TABLE 1 FORMER AND COUNTERBENDING DIE CODES

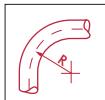
ST37 STEEL OR SIMILAR

FOR MACHINES: SUPER BENDER® 060B · SUPER BENDER® 060A · TOP BENDER® 050 · MEGABENDER VS76

SIZES IN: mm

NOTE: MAXIMUM RADII	WITH COUNTERBENDING DIE	WITH ROLL
SUPER BENDER® 060/A-B	= R240	R300
TOP BENDER® 050	= R240	R300
MEGABENDER VS76	= R315	R380

ROLL ART. 050I MUST BE USED INSTEAD OF THE COUNTERBENDING DIE FOR ALL TUBES HAVING A WALL THICKNESS OVER 4mm



RADII MEASURED AT CENTRE OF BEND

TUBE ∅	Bending Radius R10- R30	Min. Thickness	Bending Radius R36	Min. Thickness	Bending Radius R46	Min. Thickness	Bending Radius R56	Min. Thickness	Bending Radius R67	Min. Thickness	Bending Radius R82	Min. Thickness	Bending Radius R90	Min. Thickness	Bending Radius R100	Min. Thickness	Bending Radius R112	Min. Thickness	Bending Radius R130	Min. Thickness	Bending Radius R150	Min. Thickness	Bending Radius R170	Spess. Thickness	Bending Radius R190	Min. Thickness	Bending Radius R225	Min. Thickness	Bending Radius R250	Spess. Thickness	Bending Radius R260	Min. Thickness	Bending Radius R300	Min. Thickness	Bending Radius R301-380	TUBE ∅	COUNTERBENDING DIES BRASS	COUNTERBENDING DIES PLASTIC
5	●	1,2 mm 1,5 mm	151R36D5	1 mm	156R46D5	1 mm	156R56D5	1 mm	156R67D5	1 mm	156R82D5	1 mm	156R90D5	1 mm	156R100D5	1 mm	156R112D5	1 mm	156R130D5	1 mm	156R150D5	1 mm	156R170D5	1 mm	156R190D5	1 mm	157MR225D5	1 mm	157NR250D5	1 mm	157NR260D5	1 mm	157OR300D5	1 mm	●	5	152-5	●
6	●	1,2 mm 1,5 mm	151R36D6	1 mm	156R46D6	1 mm	156R56D6	1 mm	156R67D6	1 mm	156R82D6	1 mm	156R90D6	1 mm	156R100D6	1 mm	156R112D6	1 mm	156R130D6	1 mm	156R150D6	1 mm	156R170D6	1 mm	156R190D6	1 mm	157MR225D6	1 mm	157NR250D6	1 mm	157NR260D6	1 mm	157OR300D6	1 mm	●	6	152-6	●
8	●	1,2 mm 1,5 mm	151R36D8	1 mm	156R46D8	1 mm	156R56D8	1 mm	156R67D8	1 mm	156R82D8	1 mm	156R90D8	1 mm	156R100D8	1 mm	156R112D8	1 mm	156R130D8	1 mm	156R150D8	1 mm	156R170D8	1 mm	156R190D8	1 mm	157MR225D8	1 mm	157NR250D8	1 mm	157NR260D8	1 mm	157OR300D8	1 mm	●	8	152-8	●
10	●	1,2 mm 1,5 mm	151R36D10	1 mm	156R46D10	1 mm	156R56D10	1 mm	156R67D10	1 mm	156R82D10	1 mm	156R90D10	1 mm	156R100D10	1 mm	156R112D10	1 mm	156R130D10	1 mm	156R150D10	1 mm	156R170D10	1 mm	156R190D10	1 mm	157MR225D10	1 mm	157NR250D10	1 mm	157NR260D10	1 mm	157OR300D10	1 mm	●	10	152-10	●
12	●	1,5 mm	151R36D12	1 mm	156R46D12	1 mm	156R56D12	1 mm	156R67D12	1 mm	156R82D12	1 mm	156R90D12	1 mm	156R100D12	1 mm	156R112D12	1 mm	156R130D12	1 mm	156R150D12	1 mm	156R170D12	1 mm	156R190D12	1 mm	157MR225D12	1 mm	157NR250D12	1 mm	157NR260D12	1 mm	157OR300D12	1 mm	●	12	152-12	152P-12
13	●	1,5 mm	151R36D13	1 mm	156R46D13	1 mm	156R56D13	1 mm	156R67D13	1 mm	156R82D13	1 mm	156R90D13	1 mm	156R100D13	1 mm	156R112D13	1 mm	156R130D13	1 mm	156R150D13	1 mm	156R170D13	1 mm	156R190D13	1 mm	157MR225D13	1 mm	157NR250D13	1 mm	157NR260D13	1 mm	157OR300D13	1 mm	●	13	152-13	152P-13
14	●	2 mm	151R36D14	1,5 mm	151R46D14	1 mm	156R56D14	1 mm	156R67D14	1 mm	156R82D14	1 mm	156R90D14	1 mm	156R100D14	1 mm	156R112D14	1 mm	156R130D14	1 mm	156R150D14	1 mm	156R170D14	1 mm	156R190D14	1 mm	157MR225D14	1 mm	157NR250D14	1 mm	157NR260D14	1 mm	157OR300D14	1 mm	●	14	152-14	152P-14
15	●	2 mm	151R36D15	1,5 mm	151R46D15	1 mm	156R56D15	1 mm	156R67D15	1 mm	156R82D15	1 mm	156R90D15	1 mm	156R100D15	1 mm	156R112D15	1 mm	156R130D15	1 mm	156R150D15	1 mm	156R170D15	1 mm	156R190D15	1 mm	157MR225D15	1 mm	157NR250D15	1 mm	157NR260D15	1 mm	157OR300D15	1 mm	●	15	152-15	152P-15
16			151R36D16	1,5 mm	151R46D16	1 mm	156R56D16	1 mm	156R67D16	1 mm	156R82D16	1 mm	156R90D16	1 mm	156R100D16	1 mm	156R112D16	1 mm	156R130D16	1 mm	156R150D16	1 mm	156R170D16	1 mm	156R190D16	1 mm	157MR225D16	1 mm	157NR250D16	1 mm	157NR260D16	1 mm	157OR300D16	1 mm	●	16	152-16	152P-16
18			151R36D18	1,5 mm	151R46D18	1,5 mm	151R56D18	1 mm	156R67D18	1 mm	156R82D18	1 mm	156R90D18	1 mm	156R100D18	1 mm	156R112D18	1 mm	156R130D18	1 mm	156R150D18	1 mm	156R170D18	1 mm	156R190D18	1 mm	157MR225D18	1 mm	157NR250D18	1 mm	157NR260D18	1 mm	157OR300D18	1 mm	●	18	152-18	152P-18
19			151R36D19	2,5 mm	151R46D19	2 mm	151R56D19	1,5 mm	151R67D19	1 mm	156R82D19	1 mm	156R90D19	1 mm	156R100D19	1 mm	156R112D19	1 mm	156R130D19	1 mm	156R150D19	1 mm	156R170D19	1 mm	156R190D19	1 mm	157MR225D19	1 mm	157NR250D19	1 mm	157NR260D19	1 mm	157OR300D19	1 mm	●	19	152-19	152P-19
20					151R46D20	2 mm	151R56D20	1,5 mm	151R67D20	1 mm	156R82D20	1 mm	156R90D20	1 mm	156R100D20	1 mm	156R112D20	1 mm	156R130D20	1 mm	156R150D20	1 mm	156R170D20	1 mm	156R190D20	1 mm	157MR225D20	1 mm	157NR250D20	1 mm	157NR260D20	1 mm	157OR300D20	1 mm	●	20	152-20	152P-20
22					151R46D22	2 mm	151R56D22	1,5 mm	151R67D22	1 mm	156R82D22	1 mm	156R90D22	1 mm	156R100D22	1 mm	156R112D22	1 mm	156R130D22	1 mm	156R150D22	1 mm	156R170D22	1 mm	156R190D22	1 mm	157MR225D22	1 mm	157NR250D22	1 mm	157NR260D22	1 mm	157OR300D22	1 mm	●	22	152-22	152P-22
24							151R56D24	2 mm	151R67D24	1,5 mm	151R82D24	1 mm	156R90D24	1 mm	156R100D24	1 mm	156R112D24	1 mm	156R130D24	1 mm	156R150D24	1 mm	156R170D24	1 mm	156R190D24	1 mm	157MR225D24	1 mm	157NR250D24	1 mm	157NR260D24	1 mm	157OR300D24	1 mm	●	24	152-24	●
25							151R56D25	2 mm	151R67D25	1,5 mm	151R82D25	1 mm	156R90D25	1 mm	156R100D25	1 mm	156R112D25	1 mm	156R130D25	1 mm	156R150D25	1 mm	156R170D25	1 mm	156R190D25	1 mm	157MR225D25	1 mm	157NR250D25	1 mm	157NR260D25	1 mm	157OR300D25	1 mm	●	25	152-25	●
26							151R56D26	2 mm	151R67D26	1,5 mm	151R82D26	1 mm	156R90D26	1 mm	156R100D26	1 mm	156R112D26	1 mm	156R130D26	1 mm	156R150D26	1 mm	156R170D26	1 mm	156R190D26	1 mm	157MR225D26	1 mm	157NR250D26	1 mm	157NR260D26	1 mm	157OR300D26	1 mm	●	26	152-26	●
28							151R56D28	2,5 mm	151R67D28	2 mm	151R82D28	1 mm	156R90D28	1 mm	156R100D28	1 mm	156R112D28	1 mm	156R130D28	1 mm	156R150D28	1 mm	156R170D28	1 mm	156R190D28	1 mm	157MR225D28	1 mm	157NR250D28	1 mm	157NR260D28	1 mm	157OR300D28	1 mm	●	28	152-28	●
30									151R67D30	2,5 mm	151R82D30	2 mm	156R90D30	2 mm	156R100D30	2 mm	151R112D30	1 mm	156R130D30	1 mm	156R150D30	1 mm	156R170D30	1 mm	156R190D30	1 mm	157MR225D30	1 mm	157NR250D30	1 mm	157NR260D30	1 mm	157OR300D30	1 mm	●	30	152-30	●
32									151R67D32	2,5 mm	151R82D32	2 mm	156R90D32	2 mm	156R100D32	2 mm	151R112D32	1 mm	156R130D32	1 mm	156R150D32	1 mm	156R170D32	1 mm	156R190D32	1 mm	157MR225D32	1 mm	157NR250D32	1 mm	157NR260D32	1 mm	157OR300D32	1 mm	●	32	152-32	●
35											151R82D35	2 mm	156R90D35	2 mm	156R100D35	2 mm	151R112D35	1 mm	156R130D35	1 mm	156R150D35	1 mm	156R170D35	1 mm	156R190D35	1 mm	157MR225D35	1 mm	157NR250D35	1 mm	157NR260D35	1 mm	157OR300D35	1 mm	●	35	152-35	●
38													151R90D38	2,5 mm	151R100D38	2 mm	156R112D38	2 mm	151R130D38	1,5 mm	151R150D38	1,2 mm	156R170D38	1,2 mm	151R190D38	1 mm	157MR225D38	1 mm	157NR250D38	1 mm	157NR260D38	1 mm	157OR300D38	1 mm	●	38	152-38	●
40													151R90D40	3 mm	151R100D40	2 mm			151R130D40	1,5 mm	151R150D40	1,2 mm	156R170D40	1,2 mm	151R190D40	1 mm	157MR225D40	1 mm	157NR250D40	1 mm	157NR260D40	1 mm	157OR300D40	1 mm	●	40	152-40	●
42													151R90D42	3 mm	151R100D42	2 mm			151R130D42	1,5 mm	151R150D42	1,2 mm	156R170D42	1,2 mm	151R190D42	1 mm	157MR225D42	1 mm	157NR250D42	1 mm	157NR260D42	1 mm	157OR300D42	1 mm	●	42	152-42	●
45															151R100D45	3 mm			151R130D45	2,5 mm	156R150D45	2,5 mm	151R170D45	1,5 mm	156R190D45	1,2 mm	157MR225D45	1 mm	157NR250D45	1,2 mm	157NR260D45	1 mm	157OR300D45	1 mm	●	45	152-45	●
48															151R100D48	3 mm			151R130D48	2,5 mm	151R150D48	2,5 mm	151R170D48	2,5 mm	151R190D48	1,5 mm	157MR225D48	1,2 mm	157NR250D48	1,2 mm	157NR260D48	1 mm	157OR300D48	1 mm	●	48	152-48	●
50																			156R130D50	3 mm	151R150D50	2,5 mm	156R170D50	2,5 mm	151R190D50	1,5 mm	157MR225D50	1,5 mm	157NR250D50	1,5 mm	157NR260D50	1 mm	157OR300D50	1 mm	●	50	152-50	●
55																			151R130D55	3 mm	151R150D55	2,5 mm	156R170D55	2,5 mm	151R190D55	1,5 mm	157MR225D55	1,5 mm	157NR250D55	1,5 mm	157NR260D55	1,2 mm	157OR300D55	1 mm	●	55	152-55	●
60																			151R130D60	3 mm	151R150D60	2,5 mm	156R170D60	2,5 mm	151R190D60	2 mm	157MR225D60	2 mm	157NR250D60	2 mm	157NR260D60	1,5 mm	157OR300D60	1,2 mm	●	60	152-60	●
64																							156R170D64	3 mm	157PR190D64	3 mm	157PR225D64	2,5 mm	157QR250D64	2,5 mm	157QR260D64	2 mm	157RR300D64	2 mm	●	64	152-64	●
67																									157PR190D67	3,5 mm	157PR225D67	3 mm	157QR250D67	2,5 mm	157QR260D67	2,5 mm	157RR300D67	2 mm	●	67	152-67	●
70																									157PR190D70	4mm	157PR225D70	3,5 mm	157QR250D70	3 mm	157QR260D70	3 mm	157RR300D70	2,5 mm	●	70	152-70	●
76																													157QR250D76	4 mm	157QR260D76	3 mm	157RR300D76	2,5 mm	●	76	152-76	●

SUPER BENDER® 060B

SUPER BENDER® 060A

TOP BENDER® 050

MEGABENDER VS76

151 STANDARD STEEL FORMERS · **156** SEMI-STANDARD STEEL FORMERS · **157** SPECIAL STEEL FORMERS ON REQUEST · ● ON REQUEST

TABLE 2 FORMER AND COUNTERBENDING DIE CODES

FOR MACHINES: SUPER BENDER® 060B · SUPER BENDER® 060A · TOP BENDER® 050 · MEGABENDER VS76

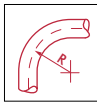
STAINLESS STEEL, HARD COPPER AND SIMILAR

SIZES IN: mm

NOTE: MAXIMUM RADII

		WITH COUNTERBENDING DIE	WITH ROLL
SUPER BENDER® 060/A-B	=	R240	R300
TOP BENDER® 050	=	R240	R300
MEGABENDER VS76	=	R315	R380

ROLL ART. 050I MUST BE USED INSTEAD OF THE COUNTERBENDING DIE FOR ALL TUBES HAVING A WALL THICKNESS OVER 4mm



RADII MEASURED AT CENTRE OF BEND

TUBE ∅	Bending Radius R10- R30	Min. Thickness	Bending Radius R36	Min. Thickness	Bending Radius R46	Min. Thickness	Bending Radius R56	Min. Thickness	Bending Radius R67	Min. Thickness	Bending Radius R82	Min. Thickness	Bending Radius R90	Min. Thickness	Bending Radius R100	Min. Thickness	Bending Radius R112	Min. Thickness	Bending Radius R130	Min. Thickness	Bending Radius R150	Min. Thickness	Bending Radius R170	Spess. Thickness	Bending Radius R190	Min. Thickness	Bending Radius R225	Min. Thickness	Bending Radius R250	Min. Thickness	Bending Radius R260	Min. Thickness	Bending Radius R300	Min. Thickness	Bending Radius R301-380	TUBE ∅	COUNTERBENDING DIES BRASS	COUNTERBENDING DIES PLASTIC
5	●	1,2 mm 1,5 mm	151R36D5	1 mm	156R46D5	1 mm	156R56D5	1 mm	156R67D5	1 mm	156R82D5	1 mm	156R90D5	1 mm	156R100D5	1 mm	156R112D5	1 mm	156R130D5	1 mm	156R150D5	1 mm	156R170D5	1 mm	156R190D5	1 mm	157MR225D5	1 mm	157NR250D5	1 mm	157NR260D5	1 mm	157OR300D5	1 mm	●	5	152-5	●
6	●	1,2 mm 1,5 mm	151R36D6	1 mm	156R46D6	1 mm	156R56D6	1 mm	156R67D6	1 mm	156R82D6	1 mm	156R90D6	1 mm	156R100D6	1 mm	156R112D6	1 mm	156R130D6	1 mm	156R150D6	1 mm	156R170D6	1 mm	156R190D6	1 mm	157MR225D6	1 mm	157NR250D6	1 mm	157NR260D6	1 mm	157OR300D6	1 mm	●	6	152-6	●
8	●	1,2 mm 1,5 mm	151R36D8	1 mm	156R46D8	1 mm	156R56D8	1 mm	156R67D8	1 mm	156R82D8	1 mm	156R90D8	1 mm	156R100D8	1 mm	156R112D8	1 mm	156R130D8	1 mm	156R150D8	1 mm	156R170D8	1 mm	156R190D8	1 mm	157MR225D8	1 mm	157NR250D8	1 mm	157NR260D8	1 mm	157OR300D8	1 mm	●	8	152-8	●
10	●	1,2 mm 1,5 mm	151R36D10	1 mm	156R46D10	1 mm	156R56D10	1 mm	156R67D10	1 mm	156R82D10	1 mm	156R90D10	1 mm	156R100D10	1 mm	156R112D10	1 mm	156R130D10	1 mm	156R150D10	1 mm	156R170D10	1 mm	156R190D10	1 mm	157MR225D10	1 mm	157NR250D10	1 mm	157NR260D10	1 mm	157OR300D10	1 mm	●	10	152-10	●
12	●	1,5 mm	151R36D12	1 mm	156R46D12	1 mm	156R56D12	1 mm	156R67D12	1 mm	156R82D12	1 mm	156R90D12	1 mm	156R100D12	1 mm	156R112D12	1 mm	156R130D12	1 mm	156R150D12	1 mm	156R170D12	1 mm	156R190D12	1 mm	157MR225D12	1 mm	157NR250D12	1 mm	157NR260D12	1 mm	157OR300D12	1 mm	●	12	152-12	152P-12
13	●	1,5 mm	151R36D13	1 mm	156R46D13	1 mm	156R56D13	1 mm	156R67D13	1 mm	156R82D13	1 mm	156R90D13	1 mm	156R100D13	1 mm	156R112D13	1 mm	156R130D13	1 mm	156R150D13	1 mm	156R170D13	1 mm	156R190D13	1 mm	157MR225D13	1 mm	157NR250D13	1 mm	157NR260D13	1 mm	157OR300D13	1 mm	●	13	152-13	152P-13
14	●	2 mm	151R36D14	1,5 mm	151R46D14	1 mm	156R56D14	1 mm	156R67D14	1 mm	156R82D14	1 mm	156R90D14	1 mm	156R100D14	1 mm	156R112D14	1 mm	156R130D14	1 mm	156R150D14	1 mm	156R170D14	1 mm	156R190D14	1 mm	157MR225D14	1 mm	157NR250D14	1 mm	157NR260D14	1 mm	157OR300D14	1 mm	●	14	152-14	152P-14
15			151R36D15	1,5 mm	151R46D15	1 mm	156R56D15	1 mm	156R67D15	1 mm	156R82D15	1 mm	156R90D15	1 mm	156R100D15	1 mm	156R112D15	1 mm	156R130D15	1 mm	156R150D15	1 mm	156R170D15	1 mm	156R190D15	1 mm	157MR225D15	1 mm	157NR250D15	1 mm	157NR260D15	1 mm	157OR300D15	1 mm	●	15	152-15	152P-15
16			151R36D16	1,5 mm	151R46D16	1 mm	156R56D16	1 mm	156R67D16	1 mm	156R82D16	1 mm	156R90D16	1 mm	156R100D16	1 mm	156R112D16	1 mm	156R130D16	1 mm	156R150D16	1 mm	156R170D16	1 mm	156R190D16	1 mm	157MR225D16	1 mm	157NR250D16	1 mm	157NR260D16	1 mm	157OR300D16	1 mm	●	16	152-16	152P-16
18			151R36D18	1,5 mm	151R46D18	1,5 mm	151R56D18	1 mm	156R67D18	1 mm	156R82D18	1 mm	156R90D18	1 mm	156R100D18	1 mm	156R112D18	1 mm	156R130D18	1 mm	156R150D18	1 mm	156R170D18	1 mm	156R190D18	1 mm	157MR225D18	1 mm	157NR250D18	1 mm	157NR260D18	1 mm	157OR300D18	1 mm	●	18	152-18	152P-18
19			151R36D19	2,5 mm	151R46D19	2 mm	151R56D19	1,5 mm	151R67D19	1 mm	156R82D19	1 mm	156R90D19	1 mm	156R100D19	1 mm	156R112D19	1 mm	156R130D19	1 mm	156R150D19	1 mm	156R170D19	1 mm	156R190D19	1 mm	157MR225D19	1 mm	157NR250D19	1 mm	157NR260D19	1 mm	157OR300D19	1 mm	●	19	152-19	152P-19
20					151R46D20	2 mm	151R56D20	1,5 mm	151R67D20	1 mm	156R82D20	1 mm	156R90D20	1 mm	156R100D20	1 mm	156R112D20	1 mm	156R130D20	1 mm	156R150D20	1 mm	156R170D20	1 mm	156R190D20	1 mm	157MR225D20	1 mm	157NR250D20	1 mm	157NR260D20	1 mm	157OR300D20	1 mm	●	20	152-20	152P-20
22					151R46D22	2 mm	151R56D22	1,5 mm	151R67D22	1,2 mm	156R82D22	1 mm	156R90D22	1 mm	156R100D22	1 mm	156R112D22	1 mm	156R130D22	1 mm	156R150D22	1 mm	156R170D22	1 mm	156R190D22	1 mm	157MR225D22	1 mm	157NR250D22	1 mm	157NR260D22	1 mm	157OR300D22	1 mm	●	22	152-22	152P-22
24											151R82D24	2 mm	156R90D24	1,5 mm	156R100D24	1 mm	156R112D24	1 mm	156R130D24	1 mm	156R150D24	1 mm	156R170D24	1 mm	156R190D24	1 mm	157MR225D24	1 mm	157NR250D24	1 mm	157NR260D24	1 mm	157OR300D24	1 mm	●	24	152-24	●
25											151R82D25	2 mm	156R90D25	1,5 mm	156R100D25	1 mm	156R112D25	1 mm	156R130D25	1 mm	156R150D25	1 mm	156R170D25	1 mm	156R190D25	1 mm	157MR225D25	1 mm	157NR250D25	1 mm	157NR260D25	1 mm	157OR300D25	1 mm	●	25	152-25	●
26											151R82D26	2 mm	156R90D26	1,5 mm	156R100D26	1 mm	156R112D26	1 mm	156R130D26	1 mm	156R150D26	1 mm	156R170D26	1 mm	156R190D26	1 mm	157MR225D26	1 mm	157NR250D26	1 mm	157NR260D26	1 mm	157OR300D26	1 mm	●	26	152-26	●
28											151R82D28	3 mm	156R90D28	2,5 mm	156R100D28	2 mm	156R112D28	1 mm	156R130D28	1 mm	156R150D28	1 mm	156R170D28	1 mm	156R190D28	1 mm	157MR225D28	1 mm	157NR250D28	1 mm	157NR260D28	1 mm	157OR300D28	1 mm	●	28	152-28	●
30													156R90D30	2,5 mm	156R100D30	2 mm	151R112D30	2 mm	156R130D30	1 mm	156R150D30	1 mm	156R170D30	1 mm	156R190D30	1 mm	157MR225D30	1 mm	157NR250D30	1 mm	157NR260D30	1 mm	157OR300D30	1 mm	●	30	152-30	●
32													156R90D32	2,5 mm	156R100D32	2 mm	151R112D32	2 mm	156R130D32	1 mm	156R150D32	1 mm	156R170D32	1 mm	156R190D32	1 mm	157MR225D32	1 mm	157NR250D32	1 mm	157NR260D32	1 mm	157OR300D32	1 mm	●	32	152-32	●
35															156R100D35	3 mm	151R112D35	2,5 mm	156R130D35	1 mm	156R150D35	1 mm	156R170D35	1 mm	156R190D35	1 mm	157MR225D35	1 mm	157NR250D35	1 mm	157NR260D35	1 mm	157OR300D35	1 mm	●	35	152-35	●
38																	156R112D38	2,5 mm	151R130D38	2 mm	151R150D38	1,5 mm	156R170D38	1,5 mm	151R190D38	1,2 mm	157MR225D38	1 mm	157NR250D38	1 mm	157NR260D38	1 mm	157OR300D38	1 mm	●	38	152-38	●
40																			151R130D40	2 mm	151R150D40	2 mm	156R170D40	1,5 mm	151R190D40	1,2 mm	157MR225D40	1 mm	157NR250D40	1 mm	157NR260D40	1 mm	157OR300D40	1 mm	●	40	152-40	●
42																			151R130D42	2 mm	151R150D42	2 mm	156R170D42	1,5 mm	151R190D42	1,2 mm	157MR225D42	1 mm	157NR250D42	1 mm	157NR260D42	1 mm	157OR300D42	1 mm	●	42	152-42	●
45																			151R130D45	2,5 mm	156R150D45	2,5 mm	151R170D45	2,5 mm	156R190D45	2 mm	157MR225D45	1,5 mm	157NR250D45	1,5 mm	157NR260D45	1 mm	157OR300D45	1 mm	●	45	152-45	●
48																			151R130D48	3 mm	151R150D48	3 mm	151R170D48	2,5 mm	151R190D48	2 mm	157MR225D48	2 mm	157NR250D48	1,5 mm	157NR260D48	1,2 mm	157OR300D48	1 mm	●	48	152-48	●
50																					151R150D50	3 mm	156R170D50	3 mm	151R190D50	2,5 mm	157MR225D50	2 mm	157NR250D50	1,5 mm	157NR260D50	1,5 mm	157OR300D50	1,2 mm	●	50	152-50	●
55																							156R170D55	3 mm	151R190D55	2,5 mm	157MR225D55	2,5 mm	157NR250D55	2,5 mm	157NR260D55	1,5 mm	157OR300D55	1,2 mm	●	55	152-55	●
60																							156R170D60	3 mm	151R190D60	2,5 mm	157MR225D60	2,5 mm	157NR250D60	2,5 mm	157NR260D60	2 mm	157OR300D60	2 mm	●	60	152-60	●
64																									157PR190D64	3,5 mm	157PR225D64	3,0 mm	157QR250D64	3 mm	157QR260D64	2,5 mm	157RR300D64	2 mm	●	64	152-64	●
67																													157QR250D67	3 mm	157QR260D67	2,5 mm	157RR300D67	2 mm	●	67	152-67	●
70																															157QR260D70	3 mm	157RR300D70	2 mm	●	70	152-70	●
76																																	157RR300D76	2 mm	●	76	152-76	●

SUPER BENDER® 060B
SUPER BENDER® 060A
TOP BENDER® 050
MEGABENDER VS76

151 STANDARD STEEL FORMERS — **156** SEMI-STANDARD STEEL FORMERS — **157** SPECIAL STEEL FORMERS ON REQUEST — ● ON REQUEST

THE INDICATED RADII GUARANTEE EXCELLENT BEND QUALITY. IN SOME CASES DEPENDING ON THE MATERIAL, SLIGHTLY SMALLER RADII MAY BE POSSIBLE - PLEASE ASK YOUR AUTHORISED NCML DEALER.

N.B. COUNTERBENDING DIES FOR HARD COPPER: THIS MATERIAL IS PARTICULARLY DIFFICULT TO BEND. USE SPECIAL BRASS COUNTERBENDING DIES Art. 152/1 from 5 to 54 mm

TABLE 3 FORMER AND COUNTERBENDING DIE CODES

ST37 STEEL OR SIMILAR

FOR MACHINES: SUPER BENDER® 060B, SUPER BENDER® 060A, TOP BENDER® 050, MEGABENDER VS76

SIZES IN: O.D. inches and GAS inches

NOTE: MAXIMUM RADII		WITH COUNTERBENDING DIE	WITH ROLL
SUPER BENDER® 060/A-B	=	R240	R300
TOP BENDER® 050	=	R240	R300
MEGABENDER VS76	=	R315	R380

ROLL ART. 050I MUST BE USED INSTEAD OF THE COUNTERBENDING DIE FOR ALL TUBES HAVING A WALL THICKNESS OVER 4mm

RADII MEASURED AT CENTRE OF BEND

TUBE ∅	Bending Radius 0.3"(R10)-1.1" (R30)	Min. Thickness	Bending Radius 1.4"(R36)	Min. Thickness	Bending Radius 1.8"(R46)	Min. Thickness	Bending Radius 2.2"(R56)	Min. Thickness	Bending Radius 2.6"(R67)	Min. Thickness	Bending Radius 3.2"(R82)	Min. Thickness	Bending Radius 3.5"(R90)	Min. Thickness	Bending Radius 3.9"(R100)	Min. Thickness	Bending Radius 4.4"(R112)	Min. Thickness	Bending Radius 5.1"(R130)	Min. Thickness	Bending Radius 5.9"(R150)	Min. Thickness	Bending Radius 6.6"(R170)	Spess. Thickness	Bending Radius 7.4"(R190)	Min. Thickness	Bending Radius 8.8"(R225)	Min. Thickness	Bending Radius 9.8"(R250)	Spess. Thickness	Bending Radius 10.2"(R260)	Min. Thickness	Bending Radius 11.8"(R300)	Min. Thickness	Bending Radius 11.8"(R301)-14.9" (R380)	TUBE ∅	COUNTERBENDING DIES BRASS	COUNTERBENDING DIES PLASTIC
1/4"Ø-6,30	●	0,049" 1,2 mm	153R36D1/4"	0,035" 1 mm	156R46D1/4" O.D.	0,035" 1 mm	156R56D1/4" O.D.	0,035" 1 mm	156R67D1/4" O.D.	0,035" 1 mm	156R82D1/4" O.D.	0,035" 1 mm	156R90D1/4" O.D.	0,035" 1 mm	156R100D1/4" O.D.	0,035" 1 mm	156R112D1/4" O.D.	0,035" 1 mm	156R130D1/4" O.D.	0,035" 1 mm	156R150D1/4" O.D.	0,035" 1 mm	156R170D1/4" O.D.	0,035" 1 mm	156R190D1/4" O.D.	0,035" 1 mm	157MR225D1/4" O.D.	0,035" 1 mm	157NR250D1/4" O.D.	0,035" 1 mm	157NR260D1/4" O.D.	0,035" 1 mm	157OR300D1/4" O.D.	0,035" 1 mm	1/4"Ø-6,30	154-1/4"	●
3/8"Ø-9,52	●	0,065" 1,5 mm	153R36D3/8"	0,035" 1 mm	156R46D3/8" O.D.	0,035" 1 mm	156R56D3/8" O.D.	0,035" 1 mm	156R67D3/8" O.D.	0,035" 1 mm	156R82D3/8" O.D.	0,035" 1 mm	156R90D3/8" O.D.	0,035" 1 mm	156R100D3/8" O.D.	0,035" 1 mm	156R112D3/8" O.D.	0,035" 1 mm	156R130D3/8" O.D.	0,035" 1 mm	156R150D3/8" O.D.	0,035" 1 mm	156R170D3/8" O.D.	0,035" 1 mm	156R190D3/8" O.D.	0,035" 1 mm	157MR225D3/8" O.D.	0,035" 1 mm	157NR250D3/8" O.D.	0,035" 1 mm	157NR260D3/8" O.D.	0,035" 1 mm	157OR300D3/8" O.D.	0,035" 1 mm	3/8"Ø-9,52	154-3/8"	●
1/2"Ø-12,70	●	0,065" 1,5 mm	153R36D1/2"	0,035" 1 mm	156R46D1/2" O.D.	0,035" 1 mm	156R56D1/2" O.D.	0,035" 1 mm	156R67D1/2" O.D.	0,035" 1 mm	156R82D1/2" O.D.	0,035" 1 mm	156R90D1/2" O.D.	0,035" 1 mm	156R100D1/2" O.D.	0,035" 1 mm	156R112D1/2" O.D.	0,035" 1 mm	156R130D1/2" O.D.	0,035" 1 mm	156R150D1/2" O.D.	0,035" 1 mm	156R170D1/2" O.D.	0,035" 1 mm	156R190D1/2" O.D.	0,035" 1 mm	157MR225D1/2" O.D.	0,035" 1 mm	157NR250D1/2" O.D.	0,035" 1 mm	157NR260D1/2" O.D.	0,035" 1 mm	157OR300D1/2" O.D.	0,035" 1 mm	1/2"Ø-12,70	154-1/2"	154P-1/2"
5/8"Ø-15,88			153R36D5/8"	0,072" 2 mm	153R46D5/8"	0,035" 1 mm	156R56D5/8" O.D.	0,035" 1 mm	156R67D5/8" O.D.	0,035" 1 mm	156R82D5/8" O.D.	0,035" 1 mm	156R90D5/8" O.D.	0,035" 1 mm	156R100D5/8" O.D.	0,035" 1 mm	156R112D5/8" O.D.	0,035" 1 mm	156R130D5/8" O.D.	0,035" 1 mm	156R150D5/8" O.D.	0,035" 1 mm	156R170D5/8" O.D.	0,035" 1 mm	156R190D5/8" O.D.	0,035" 1 mm	157MR225D5/8" O.D.	0,035" 1 mm	157NR250D5/8" O.D.	0,035" 1 mm	157NR260D5/8" O.D.	0,035" 1 mm	157OR300D5/8" O.D.	0,035" 1 mm	5/8"Ø-15,88	154-5/8"	154P-5/8"
3/4"Ø-19,05					153R46D3/4"	0,095" 2,5 mm	153R56D3/4"	0,065" 1,5 mm	153R67D3/4"	0,035" 1 mm	156R82D3/4" O.D.	0,035" 1 mm	156R90D3/4" O.D.	0,035" 1 mm	156R100D3/4" O.D.	0,035" 1 mm	156R112D3/4" O.D.	0,035" 1 mm	156R130D3/4" O.D.	0,035" 1 mm	156R150D3/4" O.D.	0,035" 1 mm	156R170D3/4" O.D.	0,035" 1 mm	156R190D3/4" O.D.	0,035" 1 mm	157MR225D3/4" O.D.	0,035" 1 mm	157NR250D3/4" O.D.	0,035" 1 mm	157NR260D3/4" O.D.	0,035" 1 mm	157OR300D3/4" O.D.	0,035" 1 mm	3/4"Ø-19,05	154-3/4"	154P-3/4"
7/8"Ø-22,22					153R46D7/8"	0,072" 2 mm	153R56D7/8"	0,065" 1,5 mm	153R67D7/8"	0,035" 1 mm	156R82D7/8" O.D.	0,035" 1 mm	156R90D7/8" O.D.	0,035" 1 mm	156R100D7/8" O.D.	0,035" 1 mm	156R112D7/8" O.D.	0,035" 1 mm	156R130D7/8" O.D.	0,035" 1 mm	156R150D7/8" O.D.	0,035" 1 mm	156R170D7/8" O.D.	0,035" 1 mm	156R190D7/8" O.D.	0,035" 1 mm	157MR225D7/8" O.D.	0,035" 1 mm	157NR250D7/8" O.D.	0,035" 1 mm	157NR260D7/8" O.D.	0,035" 1 mm	157OR300D7/8" O.D.	0,035" 1 mm	7/8"Ø-22,22	154-7/8"	154P-7/8"
1"Ø-25,40							153R56D1"	0,072" 2 mm	153R67D1"	0,065" 1,5 mm	153R82D1"	0,035" 1 mm	156R90D1" O.D.	0,035" 1 mm	156R100D1" O.D.	0,035" 1 mm	156R112D1" O.D.	0,035" 1 mm	156R130D1" O.D.	0,035" 1 mm	156R150D1" O.D.	0,035" 1 mm	156R170D1" O.D.	0,035" 1 mm	156R190D1" O.D.	0,035" 1 mm	157MR225D1" O.D.	0,035" 1 mm	157NR250D1" O.D.	0,035" 1 mm	157NR260D1" O.D.	0,035" 1 mm	157OR300D1" O.D.	0,035" 1 mm	1"Ø-25,40	154-1"	●
1 1/8"Ø-28,58							153R56D1 1/8"	0,095" 2,5 mm	153R67D1 1/8"	0,072" 2 mm	153R82D1 1/8"	0,035" 1 mm	156R90D1 1/8" O.D.	0,035" 1 mm	156R100D1 1/8" O.D.	0,035" 1 mm	156R112D1 1/8" O.D.	0,035" 1 mm	156R130D1 1/8" O.D.	0,035" 1 mm	156R150D1 1/8" O.D.	0,035" 1 mm	156R170D1 1/8" O.D.	0,035" 1 mm	156R190D1 1/8" O.D.	0,035" 1 mm	157MR225D11/8" O.D.	0,035" 1 mm	157NR250D11/8" O.D.	0,035" 1 mm	157NR260D11/8" O.D.	0,035" 1 mm	157OR300D11/8" O.D.	0,035" 1 mm	1 1/8"Ø-28,58	154-1 1/8"	●
1 1/4"Ø-31,75									153R67D1 1/4"	0,095" 2,5 mm	153R82D1 1/4"	0,072" 2 mm	156R90D1 1/4" O.D.	0,072" 2 mm	156R100D1 1/4" O.D.	0,072" 2 mm	153R112D1 1/4"	0,035" 1 mm	156R130D1 1/4" O.D.	0,035" 1 mm	156R150D1 1/4" O.D.	0,035" 1 mm	156R170D1 1/4" O.D.	0,035" 1 mm	156R190D1 1/4" O.D.	0,035" 1 mm	157MR225D1 1/4" O.D.	0,035" 1 mm	157NR250D1 1/4" O.D.	0,035" 1 mm	157NR260D1 1/4" O.D.	0,035" 1 mm	157OR300D1 1/4" O.D.	0,035" 1 mm	1 1/4"Ø-31,75	154-1 1/4"	●
1 3/8"Ø-34,92											153R82D1 3/8"	0,072" 2 mm	156R90D1 3/8" O.D.	0,072" 2 mm	156R100D1 3/8" O.D.	0,072" 2 mm	153R112D1 3/8"	0,035" 1 mm	156R130D1 3/8" O.D.	0,035" 1 mm	156R150D1 3/8" O.D.	0,035" 1 mm	156R170D1 3/8" O.D.	0,035" 1 mm	156R190D1 3/8" O.D.	0,035" 1 mm	157MR225D1 3/8" O.D.	0,035" 1 mm	157NR250D1 3/8" O.D.	0,035" 1 mm	157NR260D1 3/8" O.D.	0,035" 1 mm	157OR300D1 3/8" O.D.	0,035" 1 mm	1 3/8"Ø-34,92	154-1 3/8"	●
1 1/2"Ø-38,10													153R90D1 1/2"	0,120" 3 mm	153R100D1 1/2"	0,072" 2 mm	156R112D1 1/2" O.D.	0,072" 2 mm	153R130D1 1/2"	0,065" 1,5 mm	153R150D1 1/2"	0,049" 1,2 mm	156R170D1 1/2" O.D.	0,049" 1,2 mm	153R190D1 1/2"	0,035" 1 mm	157MR225D1 1/2" O.D.	0,035" 1 mm	157NR250D1 1/2" O.D.	0,035" 1 mm	157NR260D1 1/2" O.D.	0,035" 1 mm	157OR300D1 1/2" O.D.	0,035" 1 mm	1 1/2"Ø-38,10	154-1 1/2"	●
1 5/8"Ø-41,28													153R90D1 5/8"	0,120" 3 mm	153R100D1 5/8"	0,072" 2 mm			153R130D1 5/8"	0,065" 1,5 mm	153R150D1 5/8"	0,049" 1,2 mm	156R170D1 5/8" O.D.	0,049" 1,2 mm	153R190D1 5/8"	0,035" 1 mm	157MR225D1 5/8" O.D.	0,035" 1 mm	157NR250D1 5/8" O.D.	0,035" 1 mm	157NR260D1 5/8" O.D.	0,035" 1 mm	157OR300D1 5/8" O.D.	0,035" 1 mm	1 5/8"Ø-41,28	154-1 5/8"	●
1 3/4"Ø-44,45															153R100D1 3/4"	0,120" 3 mm			153R130D1 3/4"	0,095" 2,5 mm	153R150D1 3/4" O.D.	0,095" 2,5 mm	153R170D1 3/4"	0,065" 1,5 mm	156R190D1 3/4" O.D.	0,065" 1,5 mm	157MR225D1 3/4" O.D.	0,049" 1,2 mm	157NR250D1 3/4" O.D.	0,049" 1,2 mm	157NR260D1 3/4" O.D.	0,035" 1 mm	157OR300D1 3/4" O.D.	0,035" 1 mm	1 3/4"Ø-44,45	154-1 3/4"	●
1 7/8"Ø-47,62															153R100D1 7/8"	0,120" 3 mm			153R130D1 7/8"	0,095" 2,5 mm	153R150D1 7/8" O.D.	0,095" 2,5 mm	153R170D1 7/8"	0,072" 2 mm	153R190D1 7/8"	0,065" 1,5 mm	157MR225D1 7/8" O.D.	0,049" 1,2 mm	157NR250D1 7/8" O.D.	0,049" 1,2 mm	157NR260D1 7/8" O.D.	0,035" 1 mm	157OR300D1 7/8" O.D.	0,035" 1 mm	1 7/8"Ø-47,62	154-1 7/8"	●
2"Ø-50,80																			156R130D2" O.D.	0,120" 3 mm	153R150D2"	0,095" 2,5 mm	156R170D2" O.D.	0,095" 2,5 mm	153R190D2"	0,065" 1,5 mm	157MR225D2" O.D.	0,065" 1,5 mm	157NR250D2" O.D.	0,065" 1,5 mm	157NR260D2" O.D.	0,035" 1 mm	157OR300D2" O.D.	0,035" 1 mm	2"Ø-50,80	154-2"	●
2 1/8"Ø-53,97																			153R130D2 1/8"	0,120" 3 mm	153R150D2 1/8"	0,095" 2,5 mm	156R170D2 1/8" O.D.	0,095" 2,5 mm	153R190D2 1/8"	0,065" 1,5 mm	157MR225D2 1/8" O.D.	0,065" 1,5 mm	157NR250D2 1/8" O.D.	0,065" 1,5 mm	157NR260D2 1/8" O.D.	0,035" 1 mm	157OR300D2 1/8" O.D.	0,035" 1 mm	2 1/8"Ø-53,97	154-2 1/8"	●
2 1/4"Ø-57,15																			153R130D2 1/4"	0,120" 3 mm	153R150D2 1/4"	0,095" 2,5 mm	156R170D2 1/4" O.D.	0,095" 2,5 mm	153R190D2 1/4"	0,072" 2 mm	157MR225D2 1/4" O.D.	0,065" 1,5 mm	157NR250D2 1/4" O.D.	0,065" 1,5 mm	157NR260D2 1/4" O.D.	0,049" 1,2 mm	157OR300D2 1/4" O.D.	0,035" 1 mm	2 1/4"Ø-57,15	154-2 1/4"	●
2 3/8"Ø-60,32																			153R130D2 3/8"	0,120" 3 mm	153R150D2 3/8"	0,095" 2,5 mm	156R170D2 3/8" O.D.	0,095" 2,5 mm	153R190D2 3/8"	0,072" 2 mm	157MR225D2 3/8" O.D.	0,072" 2 mm	157NR250D2 3/8" O.D.	0,072" 2 mm	157NR260D2 3/8" O.D.	0,065" 1,5 mm	157OR300D2 3/8" O.D.	0,049" 1,2 mm	2 3/8"Ø-60,32	154-2 3/8"	●
3"Ø-76																													157QR250D3" O.D.	0,162" 4 mm	157QR260D3" O.D.	0,120" 3 mm	157RR300D3" O.D.	0,072" 2 mm	3"Ø-76	154-3"	●

SUPER BENDER® 060B · SUPER BENDER® 060A · TOP BENDER® 050 · MEGABENDER VS76

IMPORTANT NOTE: SIZES 2 1/2" O.D. (63.51mm), 2 5/8" O.D. (66.67mm), 2 3/4" O.D. (68.87mm) and 2 7/8" O.D. (73.1mm) ARE AVAILABLE ON REQUEST

THE RADII GIVEN GUARANTEE EXCELLENT BEND QUALITY. IN SOME CASES, DEPENDING ON THE MATERIAL, SLIGHTLY SMALLER RADII MAY BE POSSIBLE - PLEASE ASK YOUR AUTHORISED NCML DEALER.

153 STANDARD STEEL FORMERS — **153/1** STANDARD STEEL FORMERS IN GAS INCHES — **156** SEMI STANDARD STEEL FORMERS — **157** SPECIAL STEEL FORMERS ON REQUEST — ● ON REQUEST

TUBE ∅	Bending Radius 0.3"(R10)-1.1" (R30)	Min. Thickness	Bending Radius 1.4"(R36)	Min. Thickness	Bending Radius 1.8"(R46)	Min. Thickness	Bending Radius 2.2"(R56)	Min. Thickness	Bending Radius 2.6"(R67)	Min. Thickness	Bending Radius 3.2"(R82)	Min. Thickness	Bending Radius 3.5"(R90)	Min. Thickness	Bending Radius 3.9"(R100)	Min. Thickness	Bending Radius 4.4"(R112)	Min. Thickness	Bending Radius 5.1"(R130)	Min. Thickness	Bending Radius 5.9"(R150)	Min. Thickness	Bending Radius 6.6"(R170)	Spess. Thickness	Bending Radius 7.4"(R190)	Min. Thickness	Bending Radius 8.8"(R225)	Min. Thickness	Bending Radius 9.8"(R250)	Spess. Thickness	Bending Radius 10.2"(R260)	Min. Thickness	Bending Radius 11.8"(R300)	Min. Thickness	Bending Radius 11.8"(R301) 14.9"(R380)	TUBE ∅	COUNTERBENDING DIES BRASS	COUNTERBENDING DIES STEEL
1/4"Ø6-13,25	●	0,065" 1,5 mm	153/1R36D1/4"	0,035" 1 mm	156R46D1/4"G	0,035" 1 mm	156R56D1/4"G	0,035" 1 mm	156R67D1/4"G	0,035" 1 mm	156R82D1/4"G	0,035" 1 mm	156R90D1/4"G	0,035" 1 mm	156R100D1/4"G	0,035" 1 mm	156R112D1/4"G	0,035" 1 mm	156R130D1/4"G	0,035" 1 mm	156R150D1/4"G	0,035" 1 mm	156R170D1/4"G	0,035" 1 mm	156R190D1/4"G	0,035" 1 mm	157MR225D1/4"G	0,035" 1 mm	157NR250D1/4"G	0,035" 1 mm	157NR260D1/4"G	0,035" 1 mm	157OR300D1/4"G	0,035" 1 mm	1/4"Ø6-13,25	155-1/4"	●
3/8"Ø6-17,2			153/1R36D3/8"	0,065" 1,5 mm	156R46D3/8"G	0,065" 1,5 mm	153/1R56D3/8"	0,035" 1 mm	156R67D3/8"G	0,035" 1 mm	156R82D3/8"G	0,035" 1 mm	156R90D3/8"G	0,035" 1 mm	156R100D3/8"G	0,035" 1 mm	156R112D3/8"G	0,035" 1 mm	156R130D3/8"G	0,035" 1 mm	156R150D3/8"G	0,035" 1 mm	156R170D3/8"G	0,035" 1 mm	156R190D3/8"G	0,035" 1 mm	157MR225D3/8"G	0,035" 1 mm	157NR250D3/8"G	0,035" 1 mm	157NR260D3/8"G	0,035" 1 mm	157OR300D3/8"G	0,035" 1 mm	3/8"Ø6-17,2	155-3/8"	●
1/2"Ø6-21,3					153/1R46D1/2"	0,095" 2,5 mm	153/1R56D1/2"	0,072" 2 mm	153/1R67D1/2"G	0,035" 1 mm	156R82D1/2"G	0,035" 1 mm	156R90D1/2"G	0,035" 1 mm	156R100D1/2"G	0,035" 1 mm	156R112D1/2"G	0,035" 1 mm	156R130D1/2"G	0,035" 1 mm	156R150D1/2"G	0,035" 1 mm	156R170D1/2"G	0,035" 1 mm	156R190D1/2"G	0,035" 1 mm	157MR225D1/2"G	0,035" 1 mm	157NR250D1/2"G	0,035" 1 mm	157NR260D1/2"G	0,035" 1 mm	157OR300D1/2"G	0,035" 1 mm	1/2"Ø6-21,3	155-1/2"	●
3/4"Ø6-26,9							153/1R56D3/4"	0,095" 2,5 mm	153/1R67D3/4"	0,072" 2 mm	153/1R82D3/4"	0,035" 1 mm	156R90D3/4"G	0,035" 1 mm	156R100D3/4"G	0,035" 1 mm	156R112D3/4"G	0,035" 1 mm	156R130D3/4"G	0,035" 1 mm	156R150D3/4"G	0,035" 1 mm	156R170D3/4"G	0,035" 1 mm	156R190D3/4"G	0,035" 1 mm	157MR225D3/4"G	0,035" 1 mm	157NR250D3/4"G	0,035" 1 mm	157NR260D3/4"G	0,035" 1 mm	157OR300D3/4"G	0,035" 1 mm	3/4"Ø6-26,9	155-3/4"	●
1"Ø6-33,7									153/1R67D1"	0,095" 2,5 mm	153/1R82D1"	0,072" 2 mm	156R90D1"G	0,072" 2 mm	156R100D1"G	0,072" 2 mm	153/1R112D1"	0,035" 1 mm	156R130D1"G	0,035" 1 mm	156R150D1"G	0,035" 1 mm	156R170D1"G	0,035" 1 mm	156R190D1"G	0,035" 1 mm	157MR225D1"G	0,035" 1 mm	157NR250D1"G	0,035" 1 mm	157NR260D1"G	0,035" 1 mm	157OR300D1"G	0,035" 1 mm	1"Ø6-33,7	155-1"	155A-1"
1 1/4"Ø6-42,25													153/1R90D1 1/4"	0,120" 3 mm	153/1R100D1 1/4"	0,072" 2 mm			153/1R130D1 1/4"	0,065" 1,5 mm	153/1R150D1 1/4"	0,049" 1,2 mm	156R170D1 1/4"G	0,049" 1,2 mm	153/1R190D1 1/4"	0,035" 1 mm	157MR225D1 1/4"G	0,035" 1 mm	157NR250D1 1/4"G	0,035" 1 mm	157NR260D1 1/4"G	0,035" 1 mm	157OR300D1 1/4"G	0,035" 1 mm	1 1/4"Ø6-42,25	155-1 1/4"	155A-1 1/4"
1 1/2"Ø6-48,25															153/1R100D1 1/2"	8 3,5 mm			153/1R130D1 1/2"	0,120" 3 mm	153/1R150D1 1/2"	0,095" 2,5 mm	153/1R170D1 1/2"	0,072" 2 mm	153/1R190D1 1/2"	0,065" 1,5 mm	157MR225D1 1/2"G	0,049" 1,2 mm	157NR250D1 1/2"G	0,049" 1,2 mm	157NR260D1 1/2"G	0,035" 1 mm	157OR300D1 1/2"G	0,035" 1 mm	1 1/2"Ø6-48,25	155-1 1/2"	155A-1 1/2"
2"Ø6-60,3																			153/1R130D2"	0,120" 3 mm	153/1R150D2"	0,095" 2,5 mm	156R170D2"	0,095" 2,5 mm	153/1R190D2"	0,072" 2 mm	157MR225D2"G	0,072" 2 mm	157MR250D2"G	0,072" 2 mm	157NR260D2"G	0,065" 1,5 mm	157OR300D2"G	0,035" 1 mm	2"Ø6-60,3	155-2"	155A-2"
2 1/2"Ø6-73																													157QR250D2 1/2"G	0,162" 4 mm	157QR260D2 1/2"G	0,095" 2,5 mm	157RR300D2 1/2"G	0,072" 2 mm	2 1/2"Ø6-73	155-2 1/2"	●

SUPER BENDER® 060B · SUPER BENDER® 060A · TOP BENDER® 050 · MEGABENDER VS76

TABLE 4 FORMER AND COUNTERBENDING DIE CODES

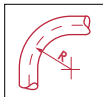
FOR MACHINES: SUPER BENDER® 060B SUPER BENDER® 060A TOP BENDER® 050 MEGABENDER VS76

STAINLESS STEEL, HARD COPPER AND SIMILAR

SIZES IN: O.D. inches and GAS inches

NOTE: MAXIMUM RADII	WITH COUNTERBENDING DIE	WITH ROLL
SUPER BENDER® 060/A-B	= R240	R300
TOP BENDER® 050	= R240	R300
MEGABENDER VS76	= R315	R380

ROLL ART. 0501 MUST BE USED INSTEAD OF THE COUNTERBENDING DIE FOR ALL TUBES HAVING A WALL THICKNESS OVER 4mm



RADII MEASURED AT CENTRE OF BEND

TUBE ∅	Bending Radius 0.3"(R10)-1.1" (R30)	Min. Thickness	Bending Radius 1.4"(R36)	Min. Thickness	Bending Radius 1.8"(R46)	Min. Thickness	Bending Radius 2.2"(R56)	Min. Thickness	Bending Radius 2.6"(R67)	Min. Thickness	Bending Radius 3.2"(R82)	Min. Thickness	Bending Radius 3.5"(R90)	Min. Thickness	Bending Radius 3.9"(R100)	Min. Thickness	Bending Radius 4.4"(R112)	Min. Thickness	Bending Radius 5.1"(R130)	Min. Thickness	Bending Radius 5.9"(R150)	Min. Thickness	Bending Radius 6.6"(R170)	Min. Thickness	Bending Radius 7.4"(R190)	Min. Thickness	Bending Radius 8.8"(R225)	Min. Thickness	Bending Radius 9.8"(R250)	Spess. Thickness	Bending Radius 10.2"(R260)	Min. Thickness	Bending Radius 11.8"(R300)	Min. Thickness	Bending Radius 11.8"(R301)-14.9" (R380)	TUBE ∅	COUNTERBENDING DIES BRASS	COUNTERBENDING DIES PLASTIC
1/4"Ø-6,30	●	0,049" 1,2 mm	153R36D1/4"	0,035" 1 mm	156R46D1/4" O.D.	0,035" 1 mm	156R56D1/4" O.D.	0,035" 1 mm	156R67D1/4" O.D.	0,035" 1 mm	156R82D1/4" O.D.	0,035" 1 mm	156R90D1/4" O.D.	0,035" 1 mm	156R100D1/4" O.D.	0,035" 1 mm	156R112D1/4" O.D.	0,035" 1 mm	156R130D1/4" O.D.	0,035" 1 mm	156R150D1/4" O.D.	0,035" 1 mm	156R170D1/4" O.D.	0,035" 1 mm	156R190D1/4" O.D.	0,035" 1 mm	157MR225D1/4" O.D.	0,035" 1 mm	157NR250D1/4" O.D.	0,035" 1 mm	157NR260D1/4" O.D.	0,035" 1 mm	157OR300D1/4" O.D.	0,035" 1 mm		1/4"Ø-6,30	154-1/4"	●
3/8"Ø-9,52	●	0,065" 1,5 mm	153R36D3/8"	0,035" 1 mm	156R46D3/8" O.D.	0,035" 1 mm	156R56D3/8" O.D.	0,035" 1 mm	156R67D3/8" O.D.	0,035" 1 mm	156R82D3/8" O.D.	0,035" 1 mm	156R90D3/8" O.D.	0,035" 1 mm	156R100D3/8" O.D.	0,035" 1 mm	156R112D3/8" O.D.	0,035" 1 mm	156R130D3/8" O.D.	0,035" 1 mm	156R150D3/8" O.D.	0,035" 1 mm	156R170D3/8" O.D.	0,035" 1 mm	156R190D3/8" O.D.	0,035" 1 mm	157MR225D3/8" O.D.	0,035" 1 mm	157NR250D3/8" O.D.	0,035" 1 mm	157NR260D3/8" O.D.	0,035" 1 mm	157OR300D3/8" O.D.	0,035" 1 mm		3/8"Ø-9,52	154-3/8"	●
1/2"Ø-12,70	●	0,065" 1,5 mm	153R36D1/2"	0,035" 1 mm	156R46D1/2" O.D.	0,035" 1 mm	156R56D1/2" O.D.	0,035" 1 mm	156R67D1/2" O.D.	0,035" 1 mm	156R82D1/2" O.D.	0,035" 1 mm	156R90D1/2" O.D.	0,035" 1 mm	156R100D1/2" O.D.	0,035" 1 mm	156R112D1/2" O.D.	0,035" 1 mm	156R130D1/2" O.D.	0,035" 1 mm	156R150D1/2" O.D.	0,035" 1 mm	156R170D1/2" O.D.	0,035" 1 mm	156R190D1/2" O.D.	0,035" 1 mm	157MR225D1/2" O.D.	0,035" 1 mm	157NR250D1/2" O.D.	0,035" 1 mm	157NR260D1/2" O.D.	0,035" 1 mm	157OR300D1/2" O.D.	0,035" 1 mm		1/2"Ø-12,70	154-1/2"	154P-1/2"
5/8"Ø-15,88			153R36D5/8"	0,072" 2 mm	153R46D5/8"	0,035" 1 mm	156R56D5/8" O.D.	0,035" 1 mm	156R67D5/8" O.D.	0,035" 1 mm	156R82D5/8" O.D.	0,035" 1 mm	156R90D5/8" O.D.	0,035" 1 mm	156R100D5/8" O.D.	0,035" 1 mm	156R112D5/8" O.D.	0,035" 1 mm	156R130D5/8" O.D.	0,035" 1 mm	156R150D5/8" O.D.	0,035" 1 mm	156R170D5/8" O.D.	0,035" 1 mm	156R190D5/8" O.D.	0,035" 1 mm	157MR225D5/8" O.D.	0,035" 1 mm	157NR250D5/8" O.D.	0,035" 1 mm	157NR260D5/8" O.D.	0,035" 1 mm	157OR300D5/8" O.D.	0,035" 1 mm		5/8"Ø-15,88	154-5/8"	154P-5/8"
3/4"Ø-19,05					153R46D3/4"	0,095" 2,5 mm	153R56D3/4"	0,065" 1,5 mm	153R67D3/4"	0,035" 1 mm	156R82D3/4" O.D.	0,035" 1 mm	156R90D3/4" O.D.	0,035" 1 mm	156R100D3/4" O.D.	0,035" 1 mm	156R112D3/4" O.D.	0,035" 1 mm	156R130D3/4" O.D.	0,035" 1 mm	156R150D3/4" O.D.	0,035" 1 mm	156R170D3/4" O.D.	0,035" 1 mm	156R190D3/4" O.D.	0,035" 1 mm	157MR225D3/4" O.D.	0,035" 1 mm	157NR250D3/4" O.D.	0,035" 1 mm	157NR260D3/4" O.D.	0,035" 1 mm	157OR300D3/4" O.D.	0,035" 1 mm		3/4"Ø-19,05	154-3/4"	154P-3/4"
7/8"Ø-22,22					153R46D7/8"	0,072" 2 mm	153R56D7/8"	0,065" 1,5 mm	153R67D7/8"	0,035" 1 mm	156R82D7/8" O.D.	0,035" 1 mm	156R90D7/8" O.D.	0,035" 1 mm	156R100D7/8" O.D.	0,035" 1 mm	156R112D7/8" O.D.	0,035" 1 mm	156R130D7/8" O.D.	0,035" 1 mm	156R150D7/8" O.D.	0,035" 1 mm	156R170D7/8" O.D.	0,035" 1 mm	156R190D7/8" O.D.	0,035" 1 mm	157MR225D7/8" O.D.	0,035" 1 mm	157NR250D7/8" O.D.	0,035" 1 mm	157NR260D7/8" O.D.	0,035" 1 mm	157OR300D7/8" O.D.	0,035" 1 mm		7/8"Ø-22,22	154-7/8"	154P-7/8"
1"Ø-25,40											153R82D1"	0,072" 2 mm	156R90D1" O.D.	0,065" 1,5 mm	156R100D1" O.D.	0,035" 1 mm	156R112D1" O.D.	0,035" 1 mm	156R130D1" O.D.	0,035" 1 mm	156R150D1" O.D.	0,035" 1 mm	156R170D1" O.D.	0,035" 1 mm	156R190D1" O.D.	0,035" 1 mm	157MR225D1" O.D.	0,035" 1 mm	157NR250D1" O.D.	0,035" 1 mm	157NR260D1" O.D.	0,035" 1 mm	157OR300D1" O.D.	0,035" 1 mm		1"Ø-25,40	154-1"	●
1 1/8"Ø-28,58													156R90D1 1/8" O.D.	0,095" 2,5 mm	156R100D1 1/8" O.D.	0,072" 2 mm	156R112D1 1/8" O.D.	0,035" 1 mm	156R130D1 1/8" O.D.	0,035" 1 mm	156R150D1 1/8" O.D.	0,035" 1 mm	156R170D1 1/8" O.D.	0,035" 1 mm	156R190D1 1/8" O.D.	0,035" 1 mm	157MR225D11/8" O.D.	0,035" 1 mm	157NR250D11/8" O.D.	0,035" 1 mm	157NR260D11/8" O.D.	0,035" 1 mm	157OR300D11/8" O.D.	0,035" 1 mm		1 1/8"Ø-28,58	154-1 1/8"	●
1 1/4"Ø-31,75													156R90D1 1/4" O.D.	0,095" 2,5 mm	156R100D1 1/4" O.D.	0,072" 2 mm	153R112D1 1/4"	0,072" 2 mm	156R130D1 1/4" O.D.	0,035" 1 mm	156R150D1 1/4" O.D.	0,035" 1 mm	156R170D1 1/4" O.D.	0,035" 1 mm	156R190D1 1/4" O.D.	0,035" 1 mm	157MR225D1 1/4" O.D.	0,035" 1 mm	157NR250D1 1/4" O.D.	0,035" 1 mm	157NR260D1 1/4" O.D.	0,035" 1 mm	157OR300D1 1/4" O.D.	0,035" 1 mm		1 1/4"Ø-31,75	154-1 1/4"	●
1 3/8"Ø-34,92															156R100D1 3/8" O.D.	0,120" 3 mm	153R112D1 3/8"	0,095" 2,5 mm	156R130D1 3/8" O.D.	0,035" 1 mm	156R150D1 3/8" O.D.	0,035" 1 mm	156R170D1 3/8" O.D.	0,035" 1 mm	156R190D1 3/8" O.D.	0,035" 1 mm	157MR225D1 3/8" O.D.	0,035" 1 mm	157NR250D1 3/8" O.D.	0,035" 1 mm	157NR260D1 3/8" O.D.	0,035" 1 mm	157OR300D1 3/8" O.D.	0,035" 1 mm		1 3/8"Ø-34,92	154-1 3/8"	●
1 1/2"Ø-38,10																	156R112D1 1/2" O.D.	0,072" 2 mm	153R130D1 1/2"	0,072" 2 mm	153R150D1 1/2"	0,072" 2 mm	156R170D1 1/2" O.D.	0,065" 1,5 mm	153R190D1 1/2"	0,049" 1,2 mm	157MR225D1 1/2" O.D.	0,035" 1 mm	157NR250D1 1/2" O.D.	0,035" 1 mm	157NR260D1 1/2" O.D.	0,035" 1 mm	157OR300D1 1/2" O.D.	0,035" 1 mm		1 1/2"Ø-38,10	154-1 1/2"	●
1 5/8"Ø-41,28																			153R130D1 5/8"	0,072" 2 mm	153R150D1 5/8"	0,072" 2 mm	156R170D1 5/8" O.D.	0,065" 1,5 mm	153R190D1 5/8"	0,049" 1,2 mm	157MR225D1 5/8" O.D.	0,035" 1 mm	157NR250D1 5/8" O.D.	0,035" 1 mm	157NR260D1 5/8" O.D.	0,035" 1 mm	157OR300D1 5/8" O.D.	0,035" 1 mm		1 5/8"Ø-41,28	154-1 5/8"	●
1 3/4"Ø-44,45																			153R130D1 3/4"	0,120" 3 mm	156R150D1 3/4" O.D.	0,120" 3 mm	153R170D1 3/4"	0,095" 2,5 mm	156R190D1 3/4" O.D.	0,072" 2 mm	157MR225D1 3/4" O.D.	0,049" 1,2 mm	157NR250D1 3/4" O.D.	0,049" 1,2 mm	157NR260D1 3/4" O.D.	0,035" 1 mm	157OR300D1 3/4" O.D.	0,035" 1 mm		1 3/4"Ø-44,45	154-1 3/4"	●
1 7/8"Ø-47,62																			153R130D1 7/8"	0,120" 3 mm	156R150D1 7/8" O.D.	0,120" 3 mm	153R170D1 7/8"	0,095" 2,5 mm	153R190D1 7/8"	0,072" 2 mm	157MR225D1 7/8" O.D.	0,049" 1,2 mm	157NR250D1 7/8" O.D.	0,049" 1,2 mm	157NR260D1 7/8" O.D.	0,035" 1 mm	157OR300D1 7/8" O.D.	0,035" 1 mm		1 7/8"Ø-47,62	154-1 7/8"	●
2"Ø-50,80																					153R150D2"	0,120" 3 mm	156R170D2" O.D.	0,120" 3 mm	153R190D2"	0,095" 2,5 mm	157MR225D2" O.D.	0,072" 2 mm	157NR250D2" O.D.	0,072" 2 mm	157NR260D2" O.D.	0,065" 1,5 mm	157OR300D2" O.D.	0,049" 1,2 mm		2"Ø-50,80	154-2"	●
2 1/8"Ø-53,97																							156R170D2 1/8" O.D.	0,120" 3 mm	153R190D2 1/8"	0,095" 2,5 mm	157MR225D2 1/8" O.D.	0,095" 2,5 mm	157NR250D2 1/8" O.D.	0,072" 2 mm	157NR260D2 1/8" O.D.	0,072" 2 mm	157OR300D2 1/8" O.D.	0,049" 1,2 mm		2 1/8"Ø-53,97	154-2 1/8"	●
2 3/8"Ø-60,32																							156R170D2 3/8" O.D.	0,120" 3 mm	153R190D2 3/8"	0,095" 2,5 mm	157MR225D2 3/8" O.D.	0,095" 2,5 mm	157NR250D2 3/8" O.D.	0,072" 2 mm	157NR260D2 3/8" O.D.	0,072" 2 mm	157OR300D2 3/8" O.D.	0,065" 1,5 mm		2 3/8"Ø-60,32	154-2 3/8"	●
3"Ø-76																																	157RR300D3" O.D.	0,072" 2 mm		3"Ø-76	154-3"	●

IMPORTANT NOTE: SIZES 2 1/2" O.D. (63.51mm), 2 5/8" O.D. (66.67mm), 2 3/4" O.D. (68.87mm) and 2 7/8" O.D. (73.1mm) ARE AVAILABLE ON REQUEST

SUPER BENDER® 060B
SUPER BENDER® 060A
TOP BENDER® 050
MEGABENDER VS76

153 STANDARD STEEL FORMERS **153/1** STANDARD STEEL FORMERS IN GAS INCHES **156** SEMI STANDARD STEEL FORMERS **157** SPECIAL STEEL FORMERS ON REQUEST ● ON REQUEST

TUBE ∅	Bending Radius 0.3"(R10)-1.1" (R30)	Min. Thickness	Bending Radius 1.4"(R36)	Min. Thickness	Bending Radius 1.8"(R46)	Min. Thickness	Bending Radius 2.2"(R56)	Min. Thickness	Bending Radius 2.6"(R67)	Min. Thickness	Bending Radius 3.2"(R82)	Min. Thickness	Bending Radius 3.5"(R90)	Min. Thickness	Bending Radius 3.9"(R100)	Min. Thickness	Bending Radius 4.4"(R112)	Min. Thickness	Bending Radius 5.1"(R130)	Min. Thickness	Bending Radius 5.9"(R150)	Min. Thickness	Bending Radius 6.6"(R170)	Min. Thickness	Bending Radius 7.4"(R190)	Min. Thickness	Bending Radius 8.8"(R225)	Min. Thickness	Bending Radius 9.8"(R250)	Spess. Thickness	Bending Radius 10.2"(R260)	Min. Thickness	Bending Radius 11.8"(R300)	Min. Thickness	Bending Radius 11.8"(R301)-14.9" (R380)	TUBE ∅	COUNTERBENDING DIES BRASS	COUNTERBENDING DIES PLASTIC
1/4"Ø6-13,25	●	0,065" 1,5 mm	153/1R36D1/4"	0,035" 1 mm	156R46D1/4"G	0,035" 1 mm	156R56D1/4"G	0,035" 1 mm	156R67D1/4"G	0,035" 1 mm	156R82D1/4"G	0,035" 1 mm	156R90D1/4"G	0,035" 1 mm	156R100D1/4"G	0,035" 1 mm	156R112D1/4"G	0,035" 1 mm	156R130D1/4"G	0,035" 1 mm	156R150D1/4"G	0,035" 1 mm	156R170D1/4"G	0,035" 1 mm	156R190D1/4"G	0,035" 1 mm	157MR225D1/4"G	0,035" 1 mm	157NR250D1/4"G	0,035" 1 mm	157NR260D1/4"G	0,035" 1 mm	157OR300D1/4"G	0,035" 1 mm		1/4"Ø6-13,25	155-1/4"	●
3/8"Ø6-17,2			153/1R36D3/8"	0,065" 1,5 mm	156R46D3/8"G	0,035" 1 mm	153/1R56D3/8"	0,035" 1 mm	156R67D3/8"G	0,035" 1 mm	156R82D3/8"G	0,035" 1 mm	156R90D3/8"G	0,035" 1 mm	156R100D3/8"G	0,035" 1 mm	156R112D3/8"G	0,035" 1 mm	156R130D3/8"G	0,035" 1 mm	156R150D3/8"G	0,035" 1 mm	156R170D3/8"G	0,035" 1 mm	156R190D3/8"G	0,035" 1 mm	157MR225D3/8"G	0,035" 1 mm	157NR250D3/8"G	0,035" 1 mm	157NR260D3/8"G	0,035" 1 mm	157OR300D3/8"G	0,035" 1 mm		3/8"Ø6-17,2	155-3/8"	●
1/2"Ø6-21,3					153/1R46D1/2"	0,095" 2,5 mm	153/1R56D1/2"	0,072" 2 mm	153/1R67D1/2"	0,035" 1 mm	156R82D1/2"G	0,035" 1 mm	156R90D1/2"G	0,035" 1 mm	156R100D1/2"G	0,035" 1 mm	156R112D1/2"G	0,035" 1 mm	156R130D1/2"G	0,035" 1 mm	156R150D1/2"G	0,035" 1 mm	156R170D1/2"G	0,035" 1 mm	156R190D1/2"G	0,035" 1 mm	157MR225D1/2"G	0,035" 1 mm	157NR250D1/2"G	0,035" 1 mm	157NR260D1/2"G	0,035" 1 mm	157OR300D1/2"G	0,035" 1 mm		1/2"Ø6-21,3	155-1/2"	●
3/4"Ø6-26,9											153/1R82D3/4"	0,072" 2 mm	156R90D3/4"G	0,065" 1,5 mm	156R100D3/4"G	0,065" 1,5 mm	156R112D3/4"G	0,035" 1 mm	156R130D3/4"G	0,035" 1 mm	156R150D3/4"G	0,035" 1 mm	156R170D3/4"G	0,035" 1 mm	156R190D3/4"G	0,035" 1 mm	157MR225D3/4"G	0,035" 1 mm	157NR250D3/4"G	0,035" 1 mm	157NR260D3/4"G	0,035" 1 mm	157OR300D3/4"G	0,035" 1 mm		3/4"Ø6-26,9	155-3/4"	●
1"Ø6-33,7															156R100D1"G	0,120" 3 mm	153/1R112D1"	0,095" 2,5 mm	156R130D1"G	0,035" 1 mm	156R150D1"G	0,035" 1 mm	156R170D1"G	0,035" 1 mm	156R190D1"G	0,035" 1 mm	157MR225D1"G	0,035" 1 mm	157NR250D1"G	0,035" 1 mm	157NR260D1"G	0,035" 1 mm	157OR300D1"G	0,035" 1 mm		1"Ø6-33,7	155-1"	●
1 1/4"Ø6-42,25																			153/1R130D1 1/4"	0,072" 2 mm	153/1R150D1 1/4"	0,072" 2 mm	156R170D1 1/4"G	0,065" 1,5 mm	156R190D1 1/4"G	0,049" 1,2 mm	157MR225D1 1/4"G	0,035" 1 mm	157NR250D1 1/4"G	0,035" 1 mm	157NR260D1 1/4"G	0,035" 1 mm	157OR300D1 1/4"G	0,035" 1 mm		1 1/4"Ø6-42,25	155-1 1/4"	●
1 1/2"Ø6-48,25																			153/1R130D1 1/2"	0,120" 3 mm	153/1R150D1 1/2"	0,120" 3 mm	153/1R170D1 1/2"	0,095" 2,5 mm	153/1R190D1 1/2"	0,072" 2 mm	157MR225D1 1/2"G	0,065" 1,5 mm	157NR250D1 1/2"G	0,049" 1,2 mm	157NR260D1 1/2"G	0,035" 1 mm	157OR300D1 1/2"G	0,035" 1 mm		1 1/2"Ø6-48,25	155-1 1/2"	●
2"Ø6-60,3																							156R170D2"G	0,135" 3,5 mm	153/1R190D2"	0,095" 2,5 mm	157MR225D2"G	0,095" 2,5 mm	157NR250D2"G	0,072" 2 mm	157NR260D2"G	0,072" 2 mm	157OR300D2"G	0,049" 1,2 mm		2"Ø6-60,3	155-2"	●
2 1/2"Ø6-73																																	157RR300D2 1/2"G	0,072" 2 mm		2 1/2"Ø6-73	155-2 1/2"	●

SUPER BENDER® 060B
SUPER BENDER® 060A
TOP BENDER® 050
MEGABENDER VS76

THE INDICATED RADII GUARANTEE EXCELLENT BEND QUALITY. IN SOME CASES, DEPENDING ON THE MATERIAL, SLIGHTLY SMALLER RADII MAY BE POSSIBLE - PLEASE ASK YOUR AUTHORISED NCML DEALER.

N.B. COUNTERBENDING DIES FOR HARD COPPER: THIS MATERIAL IS PARTICULARLY DIFFICULT TO BEND. USE SPECIAL BRASS COUNTERBENDING DIES Art. 152/1 from 5 to 54 mm.

TABLE 5 FORMER AND COUNTERBENDING DIE CODES

ST 37 STEEL OR SIMILAR

FOR MACHINES: MEDI BENDER® 070 MEDI BENDER® 071 MEDI BENDER® 083 MINI BENDER® 092

SIZES IN: mm

NOTE: MAXIMUM RADII	WITH COUNTERBENDING DIE	WITH ROLL
MEDI BENDER® 070/071/083 =	R140	R175
MINI BENDER® 092 =	R190	—

N.B. ROLL ART. 084B MUST BE USED INSTEAD OF THE COUNTERBENDING DIE FOR ALL TUBES HAVING A WALL THICKNESS OVER 3.5mm

TUBE ∅	Bending Radius R12	Min. Thickness	Bending Radius R16	Min. Thickness	Bending Radius R20	Min. Thickness	Bending Radius R24	Min. Thickness	Bending Radius R26	Min. Thickness	Bending Radius R30	Min. Thickness	Bending Radius R36	Min. Thickness	Bending Radius R40	Min. Thickness	Bending Radius R46	Min. Thickness	Bending Radius R56	Min. Thickness	Bending Radius R67	Min. Thickness	Bending Radius R82	Spess. Thickness	Bending Radius R96	Min. Thickness	Bending Radius R112	Min. Thickness	Bending Radius R130	Min. Thickness	Bending Radius R150	Min. Thickness	Bending Radius R175	Min. Thickness	Bending Radius R190	Min. Thickness	TUBE ∅	COUNTERBENDING DIES BRASS	COUNTERBENDING DIES PLASTIC
5	◆ 198AR12D5	1,2 mm	◆ 198AR16D5	1,2 mm	◆ 198AR20D5	1,2 mm	◆ 198AR24D5	1,2 mm	◆ 198AR26D5	1,2 mm	◆ 198AR30D5	1,2 mm	190R36D5	1 mm	197/1R40D5	1 mm	197/1R46D5	1 mm	197/1R56D5	1 mm	197/1R67D5	1 mm	197/1R82D5	1 mm	197/1DR96D5	1 mm	197/1R112D5	1 mm	197/1R130D5	1 mm	197/1R150D5	1 mm	197/1R175D5	1 mm	197/1R190D5	1 mm	5	152-5	●
6	◆ 198AR12D6	1,2 mm	◆ 198AR16D6	1,2 mm	◆ 198AR20D6	1,2 mm	◆ 198AR24D6	1,2 mm	◆ 198AR26D6	1,2 mm	◆ 198AR30D6	1,2 mm	190R36D6	1 mm	197/1R40D6	1 mm	197/1R46D6	1 mm	197/1R56D6	1 mm	197/1R67D6	1 mm	197/1R82D6	1 mm	197/1DR96D6	1 mm	197/1R112D6	1 mm	197/1R130D6	1 mm	197/1R150D6	1 mm	197/1R175D6	1 mm	197/1R190D6	1 mm	6	152-6	●
8			◆ 198AR16D8	1,2 mm	◆ 198AR20D8	1,2 mm	◆ 198AR24D8	1,2 mm	◆ 198AR26D8	1,2 mm	◆ 198AR30D8	1,2 mm	190R36D8	1 mm	197/1R40D8	1 mm	197/1R46D8	1 mm	197/1R56D8	1 mm	197/1R67D8	1 mm	197/1R82D8	1 mm	197/1DR96D8	1 mm	197/1R112D8	1 mm	197/1R130D8	1 mm	197/1R150D8	1 mm	197/1R175D8	1 mm	197/1R190D8	1 mm	8	152-8	●
10					◆ 198AR20D10	1,5 mm	◆ 198AR24D10	1,5 mm	◆ 198AR26D10	1,5 mm	◆ 198AR30D10	1,5 mm	190R36D10	1 mm	197/1R40D10	1 mm	197/1R46D10	1 mm	197/1R56D10	1 mm	197/1R67D10	1 mm	197/1R82D10	1 mm	197/1DR96D10	1 mm	197/1R112D10	1 mm	197/1R130D10	1 mm	197/1R150D10	1 mm	197/1R175D10	1 mm	197/1R190D10	1 mm	10	152-10	●
12					◆ 198AR20D12	4 mm	◆ 198AR24D12	1,5 mm	◆ 198AR26D12	1,5 mm	◆ 198AR30D12	1,5 mm	190R36D12	1 mm	197/1R40D12	1 mm	197/1R46D12	1 mm	197/1R56D12	1 mm	197/1R67D12	1 mm	197/1R82D12	1 mm	197/1DR96D12	1 mm	197/1R112D12	1 mm	197/1R130D12	1 mm	197/1R150D12	1 mm	197/1R175D12	1 mm	197/1R190D12	1 mm	12	152-12	152P-12
13									◆ 198AR26D13	1,5 mm	◆ 198AR30D13	1,5 mm	190R36D13	1,5 mm	190R40D13	1 mm	197/1R46D13	1 mm	197/1R56D13	1 mm	197/1R67D13	1 mm	197/1R82D13	1 mm	197/1DR96D13	1 mm	197/1R112D13	1 mm	197/1R130D13	1 mm	197/1R150D13	1 mm	197/1R175D13	1 mm	197/1R190D13	1 mm	13	152-13	—
14											◆ 198AR30D14	2 mm	190R36D14	1,5 mm	190R40D14	1 mm	197/1R46D14	1 mm	197/1R56D14	1 mm	197/1R67D14	1 mm	197/1R82D14	1 mm	197/1DR96D14	1 mm	197/1R112D14	1 mm	197/1R130D14	1 mm	197/1R150D14	1 mm	197/1R175D14	1 mm	197/1R190D14	1 mm	14	152-14	152P-14
15											◆ 198AR30D15	2 mm	151R36D15	1,5 mm	190R40D15	1,5 mm	190R46D15	1 mm	197/1R56D15	1 mm	197/1R67D15	1 mm	197/1R82D15	1 mm	197/1DR96D15	1 mm	197/1R112D15	1 mm	197/1R130D15	1 mm	197/1R150D15	1 mm	197/1R175D15	1 mm	197/1R190D15	1 mm	15	152-15	152P-15
16													151R36D16	2 mm	198BR40D16	2 mm	190R46D16	1 mm	197/1R56D16	1 mm	197/1R67D16	1 mm	197/1R82D16	1 mm	197/1DR96D16	1 mm	197/1R112D16	1 mm	197/1R130D16	1 mm	197/1R150D16	1 mm	197/1R175D16	1 mm	197/1R190D16	1 mm	16	152-16	152P-16
18																	156R46D18	2 mm	190R56D18	1 mm	197/1R67D18	1 mm	197/1R82D18	1 mm	197/1DR96D18	1 mm	197/1R112D18	1 mm	197/1R130D18	1 mm	197/1R150D18	1 mm	197/1R175D18	1 mm	197/1R190D18	1 mm	18	152-18	152P-18
19																	151R46D19	2 mm	151R56D19	2 mm	190R67D19	1 mm	197/1R82D19	1 mm	197/1DR96D19	1 mm	197/1R112D19	1 mm	197/1R130D19	1 mm	197/1R150D19	1 mm	197/1R175D19	1 mm	197/1R190D19	1 mm	19	152-19	152P-19
20																	151R46D20	2 mm	151R56D20	2 mm	190R67D20	1 mm	197/1R82D20	1 mm	197/1DR96D20	1 mm	197/1R112D20	1 mm	197/1R130D20	1 mm	197/1R150D20	1 mm	197/1R175D20	1 mm	197/1R190D20	1 mm	20	152-20	152P-20
22																	151R46D22	3 mm	151R56D22	2,5 mm	190R67D22	1 mm	197/1R82D22	1 mm	197/1DR96D22	1 mm	197/1R112D22	1 mm	197/1R130D22	1 mm	197/1R150D22	1 mm	197/1R175D22	1 mm	197/1R190D21	1 mm	22	152-22	152P-22
24																			151R56D24	2,5 mm	151R67D24	2 mm	190R82D24	1 mm	197/1DR96D24	1 mm	197/1R112D24	1 mm	197/1R130D24	1 mm	197/1R150D24	1 mm	197/1R175D24	1 mm	197/1R190D24	1 mm	24	152-24	●
25																			151R56D25	2,5 mm	151R67D25	2 mm	190R82D25	1 mm	197/1DR96D25	1 mm	197/1R112D25	1 mm	197/1R130D25	1 mm	197/1R150D25	1 mm	197/1R175D25	1 mm	197/1R190D25	1 mm	25	152-25	●
26																			151R56D26	2,5 mm	151R67D26	2 mm	190R82D26	1 mm	197/1DR96D26	1 mm	197/1R112D26	1 mm	197/1R130D26	1 mm	197/1R150D26	1 mm	197/1R175D26	1 mm	197/1R190D26	1 mm	26	152-26	●
28																			151R56D28	2,5 mm	151R67D28	2,5 mm	151R82D28	2 mm	190R96D28	1mm	197/1R112D28	1 mm	197/1R130D28	1 mm	197/1R150D28	1 mm					28	152-28	●
30																							151R82D30	2,5 mm	198ER96D30	2,5 mm	190R112D30	1,2 mm	190R130D30	1 mm							30	152-30	●
32																							151R82D32	2,5 mm	198ER96D32	2,5 mm	190R112D32	1,2 mm	190R130D32	1 mm							32	152-32	●
35																							151R82D35	2,5 mm	198ER96D35	2,5 mm	190R112D35	1,2 mm	190R130D35	1 mm							35	152-35	●
38																													ONLY COPPER 190R130D38	1,2 mm							38	152-38	●
40																													ONLY COPPER 190R130D40	1,2 mm							40	152-40	●
42																													ONLY COPPER 190R130D42	1,2 mm							42	152-42	●

TUBE ∅	Bending Radius R10	Min. Thickness
5	◆ 198AR10D5	1,2 mm

MEDI BENDER® 071
MINI BENDER® 092
MEDI BENDER® 070
MEDI BENDER® 083

N.B. ONLY USE ALUMINIUM FORMERS (Art. 190 - 197/1) FOR A MAXIMUM TUBE WALL THICKNESS OF 1.5 mm. FOR WALL THICKNESSES OVER 1.5 mm USE ONLY STEEL FORMERS ART. 151 OR 156. STEEL FORMERS ARE NOT AVAILABLE FOR RADII 40-96-130-150-175-190

N.B.: COUNTERBENDING DIES FOR HARD COPPER: THIS MATERIAL IS PARTICULARLY DIFFICULT TO BEND. USE SPECIAL BRASS COUNTERBENDING DIES Art. 152/1 from 10 to 42 mm.

151 STANDARD STEEL FORMERS — **156** SEMI-STANDARD STEEL FORMERS — **190** STANDARD ALUMINIUM FORMERS — **197/1**SEMI-STANDARD ALUMINIUM FORMERS — **198** SPECIAL STEEL FORMERS — ● ON REQUEST — ◆ ONLY FOR MEDI BENDER® 071 & MINI BENDER® 092

TABLE 6 FORMER AND COUNTERBENDING DIE CODES

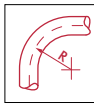
STAINLESS STEEL, HARD COPPER AND SIMILAR

FOR MACHINES: MEDI BENDER® 070 / MEDI BENDER® 071 — MEDI BENDER® 083 / MINI BENDER® 092

SIZES IN: mm

NOTE: MAXIMUM RADII	WITH COUNTERBENDING DIE	WITH ROLL
MEDI BENDER® 070/071/083	= R140	R175
MINI BENDER® 092	= R190	——

N.B. ROLL ART. 084B MUST BE USED INSTEAD OF COUNTERBENDING DIE FOR ALL TUBES HAVING A WALL THICKNESS OVER 3mm



RADII MEASURED AT CENTRE OF BEND

TUBE ∅	Bending Radius R10	Min. Thickness	Bending Radius R12	Min. Thickness	Bending Radius R16	Min. Thickness	Bending Radius R20	Min. Thickness	Bending Radius R26	Min. Thickness	Bending Radius R30	Min. Thickness	Bending Radius R36	Min. Thickness	Bending Radius R40	Min. Thickness	Bending Radius R46	Min. Thickness	Bending Radius R56	Min. Thickness	Bending Radius R67	Min. Thickness	Bending Radius R82	Spess. Thickness	Bending Radius R96	Min. Thickness	Bending Radius R112	Min. Thickness	Bending Radius R130	Min. Thickness	Bending Radius R150	Min. Thickness	Bending Radius R175	Min. Thickness	Bending Radius R190	Min. Thickness	TUBE ∅	COUNTERBENDING DIES BRASS	COUNTERBENDING DIES PLASTIC
5	◆ 198AR10D5	1,5 mm	◆ 198AR12D5	1,5 mm	◆ 198AR16D5	1,2 mm	◆ 198AR20D5	1,2 mm	◆ 198AR26D5	1,2 mm	◆ 198AR30D5	1,2 mm	190R36D5	1 mm	197/1R40D5	1 mm	197/1R46D5	1 mm	197/1R56D5	1 mm	197/1R67D5	1 mm	197/1R82D5	1 mm	197/1R96D5	1 mm	197/1R112D5	1 mm	197/1R130D5	1 mm	197/1R150D5	1 mm	197/1R175D5	1 mm	197/1R190D5	1 mm	5	152-5	●
6			◆ 198AR12D6	1,5 mm	◆ 198AR16D6	1,5 mm	◆ 198AR20D6	1,2 mm	◆ 198AR26D6	1,2 mm	◆ 198AR30D6	1,2 mm	190R36D6	1 mm	197/1R40D6	1 mm	197/1R46D6	1 mm	197/1R56D6	1 mm	197/1R67D6	1 mm	197/1R82D6	1 mm	197/1R96D6	1 mm	197/1R112D6	1 mm	197/1R130D6	1 mm	197/1R150D6	1 mm	197/1R175D6	1 mm	197/1R190D6	1 mm	6	152-6	●
8					◆ 198AR16D8	1,5 mm	◆ 198AR20D8	1,5 mm	◆ 198AR26D8	1,2 mm	◆ 198AR30D8	1,2 mm	190R36D8	1 mm	197/1R40D8	1 mm	197/1R46D8	1 mm	197/1R56D8	1 mm	197/1R67D8	1 mm	197/1R82D8	1 mm	197/1R96D8	1 mm	197/1R112D8	1 mm	197/1R130D8	1 mm	197/1R150D8	1 mm	197/1R175D8	1 mm	197/1R190D8	1 mm	8	152-8	●
10							◆ 198AR20D10	1,5 mm	◆ 198AR26D10	1,5 mm	◆ 198AR30D10	1,2 mm	190R36D10	1 mm	197/1R40D10	1 mm	197/1R46D10	1 mm	197/1R56D10	1 mm	197/1R67D10	1 mm	197/1R82D10	1 mm	197/1R96D10	1 mm	197/1R112D10	1 mm	197/1R130D10	1 mm	197/1R150D10	1 mm	197/1R175D10	1 mm	197/1R190D10	1 mm	10	152-10	●
12									◆ 198AR2612	1,5 mm	◆ 198AR30D12	1,5 mm	190R36D12	1 mm	197/1R40D12	1 mm	197/1R46D12	1 mm	197/1R56D12	1 mm	197/1R67D12	1 mm	197/1R82D12	1 mm	197/1R96D12	1 mm	197/1R112D12	1 mm	197/1R130D12	1 mm	197/1R150D12	1 mm	197/1R175D12	1 mm	197/1R190D12	1 mm	12	152-12	152P-12
13									◆ 198AR2613	1,5 mm	◆ 198AR30D13	1,5 mm	190R36D13	1 mm	190R40D13	1 mm	197/1R46D13	1 mm	197/1R56D13	1 mm	197/1R67D13	1 mm	197/1R82D13	1 mm	197/1R96D13	1 mm	197/1R112D13	1 mm	197/1R130D13	1 mm	197/1R150D13	1 mm	197/1R175D13	1 mm	197/1R190D13	1 mm	13	152-13	152P-13
14											◆ 198AR30D14	2 mm	190R36D14	1,5 mm	190R40D14	1,5 mm	197/1R46D14	1 mm	197/1R56D14	1 mm	197/1R67D14	1 mm	197/1R82D14	1 mm	197/1R96D14	1 mm	197/1R112D14	1 mm	197/1R130D14	1 mm	197/1R150D14	1 mm	197/1R175D14	1 mm	197/1R190D14	1 mm	14	152-14	152P-14
15											◆ 198AR30D15	2 mm	190R36D15	1,5 mm	197/1R40D15	1,5 mm	190R46D15	1 mm	197/1R56D15	1 mm	197/1R67D15	1 mm	197/1R82D15	1 mm	197/1R96D15	1 mm	197/1R112D15	1 mm	197/1R130D15	1 mm	197/1R150D15	1 mm	197/1R175D15	1 mm	197/1R190D15	1 mm	15	152-15	152P-15
16													151R36D16	2 mm	197/1R40D16	1,5 mm	190R46D16	1 mm	197/1R56D16	1 mm	197/1R67D16	1 mm	197/1R82D16	1 mm	197/1R96D16	1 mm	197/1R112D16	1 mm	197/1R130D16	1 mm	197/1R150D16	1 mm	197/1R175D16	1 mm	197/1R190D16	1 mm	16	152-16	152P-16
18													151R36D18	1,5 mm	197/1R40D18	1,5 mm	197/1R46D18	1,5 mm	190R56D18	1 mm	197/1R67D18	1 mm	197/1R82D18	1 mm	197/1R96D18	1 mm	197/1R112D18	1 mm	197/1R130D18	1 mm	197/1R150D18	1 mm	197/1R175D18	1 mm	197/1R190D18	1 mm	18	152-18	152P-18
19													151R36D19	2,5 mm	198BR40D19	2,5 mm	151R46D19	2 mm	197/1R56D19	1,5 mm	190R67D19	1 mm	197/1R82D19	1 mm	197/1R96D19	1 mm	197/1R112D19	1 mm	197/1R130D19	1 mm	197/1R150D19	1 mm	197/1R175D19	1 mm	197/1R190D19	1 mm	19	152-19	152P-19
20																	151R46D20	2 mm	190R56D20	1,5 mm	190R67D20	1 mm	197/1R82D20	1 mm	197/1R96D20	1 mm	197/1R112D20	1 mm	197/1R130D20	1 mm	197/1R150D20	1 mm	197/1R175D20	1 mm	197/1R190D20	1 mm	20	152-20	152P-20
22																	151R46D22	2 mm	151R56D22	1,5 mm	190R67D22	1,2 mm	197/1R82D22	1 mm	197/1R96D22	1 mm	197/1R112D22	1 mm	197/1R130D22	1 mm	197/1R150D22	1 mm	197/1R175D22	1 mm	197/1R190D22	1 mm	22	152-22	152P-22
24																					151R67D24	2 mm	151R82D24	2 mm	197/1R96D24	1,5 mm	197/1R112D24	1 mm	197/1R130D24	1 mm	197/1R150D24	1 mm	197/1R175D24	1 mm	197/1R190D24	1 mm	24	152-24	●
25																					151R67D25	2 mm	151R82D25	2 mm	197/1R96D25	1,5 mm	197/1R112D25	1 mm	197/1R130D25	1 mm	197/1R150D25	1 mm	197/1R175D25	1 mm	197/1R190D25	1 mm	25	152-25	●
26																							151R82D26	2 mm	197/1R96D26	1,5 mm	197/1R112D26	1 mm	197/1R130D26	1 mm	197/1R150D26	1 mm	197/1R175D26	1 mm	197/1R190D26	1 mm	26	152-26	●
28																							151R82D28	3 mm	198ER96D28	2 mm	197/1R112D28	1,5 mm	197/1R130D28	1 mm	197/1R150D28	1 mm	197/1R175D28	1 mm			28	152-28	●
30																									198ER96D30	2,5 mm	151R112D30	2 mm	197/1R130D30	1 mm							30	152-30	●
32																									198ER96D32	2,5 mm	151R112D32	2 mm	197/1R130D32	1 mm							32	152-32	●
35																													197/1R130D35	1 mm							35	152-35	●
38																													ONLY HARD COPPER 197/1R130D38	1,5 mm							38	152-38	●
40																													ONLY HARD COPPER 197/1R130D40	1,5 mm							40	152-40	●
42																													ONLY HARD COPPER 197/1R130D42	1,5 mm							42	152-42	●

MEDI BENDER® 071 — MINI BENDER® 092 — MEDI BENDER® 070 — MEDI BENDER® 083

THE RADII GIVEN GUARANTEE EXCELLENT BEND QUALITY. IN SOME CASES, DEPENDING ON THE MATERIAL, SLIGHTLY SMALLER RADII MAY BE POSSIBLE - PLEASE ASK YOUR AUTHORISED NCML DEALER.

N.B. ONLY USE ALUMINIUM FORMERS (Art. 190 - 197/1) FOR A MAXIMUM TUBE WALL THICKNESS OF 1.5 mm. FOR WALL THICKNESSES OVER 1.5 mm USE ONLY STEEL FORMERS ART. 151 OR 156. STEEL FORMERS ARE NOT AVAILABLE FOR RADII 40-96-130-150-175-190

N.B.: COUNTERBENDING DIES FOR HARD COPPER: THIS MATERIAL IS PARTICULARLY DIFFICULT TO BEND. USE SPECIAL BRASS COUNTERBENDING DIES Art. 152/1 from 5 to 42 mm.

151 SEMI-STANDARD STEEL FORMERS — **190** STANDARD ALUMINIUM FORMERS — **197/1** SEMI-STANDARD ALUMINIUM FORMERS — **198** SPECIAL STEEL FORMERS ON REQUEST — ● ON REQUEST — ◆ ONLY FOR MEDI BENDER® 071 & MINI BENDER® 092

TABLE 7 FORMER AND COUNTERBENDING DIE CODES

ST 37 STEEL OR SIMILAR

FOR MACHINES: MEDI BENDER® 070 MEDI BENDER® 071 MEDI BENDER® 083 MINI BENDER® 092

SIZES in O.D. inches- GAS inches

NOTE: MAXIMUM RADII		WITH COUNTERBENDING DIE	WITH ROLL
MEDI BENDER® 070/071/083	=	R140 *	R175
MINI BENDER® 092	=	R190**	——

*: WITH MAX Ø 40 **: WITH MAX Ø 50

N.B. ROLL ART. 084B MUST BE USED INSTEAD OF COUNTERBENDING DIE FOR ALL TUBES HAVING A WALL THICKNESS OVER 3,5mm

TUBE Ø	Bending Radius 0.4"(R12)	Min. Thickness	Bending Radius 0.6"(R16)	Min. Thickness	Bending Radius 0.7"(R20)	Min. Thickness	Bending Radius 1.0"(R26)	Min. Thickness	Bending Radius 1.1"(R30)	Min. Thickness	Bending Radius 1.4"(R36)	Min. Thickness	Bending Radius 1.5"(R40)	Min. Thickness	Bending Radius 1.8"(R46)	Min. Thickness	Bending Radius 2.2"(R56)	Min. Thickness	Bending Radius 2.6"(R67)	Min. Thickness	Bending Radius 3.2"(R82)	Min. Thickness	Bending Radius 3.7"(R96)	Min. Thickness	Bending Radius 4.4"(R112)	Min. Thickness	Bending Radius 5.1"(R130)	Min. Thickness	Bending Radius 5.9"(R150)	Min. Thickness	Bending Radius 6.8"(R175)	Min. Thickness	Bending Radius 7.4"(R190)	Spess. Thickness	TUBE Ø	COUNTERBENDING DIES BRASS	PLASTIC
1/4"Ø-6,35	◆ 198AR12D1/4" O.D.	0,049" 1,2 mm	◆ 198AR16D1/4" O.D.	0,049" 1,2 mm	◆ 198AR20D1/4" O.D.	0,049" 1,2 mm	◆ 198AR26D1/4" O.D.	0,049" 1,2 mm	◆ 198AR30D1/4" O.D.	0,049" 1,2 mm	193R36D1/4"	0,035" 1 mm	197/1R40D1/4" O.D.	0,035" 1 mm	197/1R46D1/4" O.D.	0,035" 1 mm	197/1R56D1/4" O.D.	0,035" 1 mm	197/1R67D1/4" O.D.	0,035" 1 mm	197/1R82D1/4" O.D.	0,035" 1 mm	197/1R96D1/4" O.D.	0,035" 1 mm	197/1R112D1/4" O.D.	0,035" 1 mm	197/1R130D1/4" O.D.	0,035" 1 mm	197/1R150D1/4" O.D.	0,035" 1 mm	197/1R175D1/4" O.D.	0,035" 1 mm	197/1R190D1/4" O.D.	0,035" 1 mm	1/4"Ø-6,30	154-1/4"	●
3/8"Ø-9,52					◆ 198AR20D3/8" O.D.	0,065" 1,5 mm	◆ 198AR26D3/8" O.D.	0,065" 1,5 mm	◆ 198AR30D3/8" O.D.	0,065" 1,5 mm	193R36D3/8"	0,035" 1 mm	197/1R40D3/8" O.D.	0,035" 1 mm	197/1R46D3/8" O.D.	0,035" 1 mm	197/1R56D3/8" O.D.	0,035" 1 mm	197/1R67D3/8" O.D.	0,035" 1 mm	197/1R82D3/8" O.D.	0,035" 1 mm	197/1R96D3/8" O.D.	0,035" 1 mm	197/1R112D3/8" O.D.	0,035" 1 mm	197/1R130D3/8" O.D.	0,035" 1 mm	197/1R150D3/8" O.D.	0,035" 1 mm	197/1R175D3/8" O.D.	0,035" 1 mm	197/1R190D3/8" O.D.	0,035" 1 mm	3/8"Ø-9,52	154-3/8"	●
1/2"Ø-12,70							◆ 198AR26D1/2" O.D.	0,065" 1,5 mm	◆ 198AR30D1/2" O.D.	0,065" 1,5 mm	197/1R36D1/2" O.D.	0,065" 1,5 mm	193R40D1/2"	0,035" 1 mm	197/1R46D1/2" O.D.	0,035" 1 mm	197/1R56D1/2" O.D.	0,035" 1 mm	197/1R67D1/2" O.D.	0,035" 1 mm	197/1R82D1/2" O.D.	0,035" 1 mm	197/1R96D1/2" O.D.	0,035" 1 mm	197/1R112D1/2" O.D.	0,035" 1 mm	197/1R130D1/2" O.D.	0,035" 1 mm	197/1R150D1/2" O.D.	0,035" 1 mm	197/1R175D1/2" O.D.	0,035" 1 mm	197/1R190D1/2" O.D.	0,035" 1 mm	1/2"Ø-12,70	154-1/2"	154P-1/2"
5/8"Ø-15,88											153R36D5/8"	0,072" 2 mm	197/1R40D5/8"	0,072" 2 mm	193R46D5/8"	0,035" 1 mm	197/1R56D5/8" O.D.	0,035" 1 mm	197/1R67D5/8" O.D.	0,035" 1 mm	197/1R82D5/8" O.D.	0,035" 1 mm	197/1R96D5/8" O.D.	0,035" 1 mm	197/1R112D5/8" O.D.	0,035" 1 mm	197/1R130D5/8" O.D.	0,035" 1 mm	197/1R150D5/8" O.D.	0,035" 1 mm	197/1R175D5/8" O.D.	0,035" 1 mm	197/1R190D5/8" O.D.	0,035" 1 mm	5/8"Ø-15,88	154-5/8"	154P-5/8"
3/4"Ø-19,05															153R46D3/4"	0,095" 2,5 mm	197/1R56D3/4" O.D.	0,072" 2 mm	193R67D3/4"	0,035" 1 mm	197/1R82D3/4" O.D.	0,035" 1 mm	197/1R96D3/4" O.D.	0,035" 1 mm	197/1R112D3/4" O.D.	0,035" 1 mm	197/1R130D3/4" O.D.	0,035" 1 mm	197/1R150D3/4" O.D.	0,035" 1 mm	197/1R175D3/4" O.D.	0,035" 1 mm	197/1R190D3/4" O.D.	0,035" 1 mm	3/4"Ø-19,05	154-3/4"	154P-3/4"
7/8"Ø-22,22															153R46D7/8"	0,120" 3 mm	153R56D7/8"	0,095" 2,5 mm	193R67D7/8"	0,035" 1 mm	197/1R82D7/8" O.D.	0,035" 1 mm	197/1R96D7/8" O.D.	0,035" 1 mm	197/1R112D7/8" O.D.	0,035" 1 mm	197/1R130D7/8" O.D.	0,035" 1 mm	197/1R150D7/8" O.D.	0,035" 1 mm	197/1R175D7/8" O.D.	0,035" 1 mm	197/1R190D7/8" O.D.	0,035" 1 mm	7/8"Ø-22,22	154-7/8"	154P-7/8"
1"Ø-25,40																	153R56D1"	0,095" 2,5 mm	153R67D1"	0,072" 2 mm	193R82D1"	0,035" 1 mm	197/1R96D1" O.D.	0,035" 1 mm	197/1R112D1" O.D.	0,035" 1 mm	197/1R130D1" O.D.	0,035" 1 mm	197/1R150D1" O.D.	0,035" 1 mm	197/1R175D1" O.D.	0,035" 1 mm	197/1R190D1"	0,035" 1 mm	1"Ø-25,40	154-1"	●
1 1/8"Ø-28,58																	153R56D1 1/8"	0,095" 2,5 mm	153R67D1 1/8"	0,095" 2,5 mm	153R82D1 1/8"	0,072" 2 mm	193R96D1 1/8"	0,035" 1 mm	197/1R112D1 1/8" O.D.	0,035" 1 mm	197/1R130D11/8" O.D.	0,035" 1 mm	197/1R150D11/8" O.D.	0,035" 1 mm	197/1R175D1 1/8" O.D.	0,035" 1 mm	197/1R190D1 1/8" O.D.	0,035" 1 mm	1 1/8"Ø-28,58	154-1 1/8"	●
1 1/4"Ø-31,75																					153R82D1 1/4"	0,072" 2 mm	197/1R96D1 1/4" O.D.	0,072" 2 mm	193R112D1 1/4"	0,035" 1 mm	197/1R130D1 1/4" O.D.	0,035" 1 mm							1 1/4"Ø-31,75	154-1 1/4"	●
1 3/8"Ø-34,92																					153R82D1 3/8"	0,095" 2,5 mm	197/1R96D1 3/8" O.D.	0,072" 2 mm	197/1R112D1 3/8" O.D.	0,049" 1,2 mm	197/1R130D1 3/8" O.D.	0,049" 1,2 mm							1 3/8"Ø-34,92	154-1 3/8"	●
1 1/2"Ø-38,10																											ONLY COPPER 193R130D1 1/2"	0,049" 1,2 mm							1 1/2"Ø-38,10	154-1 3/8"	●
1 5/8"Ø-41,28																											ONLY COPPER 193R130D1 5/8"	0,065" 1,5 mm							1 5/8"Ø-41,28	154-1 5/8"	●

MEDI BENDER® 071 · MINI BENDER® 092 · MEDI BENDER® 070 · MEDI BENDER® 083

153 STANDARD STEEL FORMERS

193 STANDARD ALUMINIUM FORMERS

197/1 SEMI-STANDARD ALUMINIUM FORMERS

198 SPECIAL STEEL FORMERS ON REQUEST

● ON REQUEST

◆ ONLY FOR MEDI BENDER® 071 & MINI BENDER® 092

153/1 STANDARD STEEL FORMERS IN GAS INCHES

193/1 STANDARD ALUMINIUM DIES IN GAS INCHES

TUBE Ø	Bending Radius 0.4"(R12)	Min. Thickness	Bending Radius 0.6"(R16)	Min. Thickness	Bending Radius 0.7"(R20)	Min. Thickness	Bending Radius 1.0"(R26)	Min. Thickness	Bending Radius 1.1"(R30)	Min. Thickness	Bending Radius 1.4"(R36)	Min. Thickness	Bending Radius 1.5"(R40)	Min. Thickness	Bending Radius 1.8"(R46)	Min. Thickness	Bending Radius 2.2"(R56)	Min. Thickness	Bending Radius 2.6"(R67)	Min. Thickness	Bending Radius 3.2"(R82)	Spess Thickness	Bending Radius 3.7"(R96)	Spess. Thickness	Bending Radius 4.4"(R112)	Spess. Thickness	Bending Radius 5.1"(R130)	Spess. Thickness	Bending Radius 5.9"(R150)	Spess. Thickness	Bending Radius 6.8"(R175)	Spess Thickness	Bending Radius 7.4"(R190)	Spess. Thickness	TUBO Ø	COUNTERBENDING DIES OTTONE	PLASTICA
1/4"G-12,25											153/1R36D1/4"	0,095" 2,5 mm	193/1R40D1/4"	0,035" 1 mm	197/1R46D1/4"G	0,035" 1 mm	197/1R56D1/4"G	0,035" 1 mm	197/1R67D1/4"G	0,035" 1 mm	197/1R82D1/4"G	0,035" 1 mm	197/1R96D1/4"G	0,035" 1 mm	197/1R112D1/4"G	0,035" 1 mm	197/1R130D1/4"G	0,035" 1 mm	197/1R150D1/4"G	0,035" 1 mm	197/1R175D1/4"G	0,035" 1 mm	197/1R190D1/4"G	0,035" 1 mm	1/4"G-13,25	155-1/4"	●
3/8"G-17,20											153/1R36D3/8"	0,072" 2 mm	193/1R40D3/8"	0,035" 1 mm	197/1R46D3/8"G	0,035" 1 mm	197/1R56D3/8"G	0,035" 1 mm	197/1R67D3/8"G	0,035" 1 mm	197/1R82D3/8"G	0,035" 1 mm	197/1R96D3/8"G	0,035" 1 mm	197/1R112D3/8"G	0,035" 1 mm	197/1R130D3/8"G	0,035" 1 mm	197/1R150D3/8"G	0,035" 1 mm	197/1R175D3/8"G	0,035" 1 mm	197/1R190D3/8"G	0,035" 1 mm	3/8"G-17,20	155-3/8"	●
1/2"G-21,30															153/1R46D1/2"	0,095" 2,5 mm	153R56D1/2"	0,072" 2 mm	193/1R67D1/2"	0,035" 1 mm	197/1R82D1/2"G	0,035" 1 mm	197/1R96D1/2"G	0,035" 1 mm	197/1R112D1/2"G	0,035" 1 mm	197/1R130D1/2"G	0,035" 1 mm	197/1R150D1/2"G	0,035" 1 mm	197/1R175D1/2"G	0,035" 1 mm	197/1R190D1/2"G	0,035" 1 mm	1/2"G-21,30	155-1/2"	●
3/4"G-26,90																	153/1R56D3/4"	0,095" 2,5 mm	153/1R67D3/4"	0,095" 2,5 mm	193/1R82D3/4"	0,035" 1 mm	197/1R96D3/4"G	0,035" 1 mm	197/1R112D3/4"G	0,035" 1 mm	197/1R130D3/4"G	0,035" 1 mm	197/1R150D3/4"G	0,035" 1 mm							3/4"G-26,90	155-3/4"	●
1"G-33,70																					153/1R82D1"	0,095" 2,5 mm	197/1R96D1"G	0,072" 2 mm	193/1R112D1"	0,049" 1,2 mm	197/1R130D1"G	0,049" 1,2 mm							1"G-33,70	155-1"	155A1"

MINI BENDER® 092 · MEDI BENDER® 070 · MEDI BENDER® 083

THE INDICATED RADII GUARANTEE EXCELLENT BEND QUALITY. IN SOME CASES, DEPENDING ON THE MATERIAL, SLIGHTLY SMALLER RADII MAY BE POSSIBLE - PLEASE ASK YOUR AUTHORISED NCML DEALER.

N.B. ONLY USE ALUMINIUM FORMERS (Art. 190 - 197/1) FOR A MAXIMUM TUBE WALL THICKNESS OF 1.5 mm. FOR WALL THICKNESSES OVER 1.5 mm USE ONLY STEEL FORMERS ART. 153. Art 153/1 OR 156. STEEL FORMERS ARE NOT AVAILABLE FOR RADII 40-96-130-150-175-190

N.B.: COUNTERBENDING DIES FOR HARD COPPER: THIS MATERIAL IS PARTICULARLY DIFFICULT TO BEND. USE SPECIAL BRASS COUNTERBENDING DIES Art. 152/1 from 5 to 42 mm.

TABLE 8 FORMER AND COUNTERBENDING DIE CODES

FOR MACHINES: MEDI BENDER® 070 / MEDI BENDER® 071 — MEDI BENDER® 083 / MINI BENDER® 092

STAINLESS STEEL, HARD COPPER AND SIMILAR

SIZES: O.D. inches - GAS inches

NOTE: MAXIMUM RADII	WITH COUNTERBENDING DIE	WITH ROLL
MEDI BENDER® 070/071/083	= R140 *	R175
MINI BENDER® 092	= R190**	R210

*: WITH MAX Ø 40 **: WITH MAX Ø 50

N.B. ROLL ART. 084B MUST BE USED INSTEAD OF COUNTERBENDING DIE FOR ALL TUBES HAVING A WALL THICKNESS OVER 3,5mm

RADII MEASURED AT CENTRE OF BEND

TUBE Ø	Bending Radius 0.4"(R12)	Min. Thickness	Bending Radius 0.6"(R16)	Min. Thickness	Bending Radius 0.7"(R20)	Min. Thickness	Bending Radius 1.0"(R26)	Min. Thickness	Bending Radius 1.1"(R30)	Min. Thickness	Bending Radius 1.4"(R36)	Min. Thickness	Bending Radius 1.5"(R40)	Min. Thickness	Bending Radius 1.8"(R46)	Min. Thickness	Bending Radius 2.2"(R56)	Min. Thickness	Bending Radius 2.6"(R67)	Min. Thickness	Bending Radius 3.2"(R82)	Min. Thickness	Bending Radius 3.7"(R96)	Min. Thickness	Bending Radius 4.4"(R112)	Min. Thickness	Bending Radius 5.1"(R130)	Min. Thickness	Ragg. di Curv. 5.9"(R150)	Min. Thickness	Bending Radius 6.8"(R175)	Min. Thickness	Bending Radius 7.4"(R190)	Min. Thickness	TUBE Ø	COUNTERBENDING DIES BRASS	PLASTIC
1/4"Ø-6,30	◆ 198AR12D1/4" O.D.	0,065" 1,5 mm	◆ 198AR16D1/4" O.D.	0,049" 1,2 mm	◆ 198AR20D1/4" O.D.	0,049" 1,2 mm	◆ 198AR26D1/4" O.D.	0,049" 1,2 mm	◆ 198AR30D1/4" O.D.	0,049" 1,2 mm	193R36D1/4"	0,035" 1 mm	197/1R40D1/4" O.D.	0,035" 1 mm	197/1R46D1/4" O.D.	0,035" 1 mm	197/1R56D1/4" O.D.	0,035" 1 mm	197/1R67D1/4" O.D.	0,035" 1 mm	197/1R82D1/4" O.D.	0,035" 1 mm	197/1R96D1/4" O.D.	0,035" 1 mm	197/1R112D1/4" O.D.	0,035" 1 mm	197/1R130D1/4" O.D.	0,035" 1 mm	197/1R150D1/4" O.D.	0,035" 1 mm	197/1R175D1/4" O.D.	0,035" 1 mm	197/1R190D1/4" O.D.	0,035" 1 mm	1/4"Ø-6,30	154-1/4"	●
3/8"Ø-9,52					◆ 198AR20D3/8" O.D.	0,065" 1,5 mm	◆ 198AR26D3/8" O.D.	0,065" 1,5 mm	◆ 198AR30D3/8" O.D.	0,049" 1,2 mm	193R36D3/8"	0,035" 1 mm	197/1R40D3/8" O.D.	0,035" 1 mm	197/1R46D3/8" O.D.	0,035" 1 mm	197/1R56D3/8" O.D.	0,035" 1 mm	197/1R67D3/8" O.D.	0,035" 1 mm	197/1R82D3/8" O.D.	0,035" 1 mm	197/1R96D3/8" O.D.	0,035" 1 mm	197/1R112D3/8" O.D.	0,035" 1 mm	197/1R130D3/8" O.D.	0,035" 1 mm	197/1R150D3/8" O.D.	0,035" 1 mm	197/1R175D3/8" O.D.	0,035" 1 mm	197/1R190D3/8" O.D.	0,035" 1 mm	3/8"Ø-9,52	154-3/8"	●
1/2"Ø-12,70							◆ 198AR26D1/2" O.D.	0,065" 1,5 mm	◆ 198AR30D1/2" O.D.	0,065" 1,5 mm	193R36D1/2" O.D.	0,035" 1 mm	193R40D1/2"	0,035" 1 mm	197/1R46D1/2" O.D.	0,035" 1 mm	197/1R56D1/2" O.D.	0,035" 1 mm	197/1R67D1/2" O.D.	0,035" 1 mm	197/1R82D1/2" O.D.	0,035" 1 mm	197/1R96D1/2" O.D.	0,035" 1 mm	197/1R112D1/2" O.D.	0,035" 1 mm	197/1R130D1/2" O.D.	0,035" 1 mm	197/1R150D1/2" O.D.	0,035" 1 mm	197/1R175D1/2" O.D.	0,035" 1 mm	197/1R190D1/2" O.D.	0,035" 1 mm	1/2"Ø-12,70	154-1/2"	154R-1/2"
5/8"Ø-15,88											153R36D5/8"	0,072" 2 mm	197/1R40D5/8" O.D.	0,065" 1,5 mm	193R46D5/8"	0,035" 1 mm	197/1R56D5/8" O.D.	0,035" 1 mm	197/1R67D5/8" O.D.	0,035" 1 mm	197/1R82D5/8" O.D.	0,035" 1 mm	197/1R96D5/8" O.D.	0,035" 1 mm	197/1R112D5/8" O.D.	0,035" 1 mm	197/1R130D5/8" O.D.	0,035" 1 mm	197/1R150D5/8" O.D.	0,035" 1 mm	197/1R175D5/8" O.D.	0,035" 1 mm	197/1R190D5/8" O.D.	0,035" 1 mm	5/8"Ø-15,88	154-5/8"	154P-5/8"
3/4"Ø-19,05											153R36D3/4"	0,095" 2,5 mm	198BR40D3/4"	0,095" 2,5 mm	153R46D3/4"	0,072" 2 mm	197/1R56D3/4" O.D.	0,065" 1,5 mm	193R67D3/4"	0,035" 1 mm	197/1R82D3/4" O.D.	0,035" 1 mm	197/1R96D3/4" O.D.	0,035" 1 mm	197/1R112D3/4" O.D.	0,035" 1 mm	197/1R130D3/4" O.D.	0,035" 1 mm	197/1R150D3/4" O.D.	0,035" 1 mm	197/1R175D3/4" O.D.	0,035" 1 mm	197/1R190D3/4" O.D.	0,035" 1 mm	3/4"Ø-19,05	154-3/4"	154P-3/4"
7/8"Ø-22,22															1536R46D7/8"	0,072" 2 mm	197/1R56D7/8" O.D.	0,065" 1,5 mm	193R67D7/8"	0,049" 1,2 mm	197/1R82D7/8" O.D.	0,035" 1 mm	197/1R96D7/8" O.D.	0,035" 1 mm	197/1R112D7/8" O.D.	0,035" 1 mm	197/1R130D7/8" O.D.	0,035" 1 mm	197/1R150D7/8" O.D.	0,035" 1 mm	197/1R175D7/8" O.D.	0,035" 1 mm	197/1R190D7/8" O.D.	0,035" 1 mm	7/8"Ø-22,22	154-7/8"	154P-7/8"
1"Ø-25,40																					153R82D1"	0,072" 2 mm	197/1R96D1" O.D.	0,065" 1,5 mm	197/1R112D1" O.D.	0,035" 1 mm	197/1R130D1" O.D.	0,035" 1 mm	197/1R150D1" O.D.	0,035" 1 mm	197/1R175D1" O.D.	0,035" 1 mm	197/1R190D1" O.D.	0,035" 1 mm	1"Ø-25,40	154-1"	●
1 1/8"Ø-28,58																					153R82D1 1/8"	0,095" 2,5 mm	197/1R96D1 1/8" O.D.	0,072" 2 mm	197/1R112D11/8" O.D.	0,035" 1 mm	197/1R130D11/8" O.D.	0,035" 1 mm	197/1R150D11/8" O.D.	0,035" 1 mm	197/1R175D11/8" O.D.	0,035" 1 mm	197/1R190D11/8" O.D.	0,035" 1 mm	1 1/8"Ø-28,58	154-1 1/8"	●
1 1/4"Ø-31,75																									153R112D1 1/4"	0,065" 1,5 mm	197/1R130D1 1/4" O.D.	0,035" 1 mm							1 1/4"Ø-31,75	154-1 1/4"	●
1 3/8"Ø-34,93																											197/1R130D1 3/8" O.D.	0,065" 1,5 mm							1 3/8"Ø-34,93	154-1 3/8"	●
1 1/2"Ø-38,10																											ONLY HARD COPPER 197/1R130D1 1/2" O.D.	0,065" 1,5 mm							1 1/2"Ø-38,10	154-1 3/8"	●
1 5/8"Ø-41,28																											ONLY HARD COPPER 197/1R130D1 5/8" O.D.	0,065" 1,5 mm							1 5/8"Ø-41,28	154-1 5/8"	●

MEDI BENDER® 071 — MINI BENDER® 092 — MEDI BENDER® 070 — MEDI BENDER® 083

153 STANDARD STEEL FORMERS — **156** SEMI STANDARD STEEL FORMERS — **193** STANDARD ALLUMINIUM FORMERS — **197/1** SEMI-STANDARD ALLUMINIUM FORMERS — **198** SPECIAL STEEL FORMERS ON SPECIAL REQUEST — ● ON SPECIAL REQUEST — ◆ ONLY FOR MEDI BENDER® 071 & MINI BENDER® 092

153/1 STANDARD STEEL FORMERS IN GAS INCHES — **193/1** STANDARD ALLUMINIUM FORMERS IN GAS INCHES

TUBE Ø	Bending Radius 0.4"(R12)	Min. Thickness	Bending Radius 0.6"(R16)	Min. Thickness	Bending Radius 0.7"(R20)	Min. Thickness	Bending Radius 1.0"(R26)	Min. Thickness	Bending Radius 1.1"(R30)	Min. Thickness	Bending Radius 1.4"(R36)	Min. Thickness	Bending Radius 1.5"(R40)	Min. Thickness	Bending Radius 1.8"(R46)	Min. Thickness	Bending Radius 2.2"(R56)	Min. Thickness	Bending Radius 2.6"(R67)	Min. Thickness	Bending Radius 3.2"(R82)	Min. Thickness	Bending Radius 3.7"(R96)	Min. Thickness	Bending Radius 4.4"(R112)	Min. Thickness	Bending Radius 5.1"(R130)	Min. Thickness	Ragg. di Curv. 5.9"(R150)	Min. Thickness	Bending Radius 6.8"(R175)	Min. Thickness	Bending Radius 7.4"(R190)	Min. Thickness	TUBE Ø	COUNTERBENDING DIES BRASS	PLASTIC
1/4"G-13,25							◆ 198AR26D1/4"G	0,065" 1,5 mm	◆ 198AR30D1/4"G	0,065" 1,5 mm	193/1R36D1/4"	0,035" 1 mm	193/1R40D1/4"	0,035" 1 mm	197/1R46D1/4"G	0,035" 1 mm	197/1R56D1/4"G	0,035" 1 mm	197/1R67D1/4"G	0,035" 1 mm	197/1R82D1/4"G	0,035" 1 mm	197/1R96D1/4"G	0,035" 1 mm	197/1R112D1/4"G	0,035" 1 mm	197/1R130D1/4"G	0,035" 1 mm	197/1R150D1/4"G	0,035" 1 mm	197/1R175D1/4"G	0,035" 1 mm	197/1R190D1/4"G	0,035" 1 mm	1/4"G-13,25	155-1/4"	●
3/8"G-17,20											153/1R36D3/8"	0,065" 1,5 mm	193/1R40D3/8"	0,035" 1 mm	197/1R46D3/8"G	0,065" 1,5 mm	197/1R56D3/8"G	0,035" 1 mm	197/1R67D3/8"G	0,035" 1 mm	197/1R82D3/8"G	0,035" 1 mm	197/1R96D3/8"G	0,035" 1 mm	197/1R112D3/8"G	0,035" 1 mm	197/1R130D3/8"G	0,035" 1 mm	197/1R150D3/8"G	0,035" 1 mm	197/1R175D3/8"G	0,035" 1 mm	197/1R190D3/8"G	0,035" 1 mm	3/8"G-17,20	155-3/8"	●
1/2"G-21,30															153/1R46D1/2"	0,072" 2 mm	197/1R56D1/2"G	0,065" 1,5 mm	193/1R67D1/2"	0,049" 1,2 mm	197/1R82D1/2"G	0,049" 1,2 mm	197/1R96D1/2"G	0,049" 1,2 mm	197/1R112D1/2"G	0,049" 1,2 mm	197/1R130D1/2"G	0,049" 1,2 mm	197/1R150D1/2"G	0,049" 1,2 mm	197/1R175D1/2"G	0,049" 1,2 mm	197/1R190D1/2"G	0,049" 1,2 mm	1/2"G-21,30	155-1/2"	●
3/4"G-26,90																					153/1R82D3/4"	0,120" 3 mm	197/1R96D3/4"G	0,072" 2 mm	197/1R112D3/4"G	0,065" 1,5 mm	197/1R130D3/4"G	0,035" 1 mm	197/1R150D3/4"G	0,035" 1 mm					3/4"G-26,90	155-3/4"	●
1"G-33,70																									193/1R112D1"	0,072" 2 mm	197/1R130D1"G	0,035" 1 mm							1"G-33,70	155-1"	●

MINI BENDER® 092 — MEDI BENDER® 070 — MEDI BENDER® 083

THE INDICATED RADII GUARANTEE EXCELLENT BEND QUALITY. IN SOME CASES THIS DEPENDS ON MATERIAL, SLIGHTLY SMALLER RADII MAY BE POSSIBLE - PLEASE ASK YOUR AUTHORISED NCML DEALER.

N.B. ONLY USE ALUMINIUM FORMERS (Art. 190 - 197/1) FOR A MAXIMUM TUBE WALL THICKNESS OF 1.5 mm. FOR WALL THICKNESSES OVER 1.5 mm USE ONLY STEEL FORMERS ART. 153. Art 153/1 OR 156. STEEL FORMERS ARE NOT AVAILABLE FOR RADII 40-96-130-150-175-190

N.B.: COUNTERBENDING DIES FOR HARD COPPER: THIS MATERIAL IS PARTICULARLY DIFFICULT TO BEND. USE SPECIAL BRASS COUNTERBENDING DIES Art. 152/1 from 5 to 42 mm.