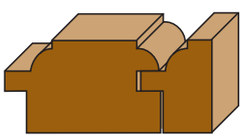
Z057.002.N - 3 pcs.
Z057.005.N - 2 pcs.
Z057.006.N - 2 pcs.

Z057.003.N - 1 pcs.
Z057.004.N - 4 pcs.

HW BEAD PANELING ASSEMBLY WITH BALL BEARING GUIDE Z=2

ART. E188 - G188 - C188





S ∅ 12	S ∅ 12,7 (1/2")	S ∅ 8	D	R	B	L
E188.490.R	G188.490.R	C188.490.R	49	6	30	80

SPARE PARTS

Arbor				
S ∅ 12	S ∅ 12,7 (1/2")	S ∅ 8		
E117.122.R	G117.122.R	C117.082.R		
Profile cutter		∅ 49/∅ 8	Z=2	Sp.=9
C188.500.R				
Grooving cutter		∅ 46/∅ 8	Z=2	Sp.=4
C188.501.R				
Rabbeting cutter		∅ 33,5/∅ 8	Z=2	Sp.=17,5
C188.502.R				

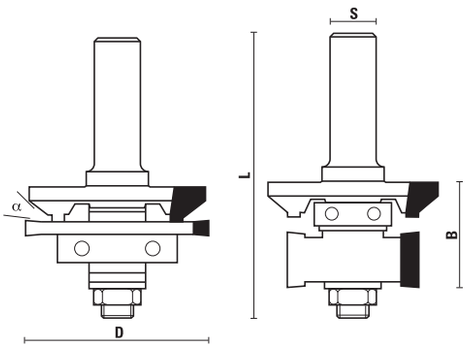
Z050.008.N - 1 pcs.
Z050.016.N - 1 pcs.

Z057.002.N - 2 pcs.
Z057.005.N - 3 pcs.

Z057.003.N - 1 pcs.
Z057.007.N - 1 pcs.
Z057.004.N - 3 pcs.
Z057.008.N - 1 pcs.

HW V PANELING ASSEMBLY WITH BALL BEARING GUIDE Z=2

ART. E189 - G189 - C189



S ∅ 12	S ∅ 12,7 (1/2")	S ∅ 8	D	α	B	L
E189.425.R	G189.425.R	C189.425.R	42,5	45°	30	80

SPARE PARTS

Arbor				
S ∅ 12	S ∅ 12,7 (1/2")	S ∅ 8		
E117.122.R	G117.122.R	C117.082.R		
Profile cutter 45°		∅ 42,5/∅ 8	Z=2	Sp.=9
C189.500.R				
Grooving cutter		∅ 46/∅ 8	Z=2	Sp.=4
C188.501.R				
Rabbeting cutter		∅ 33,5/∅ 8	Z=2	Sp.=17,5
C188.502.R				

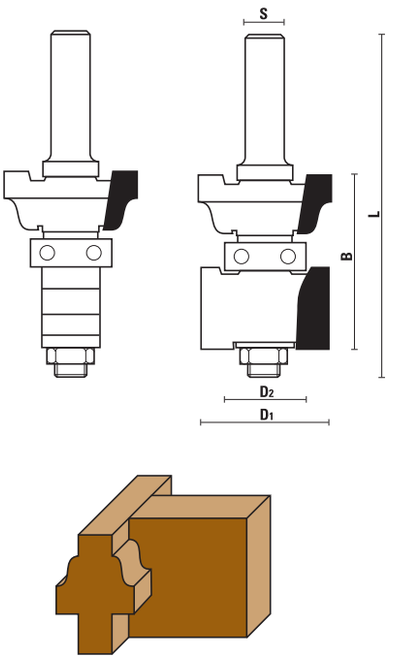
Z050.008.N - 1 pcs.
Z050.016.N - 1 pcs.

Z057.002.N - 2 pcs.
Z057.005.N - 3 pcs.

Z057.003.N - 1 pcs.
Z057.007.N - 1 pcs.
Z057.004.N - 3 pcs.
Z057.008.N - 1 pcs.

HW OGEE WINDOW SASH ASSEMBLY WITH BALL BEARING GUIDE Z=2

ART. E191 - G191 - C191



S ∅ 12	S ∅ 12,7 (1/2")	S ∅ 8	D1	D2	B	L
E191.350.R	G191.350.R	C191.350.R	35	22	47	96

SPARE PARTS

Arbor				
S ∅ 12	S ∅ 12,7 (1/2")	S ∅ 8		
E117.120.R	G117.120.R	C117.080.R		
Profile cutter		∅ 35/∅ 8	Z=2	Sp.=17
C191.500.R				
Rabbeting cutter		∅ 35/∅ 8	Z=2	Sp.=22
C191.501.R				

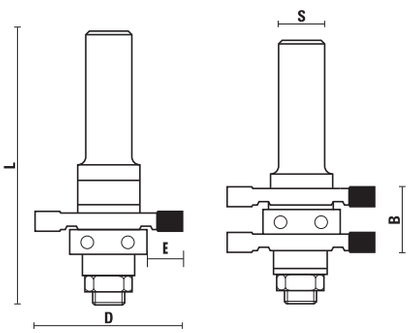
Z050.008.N - 1 pcs.

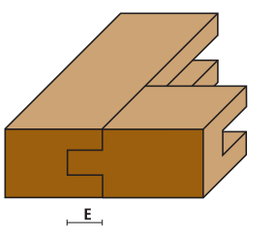
Z057.005.N - 1 pcs.
Z057.006.N - 3 pcs.

Z057.003.N - 1 pcs.
Z057.004.N - 3 pcs.
Z057.008.N - 1 pcs.

HW TONGUE AND GROOVE ASSEMBLY WITH BALL BEARING GUIDE Z=2

ART. E193 - G193 - C193





S ∅ 12	S ∅ 12,7 (1/2")	S ∅ 8	D	B	L	E
E193.410.R	G193.410.R		41	19	76	9,5
		C193.410.R	41	19	70	9,5

SPARE PARTS

Arbor		
S ∅ 12	**S ∅ 12,7 (1/2")**	**S ∅ 8**
E117.123.R	G117.123.R	C117.079.R

Grooving cutter (2 pcs.)	∅ 41/∅ 8	Z=2	Sp.=6,4
C193.500.R			

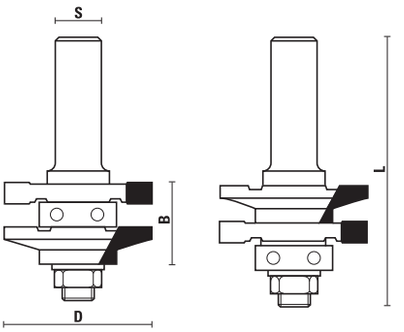
Z050.008.N - 1 pcs.

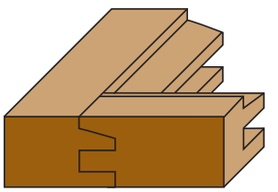
Z057.002.N - 1 pcs.
Z057.006.N - 2 pcs.

Z057.004.N - 4 pcs.
Z057.008.N - 2 pcs.

HW STILE AND RAIL ASSEMBLY WITH BALL BEARING GUIDE Z=2

ART. E194 - G194 - C194





S ∅ 12	S ∅ 12,7 (1/2")	S ∅ 8	D	B	L
E194.410.R	G194.410.R		41	22	76
		C194.410.R	41	22	70

SPARE PARTS

Arbor		
S ∅ 12	**S ∅ 12,7 (1/2")**	**S ∅ 8**
E117.123.R	G117.123.R	C117.079.R

Profile cutter	∅ 41/∅ 8	Z=2	Sp.=11
C194.500.R			

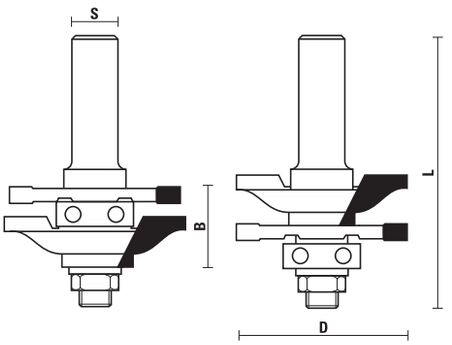
Grooving cutter	∅ 41/∅ 8	Z=2	Sp.=6,4
C193.500.R			

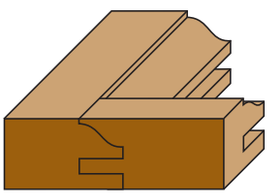
Z050.008.N - 1 pcs.

Z057.004.N - 3 pcs.
Z057.008.N - 1 pcs.

HW STILE AND RAIL ASSEMBLY WITH BALL BEARING GUIDE Z=2

ART. E195 - G195 - C195





S ∅ 12	S ∅ 12,7 (1/2")	S ∅ 8	D	B	L
E195.460.R	G195.460.R		46	22	76
		C195.460.R	46	22	70

SPARE PARTS

Arbor		
S ∅ 12	**S ∅ 12,7 (1/2")**	**S ∅ 8**
E117.123.R	G117.123.R	C117.079.R

Profile cutter	∅ 46/∅ 8	Z=2	Sp.=15
C195.500.R			

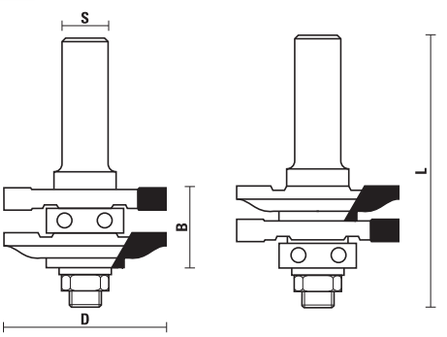
Grooving cutter	∅ 46/∅ 8	Z=2	Sp.=4
C188.501.R			

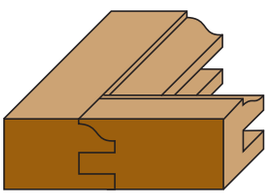
Z050.008.N - 1 pcs.

Z057.004.N - 3 pcs.
Z057.008.N - 1 pcs.

HW STILE AND RAIL ASSEMBLY WITH BALL BEARING GUIDE Z=2

ART. E196 - G196 - C196





S ∅ 12	S ∅ 12,7 (1/2")	S ∅ 8	D	B	L
E196.410.R	G196.410.R		41	22	76
		C196.410.R	41	22	70

SPARE PARTS

Arbor		
S ∅ 12	**S ∅ 12,7 (1/2")**	**S ∅ 8**
E117.123.R	G117.123.R	C117.079.R

Profile cutter	∅ 41/∅ 8	Z=2	Sp.=11
C196.500.R			

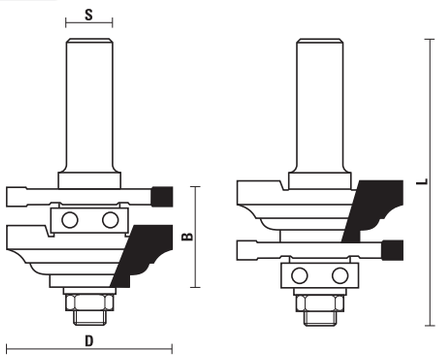
Grooving cutter	∅ 41/∅ 8	Z=2	Sp.=6,4
C193.500.R			

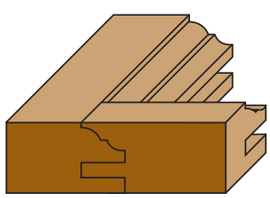
Z050.008.N - 1 pcs.

Z057.004.N - 2 pcs.
Z057.008.N - 2 pcs.

HW STILE AND RAIL ASSEMBLY WITH BALL BEARING GUIDE Z=2

ART. E197 - G197 - C197





S ∅ 12	S ∅ 12,7 (1/2")	S ∅ 8	D	B	L
E197.460.R	G197.460.R		46	22	76
		C197.460.R	46	22	70

SPARE PARTS

Arbor

S ∅ 12	S ∅ 12,7 (1/2")	S ∅ 8
E117.123.R	G117.123.R	C117.079.R

Profile cutter ∅ 46/∅ 8 Z=2 Sp.=15
C197.500.R

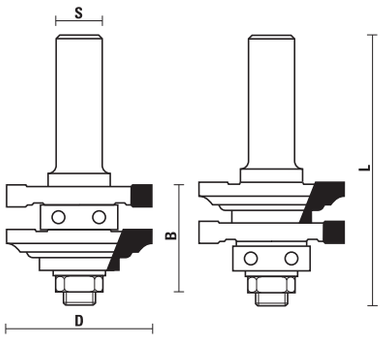
Grooving cutter ∅ 46/∅ 8 Z=2 Sp.=4
C188.501.R

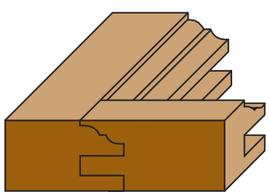
Z050.008.N - 1 pcs.

Z057.004.N - 2 pcs.
Z057.008.N - 2 pcs.

HW STILE AND RAIL ASSEMBLY WITH BALL BEARING GUIDE Z=2

ART. E198 - G198 - C198





S ∅ 12	S ∅ 12,7 (1/2")	S ∅ 8	D	B	L
E198.410.R	G198.410.R		41	22	76
		C198.410.R	41	22	70

SPARE PARTS

Arbor

S ∅ 12	S ∅ 12,7 (1/2")	S ∅ 8
E117.123.R	G117.123.R	C117.079.R

Profile cutter ∅ 41/∅ 8 Z=2 Sp.=11
C198.500.R

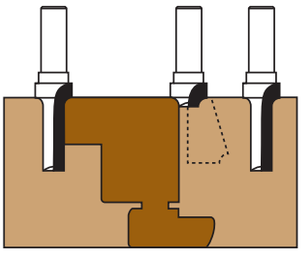
Grooving cutter ∅ 41/∅ 8 Z=2 Sp.=6,4
C193.500.R

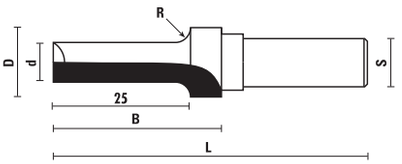
Z050.008.N - 1 pcs.

Z057.004.N - 2 pcs.
Z057.008.N - 2 pcs.

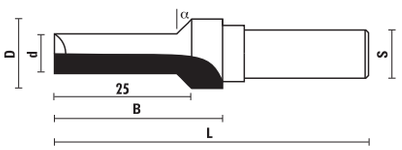
HW BEADING BITS FOR RADIUS WINDOW Z=2

ART. E199 - G199 - C199

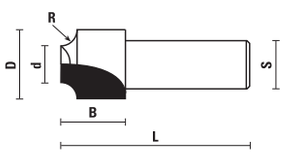




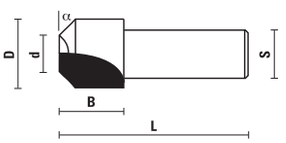
E199.200.R



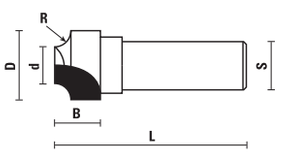
E199.201.R



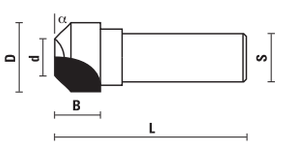
E199.140.R



E199.141.R



E199.165.R

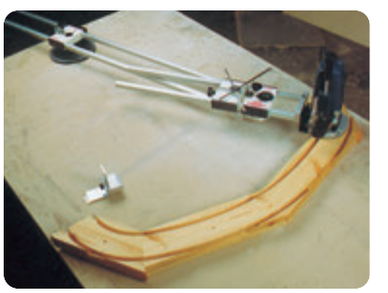


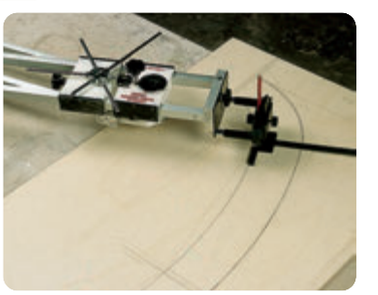
E199.166.R

- Use on "ARKADE + ZINKEL" or on similar equipment
- Bits for glass-fixing lath see item Art. T141.061.R (HM) page 7.38 and Art. U211.061.R (HSS) page 8.08

S ∅ 12	S ∅ 12,7 (1/2")	S ∅ 8	D	d	R	α	B	L
E199.140.R	G199.140.R	C199.140.R	14	6	3		16	46
E199.141.R	G199.141.R	C199.141.R	14	6		45°	16	46
E199.165.R	G199.165.R	C199.165.R	16,5	8,5	3		11	46
E199.166.R	G199.166.R	C199.166.R	16,5	8,5		45°	11	46
E199.200.R	G199.200.R	C199.200.R	20	12	3		33	68
E199.201.R	G199.201.R	C199.201.R	20	12		45°	33	68

The device for any single and double radius or elliptical frames





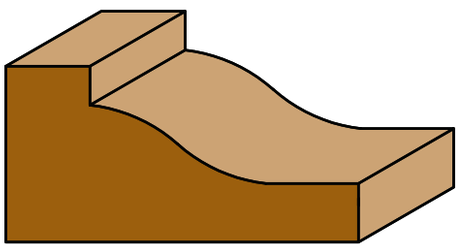
See section 16 page 16.03

2 PIECE SET FOR CABINET DOORS MAKER "TYPE 1"

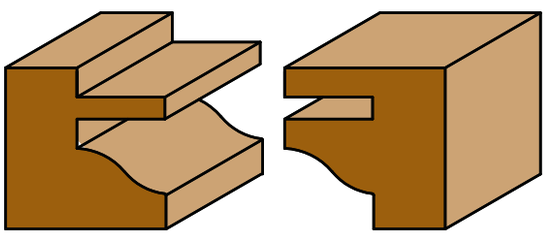
ART. X021

- Set including stile and rail bit, raised panel bit and service key.
- Practical plastic case.

Item	
X021.012.R (S ∅ 12) NEW	X021.127.R (∅ 12,7 (1/2")) NEW
2-pcs router bit set:	2-pcs router bit set:
E178.860.R	G178.860.R
E195.460.R	G195.460.R



E178.860.R



E195.460.R

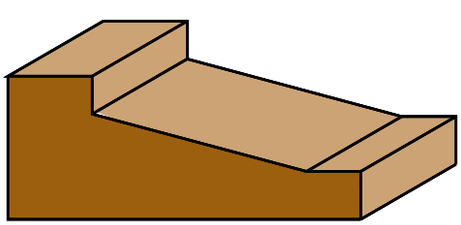
Scale 1:1

2 PIECE SET FOR CABINET DOORS MAKER "TYPE 2"

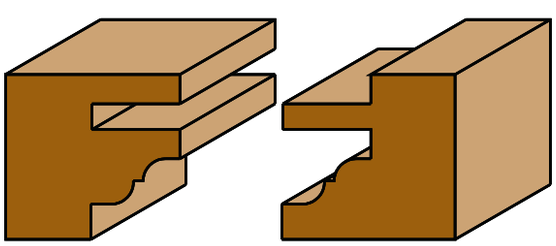
ART. X022

- Set including stile and rail bit, raised panel bit and service key.
- Practical plastic case.

Item	
X022.012.R (S ∅ 12) NEW	X022.127.R (∅ 12,7 (1/2")) NEW
2-pcs router bit set:	2-pcs router bit set:
E178.861.R	G178.861.R
E197.460.R	G197.460.R



E178.861.R



E197.460.R

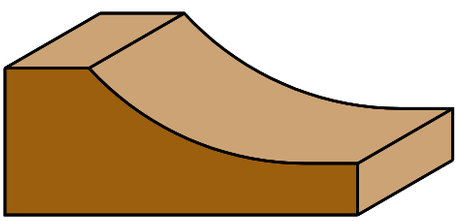
Scale 1:1

2 PIECE SET FOR CABINET DOORS MAKER "TYPE 3"

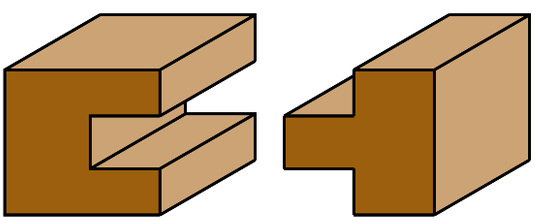
ART. X023

- Set including stile and rail bit, raised panel bit and service key.
- Practical plastic case.

Item	
X023.012.R (S ∅ 12) NEW	X023.127.R (∅ 12,7 (1/2")) NEW
2-pcs router bit set:	2-pcs router bit set:
E178.862.R	G178.862.R
E193.410.R	G193.410.R



E178.862.R



E193.410.R

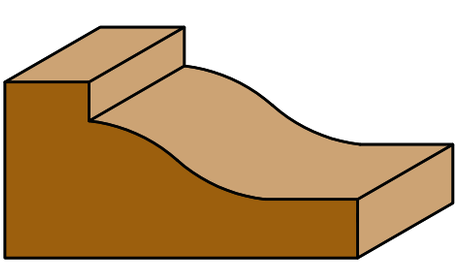
Scale 1:1

3 PIECE SET FOR CABINET DOORS MAKER AND JOINTS "TYPE 1"

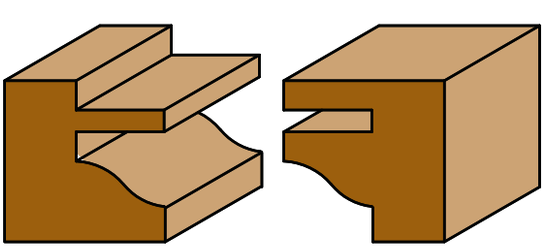
ART. X024

- Set including stile and rail bit, raised panel bit and slot cutter.
- Practical plastic case.

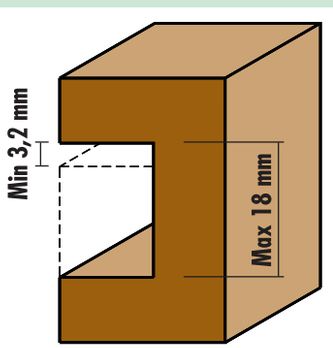
Item	
X024.012.R (S ∅ 12) NEW	X024.127.R (∅ 12,7 (1/2")) NEW
3-pcs router bit set:	3-pcs router bit set:
E178.860.R	G178.860.R
E195.460.R	G195.460.R
E182.476.R	G182.476.R



E178.860.R



E195.460.R



E182.476.R

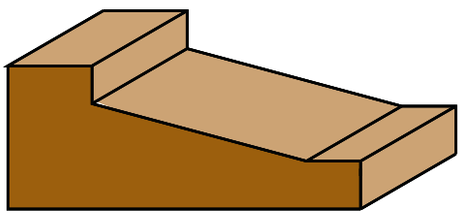
Scale 1:1

3 PIECE SET FOR CABINET DOORS MAKER AND JOINTS "TYPE 2"

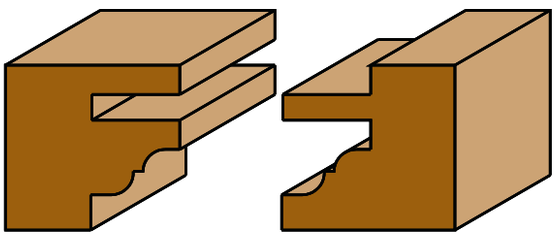
ART. X025

- Set including stile and rail bit, raised panel bit and slot cutter.
- Practical plastic case.

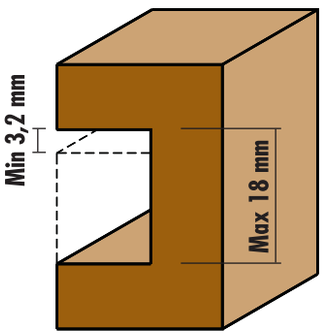
Item	
X025.012.R (S ∅ 12) NEW	X025.127.R (∅ 12,7 (1/2")) NEW
3-pcs router bit set:	3-pcs router bit set:
E178.861.R	G178.861.R
E197.460.R	G197.460.R
E182.476.R	G182.476.R



E178.861.R



E197.460.R



E182.476.R

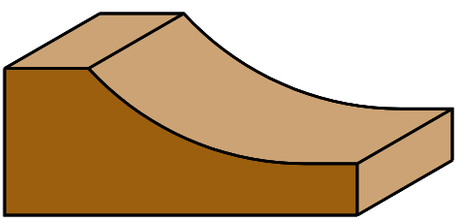
Scale 1:1

3 PIECE SET FOR CABINET DOORS MAKER AND JOINTS "TYPE 3"

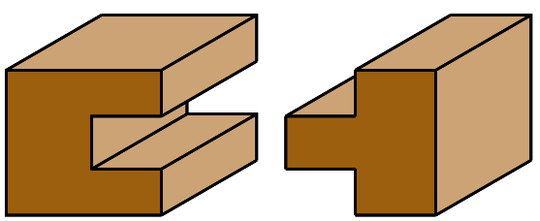
ART. X026

- Set including stile and rail bit, raised panel bit and slot cutter.
- Practical plastic case.

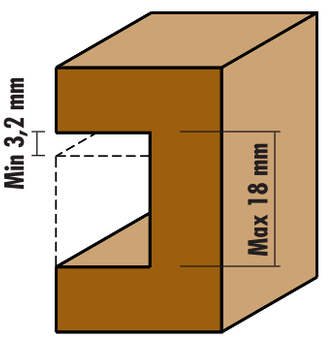
Item	
X026.012.R (S ∅ 12) NEW	X026.127.R (∅ 12,7 (1/2")) NEW
3-pcs router bit set:	3-pcs router bit set:
E178.862.R	G178.862.R
E193.410.R	G193.410.R
E182.476.R	G182.476.R



E178.862.R



E193.410.R



E182.476.R

Scale 1:1