Best choice.

Bystronic Tools
Our Tools Euro-B

Laser | Bending | Waterjet
bystronic.com

Overview about the icons used in this catalogue


Material / Hardness

max. permitted load


method of tool loading


nature of load

max. box depth

weight

availability / delivery time


clamping type

drawing number (BOSbase reference)

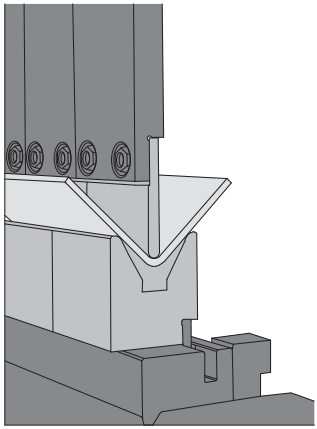

reversible tool


bottom tool support

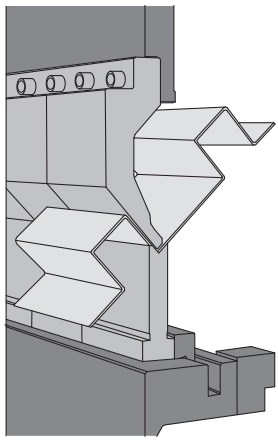
Content

Bystronic bending methods

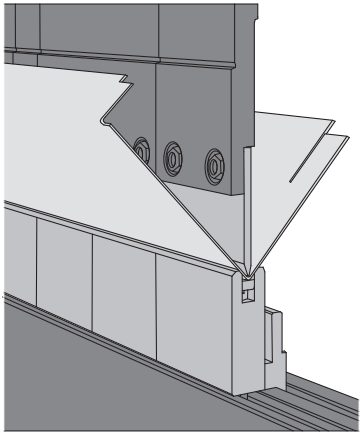
Air bending
For material thicknesses up to 50 mm mild steel



Coining
For material thickenesses up to 3 mm mild steel



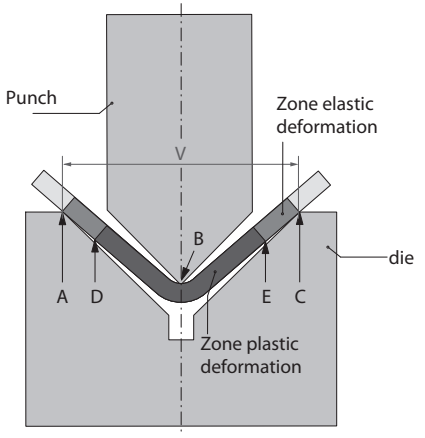
3-point-bending
Up to 12 mm mild steel



Bystronic bending methods

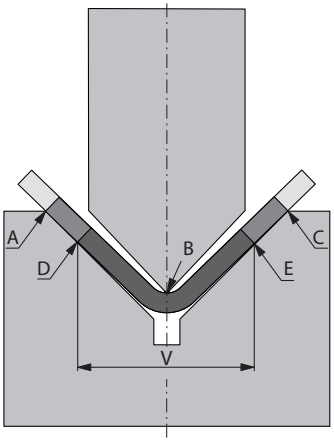
Principle of air bending

With the air bending method the bending angle is determined by the depth of penetration of the upper tool into the lower die. To that effect and amongst other factors the bending accuracy is mainly dependant upon the positional accuracy of the upper beam. Under load the material is stressed from A to C. After removal of the load the portions AD and EC spring back into thier original positions. In the case of ari bending without bottoming the vees of the bottom tool and the angle of the top tool must be smaller than 90°.

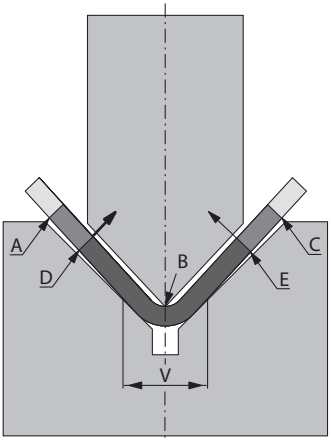


M = bottom tool
R = inner radius
V = buttom tool opening
S = upper tool

Principle of bottoming



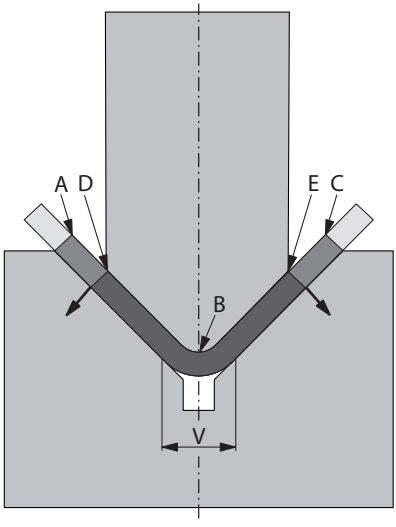
As soon as the areas AD and CE touch the sides of the vee in air bending with bottoming they will spring back into thier original position until the positions of contact have to move to D and E.



A still further penetration of the top tool will result in a disengagement of the points D and Efrom the lower die as the points of contact start to move in the overbending is larger than the spring back of the portion located underneath the points of contact the angle of the section after removal of the load will be smaller than the angle of the vee..

Principle of coining

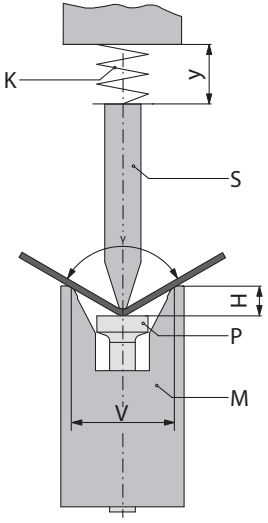
A further penetration of the top tool will result in a reopening of the section D and E until the top tool completely bottoms out on to the material. (start of the coining process).
The variation of the forces versus the travel of the top tool is a function of the material. The bottoming or coining process corresponds to a continous reduction of the die opening (V). The smaller the width of the vee during coining results in a corresponding reduction of spring back in comparison to airbending. The bending forces required are 4 to 8 times greater than those required for air bending.



Bystronic bending methods

Principle of 3-pont-bending

For the 3-point-bending the bottom tool groove depth (H) is accomplished with an accuracy of 1/1000 mm by means of a precise wedge system. With given sheet metal quality, sheet metal characteristics and plate thickness and taking resilience of the part into account, the bend angle to be produced is governed predictably and accurately by bottom tool depth (F). The top tool segments positionated along the bending line thereby adapts to the bending line of the bottom tools. The hydraulic cushion compensates for machine and material related factors.
The 3-point-bending process is something in between air bending and coining and delivers highest accuracy and flexibility. It opens new possibilities in designing and manufacturing of parts.



M = lower die
P = vee pin
H = vee depth
V = vee width
K = hydraulic cushion
S = upper tool

Calculation basics for air bending

Capacity chart for air bending

The given data has been calculated based upon bending material with a tensile strength of Rm = 420 N/mm² over a length of 1 m.

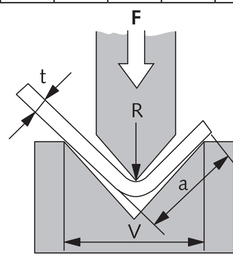
V	6	8	10	12	16	18	20	24	32	40	50	60	80
R	1	1.2	1.6	2	2.5	2.8	3	3.5	5	6	8	9.5	12
t / F	Bending force force in kN/1 m bending length												
a	Minimum flange length in mm												
0.5	25												
	4.3												
0.8	70	48											
	4.6	5.7											
1	115	80	60										
	5	6	7										
1.2		120	90	70									
		6	7.5	8.5									
1.5			150	120									
			8	9									
2.0				235	160	135	120	95					
				10	12	13	14.5	17					
2.5					265	225	200	155	110				
					12.5	14	15.5	17.5	23				
3.0							300	240	165	125			
							15.5	17.5	23.5	28			
4.0									315	235	180		
									25	29	35		
5.0									535	430	310	250	
									26	31	35.5	43	
6.0										610	450	360	
										32	36	44	
8.0											880	690	470
											40	46	57
10													800
													60
12													1200
													62
16													
18													
20													

Sheets with mill scale will increase the bending force by a factor of 1,05–1,1

Calculation basics for air bending

Capacity chart for air bending

100	120	130	140	150	160	180	190	200	230	260	290	320
15.5	19	21	23	24.5	26	28	30	32	36	40	45	50
360												
71												
600	470	430	390									
71	85	92	100									
900	710	650	580	550	500							
73	86	92	100	105	115							
	1400	1250	1150	1050	950	810	800	710	600			
	90	98	105	110	115	130	135	140	160			
			1480	1350	1250	1100	1000	950	800	700	600	
			105	110	120	130	135	140	160	180	205	
						1400	1300	1200	1000	900	850	700
						135	140	145	165	180	205	225



The internal radius R corresponds to approximately 16% of the die opening V.

Recommendation starter kits Euro-B

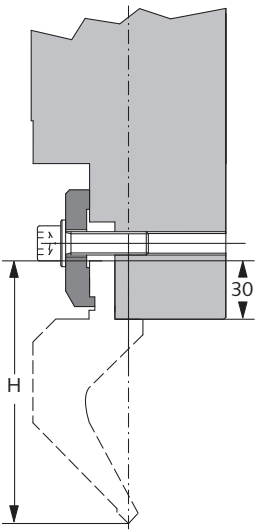
Bend length	Part number	Designation	Pieces	Unit
3100 mm	65035.1012.4003	Punch 1012/35° R=0,8 L=835 EURO-B	3	pieces
	65035.1012.3003	Punch 1012/35° R=0,8 L=835 EURO-B sect	1	piece
	65088.1014.4005	Punch 1014/88° R=0,8 L=835 EURO-B	3	pieces
	65088.1014.3003	Punch 1014/88° R=0,8 L=835 EURO-B sect	1	piece
	64201.0016.5011	Die V16/30° L=515	4	pieces
	64201.0016.1002	Die V16/30° L=1100 sect.FSL	1	piece
4100 mm	65035.1012.4003	Punch 1012/35° R=0,8 L=835 EURO-B	4	pieces
	65035.1012.3003	Punch 1012/35° R=0,8 L=835 EURO-B sect	1	piece
	65088.1014.4005	Punch 1014/88° R=0,8 L=835 EURO-B	4	pieces
	65088.1014.3003	Punch 1014/88° R=0,8 L=835 EURO-B sect	1	piece
	64201.0016.5011	Die V16/30° L=515	6	pieces
	64201.0016.1002	Die V16/30° L=1100 sect.FSL	1	piece

Upper tools Euro-B

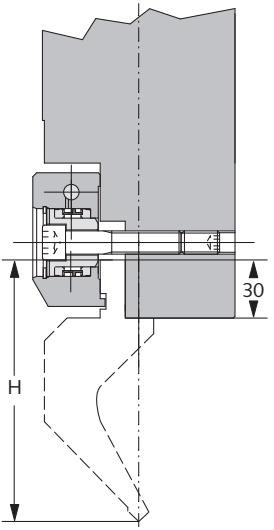
Description upper tools

Clamping Euro B

Euro B mechanical



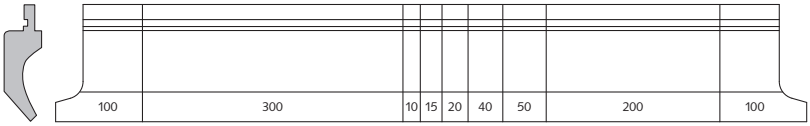
Euro B hydraulic



	≤ 800 kN/m
	sideway insertion
	shoulder supported
	mechanical and hydraulic

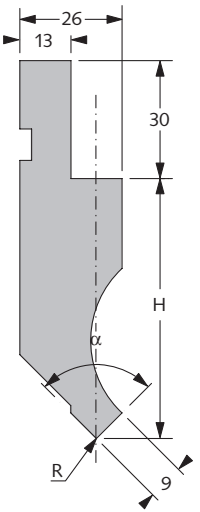
Segmentation of punches

Segmentation 835 mm
(10 / 15 / 20 / 40 / 50 / (2 x 100) / 200 / 300)



Special segmentation available on request.

10.10



[R] Radius (mm)	0.2/0.8/3
Nose Angle	88°
[H] Height (mm)	67/66.7/65.7
[B] Width (mm)	26

C45

54 - 56 HRC

Fmax = 600 kN/m

Sideways insertion

Shoulder supported

13.5 kg/m

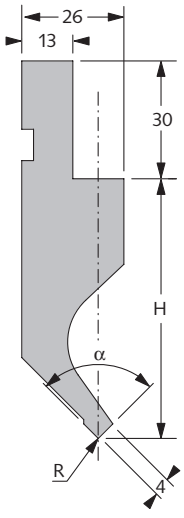
Euro B

21.0 mm

BOS No. IA00041/IA00017/IA00037

Standard length	Part number
415 mm / 835 mm R = 0.2	65088.1010.4008 / 65088.1010.4007
835 mm sect. R = 0.2	65088.1010.3003
415 mm / 835 mm R = 0.8	65088.1010.4002 / 65088.1010.4001
835 mm sect. R = 0.8	65088.1010.3001
415 mm / 835 mm R = 3	65088.1010.4004 / 65088.1010.4003
835 mm sect. R = 3	65088.1010.3002

10.116

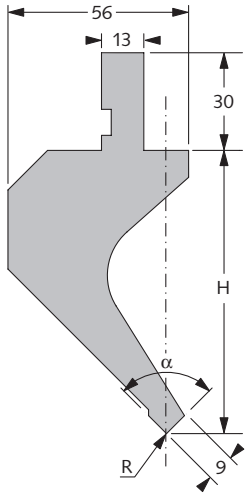


[R] Radius (mm)	0.2
Nose angle	88°/90°
[H] Height (mm)	67
[B] Width (mm)	26

- C45
- 54 - 56 HRC
- Fmax = 200 kN/m
- Sideways insertion
- Shoulder supported
- 12 kg/m
- Euro B
- 21.0 mm
- BOS No. IA00120/IA00122

Standard length	Part number
415 mm 88°	65088.1116.4001
835 mm 88°	65088.1116.4002
835 mm sect. 88°	65088.1116.3001
415 mm 90°	65090.1116.4001
835 mm 90°	65090.1116.4002
835 mm sect. 90°	65090.1116.3001

10.14

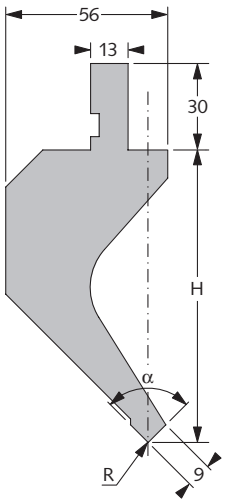


[R] Radius (mm)	0.2/0.8/3
Nose angle	88°
[H] Height (mm)	90/89.7/88.7
[B] Width (mm)	56

- C45
- 54 - 56 HRC
- Fmax = 500 kN/m
- Sideways insertion
- Shoulder supported
- 25 kg/m
- Euro B
- 37.1 mm
- Ex stock / 24 h
- BOS No. IA00069/IA00009/IA00148

Standard length	Part number
415 mm / 835 mm R = 0.2	65088.1014.4009 / 65088.1014.4010
835 mm sect. R = 0.2	65088.1044.3005
415 mm / 835 mm R = 0.8	65088.1014.4006 / 65088.1014.4005
835 mm sect. R = 0.8	65088.1014.3003
415 mm / 835 mm R = 3	65088.1014.4004 / 65088.1014.4003
835 mm sect. R = 3	65088.1014.3002

10.15



C45

54 - 56 HRC

Fmax = 500 kN/m

Sideways insertion

Shoulder supported

26.7 kg/m

Euro B

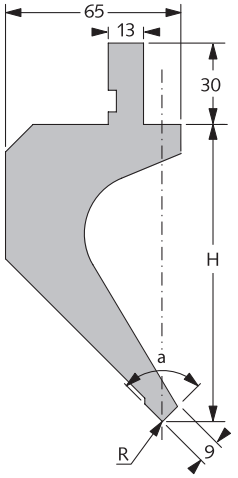
47.6 mm

BOS No. IA00082/IA00033/IA00080

[R] Radius (mm)	0.2/0.8/3
Nose angle	88°
[H] Height (mm)	105/104.7/103.7
[B] Width (mm)	56

Standard length	Part number
415 mm / 835 mm R = 0.2	65088.1015.4013 / 65088.1015.4014
835 mm sect. R = 0.2	65088.1015.3006
415 mm / 835 mm R = 0.8	65088.1015.4004 / 65088.1015.4003
835 mm sect. R = 0.8	65088.1015.3002
415 mm / 835 mm R = 3	65088.1015.4006 / 65088.1015.4005
835 mm sect. R = 3	65088.1015.3003

10.047

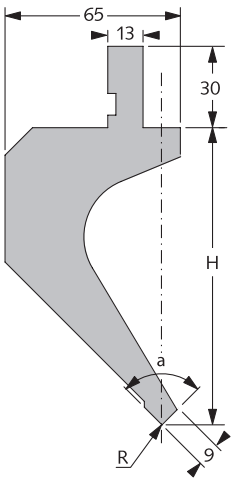


- C45
- 54 - 56 HRC
- Fmax = 500 kN/m
- Sideways insertion
- Shoulder supported
- 31.5 kg/m
- Euro B
- 58.8 mm
- BOS No. IA00104/IA00105

[R] Radius (mm)	0.2/0.8
Nose angle	88°
[H] Height (mm)	120/119.7
[B] Width (mm)	65

Standard length	Part number
415 mm / 835 mm R = 0.2	65088.1047.4004 / 65088.1047.4001
835 mm sect. R = 0.2	65088.1047.3001
415 mm / 835 mm R = 0.8	65088.1047.4005 / 65088.1047.4006
835 mm sect. R = 0.8	65088.1047.3003

10.048

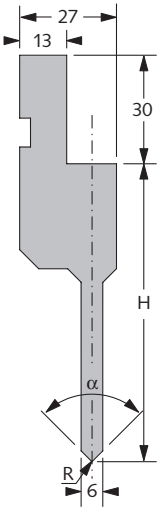


- C45
- 54 - 56 HRC
- Fmax = 500 kN/m
- Sideways insertion
- Shoulder supported
- 31.5 kg/m
- Euro B
- 58.8 mm
- BOS No. IA00100

[R] Radius (mm)	0.2
Nose angle	90°
[H] Height (mm)	120
[B] width (mm)	65

Standard length	Part number
415 mm / 835 mm R = 0.2	65090.1048.4001 / 65090.1048.4002
835 mm sect. R = 0.2	65090.1048.3001
415 mm / 835 mm R = 0.8	65090.1048.4003 / 65090.1048.4004
835 mm sect. R = 0.8	65090.1048.3002

10.109



[R] Radius (mm)	0.2
Nose angle	88°/90°
[H] Height (mm)	95
[B] Width (mm)	27

C45

54 - 56 HRC

Fmax = 500 kN/m

Sideways insertion

Shoulder supported

11.5 kg/m

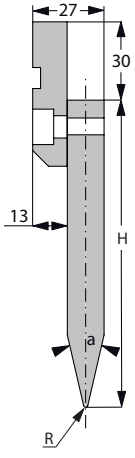
Euro B

42.0 mm

BOS No. IA00443

Standard length	Part number
415 mm 88°	65088.1109.4002
835 mm 88°	65088.1109.4001
835 mm sect. 88°	65088.1109.3010
415 mm 90°	65090.1109.4001
835 mm 90°	65090.1109.4002
835 mm sect. 90°	65090.1109.3001

10.18

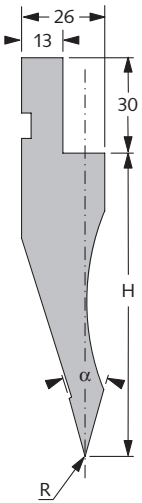


- C45
- 54 - 56 HRC
- Fmax = 500 kN/m
- Sideways insertion
- Shoulder supported
- 16 kg/m
- Euro B
- 57.4 mm
- BOS No. IA00519

[R] Radius (mm)	0.8
Nose angle	26°
[H] Height (mm)	117
[B] Width (mm)	27

Standard length	Part number
415 mm R = 0.8	65026.1018.4002
835 mm R = 0.8	65026.1018.4001
835 mm sect. R = 0.8	65026.1018.3001

10.12

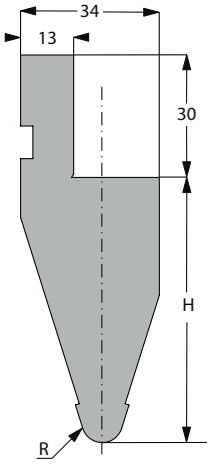


[R] Radius (mm)	0.8
Nose angle	35°/30°
[H] Height (mm)	90
[B] width (mm)	26

- C45
- 54 - 56 HRC
- Fmax = 500 kN/m
- Sideways insertion
- Shoulder supported
- 14.5/14 kg/m
- Euro B
- 38.5 mm
- Ex stock / 24 h
- BOS No. IA00001/IA00050

Standard length	Part number
415 mm 35°	65035.1012.4004
835 mm 35°	65035.1012.4003
835 mm sect. 35°	65035.1012.3003
415 mm 30°	65030.1012.4009
835 mm 30°	65030:1012.4005
835 mm sect. 30°	65030:1012.3003

10.13/35°

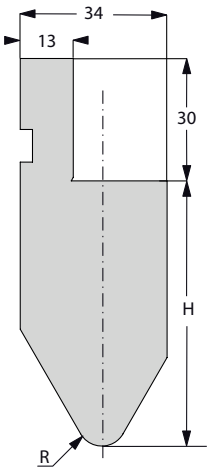


[R] Radius (mm)	5
Nose angle	35°
[H] Height (mm)	65
[B] width (mm)	34

- C45
- 54 - 56 HRC
- Fmax = 800 kN/m
- Sideways insertion
- Shoulder supported
- 15 kg/m
- Euro B
- 21.0 mm
- Ex stock / 24 h
- BOS No. IA00010

Standard length	Part number
415 mm	65035.1013.4002
835 mm	65035.1013.4001
835 mm sect.	65035.1013.3001

10.13/60°



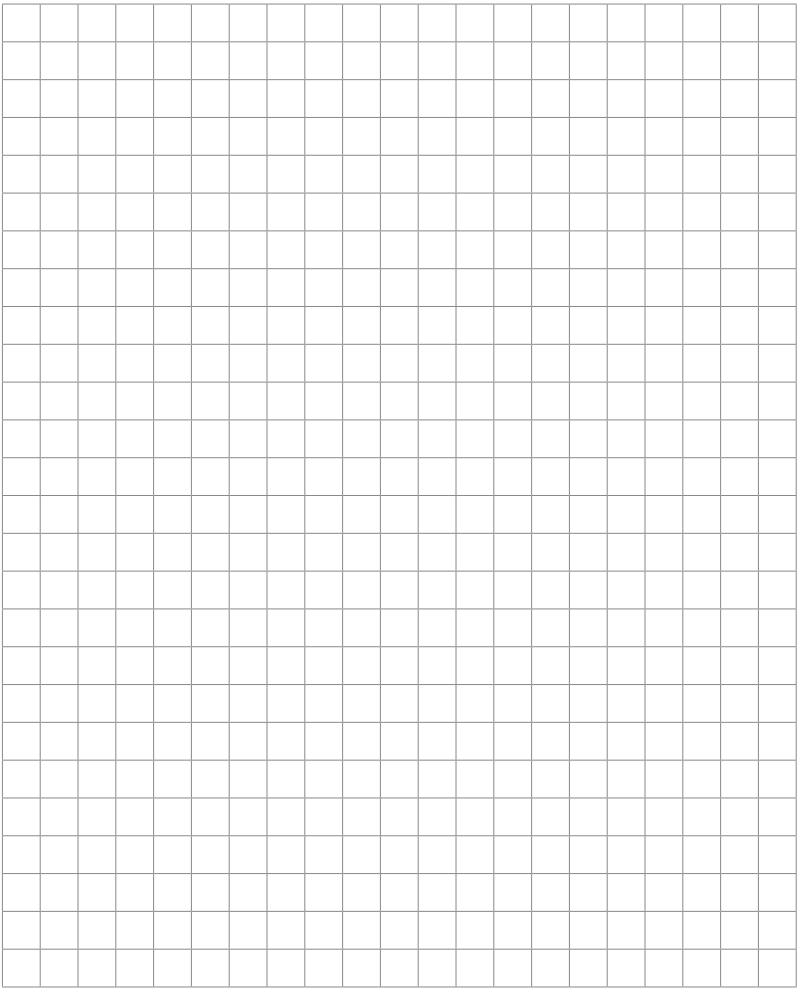
- C45
- 54 - 56 HRC
- Fmax = 800 kN/m
- Sideways insertion
- Shoulder supported
- 16 kg/m
- Euro B
- 21.0 mm
- BOS No. IA00016

[R] Radius (mm)	6
Nose angle	60°
[H] Height (mm)	65
[B] width (mm)	36

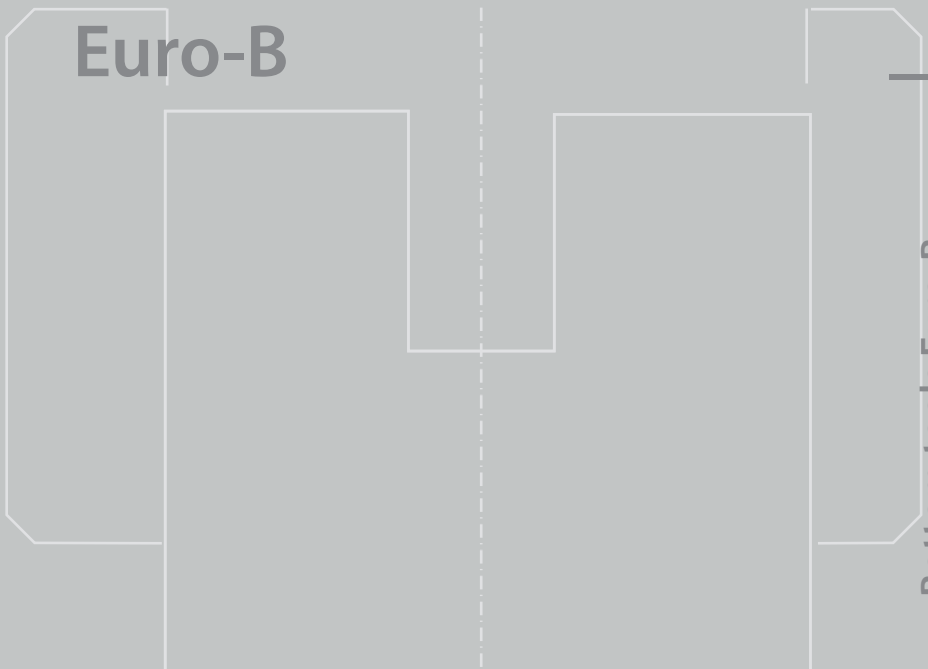
Standard length	Part number
415 mm	65060.1013.4001
835 mm	65060.1013.4003
835 mm sect.	65060.1013.3001

Notes

Notes



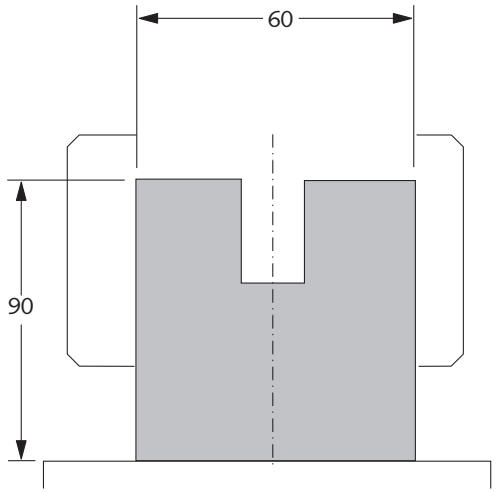
Bottom tools Euro-B



Description of bottom tools

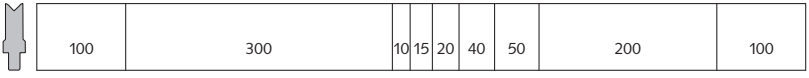
Table T21
(Standard Euro-B)

Can accept both Xpert single vee lower dies and Euro B lower dies.



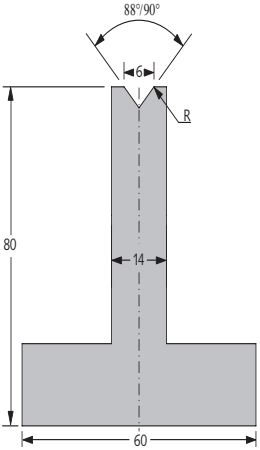
Segmentation of bottom tools

Segmentation 835 mm
(10 / 15 / 20 / 40 / 50 / 2 x 100 / 200 / 300)



Special segmentation available on request.

V 6 Type 20.41/88/90



[R] Radius (mm)	0.5/0.4
V - Angle	88°/90°
[H] Height (mm)	80
[B] Width (mm)	60

Standard length	Part number
415 mm 88°	64060.2041.0004
835 mm 88°	64088.2041.0002
835 mm sect. 88°	64088.2041.0003
415 mm 90°	64090.2041.1001
835 mm 90°	64090.2041.1002
835 mm sect. 90°	64090.2041.0001

C45

54 - 56 HRC

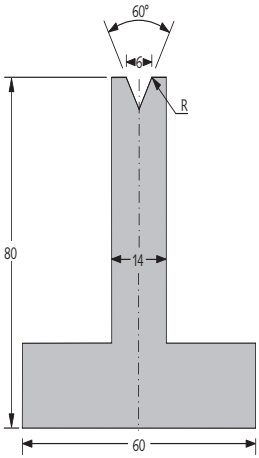
Fmax = 500 kN/m

15.2 kg/m

T - die 60mm

BOS No. IA00182/IA00183

V 6 Type 20.41/60



[R] Radius (mm)	0.5
V - Angle	60°
[H] Height (mm)	80
[B] Width (mm)	60

Standard length	Part number
415 mm 60°	64060.2041.1003
835 mm 60°	64060.2041.1004
835 mm sect. 60°	64060.2041.0001

C45

54 - 56 HRC

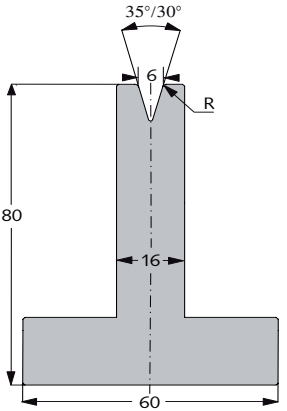
Fmax = 400 kN/m

15 kg/m

T - die 60mm

BOS No. IA00181

V 6 Type 20.41/35/30



[R] Radius (mm)	1
V - Angle	35°/30°
[H] Height (mm)	80
[B] Width (mm)	60

Standard length	Part number
415 mm 35°	64035.2041.1002
835 mm 35°	64035.2041.1003
835 mm sect. 35°	64035.2041.0001
415 mm 30°	64030.2041.1002
835 mm 30°	64030.2041.1001
835 mm sect. 30°	64030.2041.0001

C45

54 - 56 HRC

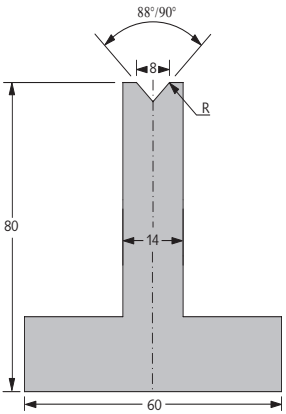
Fmax = 150/200 kN/m

16 kg/m

T - die 60mm

BOS No. IA00180/IA00179

V 8 Type 20.42/88/90



[R] Radius (mm)	0.5
V - Angle	88°/90°
[H] Height (mm)	80
[B] Width (mm)	60

Standard length	Part number
415 mm 88°	64088.2042.1002
835 mm 88°	64088.2042.1003
835 mm sect. 88°	64088.2042.0002
415 mm 90°	64090.2042.1001
835 mm 90°	64090.2042.1002
835 mm sect. 90°	64090.2042.0001

C45

54 - 56 HRC

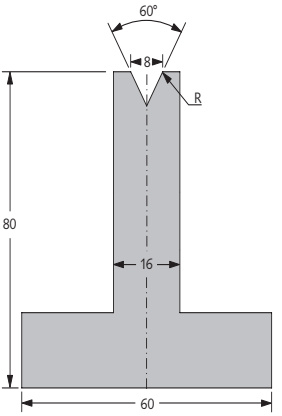
Fmax = 500 kN/m

15.1 kg/m

T - die 60mm

BOS No. IA00187/IA00189

V 8 Type 20.42/60



[R] Radius (mm)	0.8
V - Angle	60°
[H] Height (mm)	80
[B] Width (mm)	60

Standard length	Part number
415 mm 60°	64060.2042.1004
835 mm 60°	64060.2042.1003
835 mm sect. 60°	64060.2042.0001

C45

54 - 56 HRC

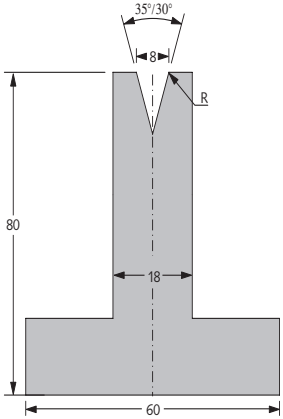
Fmax = 400 kN/m

16 kg/m

T - die 60mm

BOS No. IA00186

V 8 Type 20.42/35/30



[R] Radius (mm)	1
V - Angle	35°/30°
[H] Height (mm)	80
[B] Width (mm)	60

Standard length	Part number
415 mm 35°	64035.2042.1007
835 mm 35°	64035.2042.1006
835 mm sect. 35°	64035.2042.0002
415 mm 30°	64030.2042.1001
835 mm 30°	64030.2042.1002
835 mm sect. 30°	64030.2042.0001

C45

54 - 56 HRC

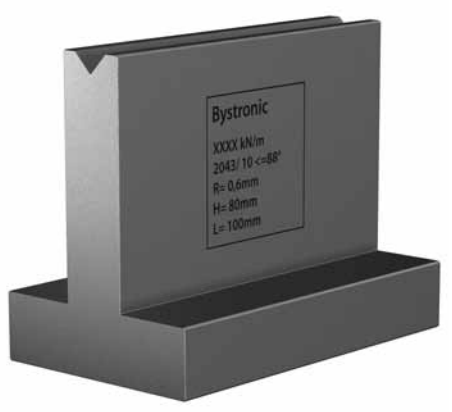
Fmax = 150/200 kN/m

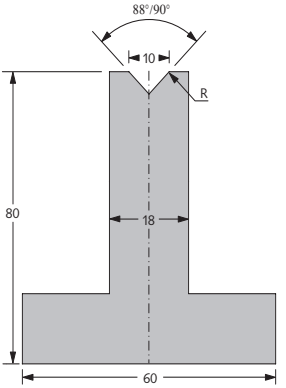
17 kg/m

T - die 60mm

BOS No. IA00184/IA00185

V 10 Type 20.43/88/90





[R] Radius (mm)	0.6
V - Angle	88°/90°
[H] Height (mm)	80
[B] Width (mm)	60

Standard length	Part number
415 mm 88°	64088.2043.1002
835 mm 88°	64088.2043.1001
835 mm sect. 88°	64088.2043.0001
415 mm 90°	64090.2043.1001
835 mm 90°	64090.2043.1002
835 mm sect. 90°	64090.2043.0001

C45

54 - 56 HRC

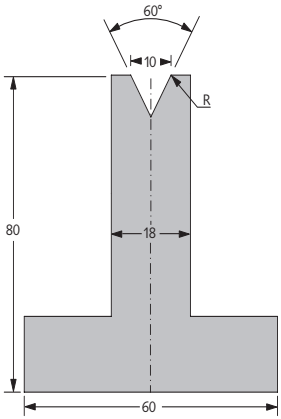
Fmax = 500 kN/m

17 kg/m

T - die 60mm

BOS No. IA00192/IA00193

V 10 Type 20.43/60



[R] Radius (mm)	1
V - Angle	60°
[H] Height (mm)	80
[B] Width (mm)	60

Standard length	Part number
415 mm 60°	64060.2043.1003
835 mm 60°	64060.2043.1001
835 mm sect. 60°	64060.2043.0001

C45

54 - 56 HRC

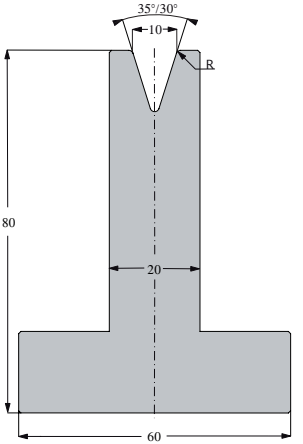
Fmax = 450 kN/m

16.8 kg/m

T - die 60mm

BOS No. IA00191

V 10 Type 20.43/35/30



[R] Radius (mm)	1
V - Angle	35°/30°
[H] Height (mm)	80
[B] Width (mm)	60

Standard length	Part number
415 mm 35°	64035.2043.1006
835 mm 35°	64035.2043.1005
835 mm sect. 35°	64035.2043.0002
415 mm 30°	64030.2043.1002
835 mm 30°	64030.2043.1001
835 mm sect. 30°	64030.2043.0001

C45

54 - 56 HRC

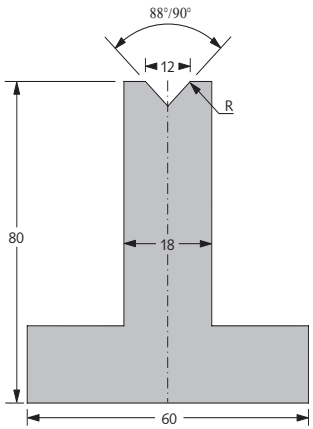
Fmax = 130/180 kN/m

17.5 kg/m

T - die 60mm

BOS No. IA00007/IA00190

V 12 Type 20.44/88/90



[R] Radius (mm)	0.8
V - Angle	88°/90°
[H] Height (mm)	80
[B] Width (mm)	60

Standard length	Part number
415 mm 88°	64088.2044.1006
835 mm 88°	64088.2044.1005
835 mm sect. 88°	64088.2044.0002
415 mm 90°	64090.2044.1002
835 mm 90°	64090.2044.1001
835 mm sect. 90°	64090.2044.0001

C45

54 - 56 HRC

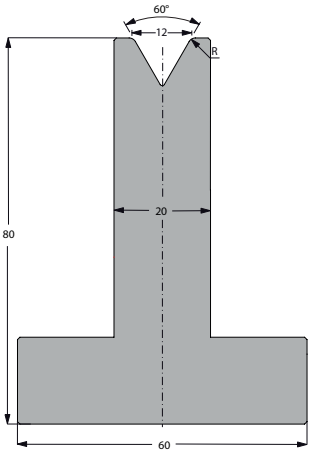
Fmax = 500 kN/m

16.9 kg/m

T - die 60mm

BOS No. IA00021/IA00197

V 12 Type 20.44/60



[R] Radius (mm)	1.5
V - Angle	60°
[H] Height (mm)	80
[B] Width (mm)	60

Standard length	Part number
415 mm 60°	64060.2044.1007
835 mm 60°	64060.2044.1006
835 mm sect. 60°	64060.2044.0001

C45

54 - 56 HRC

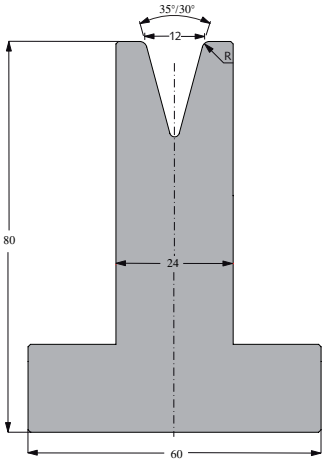
Fmax = 450 kN/m

16.7 kg/m

T - die 60mm

BOS No. IA00340

V 12 Type 20.44/35/30



[R] Radius (mm)	1.5
V - Angle	35°/30°
[H] Height (mm)	80
[B] Width (mm)	60

Standard length	Part number
415 mm 35°	64035.2044.1007
835 mm 35°	64035.2044.1006
835 mm sect. 35°	64035.2044.0001
415 mm 30°	64030.2044.1001
835 mm 30°	64030.2044.1002
835 mm sect. 30°	64030.2044.0001

C45

54 - 56 HRC

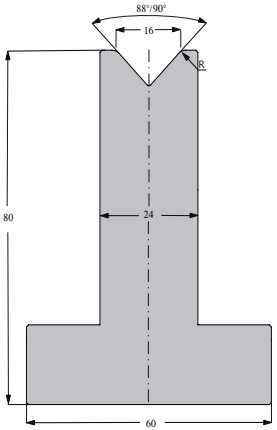
Fmax = 500 kN/m

19 kg/m

T - die 60mm

BOS No. IA00195/IA00194

V 16 Type 20.45/88/90



[R] Radius (mm)	2.5
V - Angle	88°/90°
[H] Height (mm)	80
[B] Width (mm)	60

Standard length	Part number
415 mm 88°	64088.2045.1002
835 mm 88°	64088.2045.1001
835 mm sect. 88°	64088.2045.0001
415 mm 90°	64090.2045.1002
835 mm 90°	64090.2045.1001
835 mm sect. 90°	64090.2045.0001

C45

54 - 56 HRC

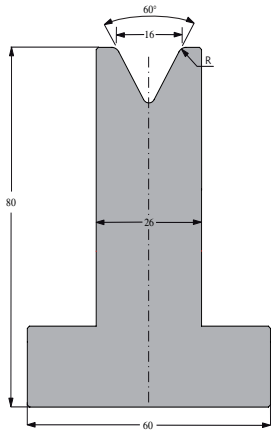
Fmax = 500 kN/m

19.6 kg/m

T - die 60mm

BOS No. IA00201/IA00202

V 16 Type 20.45/60



[R] Radius (mm)	2
V - Angle	60°
[H] Height (mm)	80
[B] Width (mm)	60

Standard length	Part number
415 mm 60°	64060.2045.1003
835 mm 60°	64060.2045.1002
835 mm sect. 60°	64060.2045.0001

C45

54 - 56 HRC

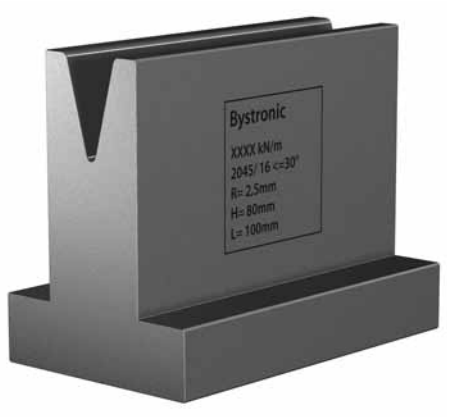
Fmax = 500 kN/m

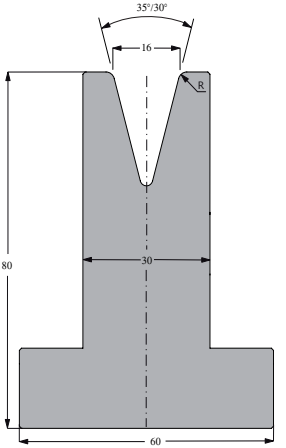
20.2 kg/m

T - die 60mm

BOS No. IA00200

V 16 Type 20.45/35/30





[R] Radius (mm)	2.0
V - Angle	35°/30°
[H] Height (mm)	80
[B] Width (mm)	60

Standard length	Part number
415 mm 35°	64035.2045.1004
835 mm 35°	64035.2045.1005
835 mm sect. 35°	64035.2045.0002
415 mm 30°	64030.2045.1004
835 mm 30°	64030.2045.1002
835 mm sect. 30°	64030.2045.0002

C45

54 - 56 HRC

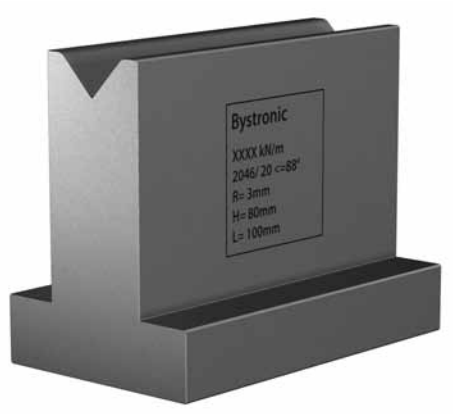
Fmax = 200/250 kN/m

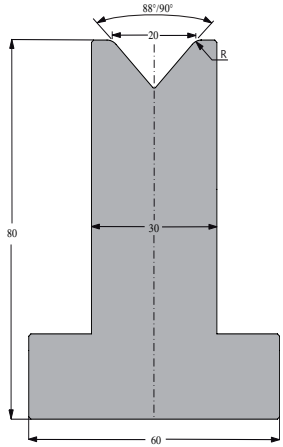
20.5/21.4 kg/m

T - die 60mm

BOS No. IA00199/IA00198

V 20 Type 20.46/88/90





[R] Radius (mm)	3
V - Angle	88°/90°
[H] Height (mm)	80
[B] Width (mm)	60

Standard length	Part number
415 mm 88°	64088.2046.1002
835 mm 88°	64088.2046.1001
835 mm sect. 88°	64088.2046.0001
415 mm 90°	64090.2046.1002
835 mm 90°	64090.2046.1001
835 mm sect. 90°	64090.2046.0001

C45

54 - 56 HRC

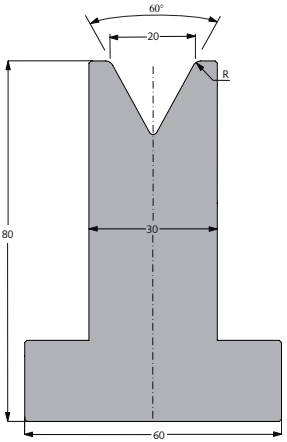
Fmax = 800 kN/m

22.2 kg/m

T - die 60mm

BOS No. IA00206/IA00207

V 20 Type 20.46/60



[R] Radius (mm)	2
V - Angle	60°
[H] Height (mm)	80
[B] Width (mm)	60

Standard length	Part number
415 mm 60°	64060.2046.1007
835 mm 60°	64060.2046.1006
835 mm sect. 60°	64060.2046.0002

C45

54 - 56 HRC

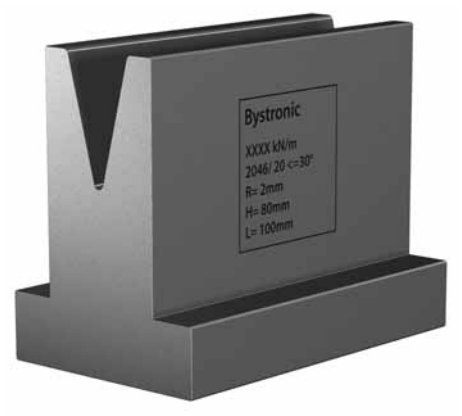
Fmax = 800 kN/m

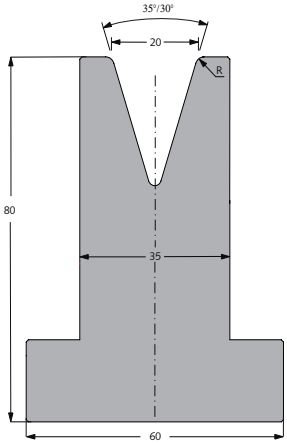
21.6 kg/m

T - die 60mm

BOS No. IA00205

V 20 Type 20.46/35/30





[R] Radius (mm)	1.5
V - Angle	35°/30°
[H] Height (mm)	80
[B] Width (mm)	60

Standard length	Part number
415 mm 35°	64035.2046.4002
835 mm 35°	64035.2046.4001
835 mm sect. 35°	64035.2046.3001
415 mm 30°	64030.2046.1002
835 mm 30°	64030.2046.1001
835 mm sect. 30°	64030.2046.0001

C45

54 - 56 HRC

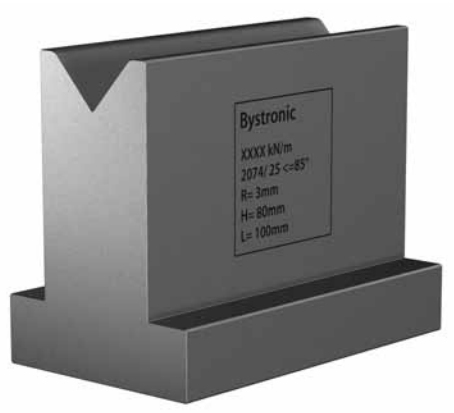
Fmax = 200/260 kN/m

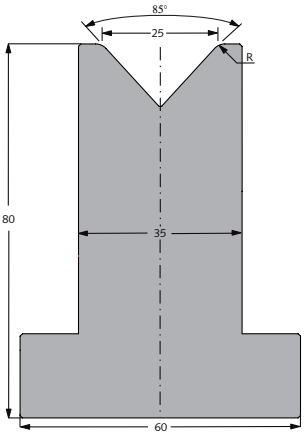
23/22.5 kg/m

T - die 60mm

BOS No. IA00204/IA00203

V 25 Type 20.47/85





[[R] Radius (mm)	3
V - Angle	85°
[H] Height (mm)	80
[B] Width (mm)	60

Standard length	Part number
415 mm 85°	64085.2047.1002
835 mm 85°	64085.2047.1001
835 mm sect. 85°	64085.2047.0001

C45

54 - 56 HRC

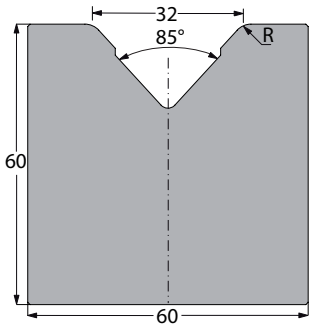
Fmax = 800 kN/m

23.5 kg/m

T - die 60mm

BOS No. IA00210

V 32 Type 20.11/85



[R] Radius (mm)	4
V - Angle	85°
[H] Height (mm)	60
[B] Width (mm)	60

Standard length	Part number
415 mm 85°	64085.2011.1048
835 mm 85°	64085.2011.1043
835 mm sect. 85°	64085.2011.0003

C45

54 - 56 HRC

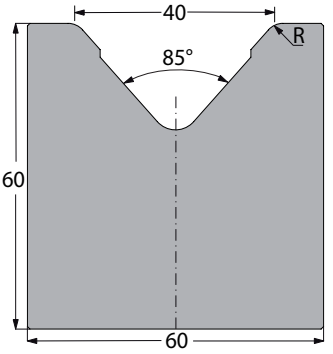
Fmax = 800 kN/m

25.9 kg/m

T - die 60mm

BOS No. IA00160

V 40 Type 20.11/85



[R] Radius (mm)	4
V - Angle	85°
[H] Height (mm)	60
[B] Width (mm)	60

Standard length	Part number
415 mm 85°	64085.2011.1049
835 mm 85°	64085.2011.1035
835 mm sect. 85°	64085.2011.0005

C45

54 - 56 HRC

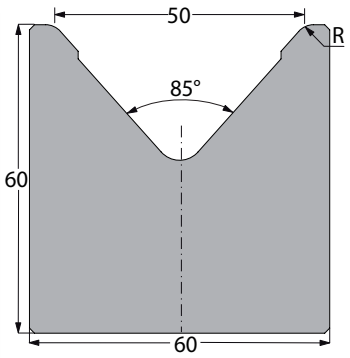
Fmax = 800 kN/m

25.3 kg/m

T - die 60mm

BOS No. IA00162

V 50 Type 20.11/85



[R] Radius (mm)	4
V - Angle	85°
[H] Height (mm)	60
[B] Width (mm)	60

Standard length	Part number
415 mm 85°	64085.2011.1037
835 mm 85°	64085.2011.1038
835 mm sect. 85°	64085.2011.0004

C45

54 - 56 HRC

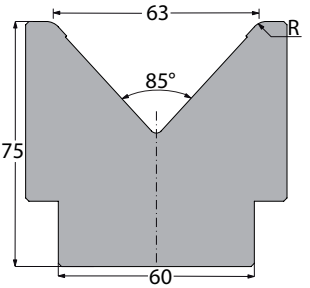
Fmax = 800 kN/m

22.5 kg/m

T - die 60mm

BOS No. IA00006

V 63 Type 20.11/85



[R] Radius (mm)	5
V - Angle	85°
[H] Height (mm)	75
[B] Width (mm)	80

Standard length	Part number
415 mm 85°	64085.2011.1041
835 mm 85°	64085.2011.1040
835 mm sect. 85°	64085.2011.0006

C45

54 - 56 HRC

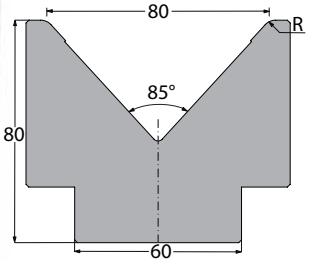
Fmax = 500 kN/m

34.8 kg/m

T - die 60mm

BOS No. IA00004

V 80 Type 20.11/85



[R] Radius (mm)	5
V - Angle	85°
[H] Height (mm)	80
[B] Width (mm)	95

Standard length	Part number
415 mm 85°	64085.2011.1039
835 mm 85°	64085.2011.1036
835 mm sect. 85°	64085.2011.0007

C45

54 - 56 HRC

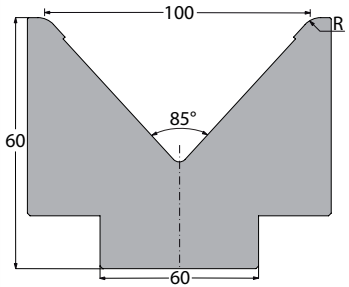
Fmax = 500 kN/m

40 kg/m

T - die 60mm

BOS No. IA00005

V 100 Type 20.11/85



[R] Radius (mm)	8
V - Angle	85°
[H] Height (mm)	95
[B] Width (mm)	115

Standard length	Part number
415 mm 85°	64085.2011.1044
835 mm 85°	64085.2011.1042
835 mm sect. 85°	64085.2011.0008

C45

54 - 56 HRC

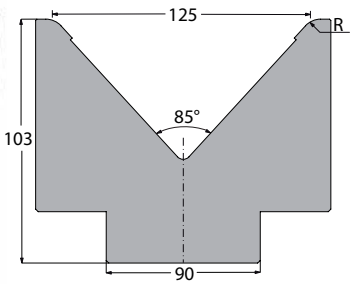
Fmax = 500 kN/m

54.7 kg/m

T - die 60mm

BOS No. IA00018

V 125 Type 20.11/85



[R] Radius (mm)	15
V - Angle	80°
[H] Height (mm)	103
[B] Width (mm)	154

Standard length	Part number
415 mm 85°	64085.2011.1050
835 mm 85°	64085.2011.1047
835 mm sect. 85°	64085.2011.0009

C45

54 - 56 HRC

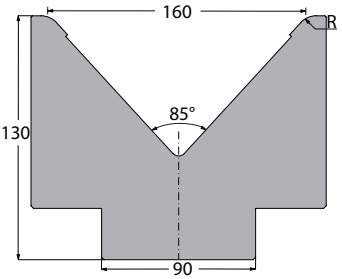
Fmax = 500 kN/m

81 kg/m

T - die 90mm

BOS No. IA00581

V 160 Type 20.11/85



[R] Radius (mm)	15
V - Angle	80°
[H] Height (mm)	130
[B] Width (mm)	185

Standard length	Part number
415 mm 85°	64085.2011.1051
835 mm 85°	64085.2011.1052
835 mm sect. 85°	64085.2011.0010

C45

54 - 56 HRC

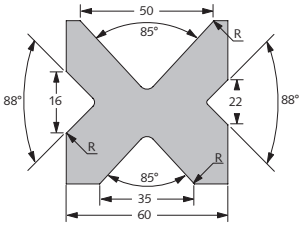
Fmax = 800 kN/m

149 kg/m

T - die 90mm

BOS No. IA00164

Multi-V 16/22/35/50 Type 20.09



[R] Radius (mm)	2
V - Angle	85°/88°
[H] Height (mm)	
[B] Width (mm)	60

Standard length	Part number
415 mm	64000.2009.1005
835 mm	64000.2009.1010
835 mm sect.	64000.2009.0003

C45

54 - 56 HRC

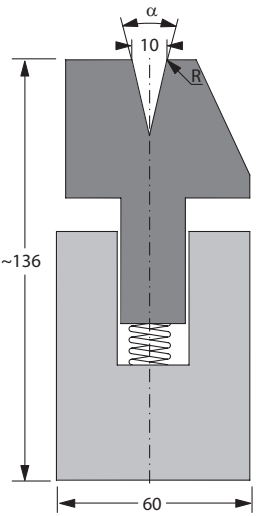
Fmax = 500 kN/m

19 kg/m

T - die 60mm

BOS No. IA00159

Hemming tool V 10 Type 30.01/26/35



[R] Radius (mm)	1
V - Angle	26°/35°
[H] Height (mm)	~136
[B] Width (mm)	60

Standard length	Part number
415 mm 26°	64026.3001.1005
835 mm 26°	64026.3001.1006
sekt. 835 mm 26°	64026.3001.0001
415 mm 35°	64035.3001.1007
835 mm 35°	64035.3001.1005
sekt. 835 mm 35°	64035.3001.0001

C45

54 - 56 HRC

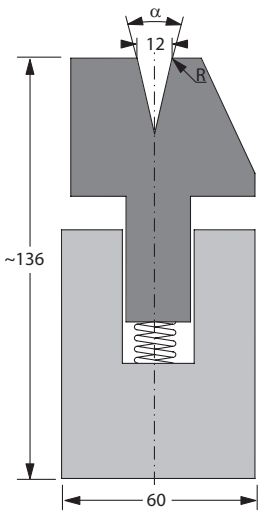
Fmax = 500 kN/m

50.5 kg/m

T - die 60mm

BOS No. IA00576/IA00028

Hemming tool V 12 Type 30.01/26/35



[R] Radius (mm)	1.5
V - Angle	26°/35°
[H] Height (mm)	~136
[B] Width (mm)	60

Standard length	Part number
415 mm 26°	64026.3001.1001
835 mm 26°	64026.3001.1007
sekt. 835 mm 26°	64026.3001.0002
415 mm 35°	64035.3001.1004
835 mm 35°	64035.3001.1003
sekt. 835 mm 35°	64035.3001.1003

C45

54 - 56HRC

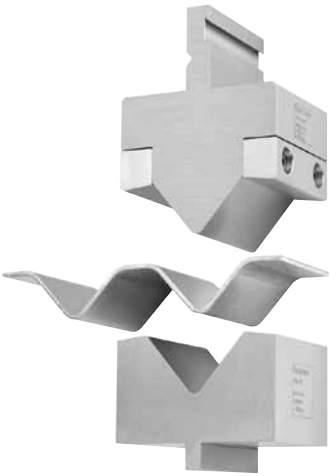
Fmax = 500 kN/m

50 kg/m

T - die 60mm

BOS No. IA00303/IA00314

Special applications



Special tools are also part of the Bystronic tooling range.

Our tooling specialist will help you to solve your forming problems, all contact information are located at the end of the catalog.

Visit our shop in the Internet under: www.bystronic.com

Workshop

Taking bending into design

Small bending radii?
Short flange length?
Too much welding, cleaning and flattening?
Bending marks?

What are the topics?

- Basics
- Software presentations
- Machine presentations
- Industial design expert talks
- Case studies
- Your questions

You can obtain date and further information from our consulting engineers, all contact dates you can be found on the last page.

Further information can be obtained at: www.bystronic.com

Workshop

Bending of high tensile strength materials

Material costs are too high?
Wear and tear resistance relevant?
Challenge light constuction?
Steel broken yet?

What are the topics?

- Basics
- Experts talks of steel producers
- How the software can help
- Bend case studies
- Specialist talks

You can obtain data and further information from our consulting engineers, all contact data can be found on the last page.

Further information can be obtained at: www.bystronic.com

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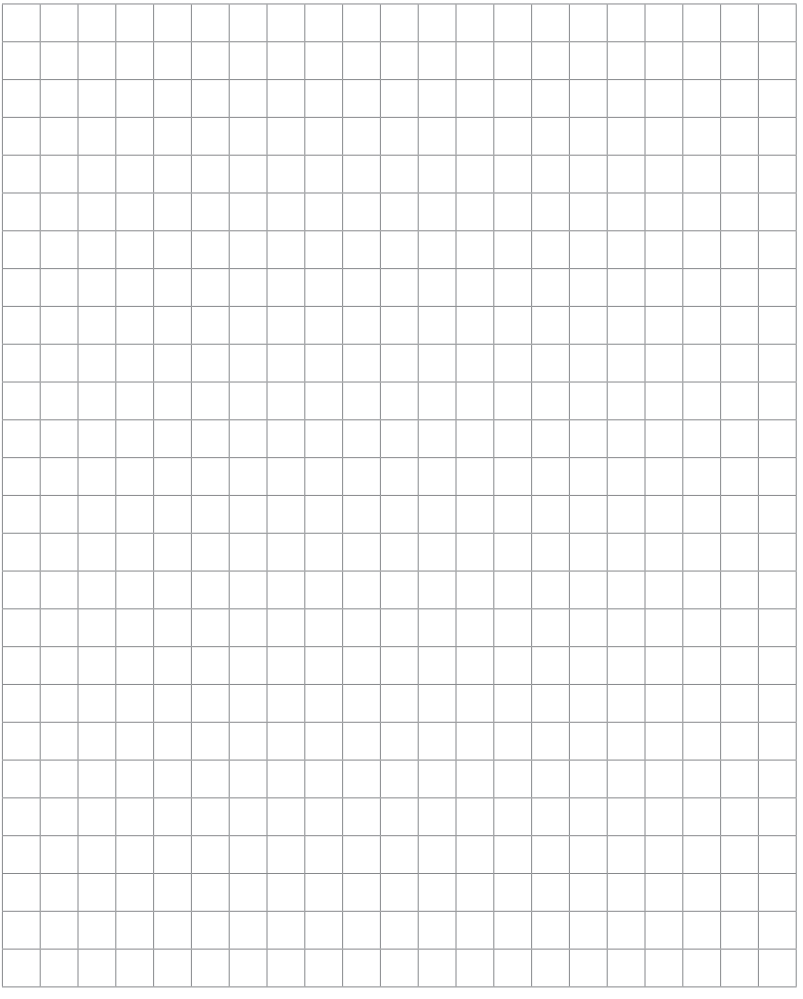
Notes



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