

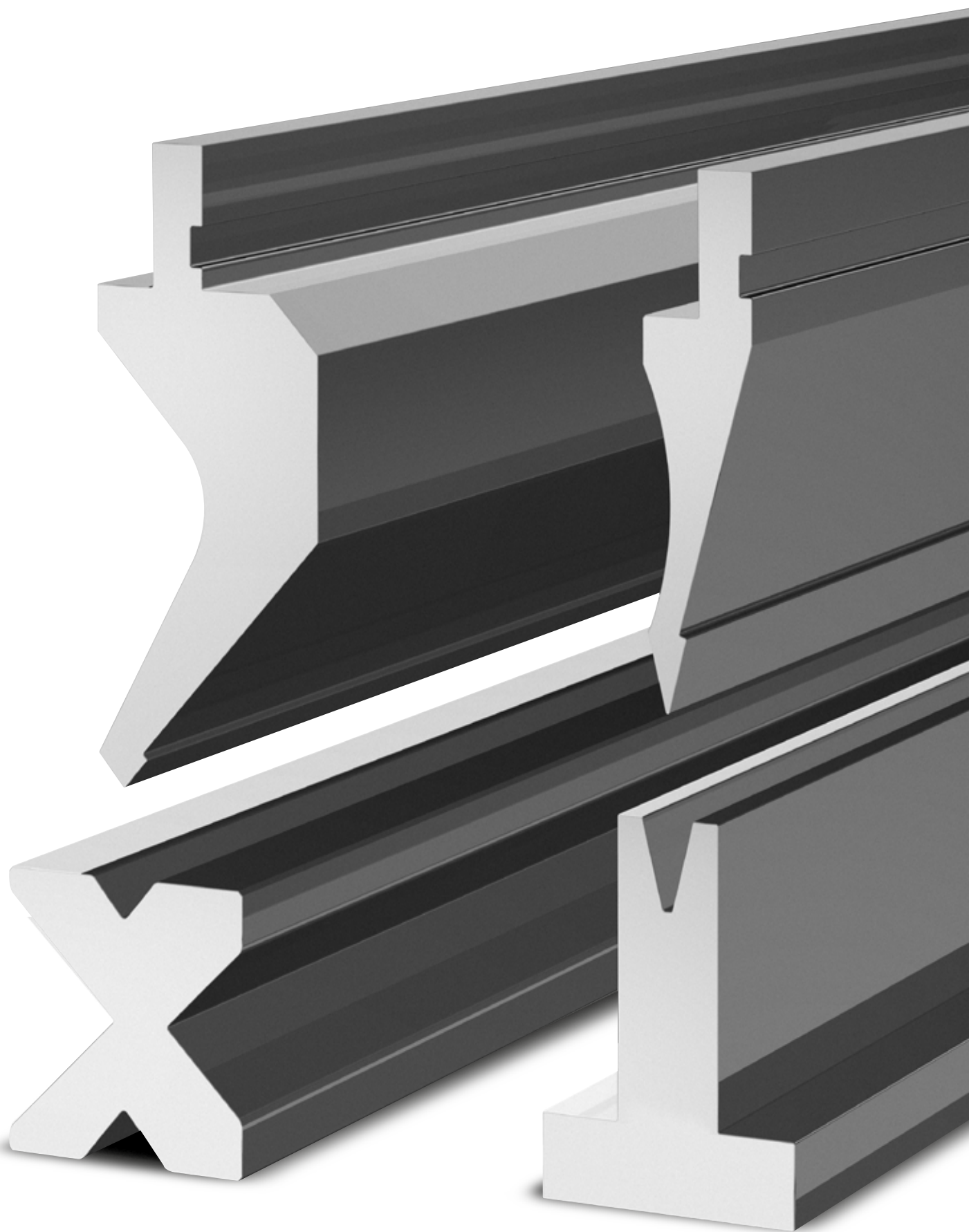


PRESS BRAKE TOOLS

PRESS BRAKE TOOLS

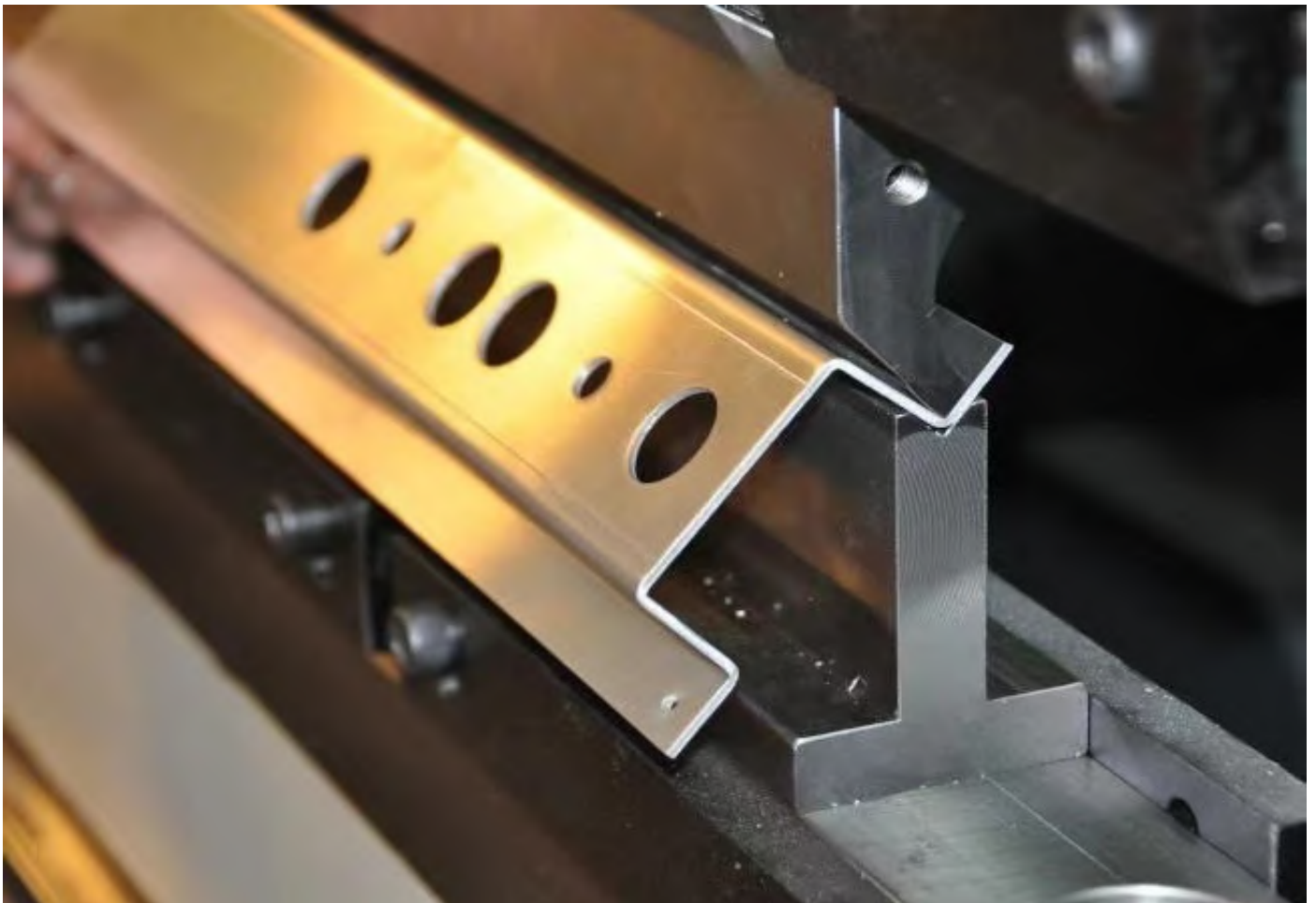
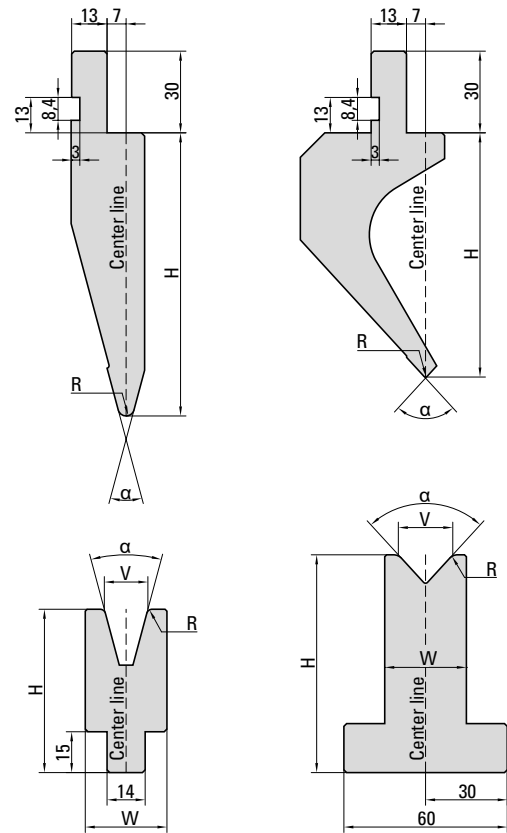
ZNW-SYSTEM

Explanation	4 – 5
Punches/top tools	
90° Punches/top tools	5
88° Punches/top tools	6 – 7
85° Punches/top tools	8 – 11
90°/88°/85° Punch/top tool end pieces with movable horn extensions	12
75° Punch/top tool	13
60° Punches/top tools	13 – 14
45° Punches/top tools	15
35° Punches/top tools	15
30° Punches/top tools	16 – 18
26° Punch/top tool	18
Holder for radius-tools and radius-tools R 3,0 – 6,5	19
85° Window punch/top tool for closed boxes „Rotax®“	20
Punch/top tool distance pieces	21
Intermediates L = 150 mm	22
Intermediates „Heavy Duty“ L = 150 mm	22
Clamps L = 150 mm	23
Clamp L = 150 mm for double-sided clamping	23
Intermediates L = 70 mm	24
Clamp L = 70 mm	24
Intermediates „Swing“	25
Pneumatic clamping „RAPID®“	26 – 27
Control unit for pneumatic clamping	27
Pneumatic clamping „CLARK®“	28 – 29
Control unit for pneumatic clamping	29
Dies	
Die holder for central 1-V dies	30
88° Central 1-V dies	30
30° Central 1-V dies	31
90° T-dies, H = 80 mm	32
88° T-dies, H = 80 mm	33
85° T-dies, H = 80 mm	34
60° T-dies, H = 80 mm	35
30° T-dies, H = 80 mm	36
88° T-dies, H = 120 mm	37
85° T-dies, H = 120 mm	38
60° T-dies, H = 120 mm	39
30° T-dies, H = 120 mm	40
85° 1-V dies	41
80° 1-V dies	41
70° 1-V die	41
60° 1-V dies	42
45° 1-V dies	42
30° 1-V dies	42
Die blocks	43
Die holders	44
Die holders for central 2-V dies	44
Clamping piece for central 2-V dies	44
90° Central 2-V dies	45
88° Central 2-V dies	45
85° Central 2-V dies	46
30° Central 2-V dies	46
88° 2-V dies	47
60° 2-V dies	47
30° 2-V die	47
Spring-loaded flattening dies	48
Pneumatic flattening dies	49
Flattening punches/top tools and flattening dies	50
Die heightening	51



Quality and precision

- ▶ Optimum materials
 - 42 CrMo4, tempered to 1100 – 1200 N/mm²
 - C45, tempered to 800 – 850 N/mm²
 - C45, 650 – 800 N/mm²
- ▶ Bending radius/intake radii hardened up to 54 – 60 HRC
- ▶ Precision ground
- ▶ Guaranteed exchangeability and parallelism
- ▶ Tool marking with all technical information



EXPLANATION AND PUNCHES/TOP TOOLS

Tool lengths

PUNCHES/TOP TOOLS

Length 835 mm

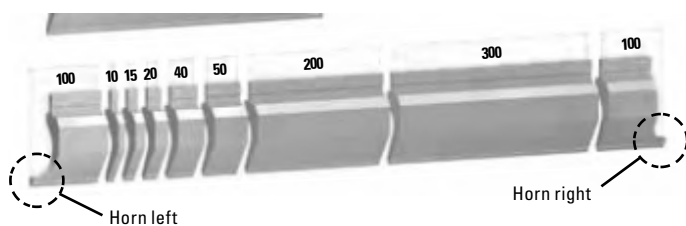


Length 415 mm



Length 835 mm sectionalized

- ▶ Sectionalized punches/top tools are delivered as a complete set
- ▶ 9 Segments, with horn extension left and right



DIES

Length 835 mm



Length 415 mm



Length 835 mm sectionalized

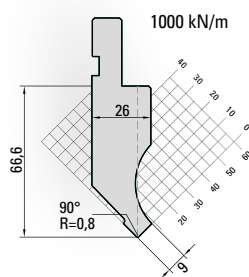
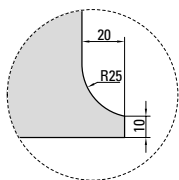
- ▶ Sectionalized dies are delivered as a complete set
- ▶ 8 Segments



90° Punches/top tools

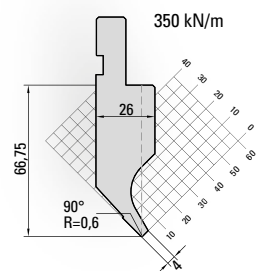
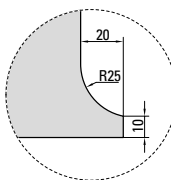
11.100

835 mm	155,-	11,0 kg
415 mm	78,-	5,5 kg
835 mm sectionalized	170,-	11,0 kg



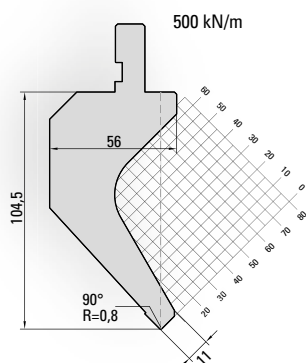
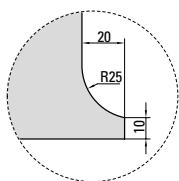
10.175

835 mm	159,-	10,5 kg
415 mm	90,-	5,2 kg
835 mm sectionalized	165,-	10,5 kg



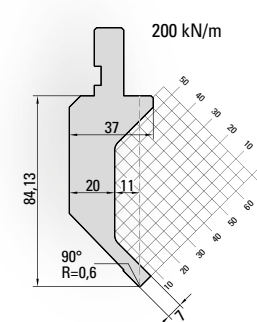
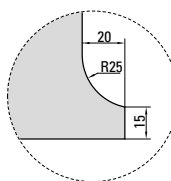
11.107

835 mm	263,-	23,0 kg
415 mm	146,-	11,5 kg
835 mm sectionalized	290,-	23,0 kg



10.150

835 mm	350,-	13,0 kg
415 mm	195,-	6,5 kg
835 mm sectionalized	385,-	13,0 kg

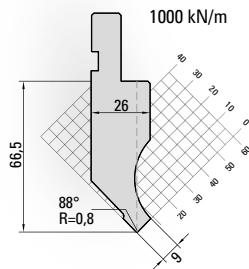
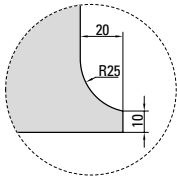


PUNCHES/TOP TOOLS

88° Punches/top tools

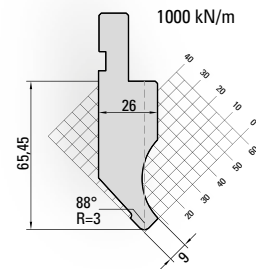
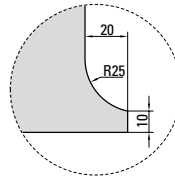
11.145

835 mm	155,-	11,0 kg
415 mm	78,-	5,5 kg
835 mm sectionalized	170,-	11,0 kg



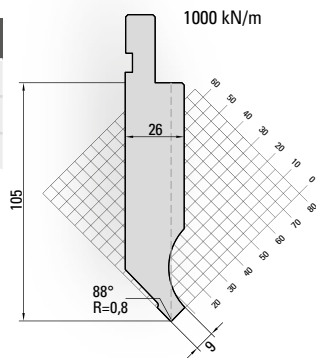
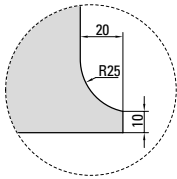
11.101

835 mm	155,-	11,0 kg
415 mm	78,-	5,5 kg
835 mm sectionalized	170,-	11,0 kg



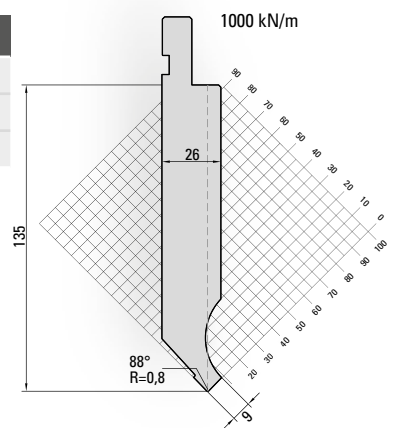
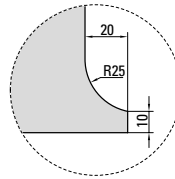
11.228

835 mm	197,-	17,5 kg
415 mm	116,-	8,7 kg
835 mm sectionalized	240,-	17,5 kg



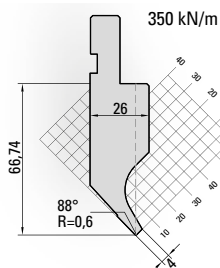
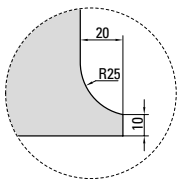
11.870

835 mm	270,-	22,5 kg
415 mm	155,-	11,2 kg
835 mm sectionalized	288,-	22,5 kg



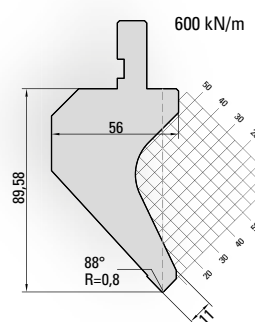
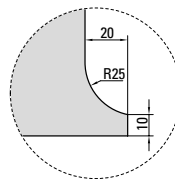
10.176

835 mm	159,-	10,5 kg
415 mm	90,-	5,2 kg
835 mm sectionalized	165,-	10,5 kg



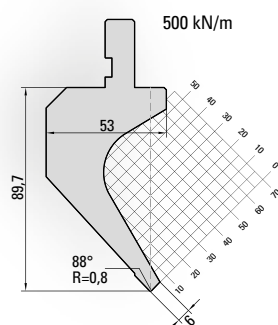
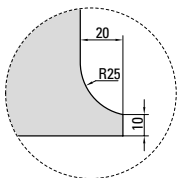
11.146

835 mm	221,-	21,0 kg
415 mm	125,-	10,5 kg
835 mm sectionalized	238,-	21,0 kg



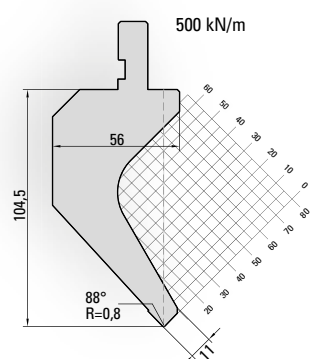
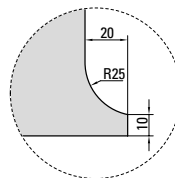
10.502

835 mm	284,-	17,0 kg
415 mm	158,-	8,5 kg
835 mm sectionalized	304,-	17,0 kg



11.147

835 mm	263,-	23,0 kg
415 mm	146,-	11,5 kg
835 mm sectionalized	288,-	23,0 kg

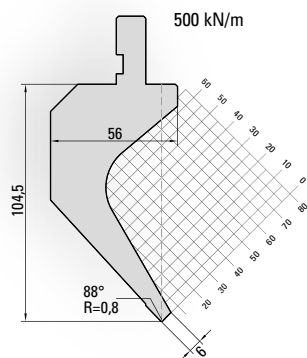
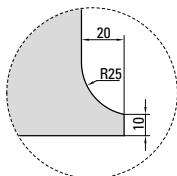


PUNCHES/TOP TOOLS

88° Punches/top tools

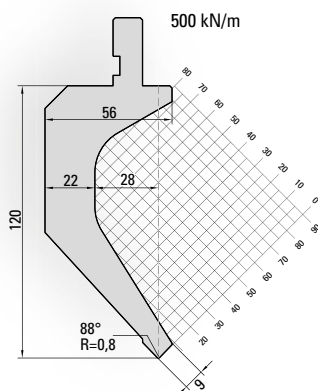
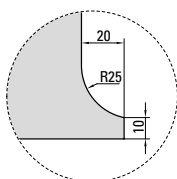
10.504

835 mm	296,-	21,5 kg
415 mm	168,-	10,7 kg
835 mm sectionalized	307,-	21,5 kg



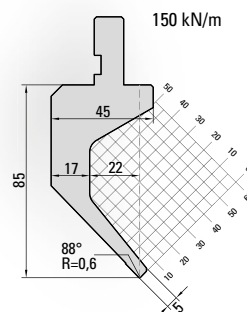
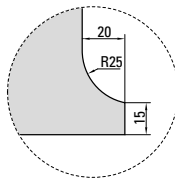
10.505

835 mm	531,-	22,0 kg
415 mm	294,-	11,0 kg
835 mm sectionalized	553,-	22,0 kg



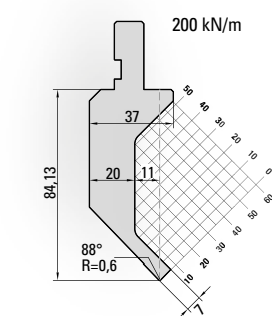
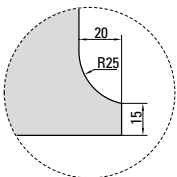
11.830

835 mm	398,-	13,0 kg
415 mm	221,-	6,5 kg
835 mm sectionalized	401,-	13,0 kg



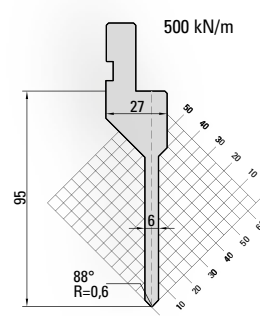
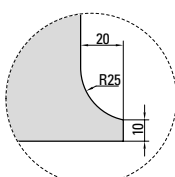
10.512

835 mm	350,-	13,0 kg
415 mm	195,-	6,5 kg
835 mm sectionalized	361,-	13,0 kg



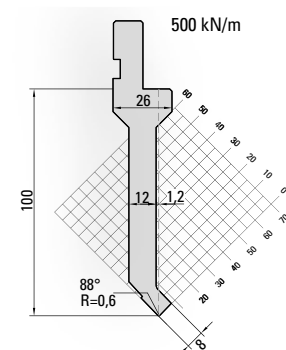
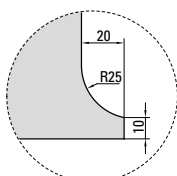
11.260

835 mm	348,-	9,0 kg
415 mm	147,-	4,5 kg
835 mm sectionalized	360,-	9,0 kg



10.262

835 mm	270,-	11,5 kg
415 mm	135,-	5,7 kg
835 mm sectionalized	289,-	11,5 kg

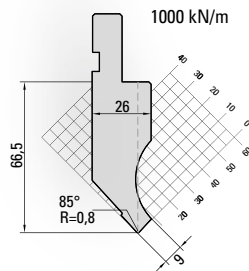
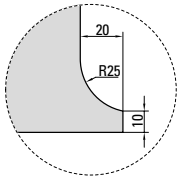


PUNCHES/TOP TOOLS

85° Punches/top tools

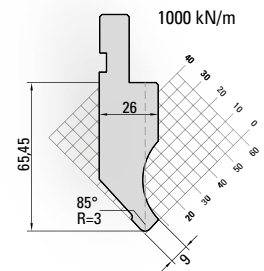
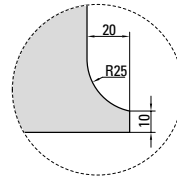
11.200

835 mm	155,-	11,0 kg
415 mm	78,-	5,5 kg
835 mm sectionalized	170,-	11,0 kg



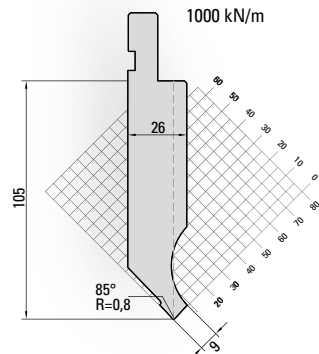
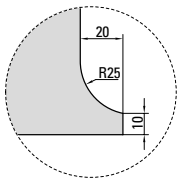
11.201

835 mm	155,-	11,0 kg
415 mm	78,-	5,5 kg
835 mm sectionalized	170,-	11,0 kg



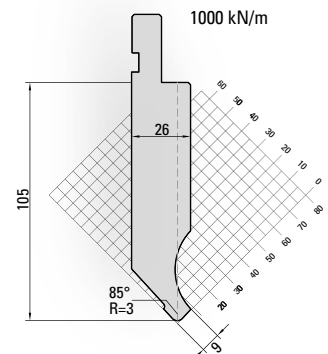
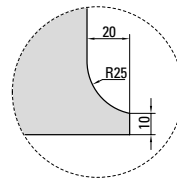
11.230

835 mm	197,-	17,5 kg
415 mm	116,-	8,7 kg
835 mm sectionalized	204,-	17,5 kg



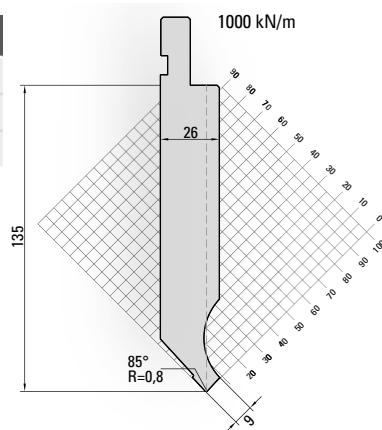
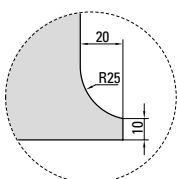
11.231

835 mm	197,-	17,5 kg
415 mm	116,-	8,7 kg
835 mm sectionalized	204,-	17,5 kg



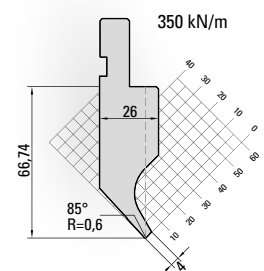
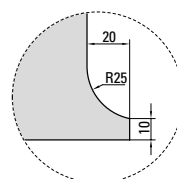
11.232

835 mm	270,-	22,5 kg
415 mm	155,-	11,2 kg
835 mm sectionalized	288,-	22,5 kg



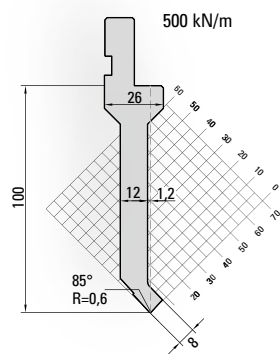
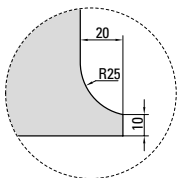
10.170

835 mm	159,-	10,5 kg
415 mm	90,-	5,2 kg
835 mm sectionalized	165,-	10,5 kg



11.861

835 mm	237,-	11,5 kg
415 mm	135,-	5,7 kg
835 mm sectionalized	242,-	11,5 kg

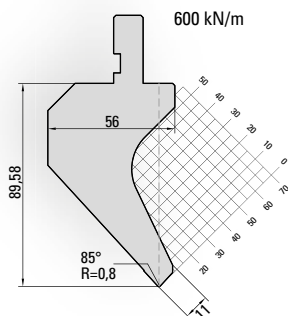
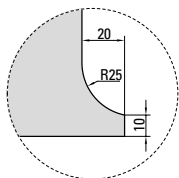


PUNCHES/TOP TOOLS

85° Punches/top tools

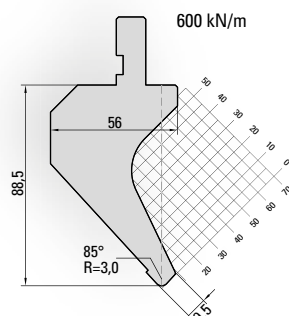
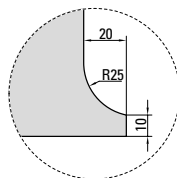
11.660

835 mm	221,-	21,0 kg
415 mm	125,-	10,5 kg
835 mm sectionalized	281,-	21,0 kg



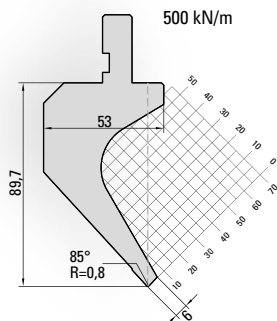
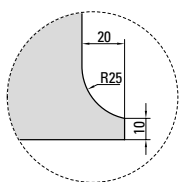
11.863

835 mm	221,-	21,0 kg
415 mm	125,-	10,5 kg
835 mm sectionalized	238,-	21,0 kg



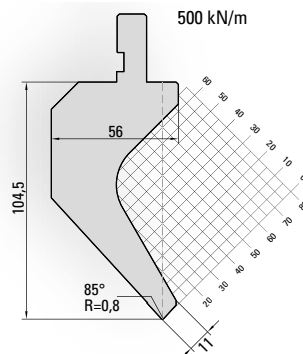
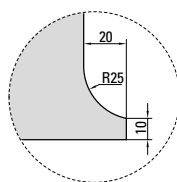
11.865

835 mm	284,-	17,0 kg
415 mm	158,-	8,5 kg
835 mm sectionalized	294,-	17,0 kg



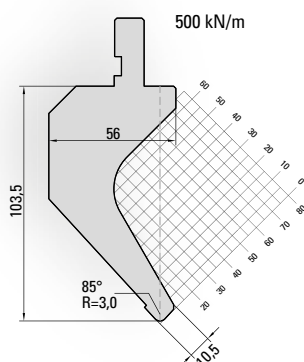
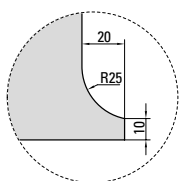
11.151

835 mm	263,-	23,0 kg
415 mm	146,-	11,5 kg
835 mm sectionalized	278,-	23,0 kg



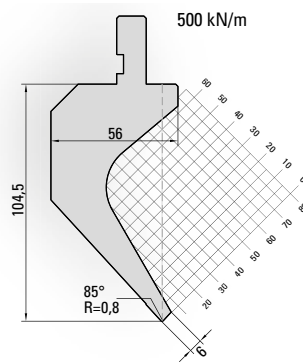
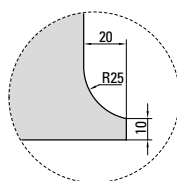
11.866

835 mm	263,-	23,0 kg
415 mm	146,-	11,5 kg
835 mm sectionalized	278,-	23,0 kg



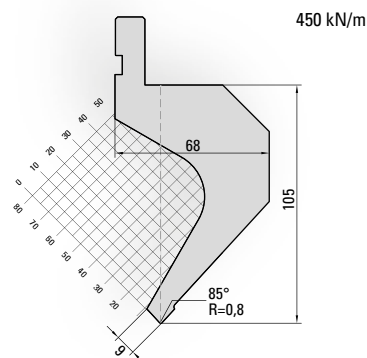
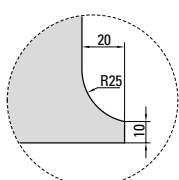
11.650

835 mm	296,-	21,5 kg
415 mm	168,-	10,7 kg
835 mm sectionalized	277,-	21,5 kg



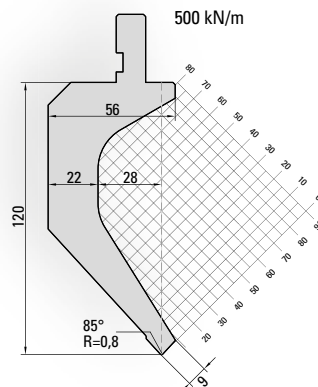
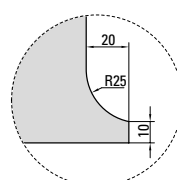
11.869

835 mm	540,-	25,0 kg
415 mm	294,-	12,5 kg
835 mm sectionalized	447,-	25,0 kg



11.835

835 mm	531,-	22,0 kg
415 mm	294,-	11,0 kg
835 mm sectionalized	553,-	22,0 kg

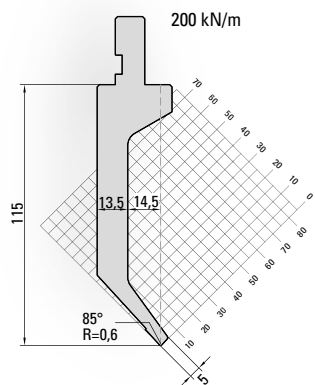
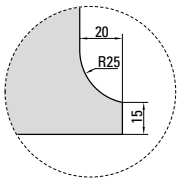


PUNCHES/TOP TOOLS

85° Punches/top tools

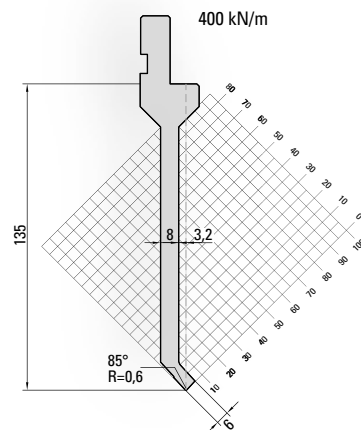
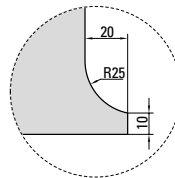
11.820

835 mm	446,-	14,0 kg
415 mm	248,-	7,0 kg
835 mm sectionalized	460,-	14,0 kg



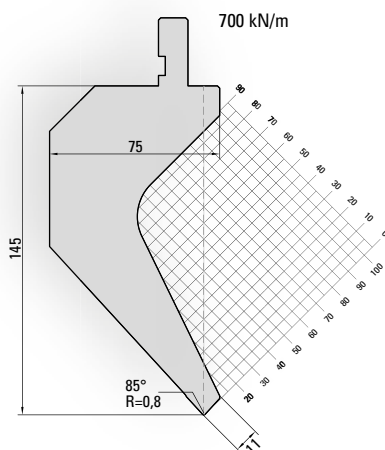
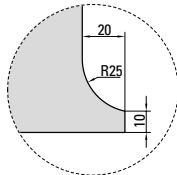
11.855

835 mm	348,-	11,0 kg
415 mm	194,-	5,5 kg
835 mm sectionalized	365,-	11,0 kg



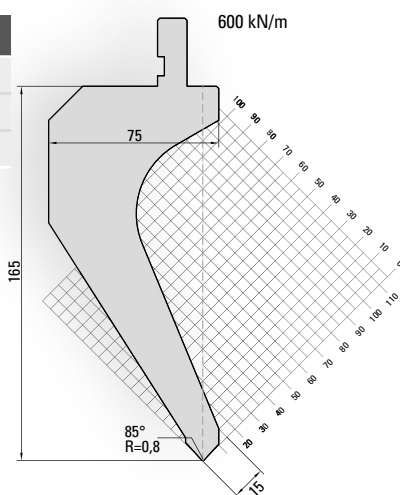
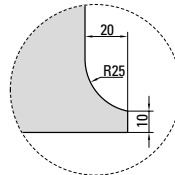
11.848

835 mm	633,-	39,0 kg
415 mm	354,-	19,5 kg
835 mm sectionalized	693,-	39,0 kg



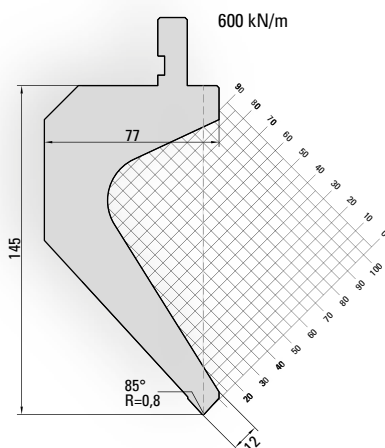
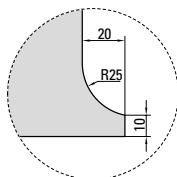
11.849

835 mm	777,-	41,0 kg
415 mm	428,-	20,5 kg
835 mm sectionalized	795,-	41,0 kg



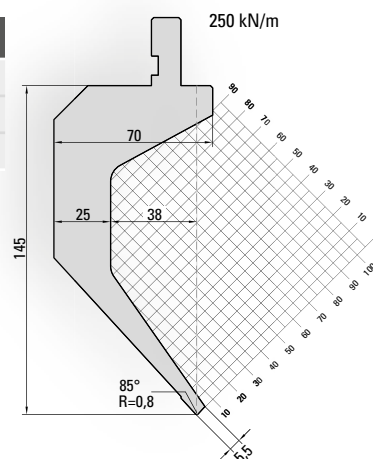
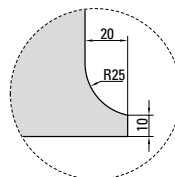
11.670

835 mm	764,-	34,5 kg
415 mm	401,-	17,3 kg
835 mm sectionalized	797,-	34,5 kg



11.680

835 mm	801,-	27,6 kg
415 mm	431,-	13,7 kg
835 mm sectionalized	827,-	27,6 kg



PUNCHES/TOP TOOLS

85° Punches/top tools

11.850

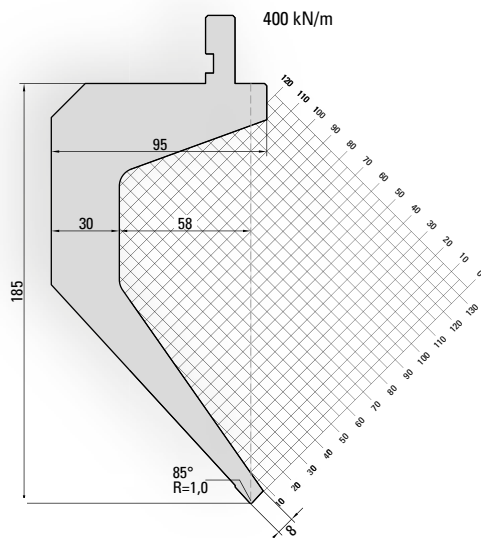
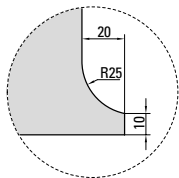
505 mm 818,- 26,0 kg

500 mm sectionalized 855,- 25,7 kg

Length 500 mm sectionalized: 9 segments
(100, 20, 25, 30, 35, 40, 50, 100, 100)

Horn L.

Horn r.



11.840

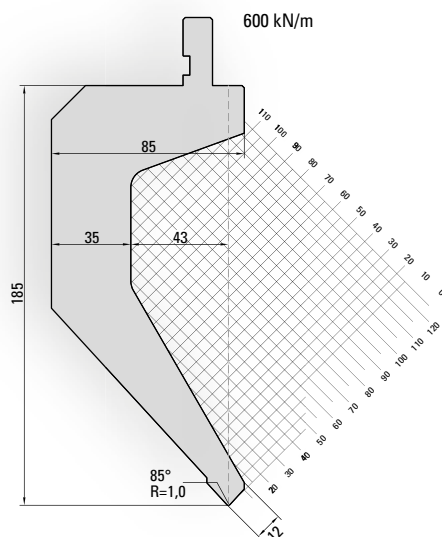
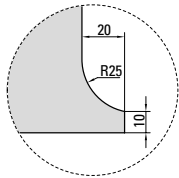
505 mm 651,- 29,5 kg

500 mm sectionalized 734,- 29,2 kg

Length 500 mm sectionalized: 9 segments
(100, 20, 25, 30, 35, 40, 50, 100, 100)

Horn L.

Horn r.



11.800

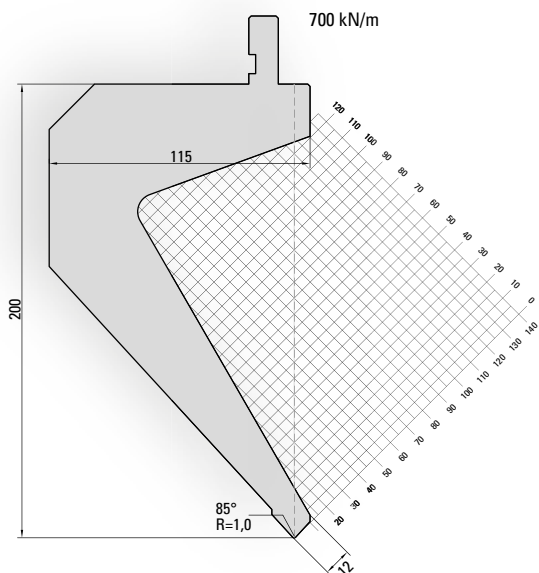
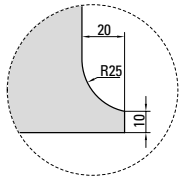
505 mm 873,- 40,0 kg

500 mm sectionalized 928,- 39,6 kg

Length 500 mm sectionalized: 9 segments
(100, 20, 25, 30, 35, 40, 50, 100, 100)

Horn L.

Horn r.



PUNCHES/TOP TOOLS

90°/88°/85° Punch/top tool end pieces with movable horn extensions

90°						
Model	Suitable for punch/top tool	α	R (mm)	H	kg	Price per pair left/right
40.112	11.100	90°	0,8	66,60	3,5	666,—
40.120	10.175	90°	0,6	66,75	3,5	684,—

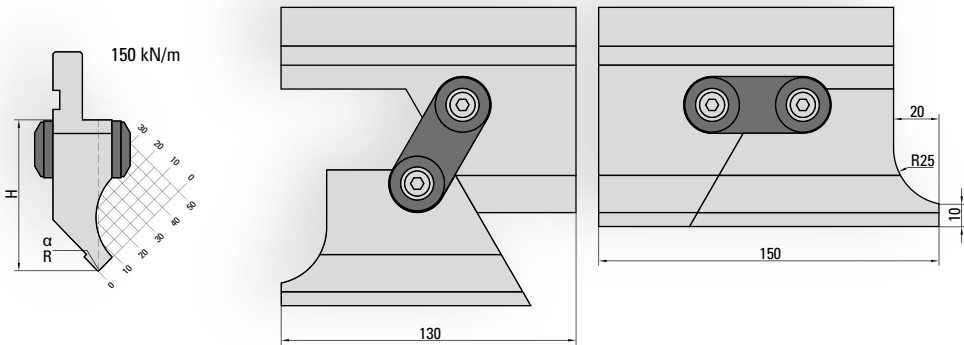
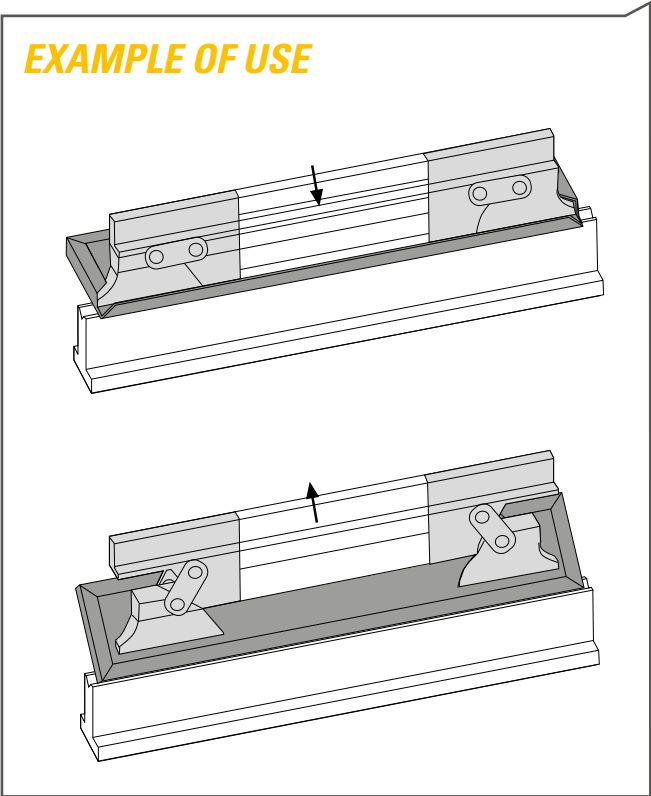
Delivery time on request

88°						
Model	Suitable for punch/top tool	α	R (mm)	H	kg	Price per pair left/right
40.113	11.145	88°	0,8	66,50	3,5	666,—
40.115	11.101	88°	3,0	65,45	3,5	666,—
40.121	10.176	88°	0,6	66,74	3,5	684,—

Delivery time on request

85°						
Model	Suitable for punch/top tool	α	R (mm)	H	kg	Price per pair left/right
40.114	11.200	85°	0,8	66,50	3,5	666,—
40.116	11.201	85°	3,0	65,45	3,5	666,—
40.122	10.170	85°	0,6	66,74	3,5	684,—

Delivery time on request

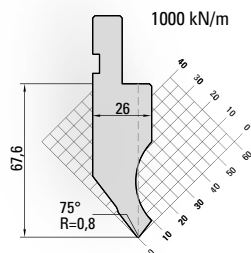
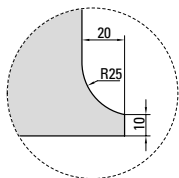


PUNCHES/TOP TOOLS

75° Punch/top tool

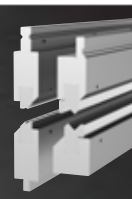
11.275

835 mm	132,—	11,0 kg
415 mm	75,—	5,5 kg
835 mm sectionalized	143,—	11,0 kg



ZNW-Z-TOOL HOLDERS AND Z-TOOL INSERTS Z 1,0 – 15,0

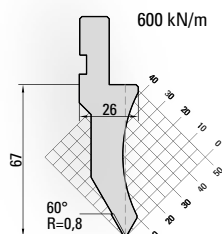
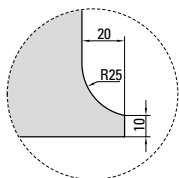
see chapter 09



60° Punches/top tools

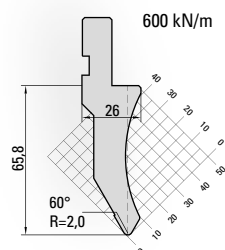
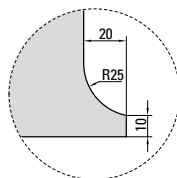
10.142

835 mm	155,—	9,0 kg
415 mm	78,—	4,5 kg
835 mm sectionalized	170,—	9,0 kg



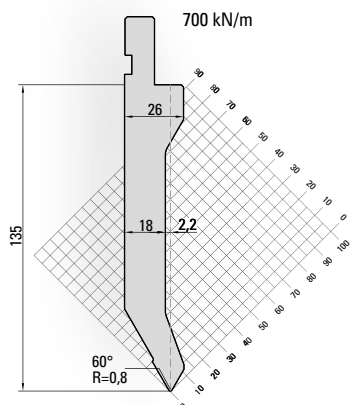
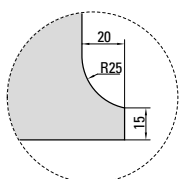
10.143

835 mm	155,—	9,0 kg
415 mm	78,—	4,5 kg
835 mm sectionalized	170,—	9,0 kg



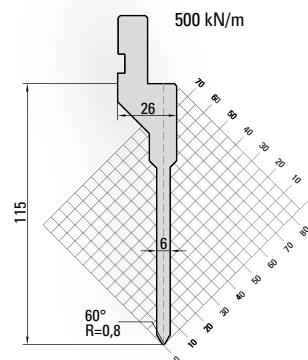
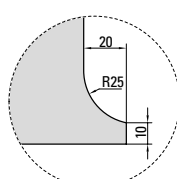
11.750

835 mm	279,—	18,0 kg
415 mm	159,—	9,0 kg
835 mm sectionalized	284,—	18,0 kg



10.520

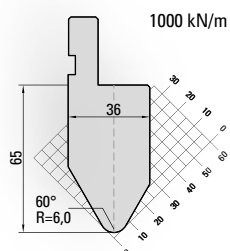
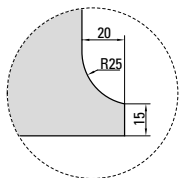
835 mm	392,—	9,5 kg
415 mm	221,—	4,7 kg
835 mm sectionalized	411,—	9,5 kg



10.136

835 mm	146,—	14,0 kg
415 mm	84,—	7,0 kg
835 mm sectionalized	157,—	14,0 kg

1500 kN/m if the tool clamping has the corresponding load



ZNW-SHEAR BLADES

see chapter 20



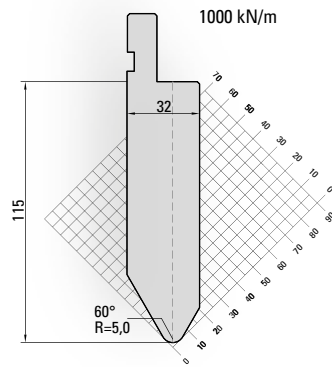
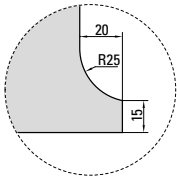
PUNCHES/TOP TOOLS

60° Punches/top tools

11.710

835 mm	255,—	24,5 kg
415 mm	144,—	12,2 kg
835 mm sectionalized	263,—	24,5 kg

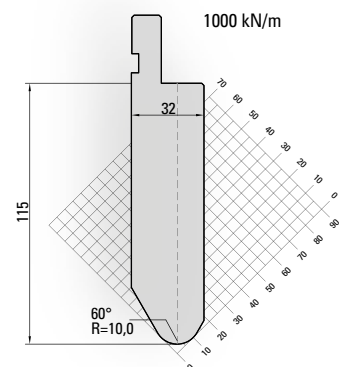
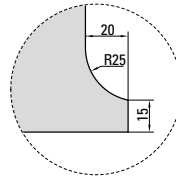
1200 kN/m if the tool clamping has the corresponding load



11.720

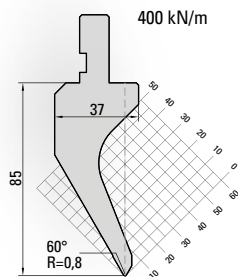
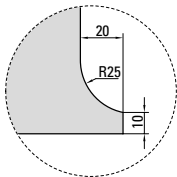
835 mm	255,—	25,0 kg
415 mm	144,—	12,5 kg
835 mm sectionalized	263,—	25,0 kg

1200 kN/m if the tool clamping has the corresponding load



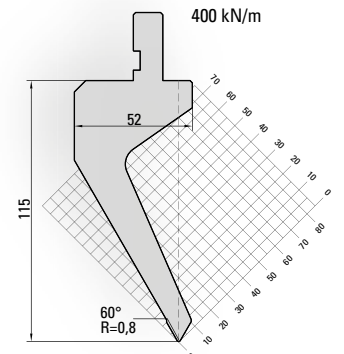
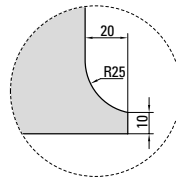
10.516

835 mm	314,—	12,0 kg
415 mm	176,—	6,0 kg
835 mm sectionalized	337,—	12,0 kg



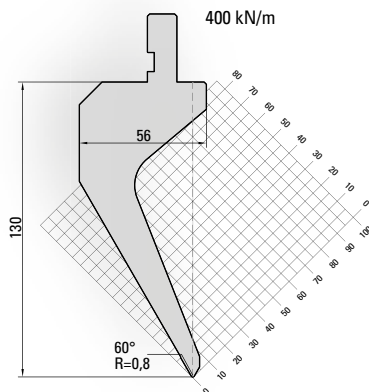
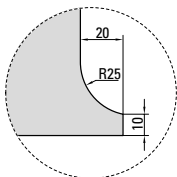
10.500

835 mm	441,—	19,5 kg
415 mm	243,—	9,7 kg
835 mm sectionalized	483,—	19,5 kg



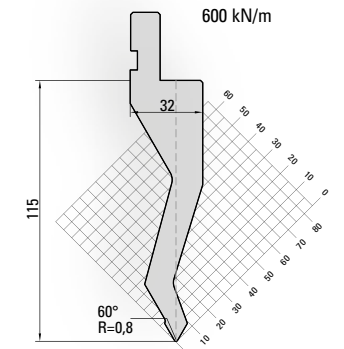
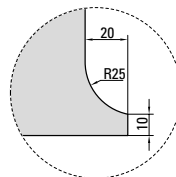
10.506

835 mm	566,—	22,5 kg
415 mm	308,—	11,2 kg
835 mm sectionalized	577,—	22,5 kg



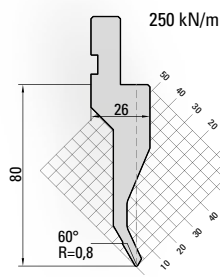
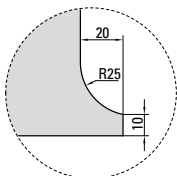
10.510

835 mm	249,—	15,0 kg
415 mm	183,—	7,5 kg
835 mm sectionalized	300,—	15,0 kg



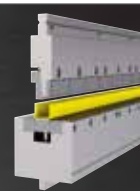
10.517

835 mm	309,—	9,0 kg
415 mm	171,—	4,5 kg
835 mm sectionalized	279,—	9,0 kg



ZNW-SPECIAL TOOLS

see chapter 12

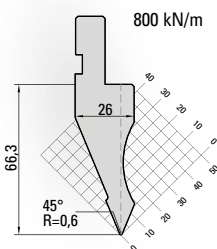
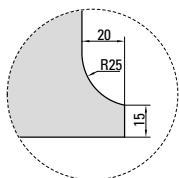


PUNCHES/TOP TOOLS

45° Punches/top tools

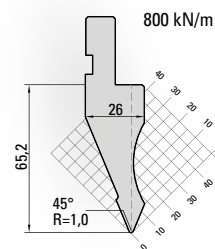
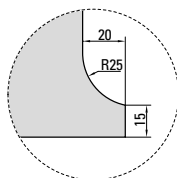
11.134

835 mm	155,—	9,5 kg
415 mm	78,—	4,7 kg
835 mm sectionalized	170,—	9,5 kg



11.102

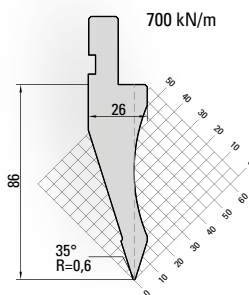
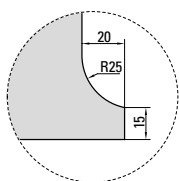
835 mm	155,—	9,5 kg
415 mm	78,—	4,7 kg
835 mm sectionalized	170,—	9,5 kg



35° Punches/top tools

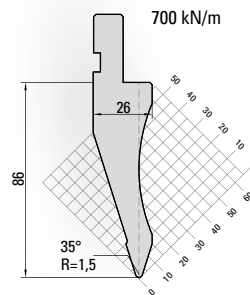
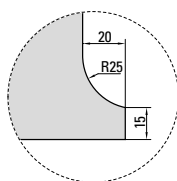
11.103

835 mm	155,—	11,5 kg
415 mm	78,—	5,7 kg
835 mm sectionalized	170,—	11,5 kg



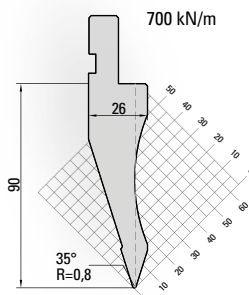
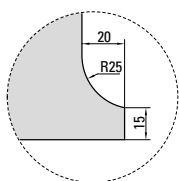
11.104

835 mm	155,—	11,5 kg
415 mm	78,—	5,7 kg
835 mm sectionalized	170,—	11,5 kg



11.600

835 mm	140,—	11,5 kg
415 mm	83,—	5,7 kg
835 mm sectionalized	155,—	11,5 kg

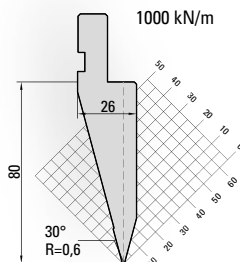
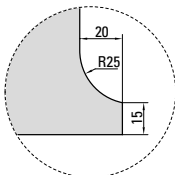


PUNCHES/TOP TOOLS

30° Punches/top tools

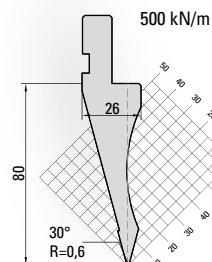
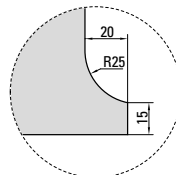
11.158

835 mm	152,—	10,5 kg
415 mm	89,—	5,2 kg
835 mm sectionalized	165,—	10,5 kg



10.514

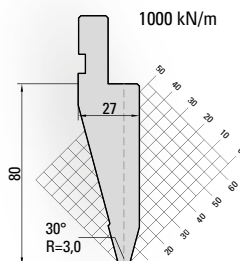
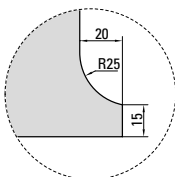
835 mm	212,—	9,0 kg
415 mm	123,—	4,5 kg
835 mm sectionalized	230,—	9,0 kg



10.511

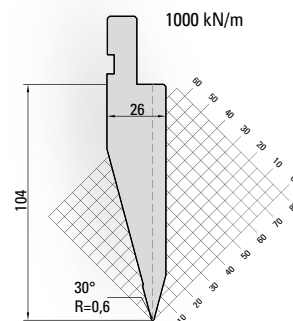
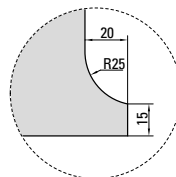
835 mm	165,—	12,5 kg
415 mm	96,—	6,2 kg
835 mm sectionalized	174,—	12,5 kg

1200 kN/m if the tool clamping has the corresponding load



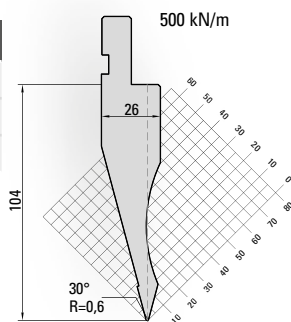
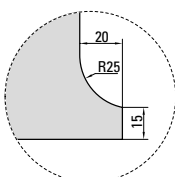
11.258

835 mm	219,—	15,5 kg
415 mm	126,—	7,7 kg
835 mm sectionalized	222,—	15,5 kg



11.514

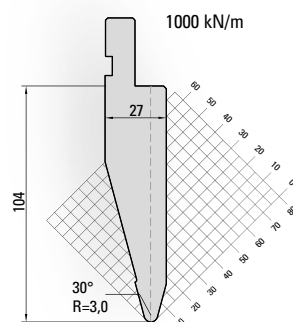
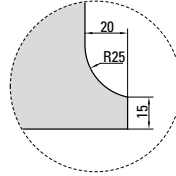
835 mm	276,—	14,0 kg
415 mm	159,—	7,0 kg
835 mm sectionalized	290,—	14,0 kg



11.528

835 mm	239,—	16,5 kg
415 mm	137,—	8,2 kg
835 mm sectionalized	243,—	16,5 kg

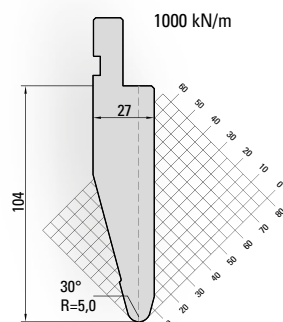
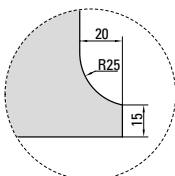
1200 kN/m if the tool clamping has the corresponding load



11.530

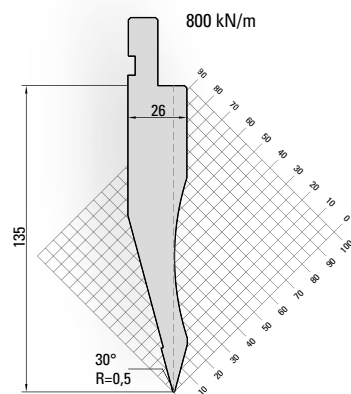
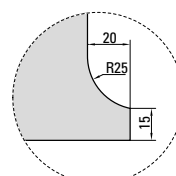
835 mm	239,—	17,0 kg
415 mm	137,—	8,5 kg
835 mm sectionalized	243,—	17,0 kg

1200 kN/m if the tool clamping has the corresponding load



11.780

835 mm	317,—	18,5 kg
415 mm	179,—	9,2 kg
835 mm sectionalized	330,—	18,5 kg

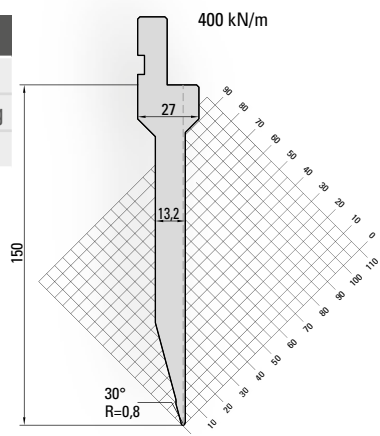
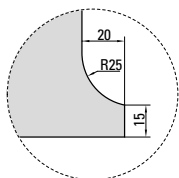


PUNCHES/TOP TOOLS

30° Punches/top tools

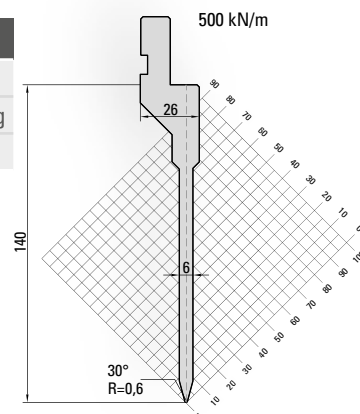
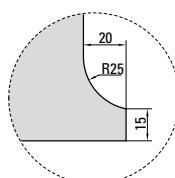
11.880

835 mm	349,-	15,0 kg
415 mm	194,-	7,5 kg
835 mm sectionalized	360,-	15,0 kg



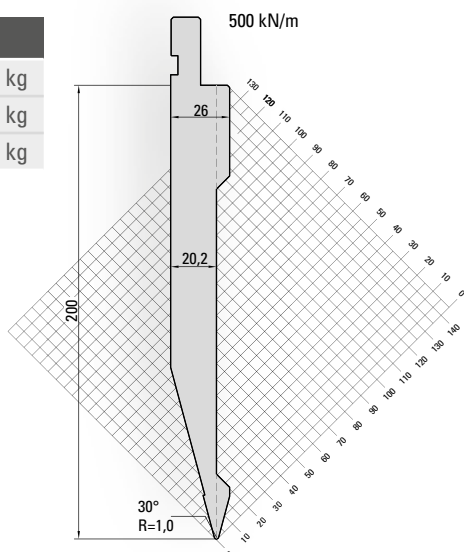
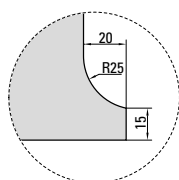
10.515

835 mm	563,-	11,0 kg
415 mm	315,-	5,5 kg
835 mm sectionalized	576,-	11,0 kg



11.810

835 mm	402,-	26,0 kg
415 mm	237,-	13,0 kg
835 mm sectionalized	425,-	26,0 kg



**ZNW-HOLDERS FOR
BLADES AND BLADES R 0,5
- 6,0**

see chapter 07



PUNCHES/TOP TOOLS

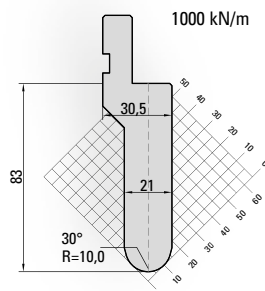
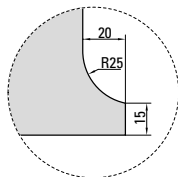
30° Punches/top tools

11.904

835 mm	375,-	14,4 kg
415 mm	207,-	7,2 kg
835 mm sectionalized	390,-	14,4 kg

Compatible to radius-tool holder
10.115 and radius-tool 10.311/11.311
(see page 143/146)

1500 kN/m if the tool clamping has
the corresponding load

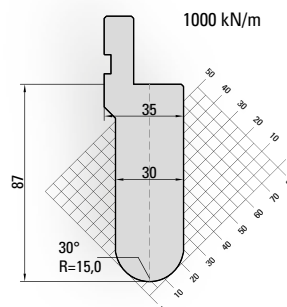
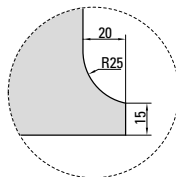


11.911

835 mm	413,-	19,2 kg
415 mm	225,-	9,6 kg
835 mm sectionalized	455,-	19,2 kg

Compatible to radius-tool holder
10.115 and radius-tool 10.311/11.311
(see page 143/146)

1500 kN/m if the tool clamping has
the corresponding load

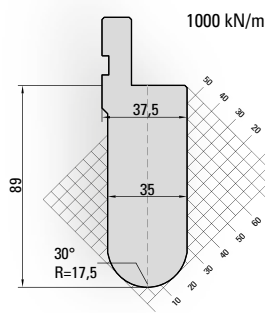
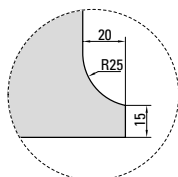


11.914

835 mm	450,-	22,0 kg
415 mm	243,-	11,0 kg
835 mm sectionalized	480,-	22,0 kg

Compatible to radius-tool holder
10.115 and radius-tool 10.311/11.311
(see page 143/146)

1500 kN/m if the tool clamping has
the corresponding load

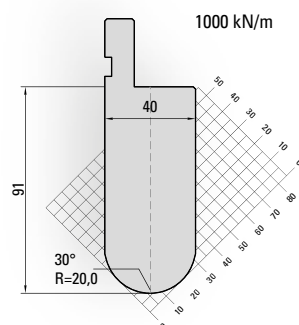
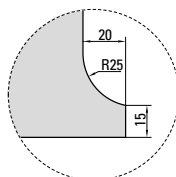


11.916

835 mm	488,-	25,0 kg
415 mm	263,-	12,5 kg
835 mm sectionalized	405,-	25,0 kg

Compatible to radius-tool holder
10.115 and radius-tool 10.311/11.311
(see page 143/146)

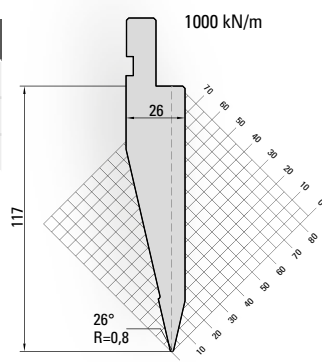
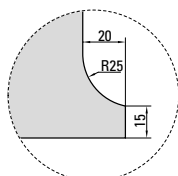
1500 kN/m if the tool clamping has
the corresponding load



26° Punch/top tool

11.540

835 mm	185,-	16,5 kg
415 mm	111,-	8,2 kg
835 mm sectionalized	208,-	16,5 kg



ZNW-ADJUSTABLE DIES

see chapter 11



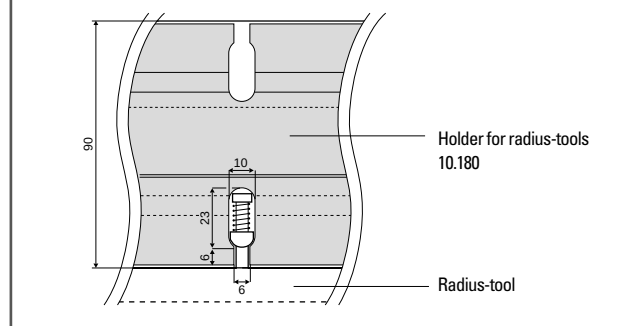
PUNCHES/TOP TOOLS

Holder for radius-tools and radius-tools R 3,0 – 6,5

ADVANTAGES

- Cost-saving: One holder for different radius-tools
- Easy handling
- No adjustment necessary
- High stability
- Flexible application through changeable radius-tools
- Sectionalized radius-tools on request

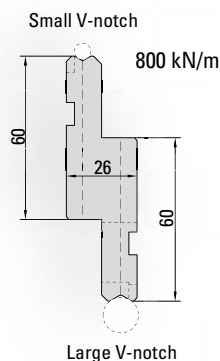
EXAMPLE OF USE



10.180

830 mm	214,-	9,0 kg
412 mm	120,-	4,5 kg

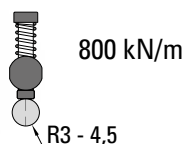
Holder for radius-tools



R 3,0 – 4,5

R (mm)	Model	835 mm		415 mm	
		Price	Weight	Price	Weight
3,0	10.181	47,-	0,20 kg	29,-	0,10 kg
3,5	10.182	50,-	0,25 kg	30,-	0,12 kg
4,0	10.183	54,-	0,35 kg	32,-	0,17 kg
4,5	10.184	60,-	0,50 kg	35,-	0,25 kg

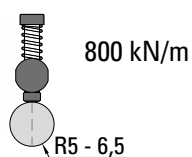
Usable on holder for radius-tools 10.180, small V-notch, radius-tools are not hardened



R 5,0 – 6,5

R (mm)	Model	835 mm		415 mm	
		Price	Weight	Price	Weight
5,0	10.185	62,-	0,60 kg	36,-	0,30 kg
5,5	10.186	66,-	0,70 kg	38,-	0,35 kg
6,0	10.187	71,-	0,80 kg	41,-	0,40 kg
6,5	10.188	77,-	1,00 kg	44,-	0,50 kg

Usable on holder for radius-tools 10.180, large V-notch, radius-tools are not hardened



PUNCHES/TOP TOOLS

85° Window punch/top tool for closed boxes „Rotax®“

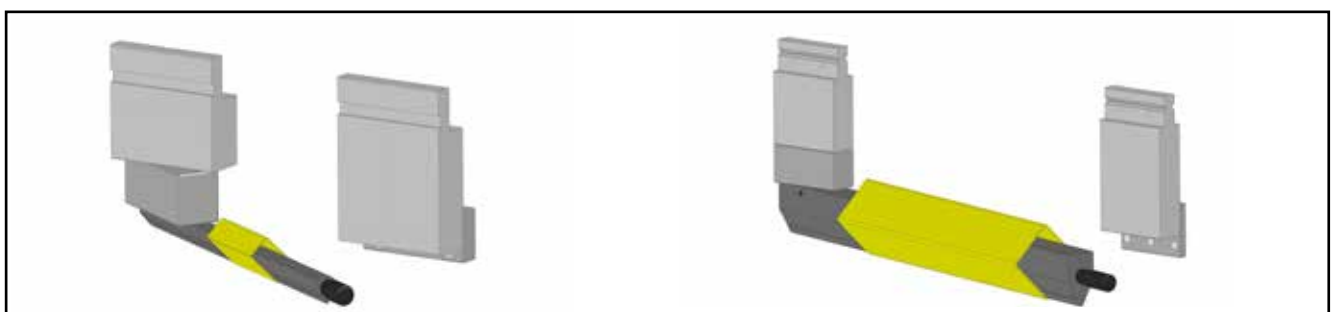
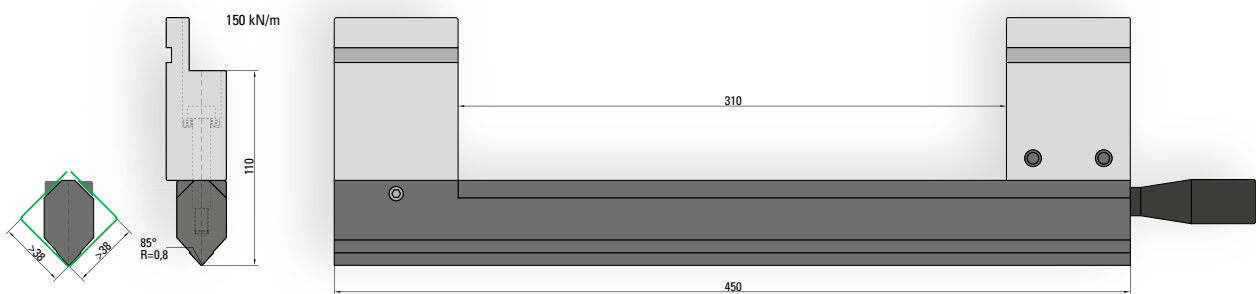
ADVANTAGES

- ▶ Bending of closed profiles
- ▶ High U-profiles
- ▶ Easy removal by opening the pivot arm

40.680

654,-

7,0 kg



Individual production possible

PUNCHES/TOP TOOLS

Punch/top tool distance pieces

50.959

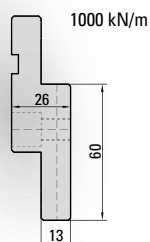
150 mm 53,- 1,8 kg

H = 60 mm

Heightening of the side flange about 35 mm

Needed clamp

see page 23



50.671

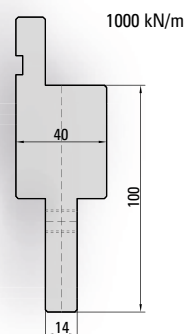
150 mm 60,- 3,6 kg

H = 100 mm

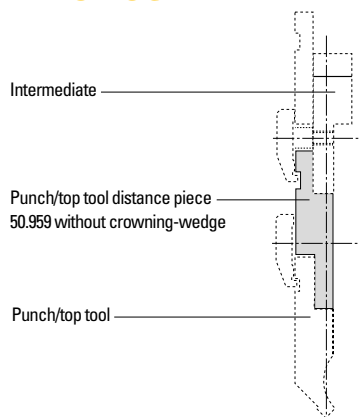
Heightening of the side flange about 70 mm

Needed clamp

see page 23

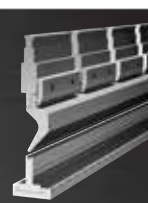


EXAMPLE OF USE



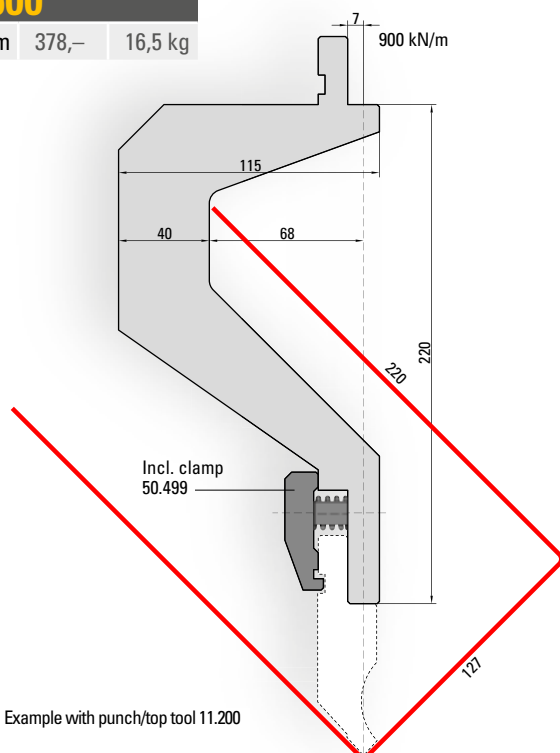
ZNW-ADAPTORS

see chapter 15



50.500

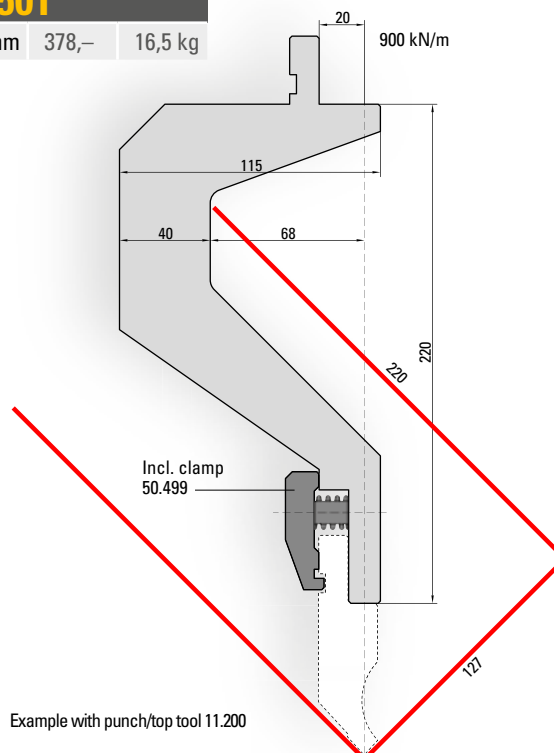
200 mm 378,- 16,5 kg



Example with punch/top tool 11.200

50.501

200 mm 378,- 16,5 kg



Example with punch/top tool 11.200

PUNCHES/TOP TOOLS

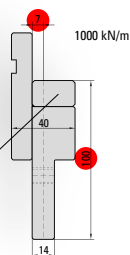
Intermediates L = 150 mm

50.666

150 mm 60,- 4,0 kg

H = 100 mm

With crowning wedge

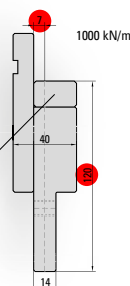


50.668

150 mm 71,- 4,0 kg

H = 120 mm

With crowning wedge

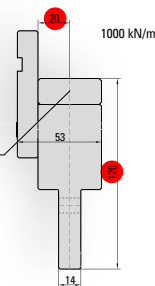


50.667

150 mm 80,- 5,0 kg

H = 120 mm

With crowning wedge

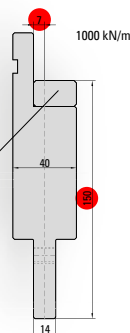


50.512

150 mm 93,- 6,3 kg

H = 150 mm

With crowning wedge

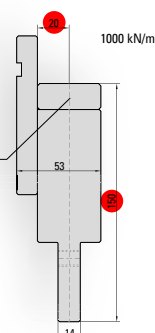


50.669

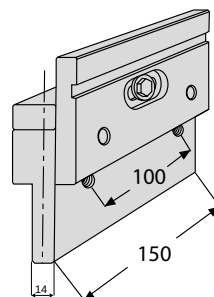
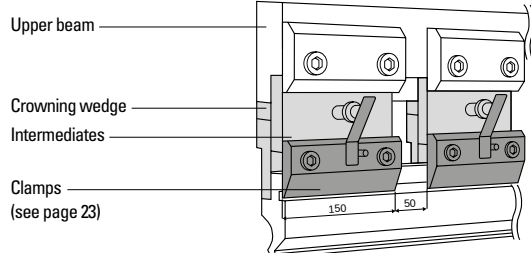
150 mm 101,- 6,5 kg

H = 150 mm

With crowning wedge



EXAMPLE OF USE



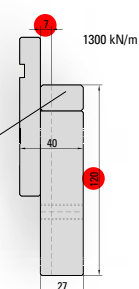
Intermediates „Heavy Duty“ L = 150 mm

50.674

150 mm 71,- 4,5 kg

H = 120 mm

With crowning wedge

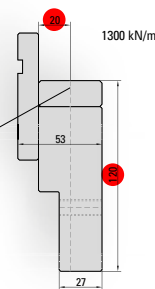


50.673

150 mm 80,- 5,5 kg

H = 120 mm

With crowning wedge



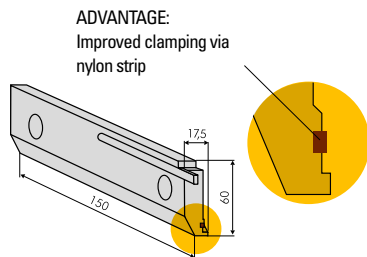
PUNCHES/TOP TOOLS

Clamps L = 150 mm

50.903

150 mm 38,- 0,7 kg

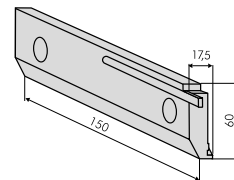
Mechanical fast clamp
Adjusted by eccentric lever



50.900

150 mm 33,- 0,7 kg

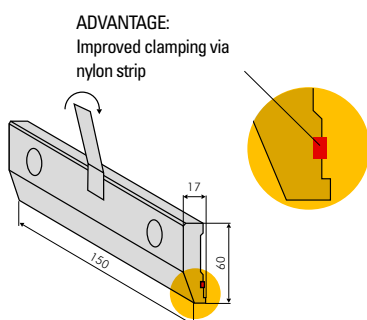
Mechanical fast clamp
Adjusted by eccentric lever



50.905

150 mm 35,- 1,0 kg

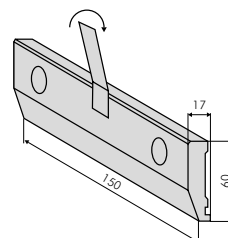
Mechanical fast clamp
Adjusted by handle



50.551

150 mm 30,- 1,0 kg

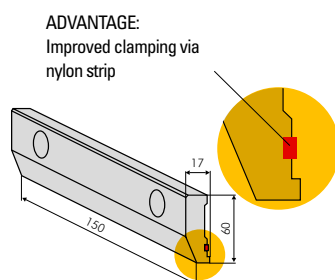
Mechanical fast clamp
Adjusted by handle



50.910

150 mm 29,- 0,8 kg

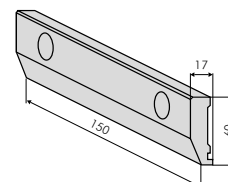
Clamp
Clamping by screws



50.571

150 mm 24,- 0,7 kg

Clamp
Clamping by screws

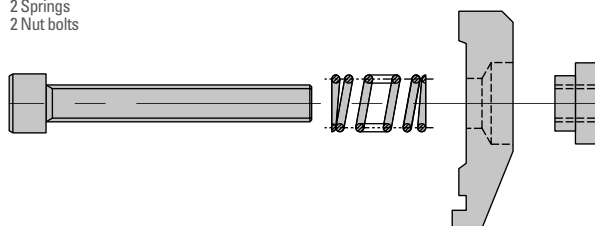


Clamp L = 150 mm for double-sided clamping

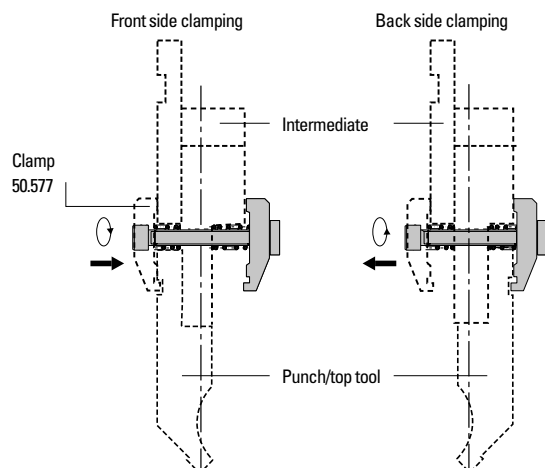
50.577

150 mm 36,- 1,5 kg

Set consist of:
Clamp 50.571
2 Screws
2 Springs
2 Nut bolts



EXAMPLE OF USE



PUNCHES/TOP TOOLS

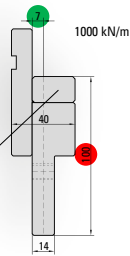
Intermediates L = 70 mm

50.705

70 mm 57,- 2,0 kg

H = 100 mm

With crowning wedge

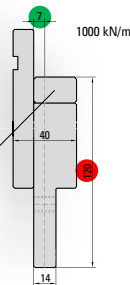


50.706

70 mm 65,- 2,0 kg

H = 120 mm

With crowning wedge

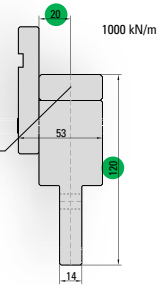


50.707

70 mm 74,- 2,5 kg

H = 120 mm

With crowning wedge

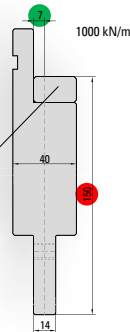


50.708

70 mm 87,- 3,0 kg

H = 150 mm

With crowning wedge

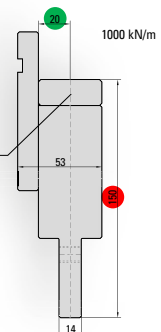


50.710

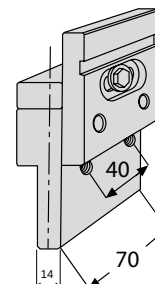
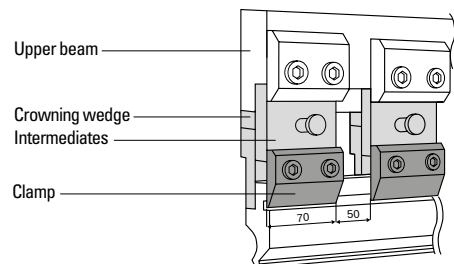
70 mm 95,- 3,5 kg

H = 150 mm

With crowning wedge



EXAMPLE OF USE



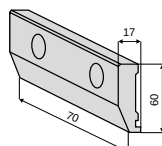
Clamp L = 70 mm

50.693

70 mm 21,- 0,4 kg

Clamp

Clamping by screws

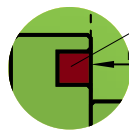
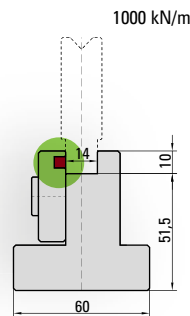


Die holder for central 1-V dies

22.010

835 mm	303,-	16,5 kg
415 mm	185,-	8,2 kg

Die holder incl. clamp
with nylon-strip

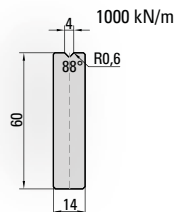


ADVANTAGE:
Improved clamping via
nylon strip

88° Central 1-V dies

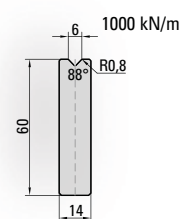
22.804

835 mm	158,-	5,5 kg
415 mm	96,-	2,7 kg
835 mm sectionalized	168,-	5,5 kg



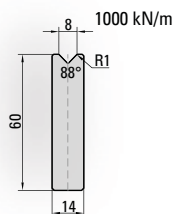
22.806

835 mm	158,-	5,4 kg
415 mm	96,-	2,7 kg
835 mm sectionalized	168,-	5,4 kg



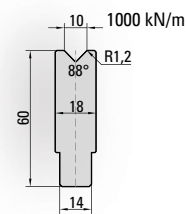
22.808

835 mm	158,-	5,4 kg
415 mm	96,-	2,7 kg
835 mm sectionalized	168,-	5,4 kg



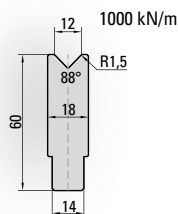
22.810

835 mm	158,-	6,5 kg
415 mm	96,-	3,2 kg
835 mm sectionalized	168,-	6,5 kg



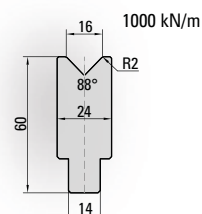
22.812

835 mm	162,-	6,4 kg
415 mm	98,-	3,2 kg
835 mm sectionalized	171,-	6,4 kg



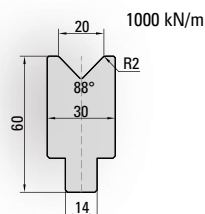
22.816

835 mm	177,-	8,0 kg
415 mm	105,-	4,0 kg
835 mm sectionalized	184,-	8,0 kg



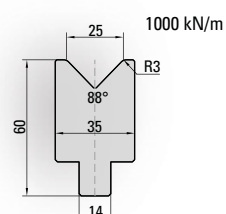
22.820

835 mm	191,-	9,5 kg
415 mm	111,-	4,7 kg
835 mm sectionalized	193,-	9,5 kg



22.825

835 mm	203,-	10,6 kg
415 mm	119,-	5,3 kg
835 mm sectionalized	211,-	10,6 kg



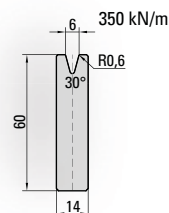
DIES

30° Central 1-V dies



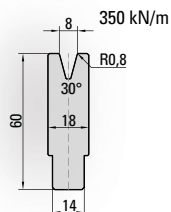
22.306

835 mm	201,—	5,3 kg
415 mm	117,—	2,6 kg
835 mm sectionalized	208,—	5,3 kg



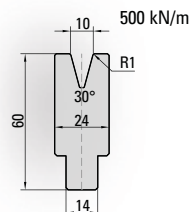
22.308

835 mm	201,—	6,3 kg
415 mm	117,—	3,1 kg
835 mm sectionalized	208,—	6,3 kg



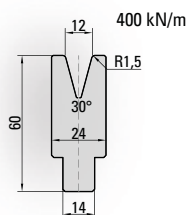
22.310

835 mm	201,—	7,8 kg
415 mm	117,—	3,9 kg
835 mm sectionalized	117,—	7,8 kg



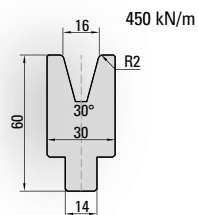
22.312

835 mm	209,—	7,6 kg
415 mm	122,—	3,8 kg
835 mm sectionalized	309,—	7,6 kg



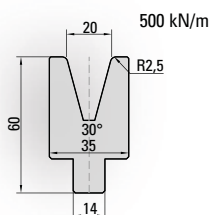
22.316

835 mm	225,—	8,8 kg
415 mm	131,—	4,4 kg
835 mm sectionalized	238,—	8,8 kg



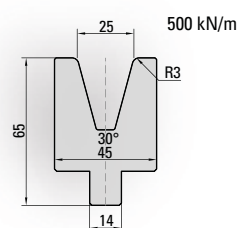
22.320

835 mm	237,—	9,4 kg
415 mm	137,—	4,7 kg
835 mm sectionalized	227,—	9,4 kg



22.325

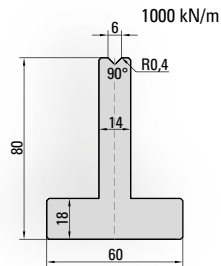
835 mm	251,—	12,7 kg
415 mm	143,—	6,3 kg
835 mm sectionalized	268,—	12,7 kg



90° T-dies, H = 80 mm

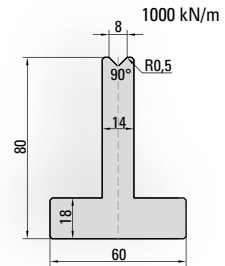
20.243

835 mm	188,—	12,6 kg
415 mm	111,—	6,3 kg
835 mm sectionalized	208,—	12,6 kg



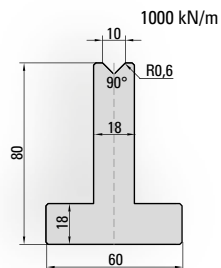
20.258

835 mm	188,—	12,6 kg
415 mm	111,—	6,3 kg
835 mm sectionalized	208,—	12,6 kg



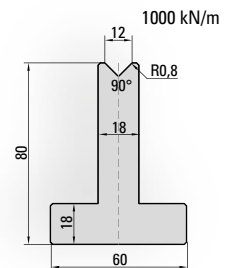
20.244

835 mm	188,—	14,2 kg
415 mm	111,—	7,1 kg
835 mm sectionalized	208,—	14,2 kg



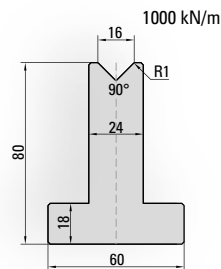
20.245

835 mm	188,—	15,0 kg
415 mm	111,—	7,5 kg
835 mm sectionalized	208,—	15,0 kg



20.246

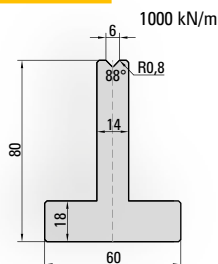
835 mm	188,—	17,5 kg
415 mm	111,—	8,7 kg
835 mm sectionalized	208,—	17,5 kg



88° T-dies, H = 80 mm

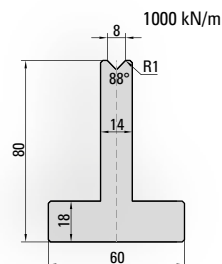
20.806

835 mm	188,—	12,6 kg
415 mm	111,—	6,3 kg
835 mm sectionalized	208,—	12,6 kg



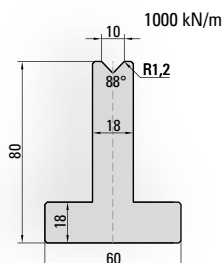
20.808

835 mm	188,—	12,6 kg
415 mm	111,—	6,3 kg
835 mm sectionalized	208,—	12,6 kg



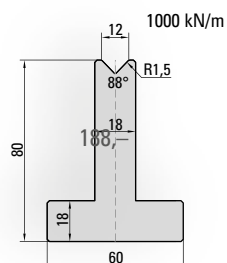
20.810

835 mm	188,—	14,2 kg
415 mm	111,—	7,1 kg
835 mm sectionalized	208,—	14,2 kg



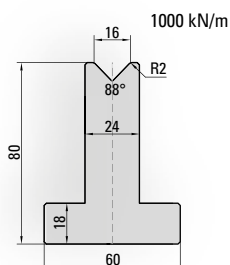
20.371

835 mm	188,—	14,1 kg
415 mm	111,—	7,0 kg
835 mm sectionalized	208,—	14,1 kg



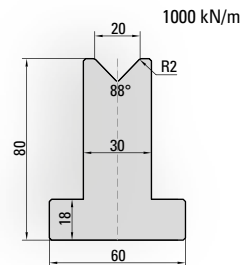
20.327

835 mm	188,—	16,4 kg
415 mm	111,—	8,2 kg
835 mm sectionalized	208,—	16,4 kg



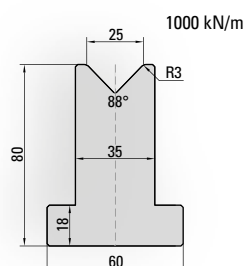
20.310

835 mm	188,—	18,6 kg
415 mm	111,—	9,3 kg
835 mm sectionalized	208,—	18,6 kg



20.309

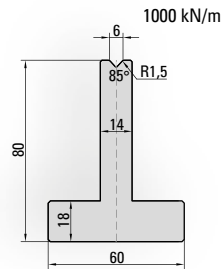
835 mm	188,—	20,2 kg
415 mm	111,—	10,1 kg
835 mm sectionalized	208,—	20,2 kg



85° T-dies, H = 80 mm

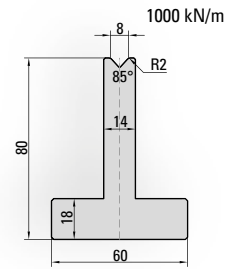
20.506

835 mm	188,—	12,6 kg
415 mm	111,—	6,3 kg
835 mm sectionalized	208,—	12,6 kg



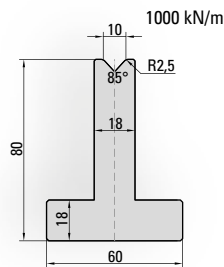
20.508

835 mm	188,—	12,6 kg
415 mm	111,—	6,3 kg
835 mm sectionalized	208,—	12,6 kg



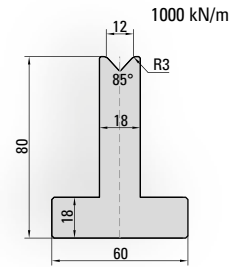
20.510

835 mm	188,—	14,2 kg
415 mm	111,—	7,1 kg
835 mm sectionalized	208,—	14,2 kg



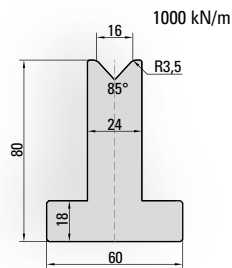
20.512

835 mm	188,—	14,1 kg
415 mm	111,—	7,0 kg
835 mm sectionalized	208,—	14,1 kg



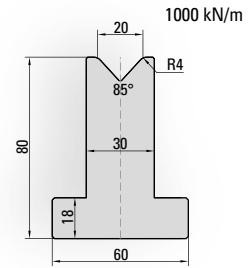
20.516

835 mm	188,—	16,4 kg
415 mm	111,—	8,2 kg
835 mm sectionalized	208,—	16,4 kg



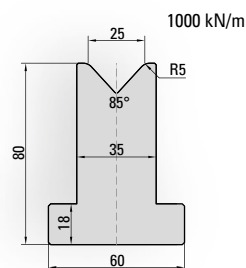
20.520

835 mm	188,—	18,6 kg
415 mm	111,—	9,3 kg
835 mm sectionalized	208,—	18,6 kg



20.525

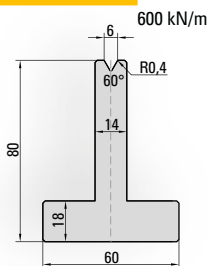
835 mm	188,—	20,2 kg
415 mm	111,—	10,1 kg
835 mm sectionalized	208,—	20,2 kg



60° T-dies, H = 80 mm

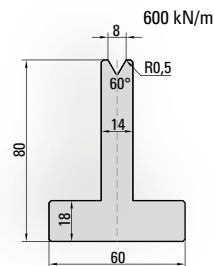
20.297

835 mm	204,—	13,0 kg
415 mm	119,—	6,5 kg
835 mm sectionalized	209,—	13,0 kg



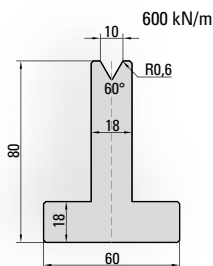
20.298

835 mm	204,—	13,0 kg
415 mm	119,—	6,5 kg
835 mm sectionalized	209,—	13,0 kg



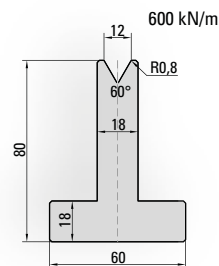
20.299

835 mm	204,—	15,0 kg
415 mm	119,—	7,5 kg
835 mm sectionalized	209,—	15,0 kg



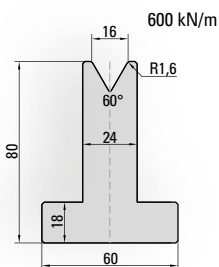
20.300

835 mm	204,—	15,0 kg
415 mm	119,—	7,5 kg
835 mm sectionalized	209,—	15,0 kg



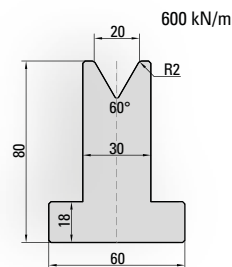
20.301

835 mm	204,—	17,5 kg
415 mm	119,—	8,7 kg
835 mm sectionalized	209,—	17,5 kg



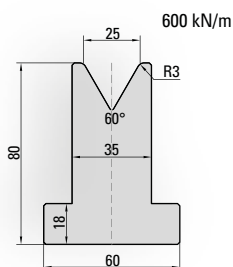
20.308

835 mm	204,—	18,1 kg
415 mm	119,—	9,0 kg
835 mm sectionalized	209,—	18,1 kg



20.311

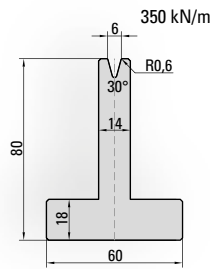
835 mm	204,—	19,5 kg
415 mm	119,—	9,7 kg
835 mm sectionalized	209,—	19,5 kg



30° T-dies, H = 80 mm

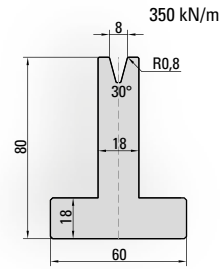
20.317

835 mm	227,-	12,5 kg
415 mm	131,-	6,2 kg
835 mm sectionalized	235,-	12,5 kg



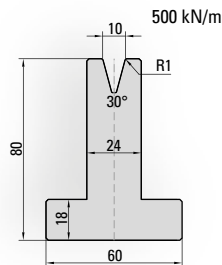
20.318

835 mm	227,-	14,0 kg
415 mm	131,-	7,0 kg
835 mm sectionalized	235,-	14,0 kg



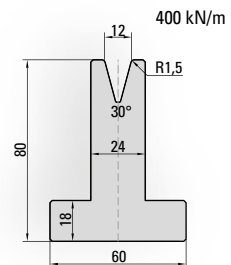
20.319

835 mm	227,-	16,2 kg
415 mm	131,-	8,1 kg
835 mm sectionalized	235,-	16,2 kg



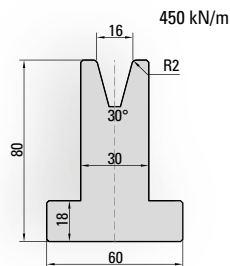
20.320

835 mm	227,-	15,9 kg
415 mm	131,-	7,9 kg
835 mm sectionalized	235,-	15,9 kg



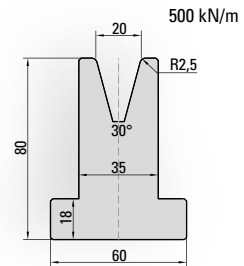
20.321

835 mm	227,-	17,8 kg
415 mm	131,-	8,9 kg
835 mm sectionalized	235,-	17,8 kg



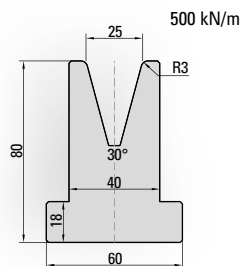
20.322

835 mm	227,-	19,0 kg
415 mm	131,-	9,5 kg
835 mm sectionalized	235,-	19,0 kg



20.323

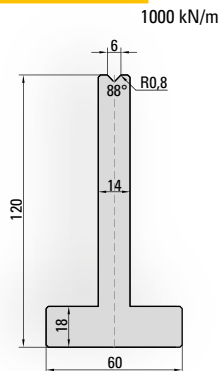
835 mm	227,-	19,6 kg
415 mm	131,-	9,8 kg
835 mm sectionalized	235,-	19,6 kg



88° T-dies, H = 120 mm

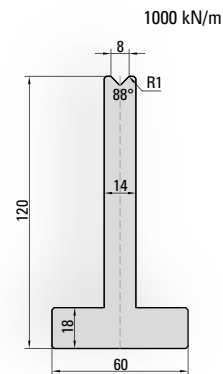
21.806

835 mm	305,—	16,5 kg
415 mm	173,—	8,2 kg
835 mm sectionalized	325,—	16,5 kg



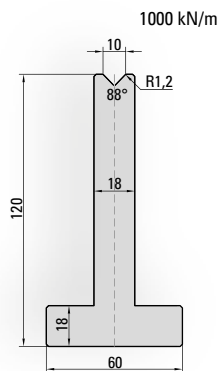
21.808

835 mm	305,—	16,5 kg
415 mm	173,—	8,2 kg
835 mm sectionalized	325,—	16,5 kg



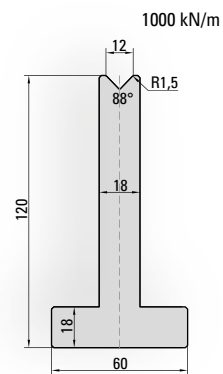
21.810

835 mm	305,—	19,0 kg
415 mm	173,—	9,5 kg
835 mm sectionalized	325,—	19,0 kg



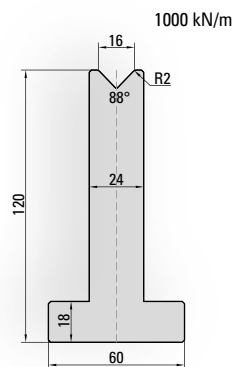
20.382

835 mm	305,—	18,8 kg
415 mm	173,—	9,4 kg
835 mm sectionalized	325,—	18,8 kg



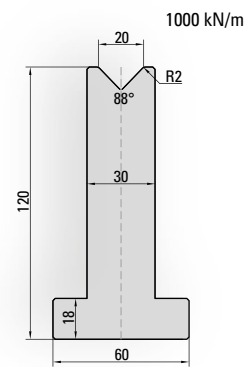
20.383

835 mm	305,—	22,7 kg
415 mm	173,—	11,3 kg
835 mm sectionalized	325,—	22,7 kg



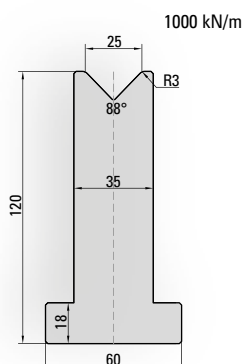
20.384

835 mm	305,—	26,4 kg
415 mm	173,—	13,2 kg
835 mm sectionalized	325,—	26,4 kg



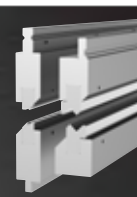
20.385

835 mm	305,—	29,4 kg
415 mm	173,—	14,7 kg
835 mm sectionalized	325,—	29,4 kg



**ZNW-Z-TOOL
HOLDERS AND Z-TOOL
INSERTS Z 1,0 – 15,0**

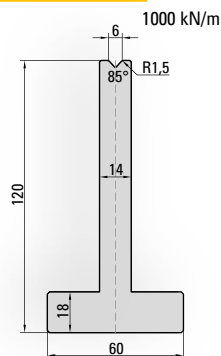
see chapter 09



85° T-dies, H = 120 mm

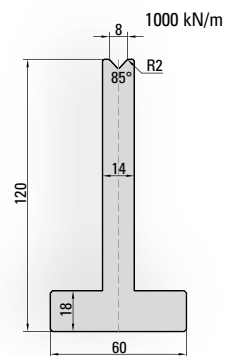
21.506

835 mm	305,-	16,5 kg
415 mm	173,-	8,2 kg
835 mm sectionalized	325,-	16,5 kg



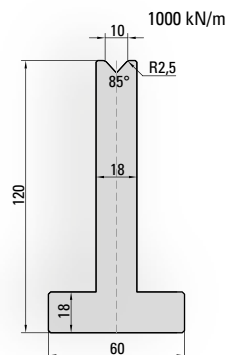
21.508

835 mm	305,-	16,5 kg
415 mm	173,-	8,2 kg
835 mm sectionalized	325,-	16,5 kg



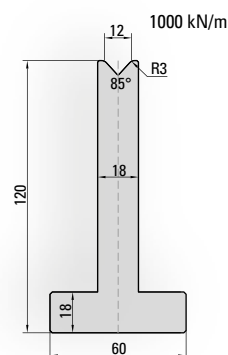
21.510

835 mm	305,-	19,0 kg
415 mm	173,-	9,5 kg
835 mm sectionalized	325,-	19,0 kg



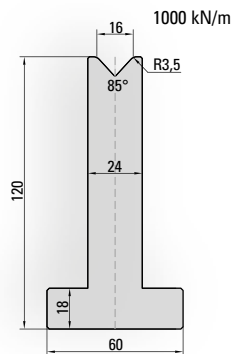
21.512

835 mm	305,-	18,8 kg
415 mm	173,-	9,4 kg
835 mm sectionalized	325,-	18,8 kg



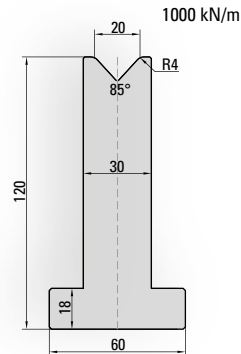
21.516

835 mm	305,-	22,7 kg
415 mm	173,-	11,3 kg
835 mm sectionalized	325,-	22,7 kg



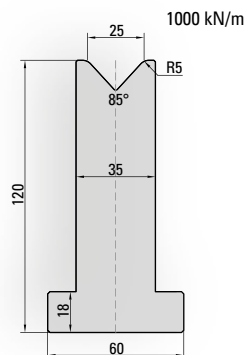
21.520

835 mm	305,-	26,4 kg
415 mm	173,-	13,2 kg
835 mm sectionalized	325,-	26,4 kg



21.525

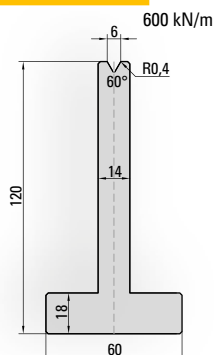
835 mm	305,-	29,4 kg
415 mm	173,-	14,7 kg
835 mm sectionalized	325,-	29,4 kg



60° T-dies, H = 120 mm

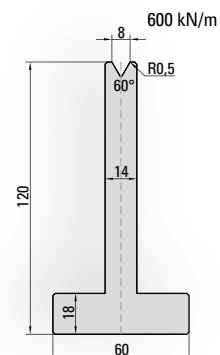
20.386

835 mm	317,-	16,3 kg
415 mm	177,-	8,1 kg
835 mm sectionalized	334,-	16,3 kg



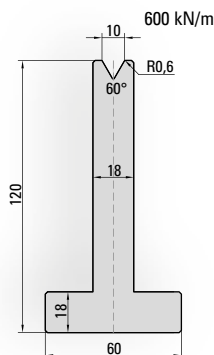
20.387

835 mm	317,-	16,2 kg
415 mm	177,-	8,1 kg
835 mm sectionalized	334,-	16,2 kg



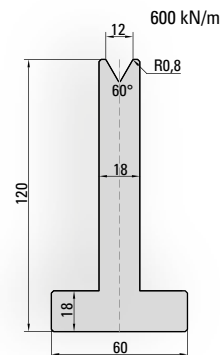
20.388

835 mm	317,-	18,8 kg
415 mm	177,-	9,4 kg
835 mm sectionalized	334,-	18,8 kg



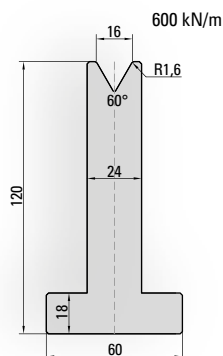
20.389

835 mm	317,-	18,7 kg
415 mm	177,-	9,3 kg
835 mm sectionalized	334,-	18,7 kg



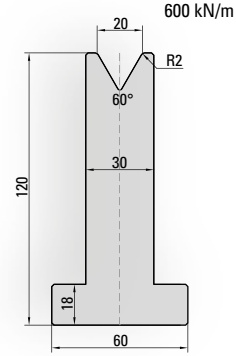
20.390

835 mm	317,-	22,4 kg
415 mm	177,-	11,2 kg
835 mm sectionalized	334,-	22,4 kg



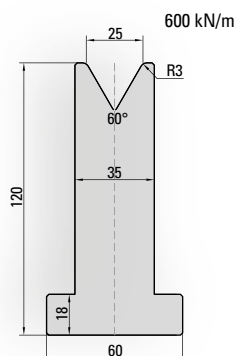
20.391

835 mm	317,-	26,0 kg
415 mm	177,-	13,0 kg
835 mm sectionalized	334,-	26,0 kg



20.392

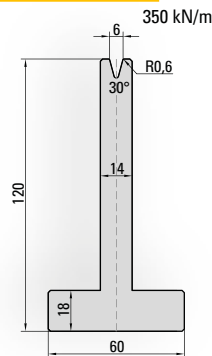
835 mm	317,-	28,7 kg
415 mm	177,-	14,3 kg
835 mm sectionalized	334,-	28,7 kg



30° T-dies, H = 120 mm

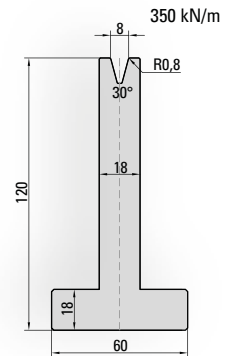
20.351

835 mm	339,-	16,2 kg
415 mm	189,-	8,1 kg
835 mm sectionalized	348,-	16,2 kg



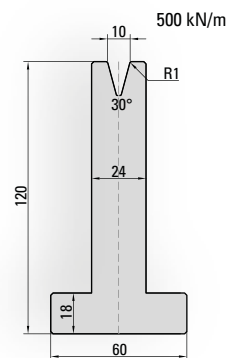
20.352

835 mm	339,-	18,7 kg
415 mm	189,-	9,3 kg
835 mm sectionalized	348,-	18,7 kg



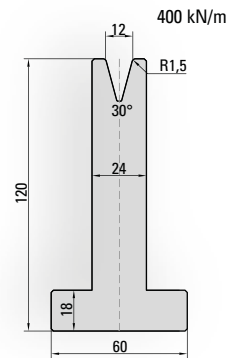
20.353

835 mm	339,-	22,5 kg
415 mm	189,-	11,2 kg
835 mm sectionalized	348,-	22,5 kg



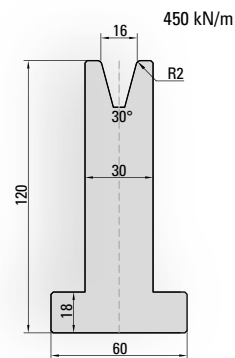
20.354

835 mm	339,-	22,2 kg
415 mm	189,-	11,1 kg
835 mm sectionalized	348,-	22,2 kg



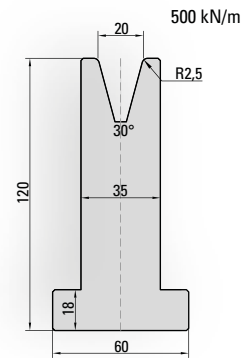
20.401

835 mm	339,-	25,7 kg
415 mm	189,-	12,8 kg
835 mm sectionalized	348,-	25,7 kg



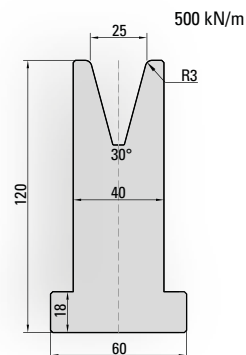
20.402

835 mm	339,-	28,0 kg
415 mm	189,-	14,0 kg
835 mm sectionalized	348,-	28,0 kg



20.403

835 mm	339,-	30,0 kg
415 mm	189,-	15,0 kg
835 mm sectionalized	348,-	30,0 kg



**ZNW-HOLDERS FOR
BLADES AND
BLADES R 0,5 – 6,0**

see chapter 07

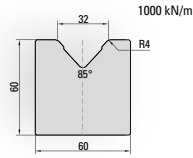


DIES

85° 1-V dies

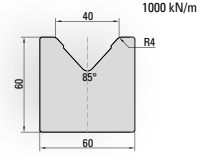
20.210

835 mm	150,—	22,0 kg
415 mm	83,—	11,0 kg
835 mm sectionalized	179,—	22,0 kg



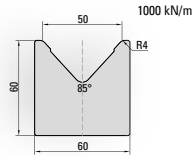
20.211

835 mm	150,—	21,0 kg
415 mm	83,—	10,5 kg
835 mm sectionalized	179,—	21,0 kg



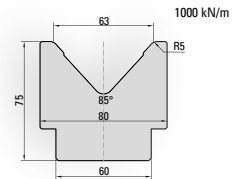
20.212

835 mm	150,—	19,0 kg
415 mm	83,—	9,5 kg
835 mm sectionalized	179,—	19,0 kg



20.213

835 mm	240,—	29,0 kg
415 mm	141,—	14,5 kg
835 mm sectionalized	277,—	29,0 kg

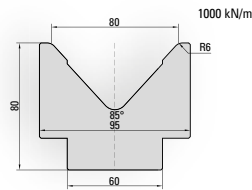


1200 kN/m if the tool clamping has the corresponding load

20.214

835 mm	297,—	33,2 kg
415 mm	176,—	16,6 kg
835 mm sectionalized	338,—	33,2 kg

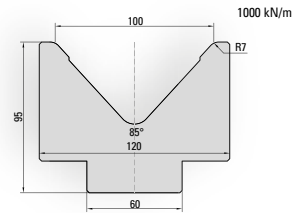
1200 kN/m if the tool clamping has the corresponding load



20.215

835 mm	345,—	50,0 kg
415 mm	206,—	25,0 kg
835 mm sectionalized	390,—	50,0 kg

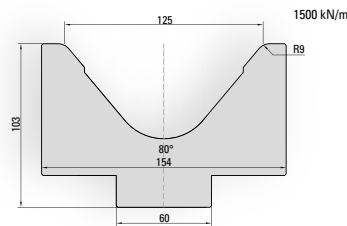
1500 kN/m if the tool clamping has the corresponding load



80° 1-V dies

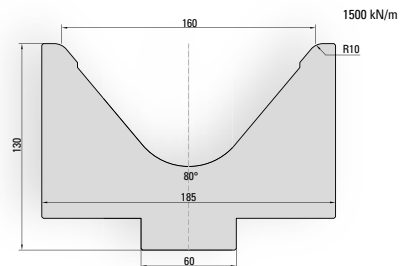
21.125

415 mm	267,—	31,0 kg
200 mm	150,—	15,0 kg



21.160

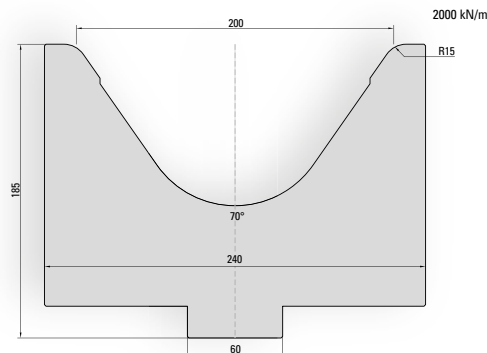
415 mm	360,—	46,5 kg
200 mm	203,—	22,4 kg



70° 1-V die

21.200

415 mm	741,—	88,0 kg
200 mm	413,—	42,5 kg



ZNW-ADJUSTABLE DIES

see chapter 11



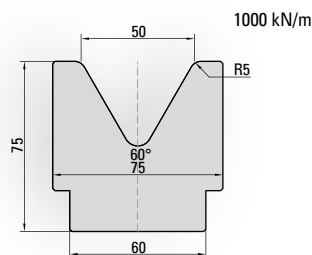
DIES

60° 1-V dies

20.650

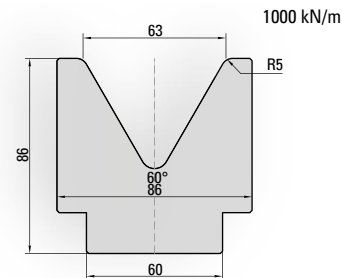
835 mm	363,—	27,5 kg
415 mm	206,—	13,7 kg
835 mm sectionalized	377,—	27,5 kg

1200 kN/m if the tool clamping has the corresponding load



20.370

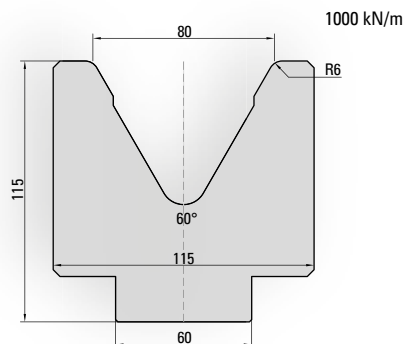
835 mm	432,—	34,3 kg
415 mm	245,—	17,1 kg
835 mm sectionalized	444,—	34,3 kg



20.680

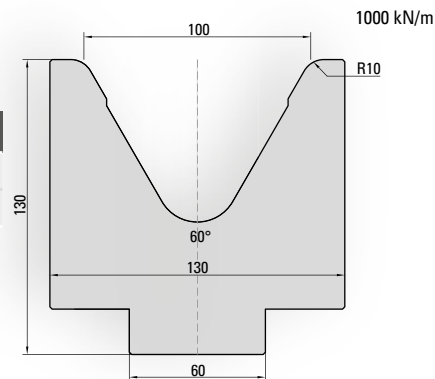
835 mm	615,—	60,0 kg
415 mm	359,—	30,0 kg
835 mm sectionalized	614,—	60,0 kg

1200 kN/m if the tool clamping has the corresponding load



20.610

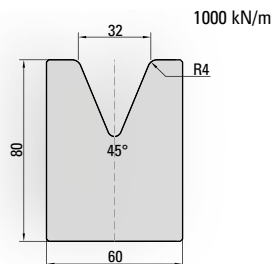
415 mm	386,—	37,0 kg
835 mm sectionalized	720,—	74,0 kg



45° 1-V dies

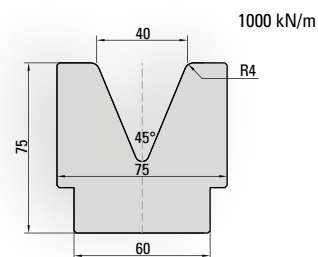
20.484

835 mm	204,—	27,5 kg
415 mm	123,—	13,7 kg
835 mm sectionalized	220,—	27,5 kg



20.440

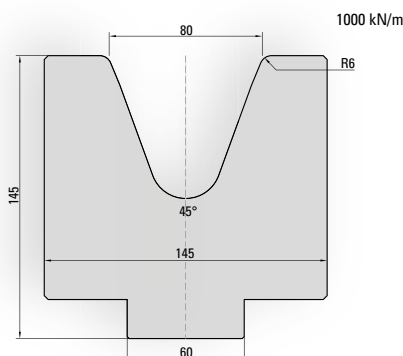
835 mm	288,—	28,5 kg
415 mm	168,—	14,2 kg
835 mm sectionalized	307,—	28,5 kg



20.380

415 mm	438,—	50,0 kg
200 mm	270,—	24,0 kg

1500 kN/m if the tool clamping has the corresponding load

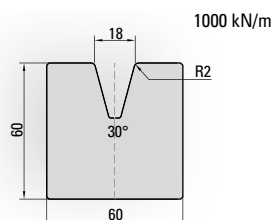


30° 1-V dies

20.494

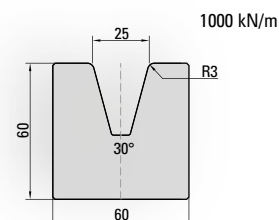
835 mm	171,—	22,0 kg
415 mm	99,—	11,0 kg
835 mm sectionalized	186,—	22,0 kg

1200 kN/m if the tool clamping has the corresponding load



20.325

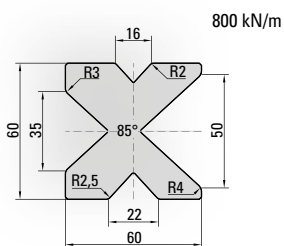
835 mm	201,—	20,1 kg
415 mm	113,—	10,0 kg
835 mm sectionalized	208,—	20,1 kg



Die blocks

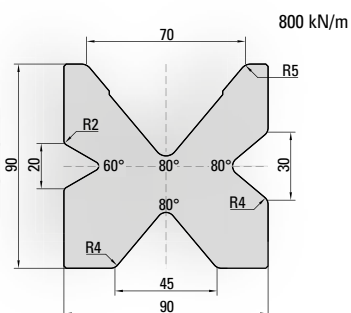
21.207

835 mm	195,—	15,5 kg
415 mm	117,—	7,7 kg
835 mm sectionalized	212,—	15,5 kg



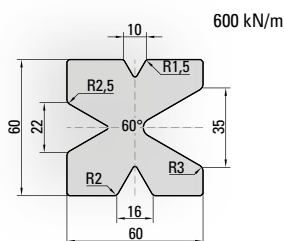
28.820

835 mm	445,—	36,0 kg
415 mm	260,—	18,0 kg
835 mm sectionalized	518,—	36,0 kg



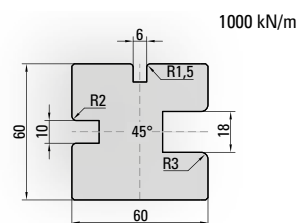
20.350

835 mm	271,—	17,8 kg
415 mm	155,—	8,9 kg
835 mm sectionalized	264,—	17,8 kg



21.209

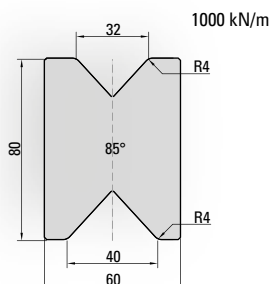
835 mm	185,—	20,0 kg
415 mm	111,—	10,0 kg
835 mm sectionalized	211,—	20,0 kg



20.820

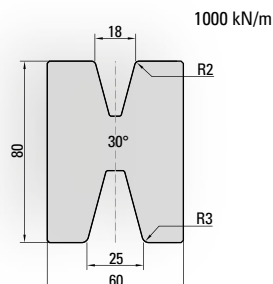
835 mm	248,—	27,0 kg
415 mm	144,—	13,5 kg
835 mm sectionalized	295,—	27,0 kg

1500 kN/m if the tool clamping has the corresponding load



20.830

835 mm	294,—	26,0 kg
415 mm	167,—	13,0 kg
835 mm sectionalized	326,—	26,0 kg



Die holders

1000 kN/m

20.200

835 mm	116,-	9,3 kg
415 mm	66,-	4,6 kg

1000 kN/m

20.316

835 mm	120,-	11,5 kg
415 mm	69,-	5,7 kg

1000 kN/m

20.201

835 mm	131,-	14,2 kg
415 mm	75,-	7,1 kg

1000 kN/m

20.306

835 mm	161,-	18,9 kg
415 mm	92,-	9,4 kg

Die holders for central 2-V dies

1000 kN/m

20.287

835 mm	105,-	4,0 kg
415 mm	62,-	2,0 kg

1000 kN/m

20.400

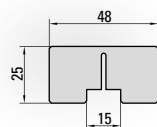
835 mm	146,-	8,3 kg
415 mm	83,-	4,1 kg

Clamping piece for central 2-V dies

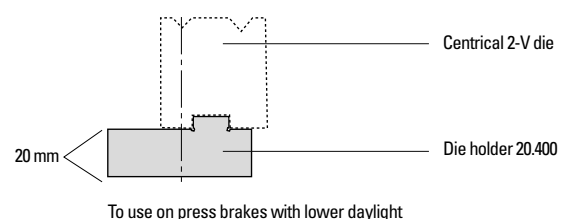
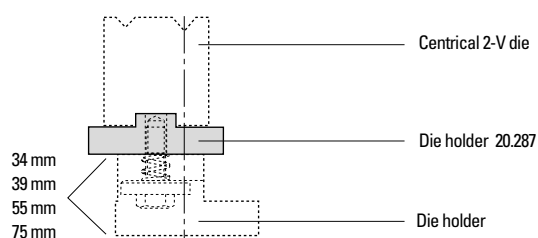
20.336

Per piece	18,-	0,2 kg
-----------	------	--------

Clamping piece to fix small central 2-V dies on the die holder 20.287 and 20.400



EXAMPLE OF USE

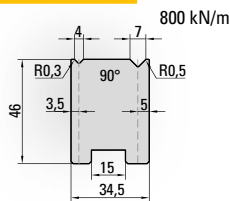


DIES

90° Central 2-V dies

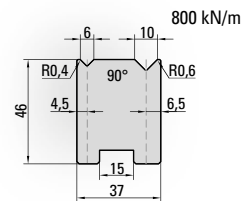
20.275

835 mm	159,—	9,5 kg
415 mm	92,—	4,7 kg
835 mm sectionalized	177,—	9,5 kg



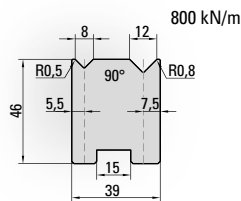
20.276

835 mm	159,—	10,0 kg
415 mm	92,—	5,0 kg
835 mm sectionalized	177,—	10,0 kg



20.277

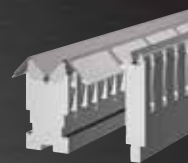
835 mm	159,—	10,5 kg
415 mm	92,—	5,2 kg
835 mm sectionalized	177,—	10,5 kg



ZNW-UNIBEND AND

ZNW-WINGBEND PLUS

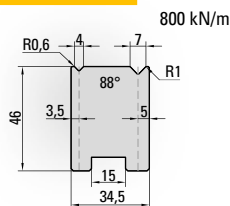
see chapter 10



88° Central 2-V dies

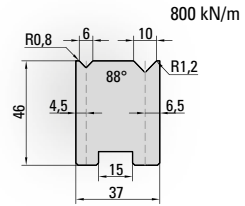
21.275

835 mm	159,—	9,5 kg
415 mm	92,—	4,7 kg
835 mm sectionalized	177,—	9,5 kg



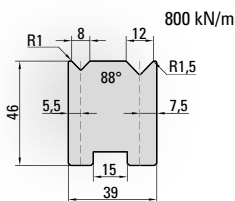
21.276

835 mm	159,—	10,0 kg
415 mm	92,—	5,0 kg
835 mm sectionalized	177,—	10,0 kg



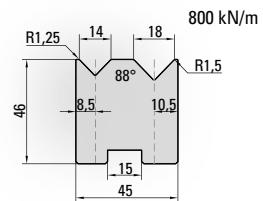
20.339

835 mm	159,—	10,8 kg
415 mm	92,—	5,4 kg
835 mm sectionalized	177,—	10,8 kg



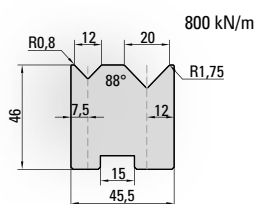
20.278

835 mm	161,—	12,0 kg
415 mm	95,—	6,0 kg
835 mm sectionalized	179,—	12,0 kg



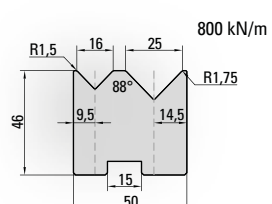
20.279

835 mm	161,—	12,0 kg
415 mm	95,—	6,0 kg
835 mm sectionalized	179,—	12,0 kg



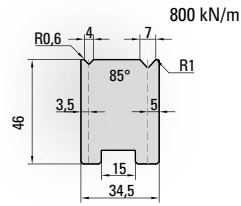
20.280

835 mm	164,—	13,0 kg
415 mm	96,—	6,5 kg
835 mm sectionalized	181,—	13,0 kg

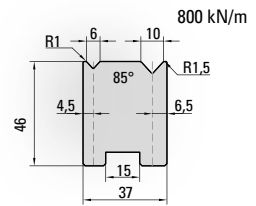


85° Centrical 2-V dies

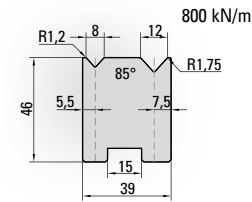
20.344		
835 mm	159,—	9,5 kg
415 mm	92,—	4,7 kg
835 mm sectionalized	177,—	9,5 kg



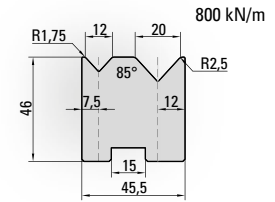
20.345		
835 mm	159,—	10,0 kg
415 mm	92,—	5,0 kg
835 mm sectionalized	177,—	10,0 kg



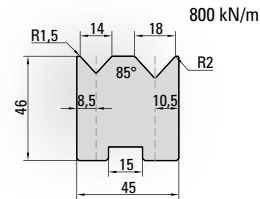
20.346		
835 mm	159,—	10,5 kg
415 mm	92,—	5,3 kg
835 mm sectionalized	177,—	10,5 kg



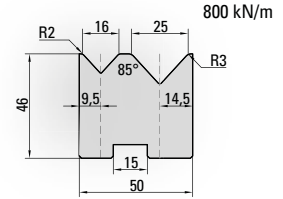
20.347		
835 mm	161,—	12,0 kg
415 mm	95,—	6,0 kg
835 mm sectionalized	179,—	12,0 kg



20.349		
835 mm	161,—	12,0 kg
415 mm	95,—	6,0 kg
835 mm sectionalized	179,—	12,0 kg

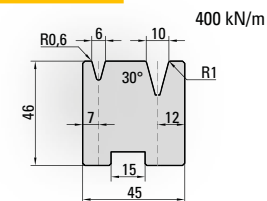


20.348		
835 mm	164,—	13,0 kg
415 mm	96,—	6,5 kg
835 mm sectionalized	181,—	13,0 kg

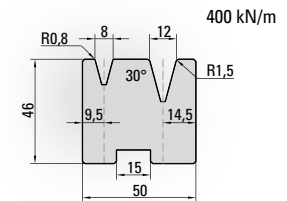


30° Centrical 2-V dies

20.438		
835 mm	216,—	12,5 kg
415 mm	126,—	6,2 kg
835 mm sectionalized	218,—	12,5 kg



20.478		
835 mm	216,—	13,0 kg
415 mm	126,—	6,5 kg
835 mm sectionalized	218,—	13,0 kg

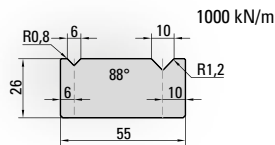


DIES

88° 2-V dies

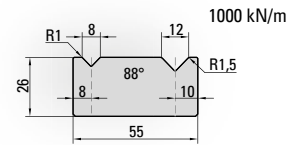
21.202

835 mm	101,—	9,0 kg
415 mm	60,—	4,5 kg



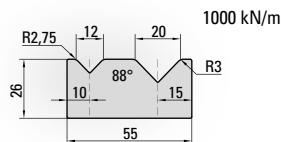
20.338

835 mm	101,—	9,0 kg
415 mm	60,—	4,5 kg



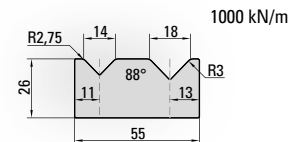
20.204

835 mm	101,—	8,5 kg
415 mm	60,—	4,2 kg



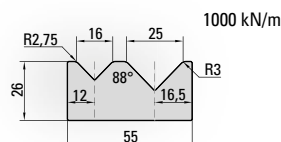
20.296

835 mm	101,—	9,0 kg
415 mm	60,—	4,5 kg

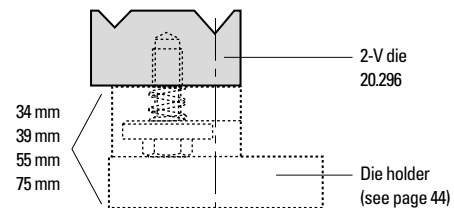


20.205

835 mm	101,—	8,0 kg
415 mm	60,—	4,0 kg



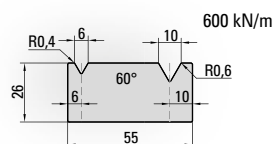
EXAMPLE OF USE



60° 2-V dies

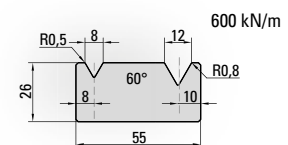
20.235

835 mm	125,—	9,0 kg
415 mm	74,—	4,5 kg



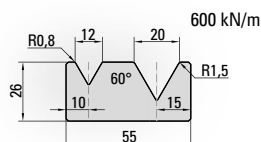
20.229

835 mm	125,—	8,5 kg
415 mm	74,—	4,2 kg



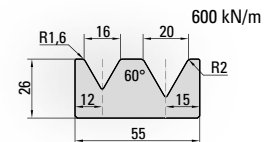
20.230

835 mm	125,—	8,0 kg
415 mm	74,—	4,0 kg



20.267

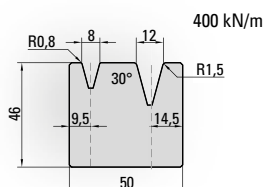
835 mm	125,—	7,5 kg
415 mm	74,—	3,7 kg



30° 2-V die

20.418

835 mm	206,—	13,5 kg
415 mm	120,—	6,7 kg



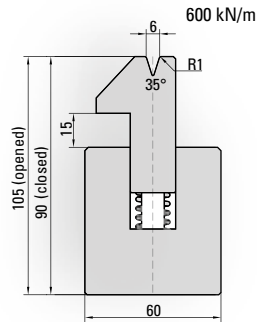
FLATTENING TOOLS

Spring-loaded flattening dies

20.264

835 mm	425,-	30,5 kg
415 mm	255,-	15,2 kg

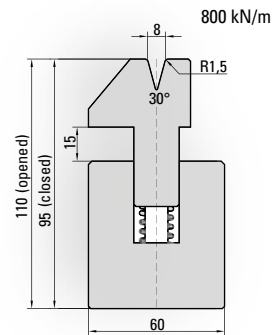
Max. 1,0 mm material thickness
 $R_m = 400 \text{ N/mm}^2$



20.303

835 mm	465,-	33,0 kg
415 mm	281,-	16,5 kg

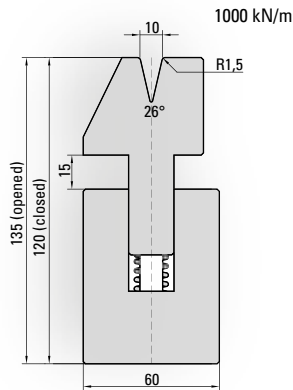
Max. 1,5 mm material thickness
 $R_m = 400 \text{ N/mm}^2$



20.231

835 mm	521,-	41,5 kg
415 mm	321,-	20,7 kg

Max. 2,0 mm material thickness
 $R_m = 400 \text{ N/mm}^2$



20.305

835 mm	614,-	43,5 kg
415 mm	377,-	21,7 kg

Max. 3,0 mm material thickness
 $R_m = 400 \text{ N/mm}^2$

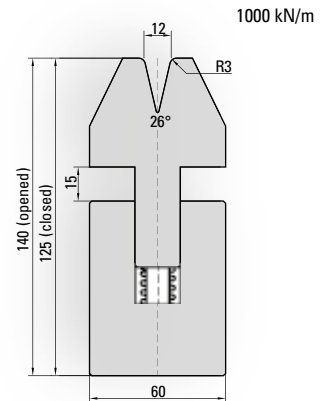


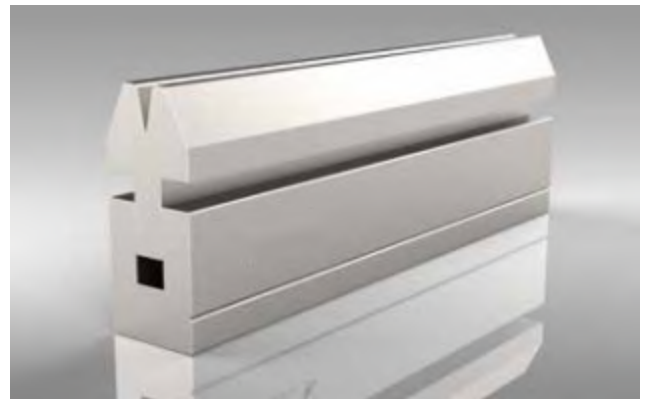
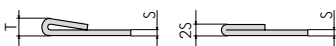
Table of force for flattening

Material: $R_m = 400 \text{ N/mm}^2$ (St)

S (mm)	(t/m)	T (mm)	(t/m)	2S (mm)
0,6	9	3,0	23	1,2
0,8	12	3,0	32	1,6
1,0	15	3,5	40	2,0
1,25	17	3,5	50	2,5
1,5	22	4,6	63	3,0
2,0	30	5,5	80	4,0
2,5	55	6,5	90	5,0
3,0	70	8,0	100	6,0

Material: $R_m = 700 \text{ N/mm}^2$ (VA)

S (mm)	(t/m)	T (mm)	(t/m)	2S (mm)
0,6	15	3,0	35	1,2
0,8	20	3,0	50	1,6
1,0	25	3,5	60	2,0
1,25	26	3,5	80	2,5
1,5	38	4,6	95	3,0
2,0	50	5,5	130	4,0



FLATTENING TOOLS

Pneumatic flattening dies

ADVANTAGES

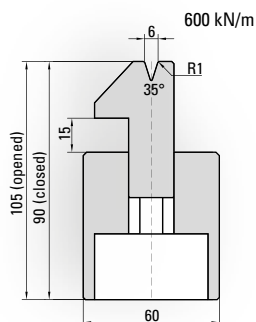
- Faster bending through 15 mm less stroke
- More precise bending
- Less attrition
- Connectable to existing free control-output I/O

21.264

835 mm	719,-	30,5 kg
415 mm	552,-	15,2 kg

Max. 1,0 mm material thickness
 $R_m = 400 \text{ N/mm}^2$

Delivery time on request

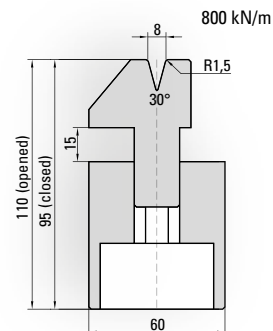


21.303

835 mm	776,-	33,0 kg
415 mm	594,-	16,5 kg

Max. 1,5 mm material thickness
 $R_m = 400 \text{ N/mm}^2$

Delivery time on request

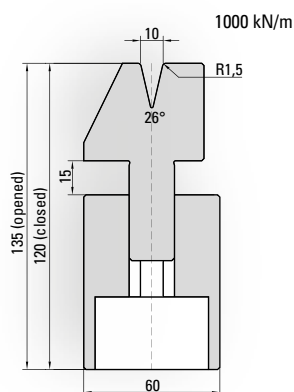


21.231

835 mm	821,-	41,5 kg
415 mm	630,-	20,7 kg

Max. 2,0 mm material thickness
 $R_m = 400 \text{ N/mm}^2$

Delivery time on request

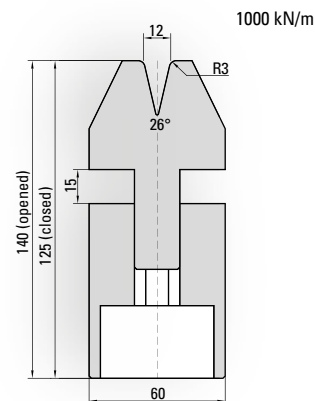


21.305

835 mm	927,-	43,5 kg
415 mm	696,-	21,7 kg

Max. 3,0 mm material thickness
 $R_m = 400 \text{ N/mm}^2$

Delivery time on request



50.720

Per piece	180,-	3,5 kg
-----------	-------	--------

Accessory kit for pneumatic flattening dies consist of pressure-reducing valve and 12/24V electromagnetic valve

Delivery time on request

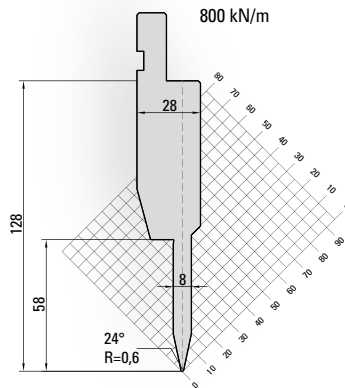
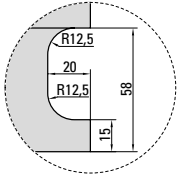


FLATTENING TOOLS

Flattening punches/top tools and flattening dies

11.550

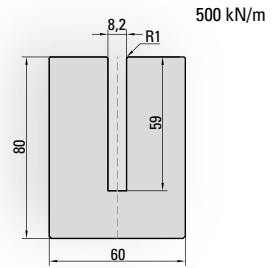
835 mm	435,-	17,5 kg
415 mm	252,-	8,7 kg
835 mm sectionalized	442,-	17,5 kg



20.550

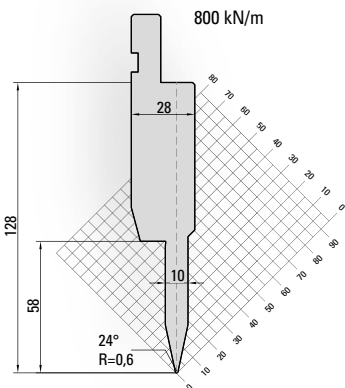
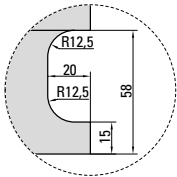
835 mm	315,-	28,5 kg
415 mm	180,-	14,2 kg
835 mm sectionalized	340,-	28,5 kg

Max. 1,2 mm material thickness
 $R_m = 400 \text{ N/mm}^2$



11.554

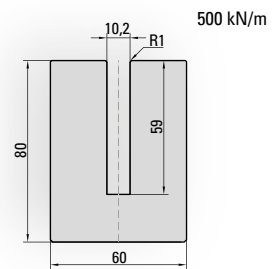
835 mm	435,-	18,2 kg
415 mm	252,-	9,1 kg
835 mm sectionalized	442,-	18,2 kg



20.554

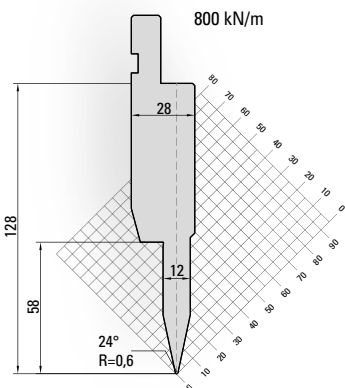
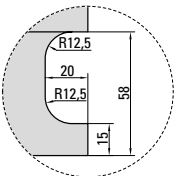
835 mm	315,-	27,6 kg
415 mm	180,-	13,8 kg
835 mm sectionalized	340,-	27,6 kg

Max. 1,8 mm material thickness
 $R_m = 400 \text{ N/mm}^2$



11.560

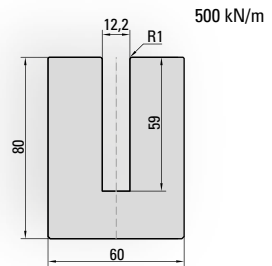
835 mm	435,-	18,6 kg
415 mm	252,-	9,3 kg
835 mm sectionalized	442,-	18,6 kg



20.560

835 mm	315,-	26,8 kg
415 mm	180,-	13,4 kg
835 mm sectionalized	340,-	26,8 kg

Max. 2,5 mm material thickness
 $R_m = 400 \text{ N/mm}^2$



EXAMPLE OF USE

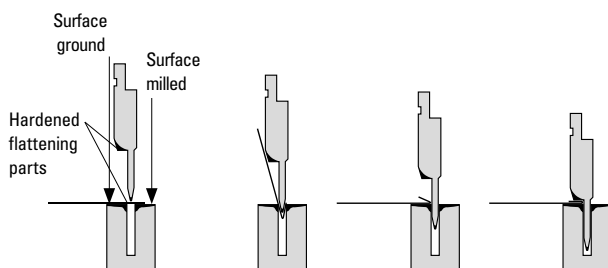


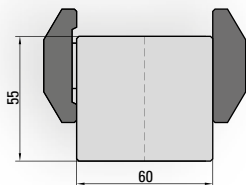
Table of force for flattening see page 48

Die heightening

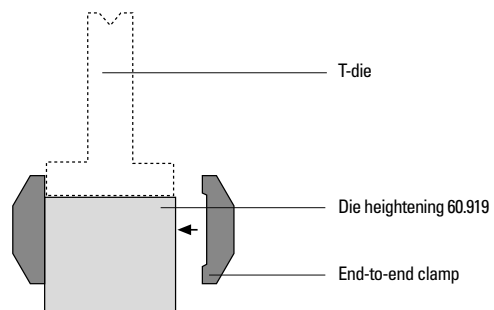
1000 kN/m

60.919

835 mm	137,—	29,0 kg
415 mm	86,—	14,5 kg



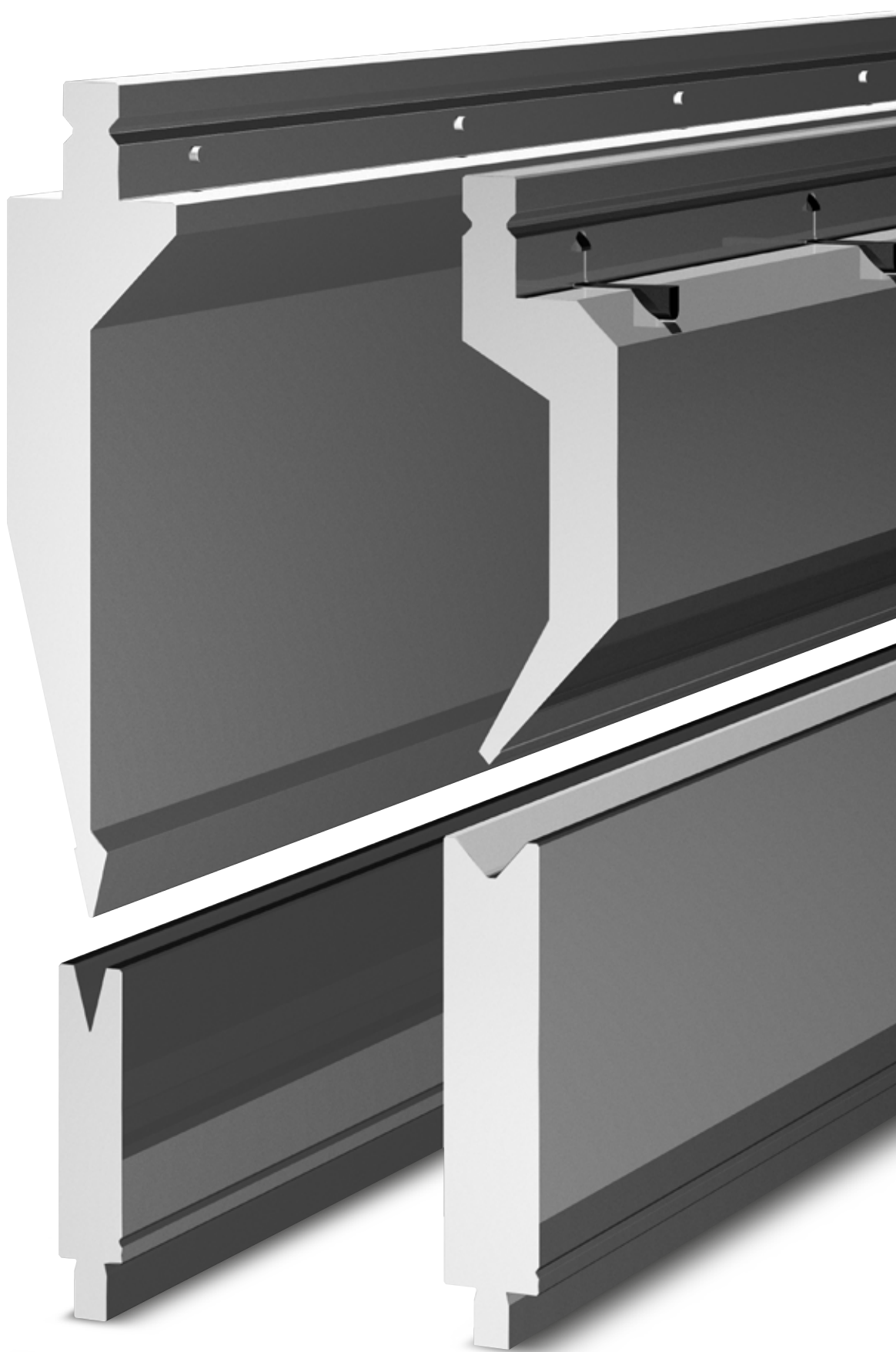
EXAMPLE OF USE



PRESS BRAKE TOOLS

ZNW-SYSTEM TRUMPF

Explanation	54 – 55
Punches/top tools	
Simple Clamp	56
Safety pins.	56
Flexible modification.	57
Insertion of a steel insert	57
Punches/top tools H = 120 mm	58 – 59
Punches/top tools H = 140 mm	59
Punches/top tools H = 158 mm	60 – 61
Punches/top tools H = 220 mm	62 – 64
Punch/top tool H = 240 mm	64
Punch/top tool H = 300 mm	65
Punch/top tool distance pieces, H = 100 mm.	66
Punch/top tool distance pieces, H = 150 mm	66
Punch/top tool distance piece, H = 220 mm	66
Dies	
86° Dies, H = 100 mm	67
84° Dies, H = 100 mm	68 – 69
80° Dies, H = 100 mm	70 – 71
80° Dies, H = 120 mm	71
60° Die, H = 120 mm	71
30° Dies, H = 100 mm	72 – 73
30° Dies, H = 100 mm, R = 3,0	74
86° Dies, H = 150 mm	75
84° Dies, H = 150 mm	76
80° Dies, H = 150 mm	77
30° Dies, H = 150 mm	77 – 78
Screwable flattening die H = 100 mm	79
Screwable flattening die H = 150 mm	79
Flattening punches/top tools and flattening dies	80 – 81
Die heightenings	81

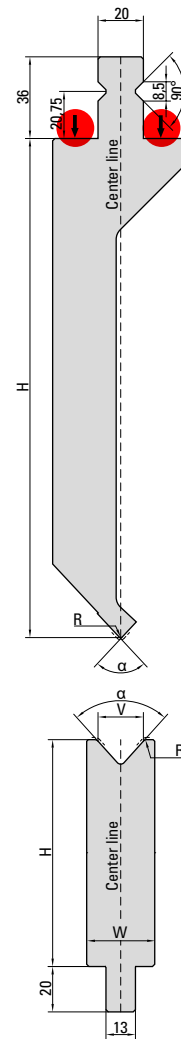


EXPLANATION

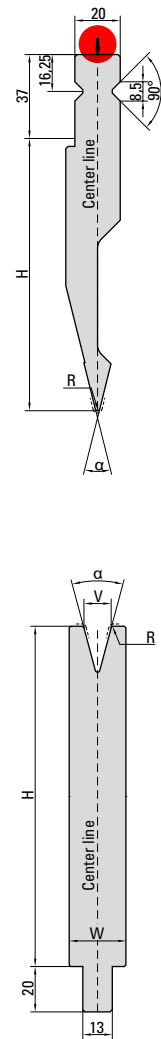
Quality and precision

- ▶ Optimum materials
 - 42 CrMo4, tempered to 1100 – 1200 N/mm²
 - C45, tempered to 800 – 850 N/mm²
 - C45, 650 – 800 N/mm²
- ▶ Bending radius/intake radii hardened up to 54 – 60 HRC
- ▶ Precision ground
- ▶ Guaranteed exchangeability and parallelism
- ▶ Punch/top tool clampings in two different models
 - Simple Clamp at segments < 12,5 kg
 - Safety Pin at segments > 12,5 kg
- ▶ Self centering
- ▶ Usable on both sides
- ▶ Tool marking with all technical information

Force on shoulder



Force on head



Tool lengths

PUNCHES/TOP TOOLS WITH SIMPLE CLAMP

Length 500 mm



Length 300 mm



Length 200 mm

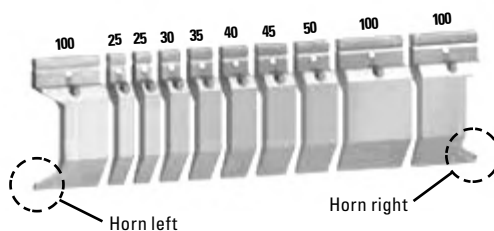


Length 100 mm



Length 550 mm sectionalized

- ▶ Sectionalized punches/top tools are delivered as a complete set
- ▶ 10 Segments, with horn extension left and right



Simple Clamp

PUNCHES/TOP TOOLS WITH SAFETY PINS

Length 500 mm



Length 300 mm



Length 200 mm

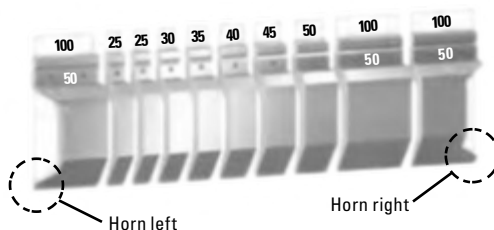


Length 100 mm



Length 550 mm sectionalized

- ▶ Sectionalized punches/top tools are delivered as a complete set
- ▶ 10 Segments, with horn extension left and right



Safety pin

DIES

Length 500 mm



Length 300 mm



Length 200 mm

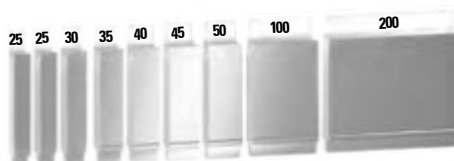


Length 100 mm



Length 550 mm sectionalized

- ▶ Sectionalized dies are delivered as a complete set
- ▶ 9 Segments



ZNW-INFO

Create your own individual tool lengths set for punches/top tools and dies!
Offers for sets 1050 / 2050 / 3050 / 4050 mm, contact us!

SIMPLE CLAMP AND SAFETY PINS

Simple Clamp

ADVANTAGES

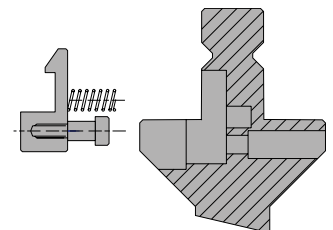
- **Vertical** tool change for segments **up to 12,5 kg**
- Less set-up time
- Easy handling



Set consists of screw, spring and Simple Clamp

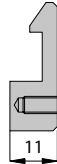


Vertical tool change



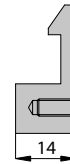
70.714		
Set	11,—	0,012 kg

Suitable for punches/top tools
15.010 / 15.310 / 15.610



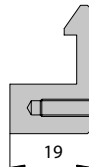
70.715		
Set	11,—	0,014 kg

Suitable for punches/top tools
15.320 / 15.620



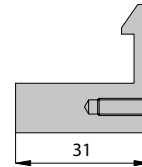
70.716		
Set	12,—	0,016 kg

Suitable for punches/top tools
15.330 / 15.335 / 15.630 / 15.635
15.755 / 15.902 / 15.904 / 15.905



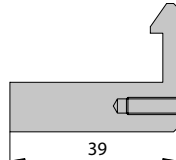
70.717		
Set	12,—	0,023 kg

Suitable for punches/top tools
15.450 / 15.710 / 15.720
15.730 / 15.750 / 15.760



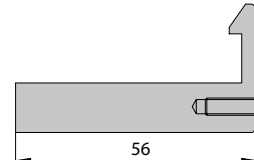
70.718		
Set	14,—	0,027 kg

Suitable for punches/top tools
15.370 / 15.480 / 15.670 / 15.680



70.719		
Set	14,—	0,038 kg

Suitable for punches/top tools
15.380 / 15.700 / 15.800



Safety pins

ADVANTAGES

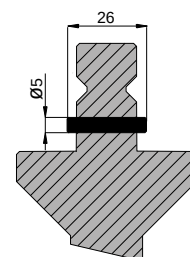
- **Horizontal** tool change for segments **more than 12,5 kg**
- Favorable purchase price (in comparison with Simple Clamp)
- Hardened Safety pins on demand



Safety pins



Horizontal tool change



70.130		
10 pieces	2,50	0,16 kg

Hardened

70.140		
10 pieces	1,00	0,16 kg

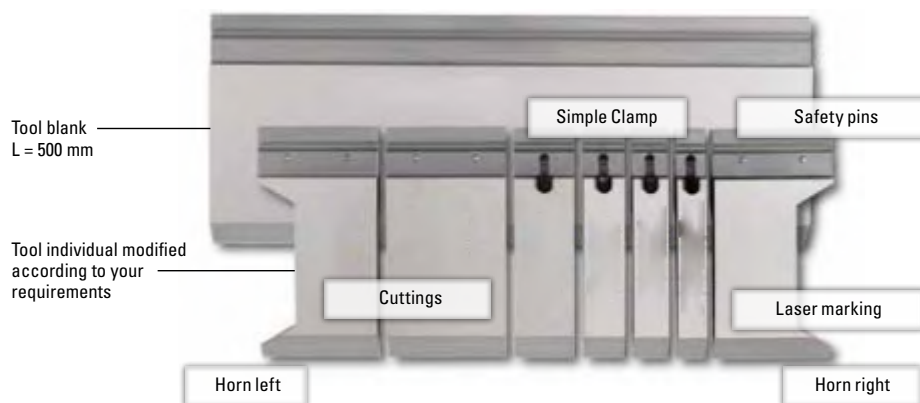
Not hardened

MODIFICATION

Flexible modification

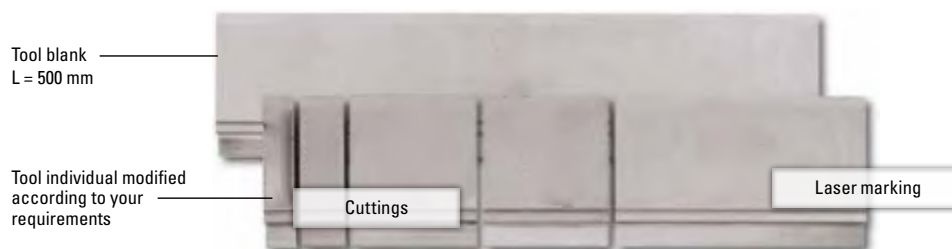
PUNCHES/TOP TOOLS

- ▶ Special cuttings
- ▶ Individual horn extensions
- ▶ Insertion of Simple Clamp
- ▶ Insertion of Safety pins
- ▶ Laser marking



DIES

- ▶ Special cuttings
- ▶ Laser marking



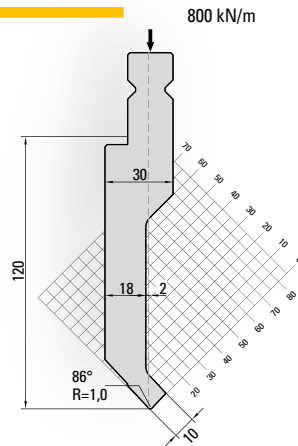
PUNCHES/TOP TOOLS

Punches/top tools H = 120 mm

15.330

Simple Clamp

500 mm	240,—	12,0 kg
300 mm	191,—	7,2 kg
200 mm	155,—	4,8 kg
100 mm	89,—	2,4 kg
550 mm sectionalized	361,—	13,2 kg



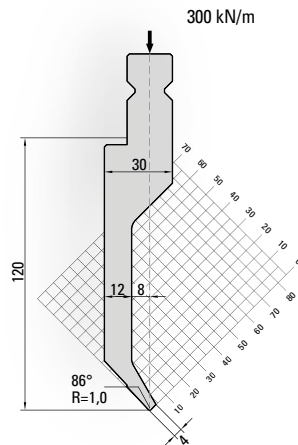
Further radii

R (mm)	H (mm)
0,5	119,8
2,0	119,2
2,5	119,0
3,0	118,8
4,0	118,2
5,0	117,7
6,0	117,2

15.335

Simple Clamp

500 mm	329,—	9,9 kg
300 mm	246,—	6,0 kg
200 mm	192,—	4,0 kg
100 mm	110,—	2,0 kg
550 mm sectionalized	415,—	11,0 kg



Further radii

R (mm)	H (mm)
0,5	119,8
2,0	119,2
2,5	119,0
3,0	118,8

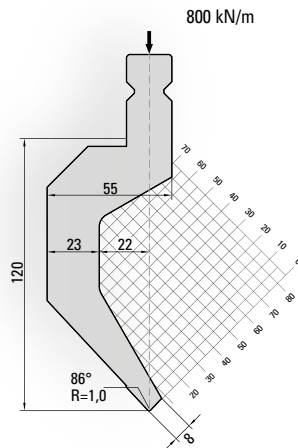
15.370

Safety pins

500 mm	353,—	14,5 kg
--------	-------	---------

Simple Clamp

300 mm	287,—	8,7 kg
200 mm	219,—	5,8 kg
100 mm	120,—	2,9 kg
550 mm sectionalized	451,—	16,0 kg



Further radii

R (mm)	H (mm)
0,5	119,8
2,0	119,2
2,5	119,0
3,0	118,7
4,0	118,3
5,0	117,8
6,0	117,3

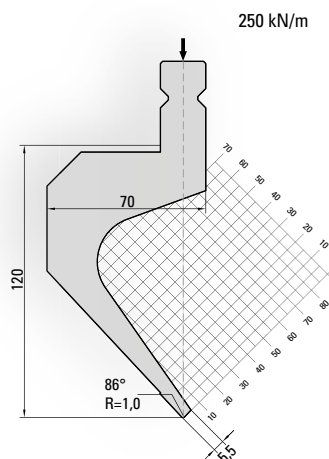
15.380

Safety pins

500 mm	507,—	15,4 kg
--------	-------	---------

Simple Clamp

300 mm	372,—	9,3 kg
200 mm	264,—	6,2 kg
100 mm	149,—	3,1 kg
550 mm sectionalized	613,—	17,0 kg



Further radii

R (mm)	H (mm)
0,5	119,8
2,0	119,2
2,5	119,0
3,0	118,7
4,0	118,3

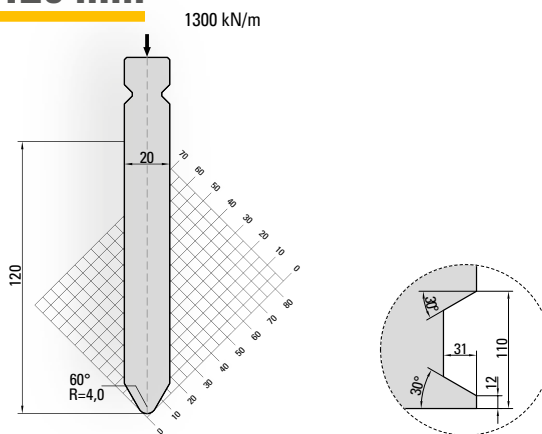
PUNCHES/TOP TOOLS

Punches/top tools H = 120 mm

15.310

Simple Clamp

500 mm	203,-	12,0 kg
300 mm	165,-	7,2 kg
200 mm	137,-	4,8 kg
100 mm	80,-	2,4 kg
550 mm sectionalized	316,-	13,2 kg



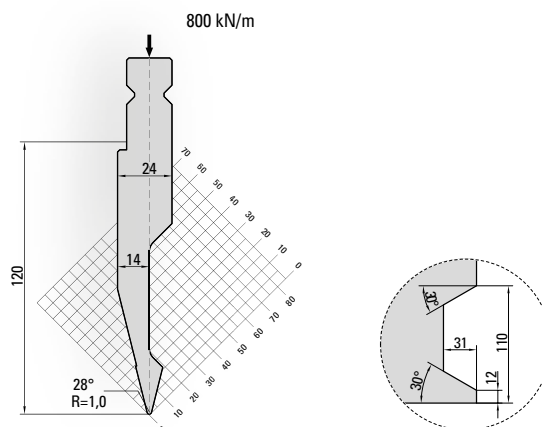
Further radii

R (mm)	H (mm)
2,0	119,8
2,5	119,8
3,0	119,8
5,0	118,8
6,0	117,6

15.320

Simple Clamp

500 mm	237,-	10,0 kg
300 mm	191,-	6,0 kg
200 mm	155,-	4,0 kg
100 mm	89,-	2,0 kg
550 mm sectionalized	383,-	11,0 kg



Further radii

R (mm)	H (mm)
0,5	119,8
2,0	116,0
2,5	114,4
3,0	112,8
4,0	109,8

Punches/top tools H = 140 mm

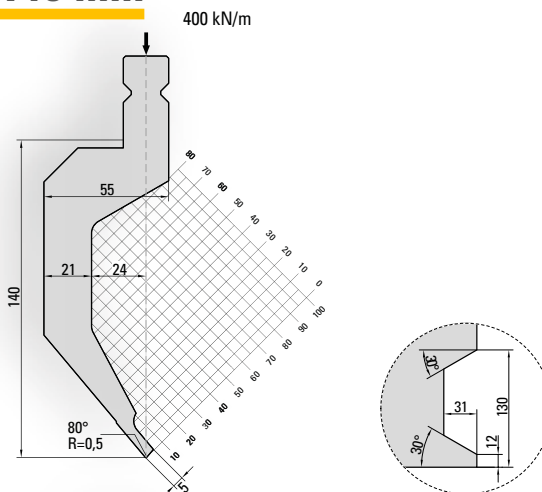
15.480

Safety pins

500 mm	500,-	15,3 kg
--------	-------	---------

Simple Clamp

300 mm	344,-	9,3 kg
200 mm	251,-	6,2 kg
100 mm	138,-	3,1 kg
550 mm sectionalized	558,-	17,0 kg



Further radii

R (mm)	H (mm)
1,0	139,4
2,0	138,8
2,5	138,5
3,0	138,2

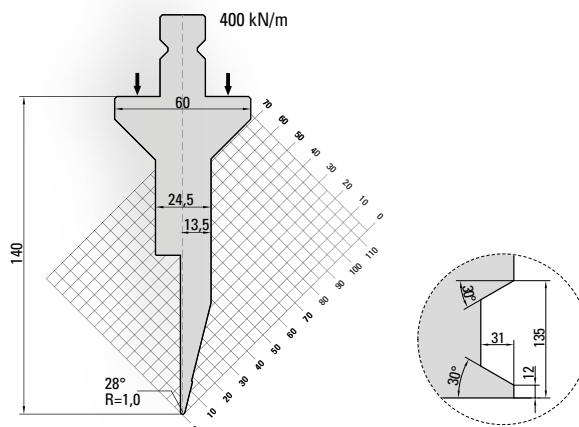
15.450

Safety pins

500 mm	444,-	14,5 kg
--------	-------	---------

Simple Clamp

300 mm	353,-	8,7 kg
200 mm	269,-	5,8 kg
100 mm	140,-	2,9 kg
550 mm sectionalized	619,-	16,0 kg



Further radii

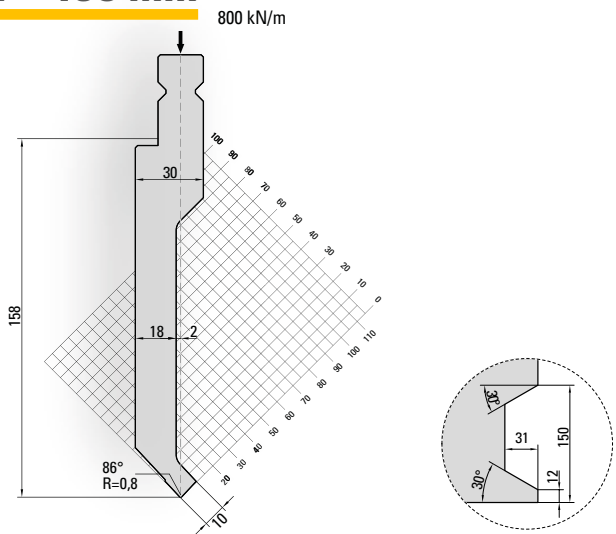
R (mm)	H (mm)
0,5	139,8

Punches/top tools H = 158 mm

15.630

Safety pins		
500 mm	284,—	15,0 kg

Simple Clamp		
300 mm	233,—	9,0 kg
200 mm	188,—	6,0 kg
100 mm	101,—	3,0 kg
550 mm sectionalized	375,—	16,5 kg

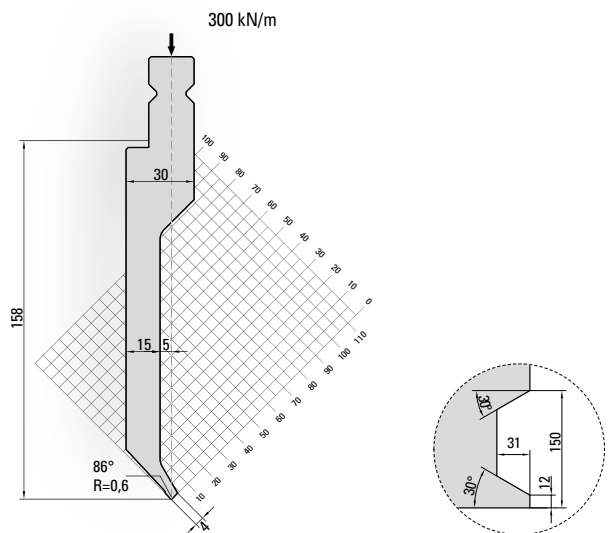


Further radii	
R (mm)	H (mm)
0,5	157,8
1,0	157,6
2,0	157,2
2,5	157,0
3,0	156,7
4,0	156,3
5,0	155,8
6,0	155,3

15.635

Safety pins		
500 mm	272,—	13,5 kg

Simple Clamp		
300 mm	230,—	8,1 kg
200 mm	180,—	5,4 kg
100 mm	107,—	2,7 kg
550 mm sectionalized	361,—	14,9 kg

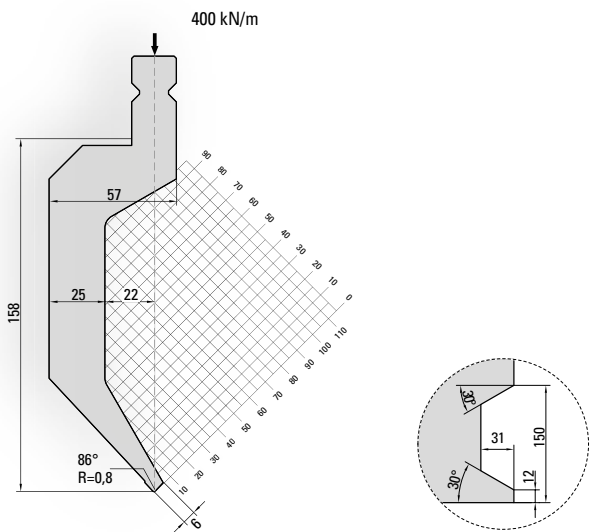


Further radii	
R (mm)	H (mm)
0,5	157,8
1,0	157,6
2,0	157,2
2,5	157,0
3,0	156,7

15.670

Safety pins		
500 mm	387,—	19,0 kg

Simple Clamp		
300 mm	320,—	11,4 kg
200 mm	257,—	7,6 kg
100 mm	135,—	3,8 kg
550 mm sectionalized	513,—	20,9 kg



Further radii	
R (mm)	H (mm)
0,5	157,8
1,0	157,6
2,0	157,2
2,5	157,0
3,0	156,7
4,0	156,3
5,0	155,8

Punches/top tools H = 158 mm

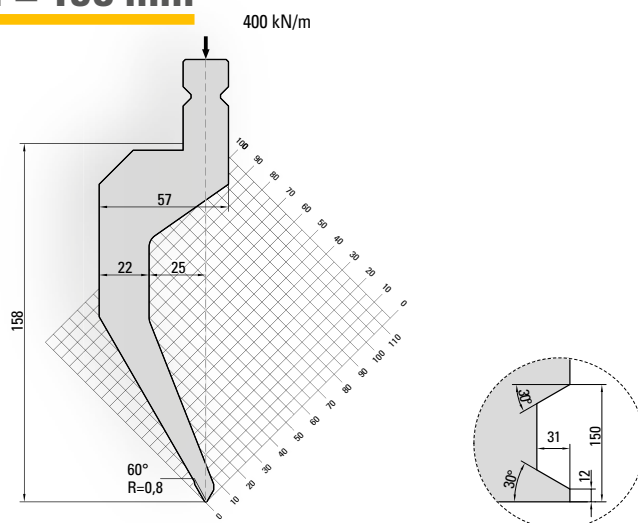
15.680

Safety pins

500 mm	449,—	17,5 kg
--------	-------	---------

Simple Clamp

300 mm	368,—	10,5 kg
200 mm	296,—	7,0 kg
100 mm	158,—	3,5 kg
550 mm sectionalized	594,—	19,3 kg



Further radii

R (mm)	H (mm)
0,5	157,8
1,0	157,4
2,0	156,4
2,5	155,9
3,0	155,4

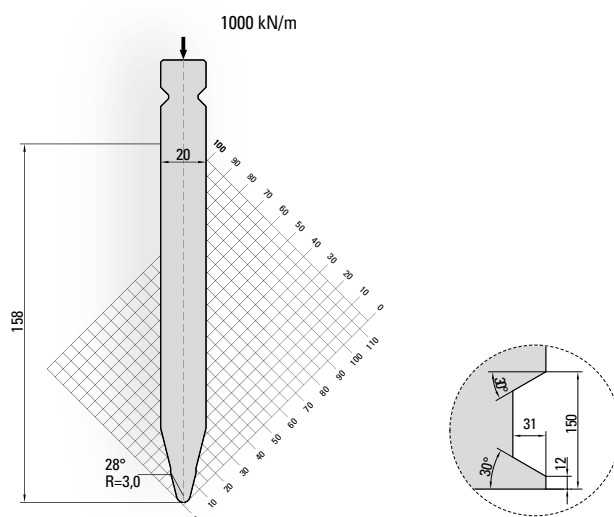
15.610

Safety pins

500 mm	254,—	14,0 kg
--------	-------	---------

Simple Clamp

300 mm	201,—	8,4 kg
200 mm	167,—	5,6 kg
100 mm	89,—	2,8 kg
550 mm sectionalized	335,—	15,4 kg



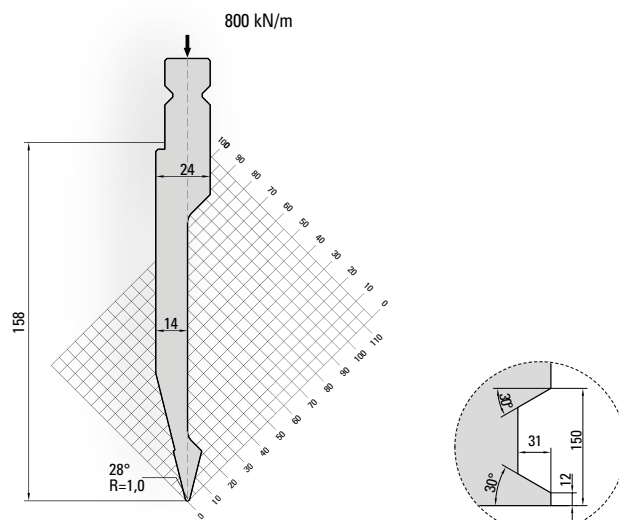
Further radii

R (mm)	H (mm)
0,5	157,8
1,0	157,8
2,0	157,8
2,5	157,8
4,0	154,0
5,0	150,8

15.620

Simple Clamp

500 mm	252,—	11,5 kg
300 mm	221,—	6,9 kg
200 mm	182,—	4,6 kg
100 mm	90,—	2,3 kg
550 mm sectionalized	365,—	12,7 kg

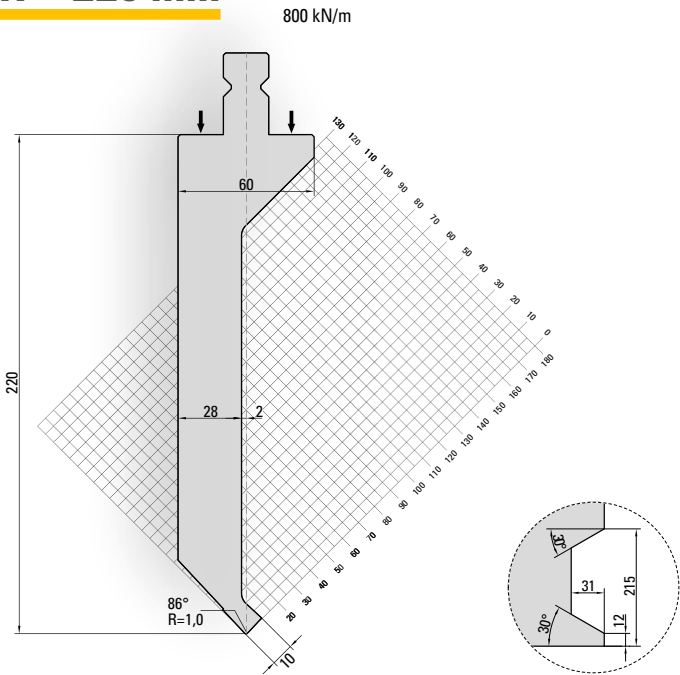


Further radii

R (mm)	H (mm)
0,5	157,8
2,0	154,0
2,5	152,4
3,0	150,8
4,0	147,8

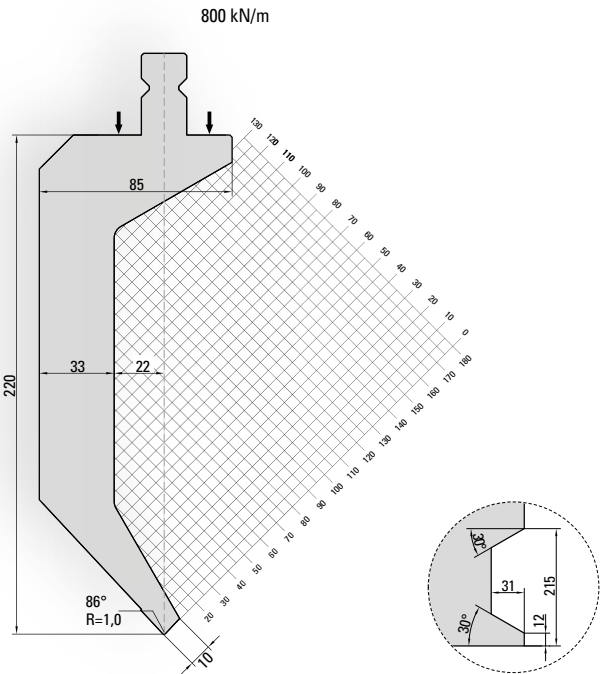
Punches/top tools H = 220 mm

15.710		
Safety pins		
500 mm	438,-	28,5 kg
300 mm	324,-	17,1 kg
Simple Clamp		
200 mm	284,-	11,4 kg
100 mm	155,-	5,7 kg
550 mm sectionalized	651,-	31,4 kg



Further radii	
R (mm)	H (mm)
0,5	219,8
2,0	219,2
2,5	218,7
3,0	218,5
4,0	218,3
5,0	217,8
6,0	217,5

15.700		
Safety pins		
500 mm	585,-	33,5 kg
300 mm	441,-	20,1 kg
200 mm	297,-	13,4 kg
Simple Clamp		
100 mm	185,-	6,7 kg
550 mm sectionalized	791,-	36,9 kg



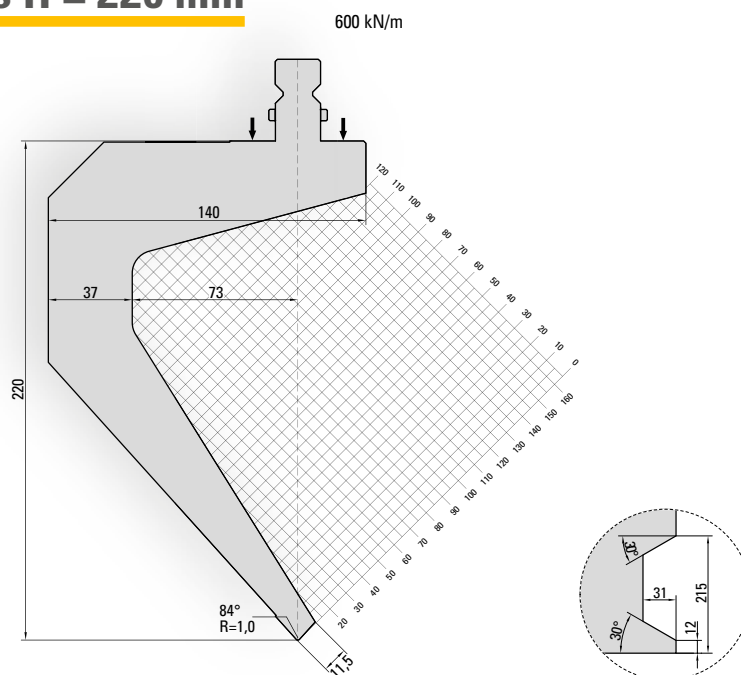
Further radii	
R (mm)	H (mm)
0,5	219,8
2,0	219,2
2,5	218,7
3,0	218,5
4,0	218,3
5,0	217,8
6,0	217,5

Punches/top tools H = 220 mm

15.790

Safety pins

200 mm	521,-	17,6 kg
100 mm	294,-	8,8 kg
550 mm sectionalized	1256,-	48,4 kg



Further radii

R (mm)	H (mm)
0,5	219,8
2,0	219,2
2,5	218,7
3,0	218,5
4,0	218,3
5,0	217,8
6,0	217,5

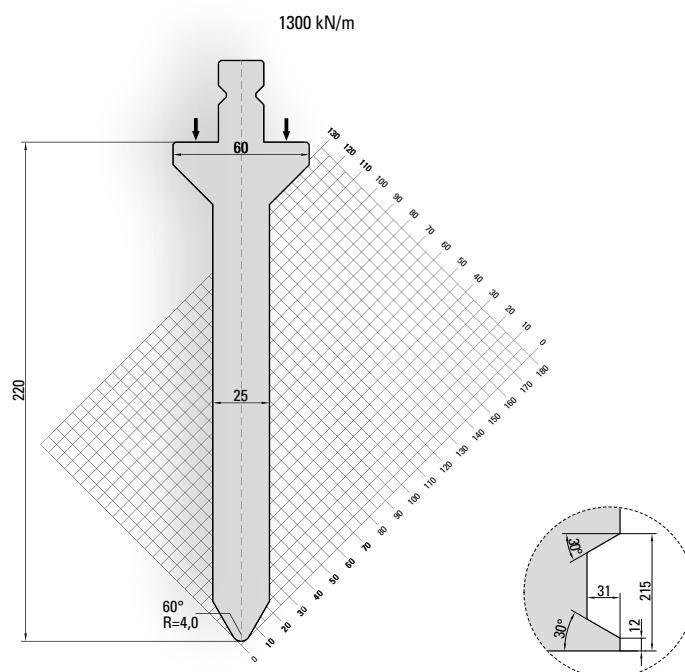
15.730

Safety pins

500 mm	438,-	26,0 kg
300 mm	218,-	15,6 kg

Simple Clamp

200 mm	284,-	10,4 kg
100 mm	155,-	5,2 kg
550 mm sectionalized	651,-	28,6 kg



Further radii

R (mm)	H (mm)
2,0	219,8
2,5	219,8
3,0	219,8
5,0	218,6
6,0	217,6

Punch/top tool H = 220 mm

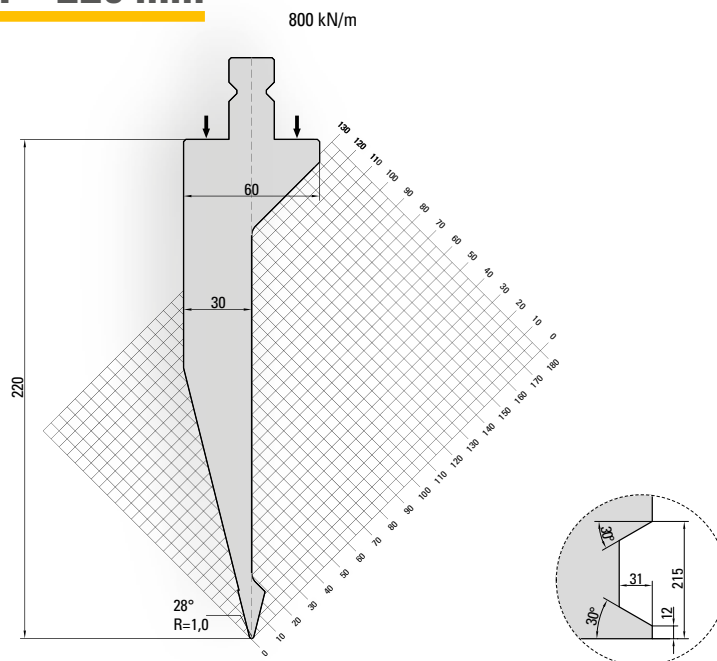
15.720

Safety pins

500 mm	452,-	25,0 kg
300 mm	333,-	15,0 kg

Simple Clamp

200 mm	290,-	10,0 kg
100 mm	156,-	5,0 kg
550 mm sectionalized	698,-	27,5 kg



Further radii

R (mm)	H (mm)
0,5	219,8
2,0	216,0
2,5	214,0
3,0	212,8
4,0	209,8

Punch/top tool H = 240 mm

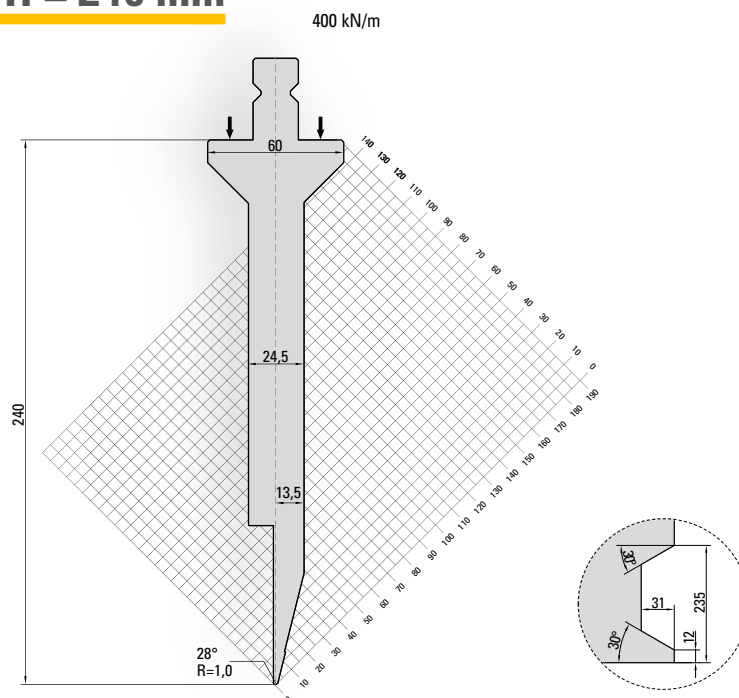
15.750

Safety pins

500 mm	533,-	24,0 kg
300 mm	396,-	14,4 kg

Simple Clamp

200 mm	330,-	9,6 kg
100 mm	176,-	4,8 kg
550 mm sectionalized	765,-	26,4 kg



Further radii

R (mm)	H (mm)
0,5	239,8

Punch/top tool H = 300 mm

15.800

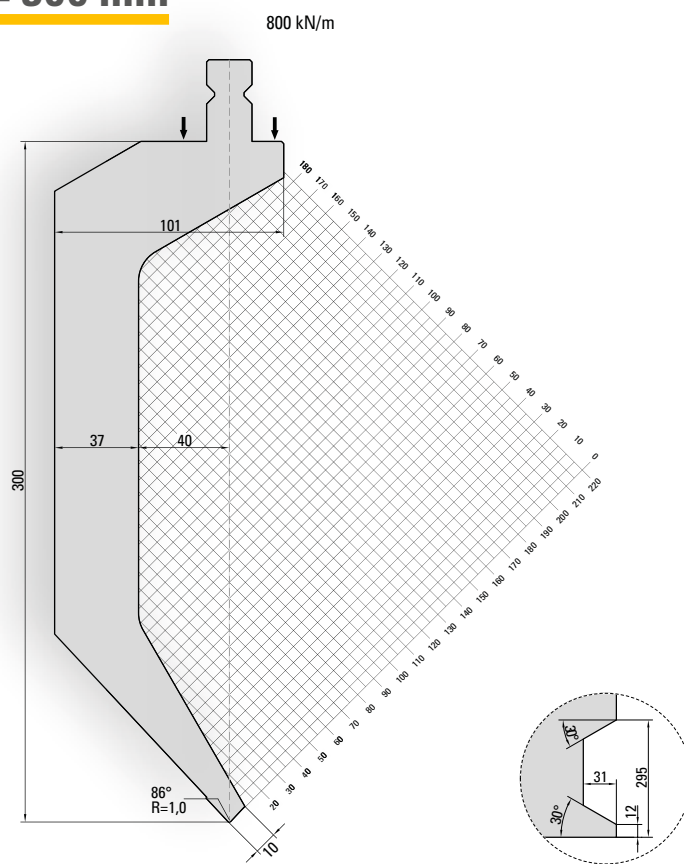
Safety pins

200 mm	438,-	19,6 kg
--------	-------	---------

Simple Clamp

100 mm	273,-	9,8 kg
--------	-------	--------

550 mm sectionalized	1239,-	53,9 kg
-------------------------	--------	---------



Further radii

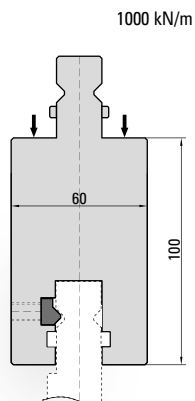
R (mm)	H (mm)
0,5	299,8
2,0	299,2
2,5	298,7
3,0	298,5
4,0	298,3
5,0	297,8
6,0	297,5

Punch/top tool distance pieces, H = 100 mm

50.410

Safety pins

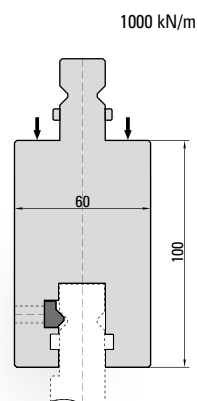
150 mm 204,- 6,9 kg



50.415

Safety pins

50 mm 146,- 2,3 kg

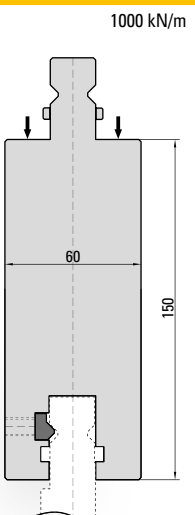


Punch/top tool distance pieces, H = 150 mm

50.440

Safety pins

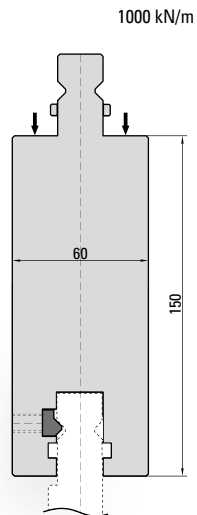
150 mm 255,- 10,5 kg



50.445

Safety pins

50 mm 192,- 3,5 kg

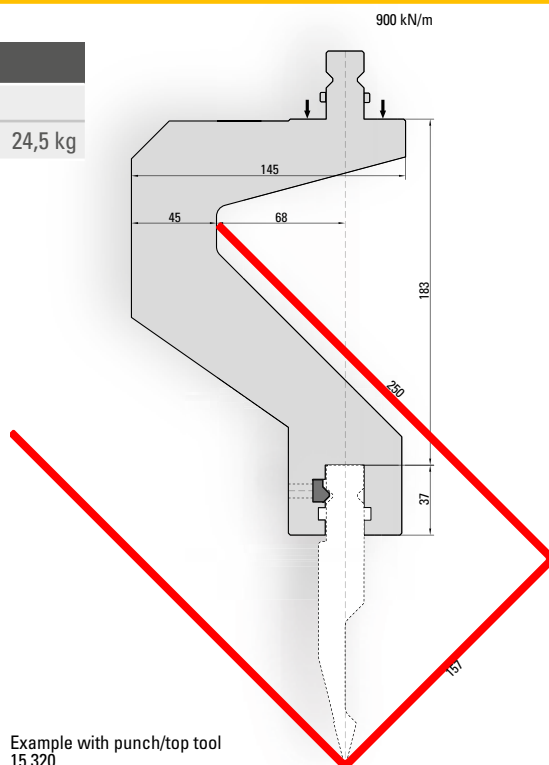


Punch/top tool distance piece, H = 220 mm

50.503

Safety pins

200 mm 527,- 24,5 kg

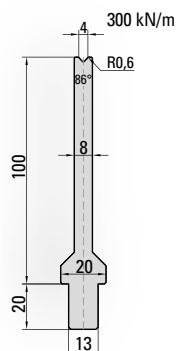


Example with punch/top tool
15.320

86° Dies, H = 100 mm

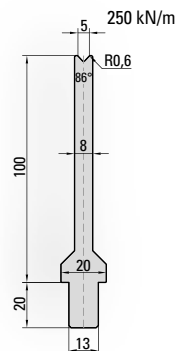
25.100

500 mm	221,—	4,5 kg
300 mm	162,—	2,7 kg
200 mm	117,—	1,8 kg
100 mm	71,—	0,9 kg
550 mm sectionalized	248,—	5,0 kg



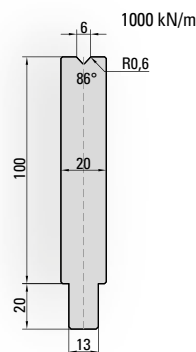
25.350

500 mm	183,—	4,5 kg
300 mm	131,—	2,7 kg
200 mm	92,—	1,8 kg
100 mm	54,—	0,9 kg
550 mm sectionalized	228,—	5,0 kg



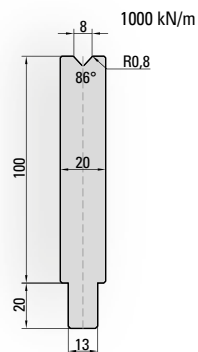
25.101

500 mm	122,—	9,0 kg
300 mm	92,—	5,4 kg
200 mm	69,—	3,6 kg
100 mm	48,—	1,8 kg
550 mm sectionalized	187,—	9,9 kg



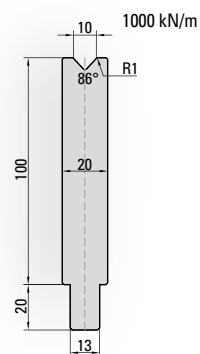
25.102

500 mm	122,—	9,0 kg
300 mm	92,—	5,4 kg
200 mm	69,—	3,6 kg
100 mm	48,—	1,8 kg
550 mm sectionalized	187,—	9,9 kg



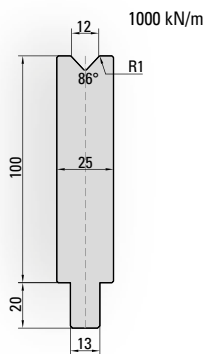
25.103

500 mm	122,—	9,0 kg
300 mm	92,—	5,4 kg
200 mm	69,—	3,6 kg
100 mm	48,—	1,8 kg
550 mm sectionalized	187,—	9,9 kg



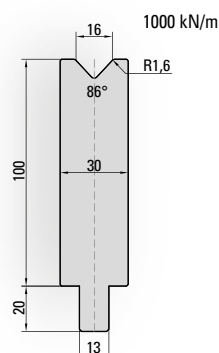
25.104

500 mm	131,—	10,5 kg
300 mm	98,—	6,3 kg
200 mm	74,—	4,2 kg
100 mm	50,—	2,1 kg
550 mm sectionalized	196,—	11,6 kg



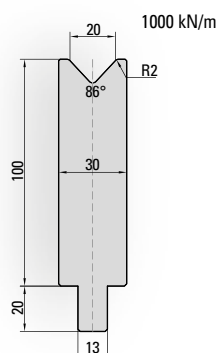
25.105

500 mm	141,—	12,5 kg
300 mm	104,—	7,5 kg
200 mm	80,—	5,0 kg
100 mm	54,—	2,5 kg
550 mm sectionalized	206,—	13,8 kg



25.106

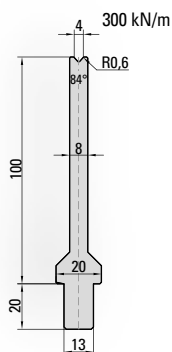
500 mm	153,—	12,5 kg
300 mm	114,—	7,5 kg
200 mm	84,—	5,0 kg
100 mm	56,—	2,5 kg
550 mm sectionalized	213,—	13,8 kg



84° Dies, H = 100 mm

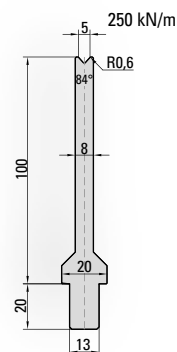
25.200

500 mm	221,-	4,5 kg
300 mm	156,-	2,7 kg
200 mm	113,-	1,8 kg
100 mm	71,-	0,9 kg
550 mm sectionalized	248,-	5,0 kg



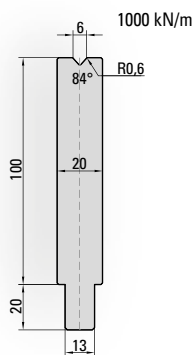
25.300

500 mm	183,-	4,5 kg
300 mm	131,-	2,7 kg
200 mm	92,-	1,8 kg
100 mm	54,-	0,9 kg
550 mm sectionalized	228,-	5,0 kg



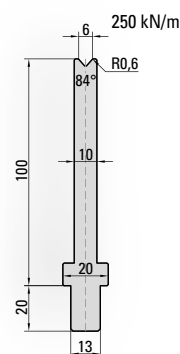
25.201

500 mm	122,-	9,0 kg
300 mm	92,-	5,4 kg
200 mm	69,-	3,6 kg
100 mm	48,-	1,8 kg
550 mm sectionalized	187,-	9,9 kg



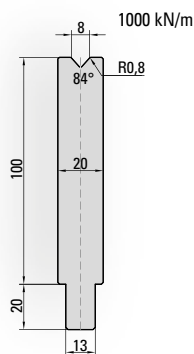
25.301

500 mm	183,-	5,5 kg
300 mm	131,-	3,3 kg
200 mm	92,-	2,2 kg
100 mm	54,-	1,1 kg
550 mm sectionalized	228,-	6,0 kg



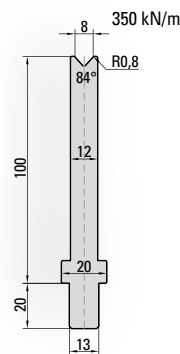
25.202

500 mm	122,-	9,0 kg
300 mm	92,-	5,4 kg
200 mm	69,-	3,6 kg
100 mm	48,-	1,8 kg
550 mm sectionalized	187,-	9,9 kg



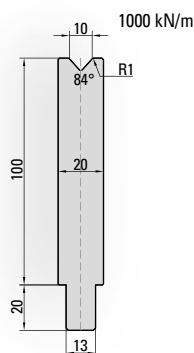
25.302

500 mm	183,-	6,0 kg
300 mm	131,-	3,6 kg
200 mm	92,-	2,4 kg
100 mm	54,-	1,2 kg
550 mm sectionalized	228,-	6,6 kg



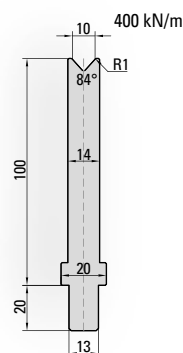
25.203

500 mm	122,-	9,0 kg
300 mm	92,-	5,4 kg
200 mm	69,-	3,6 kg
100 mm	48,-	1,8 kg
550 mm sectionalized	187,-	9,9 kg



25.303

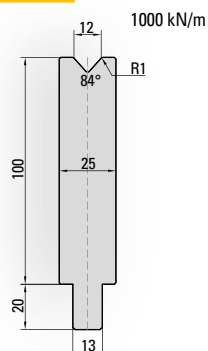
500 mm	183,-	6,5 kg
300 mm	131,-	3,9 kg
200 mm	92,-	2,6 kg
100 mm	54,-	1,3 kg
550 mm sectionalized	228,-	7,2 kg



84° Dies, H = 100 mm

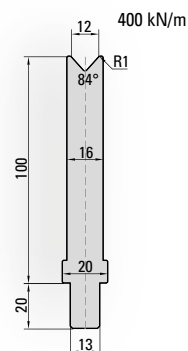
25.204

500 mm	131,—	10,5 kg
300 mm	98,—	6,3 kg
200 mm	74,—	4,2 kg
100 mm	50,—	2,1 kg
550 mm sectionalized	196,—	11,6 kg



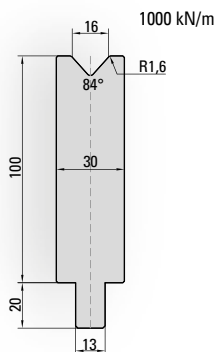
25.304

500 mm	183,—	7,0 kg
300 mm	131,—	4,2 kg
200 mm	92,—	2,8 kg
100 mm	54,—	1,4 kg
550 mm sectionalized	228,—	7,7 kg



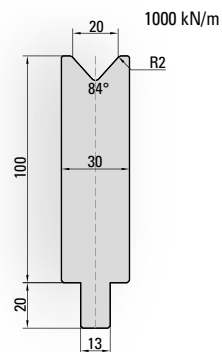
25.205

500 mm	141,—	12,5 kg
300 mm	104,—	7,5 kg
200 mm	80,—	5,0 kg
100 mm	54,—	2,5 kg
550 mm sectionalized	206,—	13,8 kg



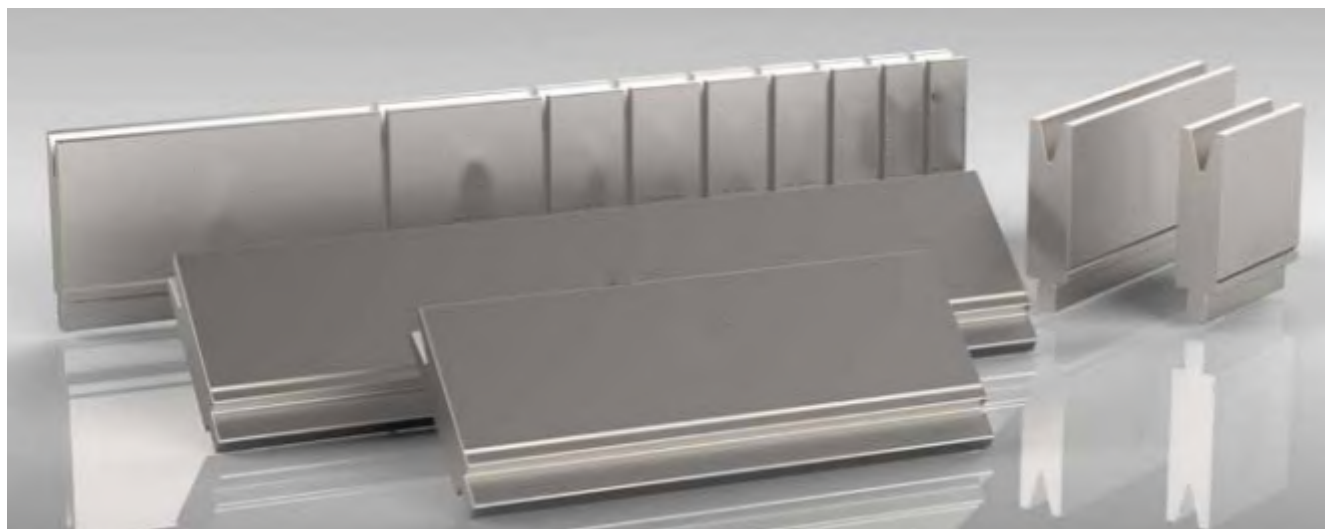
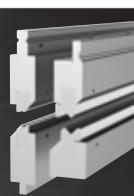
25.206

500 mm	153,—	12,5 kg
300 mm	114,—	7,5 kg
200 mm	86,—	5,0 kg
100 mm	56,—	2,5 kg
550 mm sectionalized	213,—	13,8 kg



ZNW-Z-TOOL HOLDERS AND Z-TOOL INSERTS Z 1,0 – 15,0

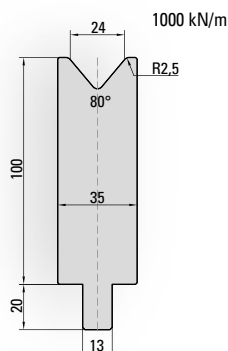
see chapter 09



80° Dies, H = 100 mm

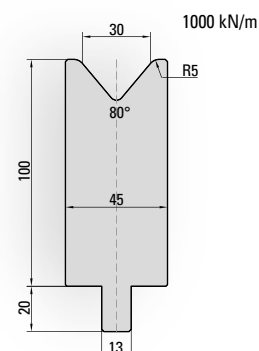
25.207

500 mm	164,—	14,0 kg
300 mm	120,—	8,4 kg
200 mm	89,—	5,6 kg
100 mm	59,—	2,8 kg
550 mm sectionalized	223,—	15,4 kg



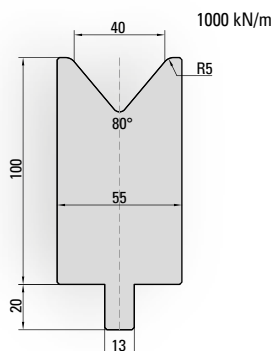
25.208

500 mm	198,—	17,5 kg
300 mm	144,—	10,5 kg
200 mm	105,—	7,0 kg
100 mm	68,—	3,5 kg
550 mm sectionalized	251,—	19,3 kg



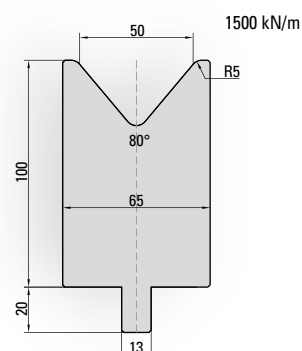
25.209

500 mm	213,—	20,5 kg
300 mm	158,—	12,3 kg
200 mm	113,—	8,2 kg
100 mm	72,—	4,1 kg
550 mm sectionalized	264,—	22,6 kg



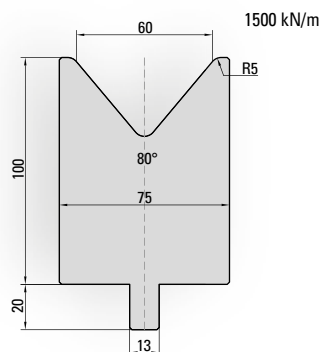
25.210

500 mm	267,—	23,0 kg
300 mm	188,—	13,8 kg
200 mm	138,—	9,2 kg
100 mm	87,—	4,6 kg
550 mm sectionalized	317,—	25,3 kg



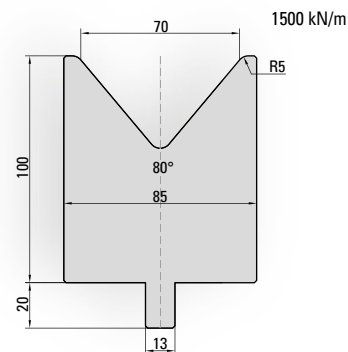
25.111

500 mm	308,—	26,0 kg
300 mm	219,—	15,6 kg
200 mm	158,—	10,4 kg
100 mm	96,—	5,2 kg
550 mm sectionalized	335,—	28,6 kg



25.112

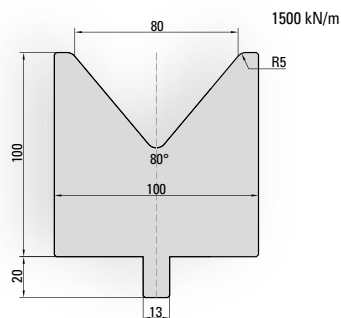
500 mm	339,—	28,0 kg
300 mm	237,—	16,8 kg
200 mm	171,—	11,2 kg
100 mm	105,—	5,6 kg
550 mm sectionalized	377,—	30,8 kg



80° Die, H = 100 mm

25.113

500 mm	366,—	32,0 kg
300 mm	255,—	19,2 kg
200 mm	183,—	12,8 kg
100 mm	110,—	6,4 kg
550 mm sectionalized	391,—	35,2 kg



ZNW-ADJUSTABLE DIES

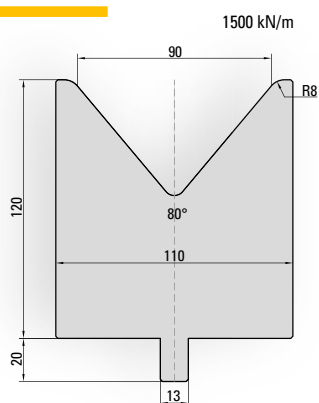
see chapter 11



80° Dies, H = 120 mm

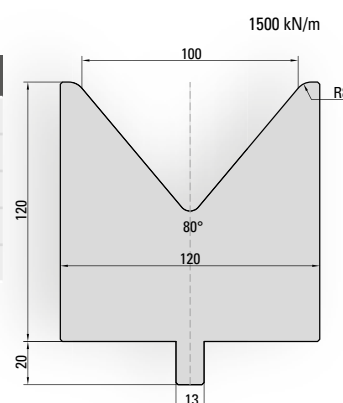
25.114

500 mm	437,—	42,5 kg
300 mm	302,—	25,5 kg
200 mm	216,—	17,0 kg
100 mm	149,—	8,5 kg
550 mm sectionalized	480,—	46,8 kg



25.115

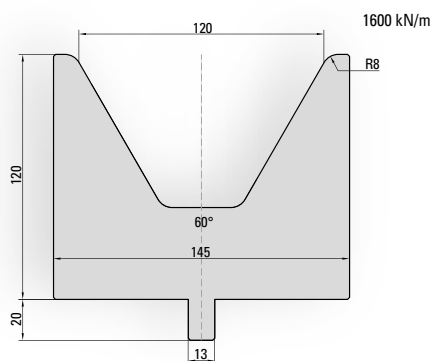
500 mm	470,—	44,5 kg
300 mm	315,—	26,7 kg
200 mm	233,—	17,8 kg
100 mm	161,—	8,9 kg
550 mm sectionalized	576,—	49,0 kg



60° Die, H = 120 mm

25.116

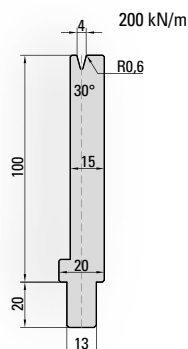
500 mm	609,—	45,5 kg
300 mm	423,—	27,3 kg
200 mm	308,—	18,2 kg
100 mm	201,—	9,1 kg
550 mm sectionalized	706,—	50,0 kg



30° Dies, H = 100 mm

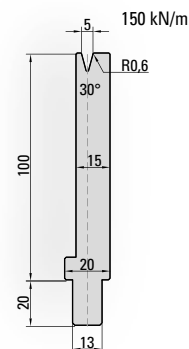
25.400

500 mm	197,-	7,0 kg
300 mm	143,-	4,2 kg
200 mm	104,-	2,8 kg
100 mm	65,-	1,4 kg
550 mm sectionalized	235,-	7,7 kg



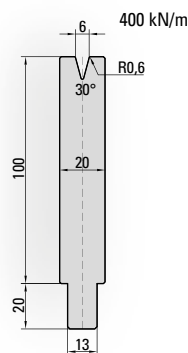
25.500

500 mm	157,-	7,0 kg
300 mm	155,-	4,2 kg
200 mm	108,-	2,8 kg
100 mm	62,-	1,4 kg
550 mm sectionalized	242,-	7,7 kg



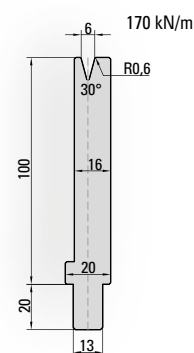
25.401

500 mm	167,-	9,0 kg
300 mm	123,-	5,4 kg
200 mm	90,-	3,6 kg
100 mm	59,-	1,8 kg
550 mm sectionalized	219,-	9,9 kg



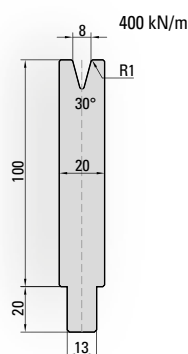
25.501

500 mm	209,-	7,5 kg
300 mm	155,-	4,5 kg
200 mm	108,-	3,0 kg
100 mm	62,-	1,5 kg
550 mm sectionalized	242,-	8,3 kg



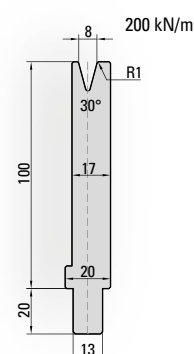
25.402

500 mm	167,-	9,0 kg
300 mm	123,-	5,4 kg
200 mm	90,-	3,6 kg
100 mm	59,-	1,8 kg
550 mm sectionalized	219,-	9,9 kg



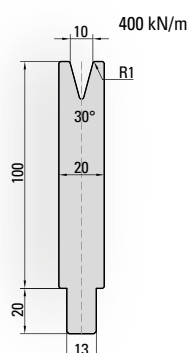
25.502

500 mm	209,-	7,5 kg
300 mm	155,-	4,5 kg
200 mm	108,-	3,0 kg
100 mm	62,-	1,5 kg
550 mm sectionalized	242,-	8,3 kg



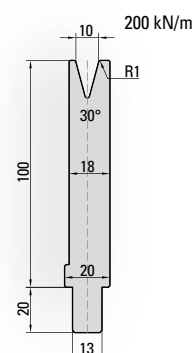
25.403

500 mm	167,-	9,0 kg
300 mm	123,-	5,4 kg
200 mm	90,-	3,6 kg
100 mm	59,-	1,8 kg
550 mm sectionalized	329,-	9,9 kg



25.503

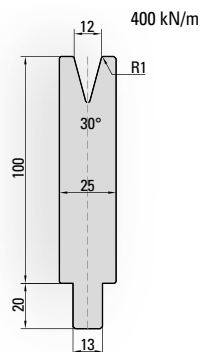
500 mm	209,-	8,0 kg
300 mm	155,-	4,8 kg
200 mm	108,-	3,2 kg
100 mm	62,-	1,6 kg
550 mm sectionalized	242,-	8,8 kg



30° Dies, H = 100 mm

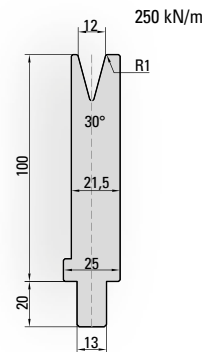
25.404

500 mm	174,—	10,0 kg
300 mm	128,—	6,0 kg
200 mm	95,—	4,0 kg
100 mm	62,—	2,0 kg
550 mm sectionalized	227,—	11,0 kg



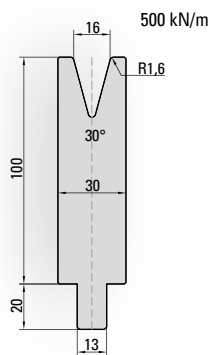
25.504

500 mm	216,—	9,0 kg
300 mm	162,—	5,4 kg
200 mm	117,—	3,6 kg
100 mm	66,—	1,8 kg
550 mm sectionalized	252,—	9,9 kg



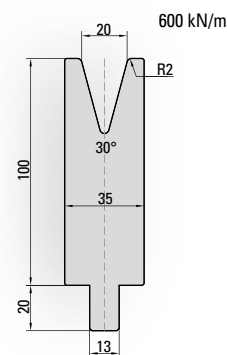
25.405

500 mm	185,—	12,0 kg
300 mm	135,—	7,2 kg
200 mm	99,—	4,8 kg
100 mm	65,—	2,4 kg
550 mm sectionalized	239,—	13,2 kg



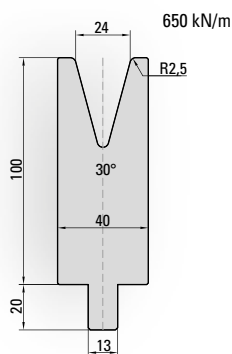
25.406

500 mm	200,—	13,0 kg
300 mm	146,—	7,8 kg
200 mm	105,—	5,2 kg
100 mm	68,—	2,6 kg
550 mm sectionalized	249,—	14,3 kg



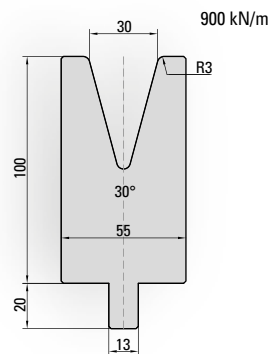
25.407

500 mm	215,—	14,5 kg
300 mm	155,—	8,7 kg
200 mm	114,—	5,8 kg
100 mm	72,—	2,9 kg
550 mm sectionalized	263,—	16,0 kg



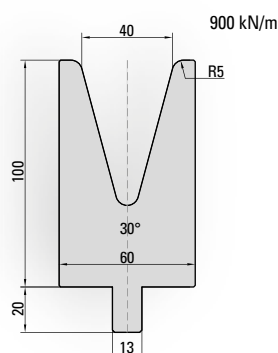
25.408

500 mm	281,—	19,0 kg
300 mm	206,—	11,4 kg
200 mm	147,—	7,6 kg
100 mm	89,—	3,8 kg
550 mm sectionalized	310,—	20,9 kg



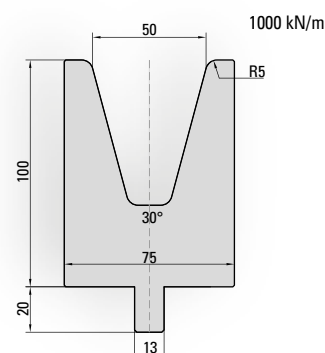
25.409

500 mm	351,—	18,5 kg
300 mm	246,—	11,1 kg
200 mm	182,—	7,4 kg
100 mm	117,—	3,7 kg
550 mm sectionalized	413,—	20,4 kg



25.410

500 mm	554,—	21,5 kg
300 mm	369,—	12,9 kg
200 mm	260,—	8,6 kg
100 mm	149,—	4,3 kg
550 mm sectionalized	615,—	23,7 kg



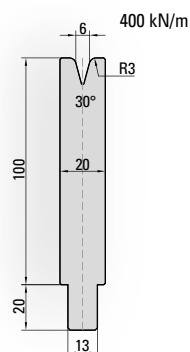
30° Dies, H = 100 mm, R = 3,0

ADVANTAGES

- Reduces marks on bended sheets
- Applicable for foil-coated sheets

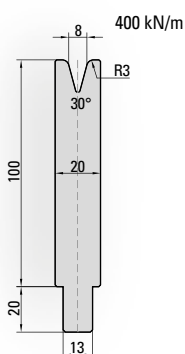
25.421

500 mm	167,-	9,0 kg
300 mm	123,-	5,4 kg
200 mm	90,-	3,6 kg
100 mm	59,-	1,8 kg
550 mm sectionalized	219,-	9,9 kg



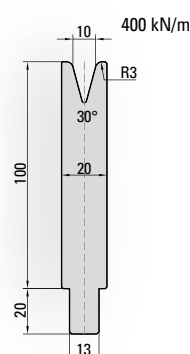
25.422

500 mm	167,-	9,0 kg
300 mm	123,-	5,4 kg
200 mm	90,-	3,6 kg
100 mm	59,-	1,8 kg
550 mm sectionalized	219,-	9,9 kg



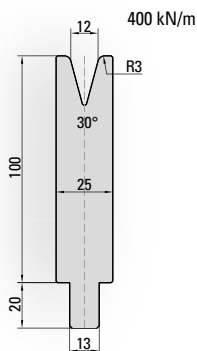
25.423

500 mm	167,-	8,5 kg
300 mm	123,-	5,1 kg
200 mm	90,-	3,4 kg
100 mm	59,-	1,7 kg
550 mm sectionalized	219,-	9,4 kg



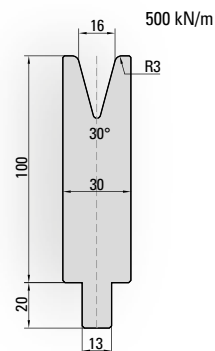
25.424

500 mm	174,-	10,0 kg
300 mm	128,-	6,0 kg
200 mm	95,-	4,0 kg
100 mm	62,-	2,0 kg
550 mm sectionalized	227,-	11,0 kg



25.425

500 mm	185,-	12,0 kg
300 mm	135,-	7,2 kg
200 mm	99,-	4,8 kg
100 mm	65,-	2,4 kg
550 mm sectionalized	239,-	13,2 kg



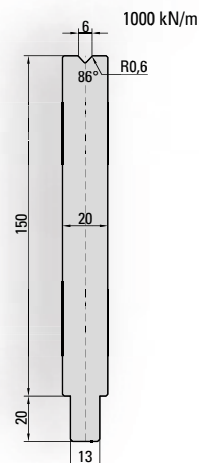
Drill hole 70.800 in 30° die 25.402

86° Dies, H = 150 mm



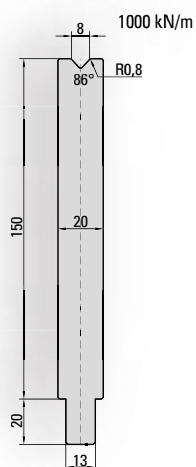
25.601

500 mm	131,—	12,5 kg
300 mm	96,—	7,5 kg
200 mm	75,—	5,0 kg
100 mm	54,—	2,5 kg
550 mm sectionalized	211,—	13,8 kg



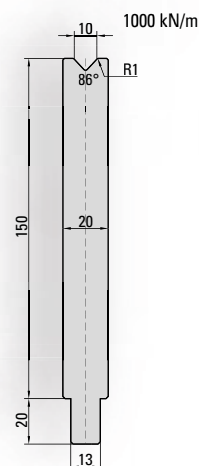
25.602

500 mm	131,—	12,5 kg
300 mm	96,—	7,5 kg
200 mm	75,—	5,0 kg
100 mm	54,—	2,5 kg
550 mm sectionalized	211,—	13,8 kg



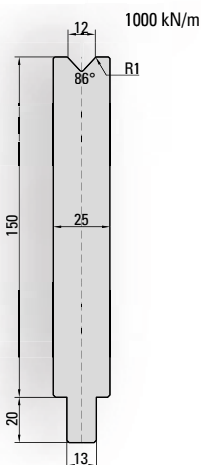
25.603

500 mm	131,—	12,5 kg
300 mm	96,—	7,5 kg
200 mm	75,—	5,0 kg
100 mm	54,—	2,5 kg
550 mm sectionalized	211,—	13,8 kg



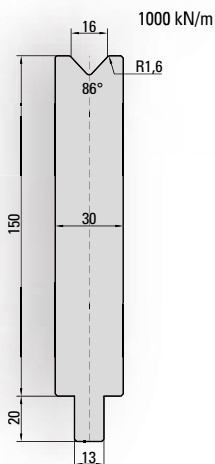
25.604

500 mm	146,—	15,5 kg
300 mm	107,—	9,3 kg
200 mm	83,—	6,2 kg
100 mm	57,—	3,1 kg
550 mm sectionalized	226,—	17,1 kg



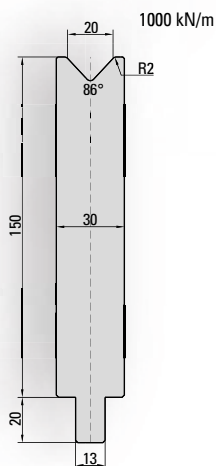
25.605

500 mm	158,—	18,0 kg
300 mm	114,—	10,8 kg
200 mm	89,—	7,2 kg
100 mm	62,—	3,6 kg
550 mm sectionalized	237,—	19,8 kg



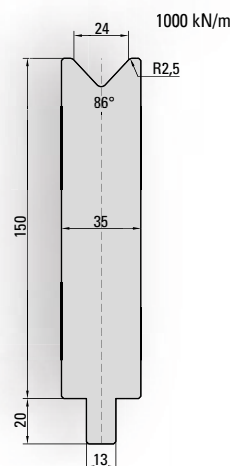
25.606

500 mm	165,—	18,0 kg
300 mm	120,—	10,8 kg
200 mm	92,—	7,2 kg
100 mm	63,—	3,6 kg
550 mm sectionalized	242,—	19,8 kg



25.607

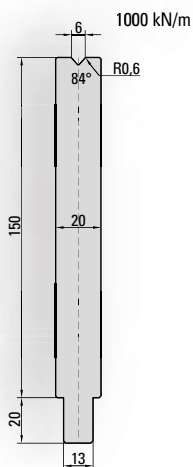
500 mm	180,—	21,0 kg
300 mm	132,—	12,6 kg
200 mm	98,—	8,4 kg
100 mm	68,—	4,2 kg
550 mm sectionalized	257,—	23,1 kg



84° Dies, H = 150 mm

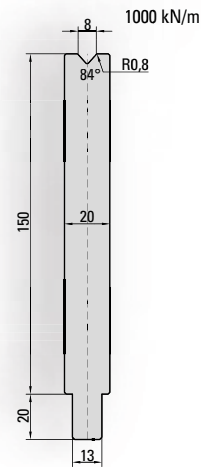
25.621

500 mm	131,—	12,5 kg
300 mm	96,—	7,5 kg
200 mm	75,—	5,0 kg
100 mm	54,—	2,5 kg
550 mm sectionalized	211,—	13,8 kg



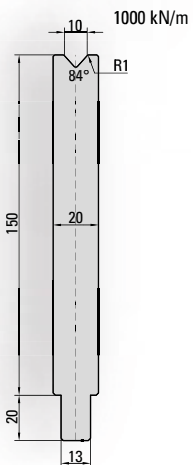
25.622

500 mm	131,—	12,5 kg
300 mm	96,—	7,5 kg
200 mm	75,—	5,0 kg
100 mm	54,—	2,5 kg
550 mm sectionalized	211,—	13,8 kg



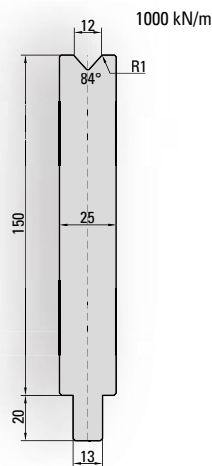
25.623

500 mm	131,—	12,5 kg
300 mm	96,—	7,5 kg
200 mm	75,—	5,0 kg
100 mm	54,—	2,5 kg
550 mm sectionalized	211,—	13,8 kg



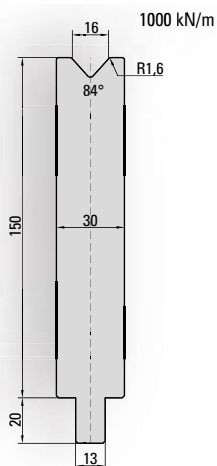
25.624

500 mm	146,—	15,5 kg
300 mm	107,—	9,3 kg
200 mm	83,—	6,2 kg
100 mm	57,—	3,1 kg
550 mm sectionalized	226,—	17,1 kg



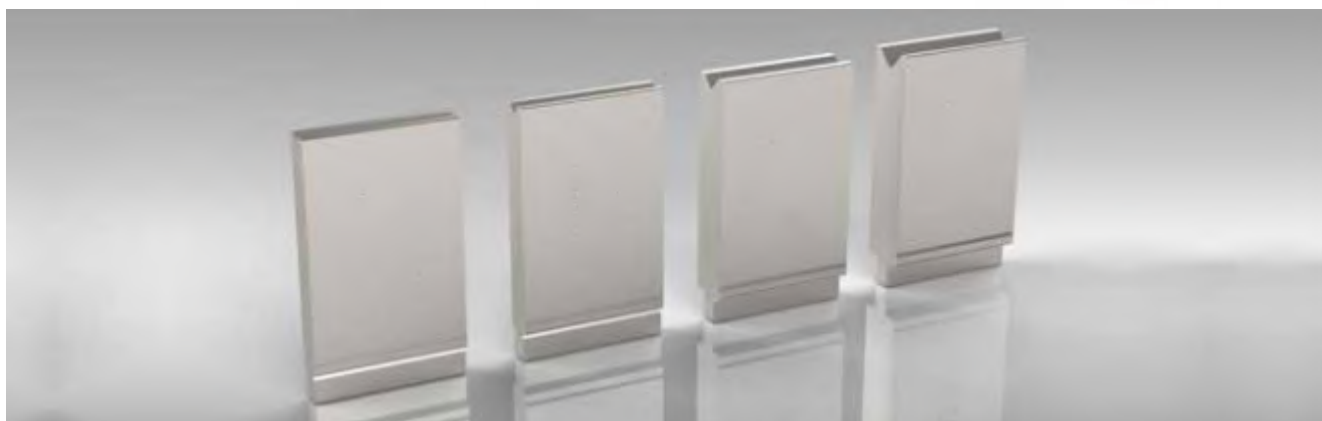
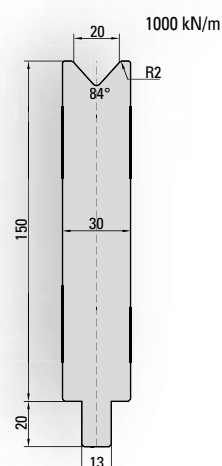
25.625

500 mm	158,—	18,0 kg
300 mm	114,—	10,8 kg
200 mm	89,—	7,2 kg
100 mm	62,—	3,6 kg
550 mm sectionalized	237,—	19,8 kg



25.626

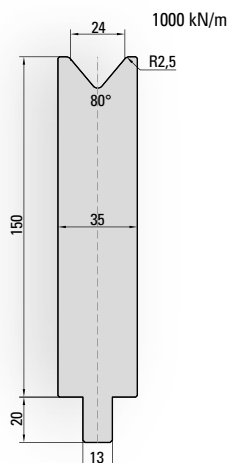
500 mm	165,—	18,0 kg
300 mm	120,—	10,8 kg
200 mm	92,—	7,2 kg
100 mm	63,—	3,6 kg
550 mm sectionalized	242,—	19,8 kg



80° Dies, H = 150 mm

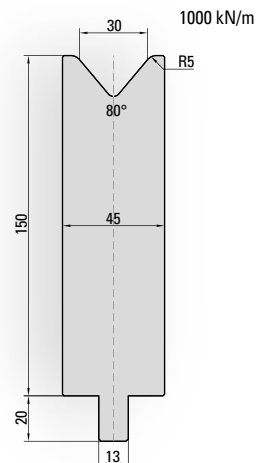
25.627

500 mm	185,—	21,0 kg
300 mm	134,—	12,6 kg
200 mm	99,—	8,4 kg
100 mm	68,—	4,2 kg
550 mm sectionalized	260,—	23,1 kg



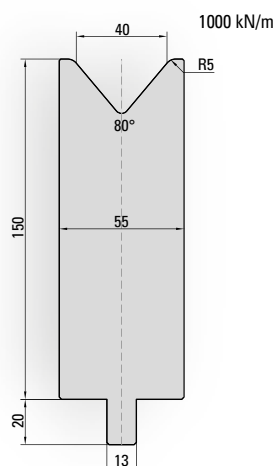
25.628

500 mm	222,—	26,0 kg
300 mm	159,—	15,6 kg
200 mm	120,—	10,4 kg
100 mm	81,—	5,2 kg
550 mm sectionalized	305,—	28,6 kg



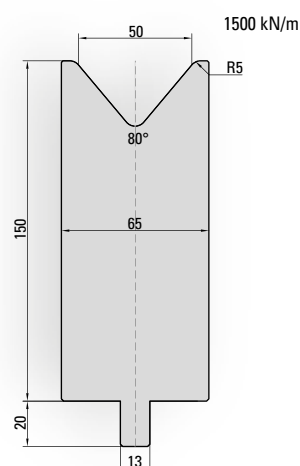
25.629

500 mm	284,—	31,0 kg
300 mm	203,—	18,6 kg
200 mm	150,—	12,4 kg
100 mm	98,—	6,2 kg
550 mm sectionalized	356,—	34,1 kg



25.630

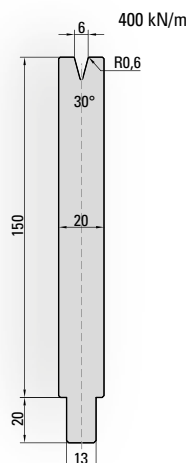
500 mm	375,—	36,0 kg
300 mm	269,—	21,6 kg
200 mm	197,—	14,4 kg
100 mm	122,—	7,2 kg
550 mm sectionalized	433,—	39,6 kg



30° Dies, H = 150 mm

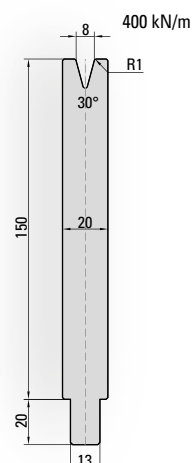
25.901

500 mm	185,—	12,5 kg
300 mm	134,—	7,5 kg
200 mm	99,—	5,0 kg
100 mm	68,—	2,5 kg
550 mm sectionalized	254,—	13,8 kg



25.902

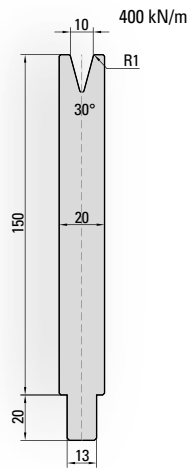
500 mm	185,—	12,5 kg
300 mm	134,—	7,5 kg
200 mm	99,—	5,0 kg
100 mm	68,—	2,5 kg
550 mm sectionalized	254,—	13,8 kg



30° Dies, H = 150 mm

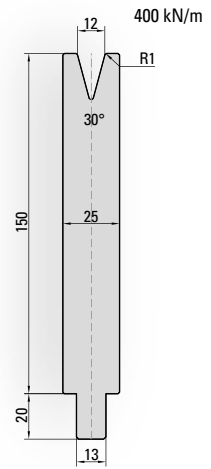
25.903

500 mm	185,-	12,5 kg
300 mm	134,-	7,5 kg
200 mm	99,-	5,0 kg
100 mm	68,-	2,5 kg
550 mm sectionalized	254,-	13,8 kg



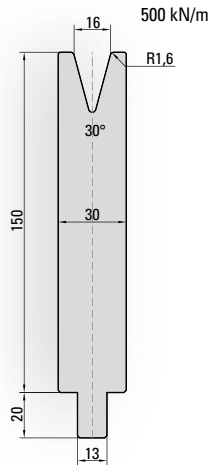
25.904

500 mm	192,-	15,0 kg
300 mm	138,-	9,0 kg
200 mm	104,-	6,0 kg
100 mm	71,-	3,0 kg
550 mm sectionalized	265,-	16,5 kg



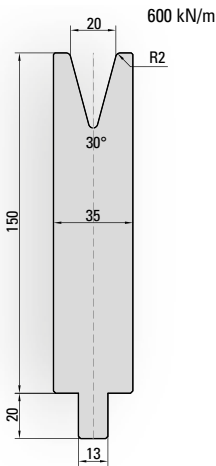
25.905

500 mm	207,-	17,5 kg
300 mm	150,-	10,5 kg
200 mm	114,-	7,0 kg
100 mm	74,-	3,5 kg
550 mm sectionalized	278,-	19,3 kg



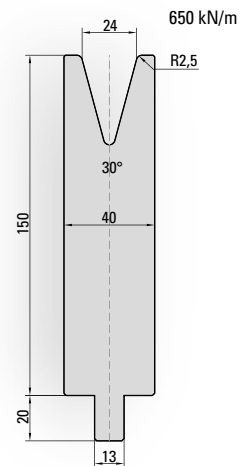
25.906

500 mm	221,-	20,0 kg
300 mm	159,-	12,0 kg
200 mm	119,-	8,0 kg
100 mm	78,-	4,0 kg
550 mm sectionalized	290,-	22,0 kg



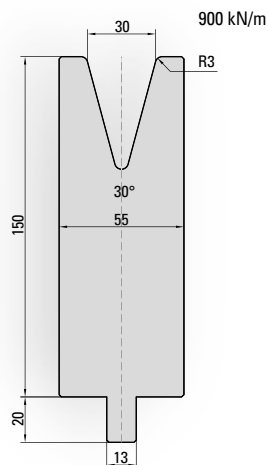
25.907

500 mm	231,-	22,5 kg
300 mm	167,-	13,5 kg
200 mm	125,-	9,0 kg
100 mm	81,-	4,5 kg
550 mm sectionalized	303,-	24,8 kg



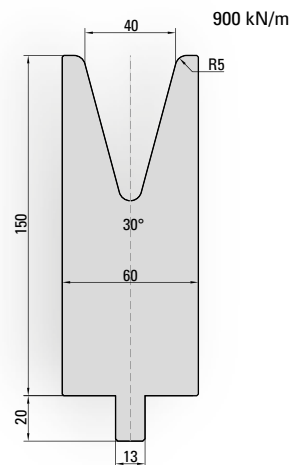
25.908

500 mm	345,-	30,0 kg
300 mm	248,-	18,0 kg
200 mm	180,-	12,0 kg
100 mm	114,-	6,0 kg
550 mm sectionalized	407,-	33,0 kg



25.909

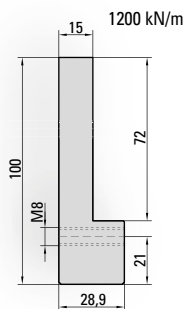
500 mm	420,-	30,0 kg
300 mm	305,-	18,0 kg
200 mm	219,-	12,0 kg
100 mm	132,-	6,0 kg
550 mm sectionalized	458,-	33,0 kg



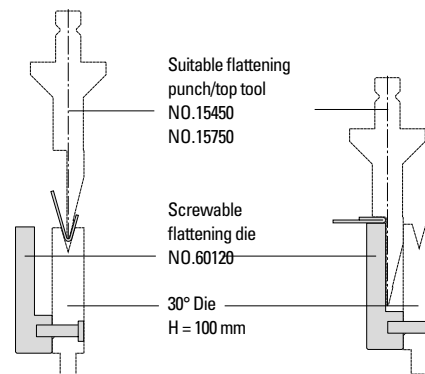
Screwable flattening die H = 100 mm

60.120

500 mm	221,-	7,5 kg
300 mm	170,-	4,5 kg
200 mm	126,-	3,0 kg
100 mm	74,-	1,5 kg
550 mm sectionalized	245,-	8,3 kg



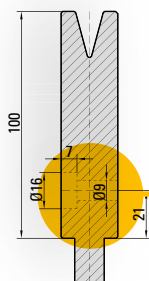
EXAMPLE OF USE



Only usable with i-axis displacement

70.800

500 mm	20,-
300 mm	17,-
200 mm	14,-
100 mm	9,-
550 mm sectionalized	41,-

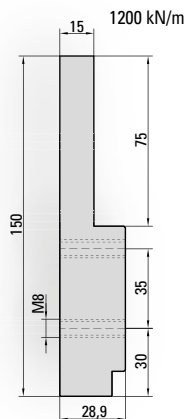


Drill hole in the die for the use of screwable flattening die NO.60120

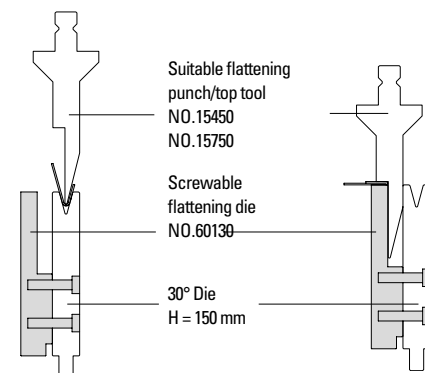
Screwable flattening die H = 150 mm

60.130

500 mm	294,-	13,0 kg
300 mm	206,-	7,8 kg
200 mm	155,-	5,2 kg
100 mm	96,-	2,6 kg
550 mm sectionalized	318,-	14,3 kg



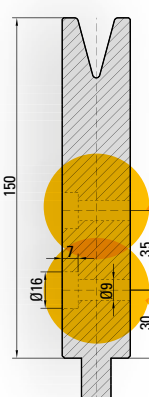
EXAMPLE OF USE



Only usable with i-axis displacement

70.810

500 mm	33,-
300 mm	29,-
200 mm	21,-
100 mm	14,-
550 mm sectionalized	63,-



Drill holes in the die for the use of screwable flattening die NO.60130

Flattening punches/top tools and flattening dies

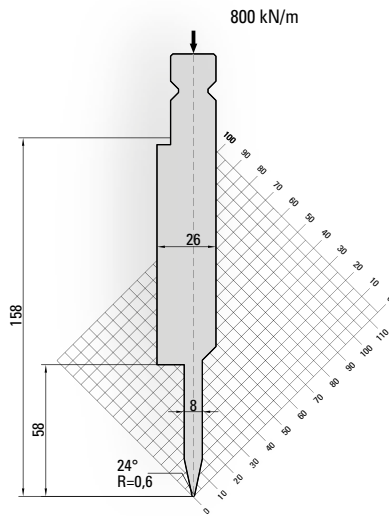
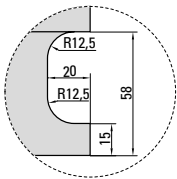
15.902

Safety pins

500 mm	332,-	14,0 kg
--------	-------	---------

Simple Clamp

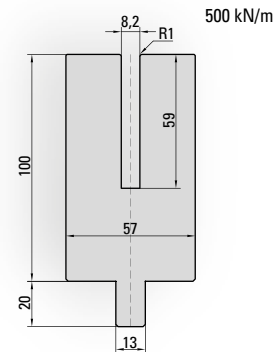
300 mm	294,-	8,4 kg
200 mm	222,-	5,6 kg
100 mm	119,-	2,8 kg
550 mm sectionalized	559,-	15,4 kg



25.992

500 mm	333,-	21,5 kg
300 mm	245,-	12,9 kg
200 mm	174,-	8,6 kg
100 mm	104,-	4,3 kg
550 mm sectionalized	379,-	23,6 kg

Max. 1,2 mm material thickness
 $R_m = 400 \text{ N/mm}^2$



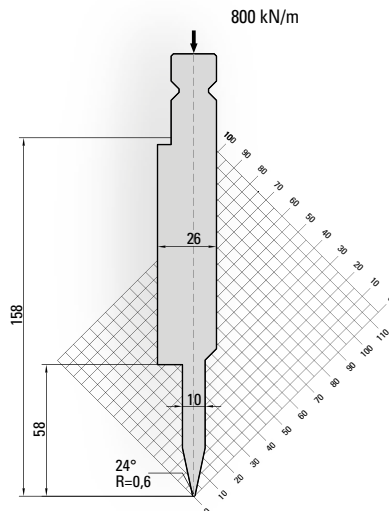
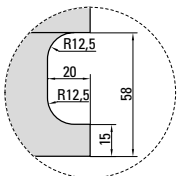
15.904

Safety pins

500 mm	332,-	14,5 kg
--------	-------	---------

Simple Clamp

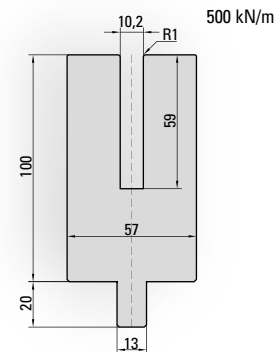
300 mm	294,-	8,7 kg
200 mm	222,-	5,8 kg
100 mm	119,-	2,9 kg
550 mm sectionalized	559,-	16,0 kg



25.994

500 mm	333,-	21,0 kg
300 mm	245,-	12,6 kg
200 mm	174,-	8,4 kg
100 mm	104,-	4,2 kg
550 mm sectionalized	379,-	23,1 kg

Max. 1,8 mm material thickness
 $R_m = 400 \text{ N/mm}^2$



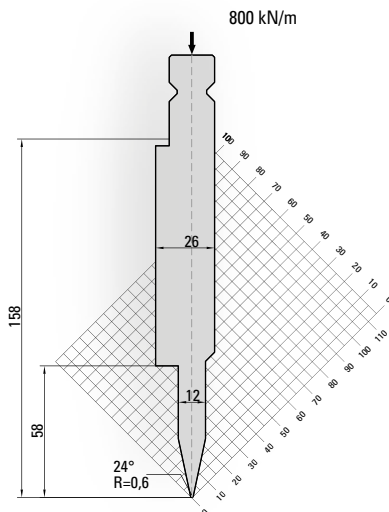
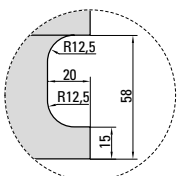
15.905

Safety pins

500 mm	332,-	15,0 kg
--------	-------	---------

Simple Clamp

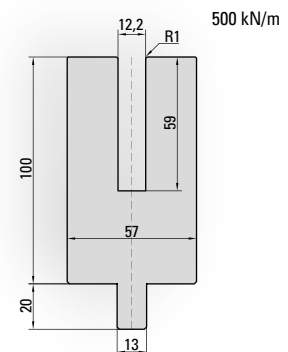
300 mm	296,-	9,0 kg
200 mm	222,-	6,0 kg
100 mm	119,-	3,0 kg
550 mm sectionalized	559,-	16,5 kg



25.995

500 mm	333,-	20,5 kg
300 mm	245,-	12,3 kg
200 mm	174,-	8,2 kg
100 mm	104,-	4,1 kg
550 mm sectionalized	379,-	22,6 kg

Max. 2,5 mm material thickness
 $R_m = 400 \text{ N/mm}^2$



Flattening punches/top tools and flattening dies

EXAMPLE OF USE

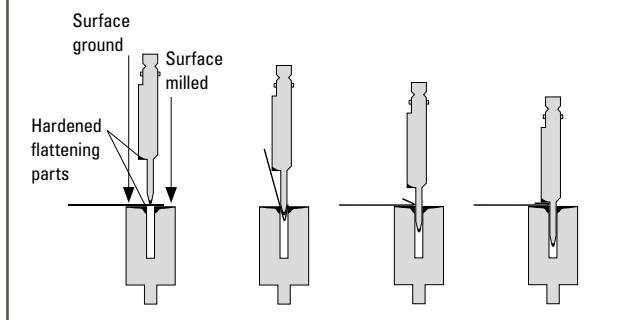


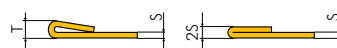
Table of force for flattening

Material: $R_m = 400 \text{ N/mm}^2$ (St)

S (mm)	(t/m)	T (mm)	(t/m)	2S (mm)
0,6	9	3,0	23	1,2
0,8	12	3,0	32	1,6
1,0	15	3,5	40	2,0
1,25	17	3,5	50	2,5
1,5	22	4,6	63	3,0
2,0	30	5,5	80	4,0
2,5	55	6,5	90	5,0
3,0	70	8,0	100	6,0

Material: $R_m = 700 \text{ N/mm}^2$ (VA)

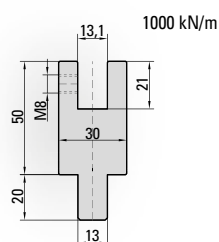
S (mm)	(t/m)	T (mm)	(t/m)	2S (mm)
0,6	15	3,0	35	1,2
0,8	20	3,0	50	1,6
1,0	25	3,5	60	2,0
1,25	26	3,5	80	2,5
1,5	38	4,6	95	3,0
2,0	50	5,5	130	4,0



Die heightenings

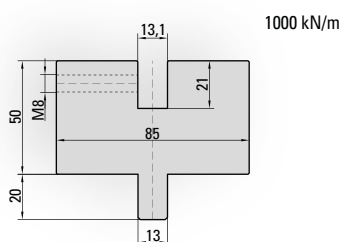
60.960

500 mm 233,- 5,8 kg



60.965

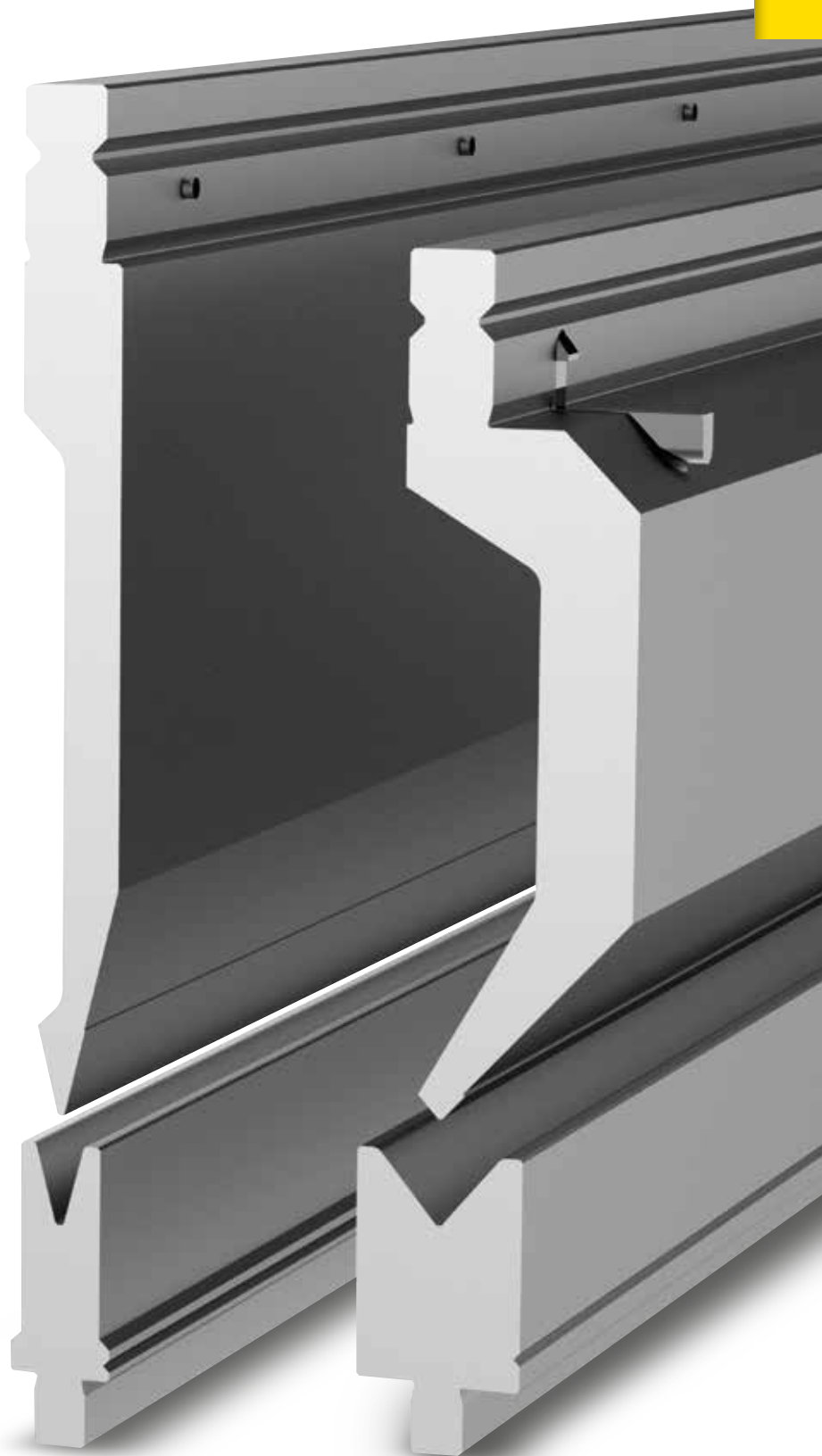
500 mm 269,- 16,6 kg



PRESS BRAKE TOOLS

ZNW-SYSTEM WILA

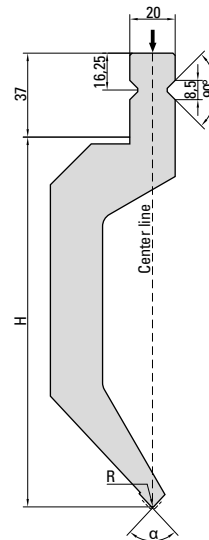
Explanation	84 – 85
Punches/top tools	
Simple Clamp	86
Safety pins.	86
Flexible modification.	87
Insertion of a steel insert	87
Punches/top tools Wila type I, H = 163 mm.	88 – 89
Punches/top tools Wila type I, H = 200 mm.	90 – 91
Punches/top tools Wila type II, H = 95/175 mm	92
Dies	
86° Dies, H = 55 mm	93
80° Dies, H = 55/65 mm	94
30° Dies, H = 55 mm	95



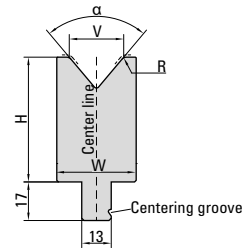
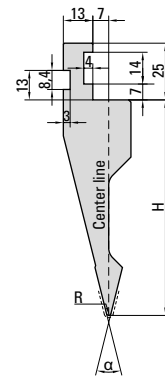
Quality and precision

- ▶ Optimum materials
 - 42 CrMo4, tempered to 1100 – 1200 N/mm²
 - C45, tempered to 800 – 850 N/mm²
 - C45, 650 – 800 N/mm²
- ▶ Bending radius/intake radii hardened up to 54 – 60 HRC
- ▶ Precision ground
- ▶ Guaranteed exchangeability and parallelism
- ▶ Punch/top tool clampings Wila type I in two different models
 - Simple Clamp at segments < 12,5 kg
 - Safety pin at segments > 12,5 kg
- ▶ Punch/top tool clampings Wila type I
 - Self centering
 - Usable on both sides
- ▶ Tool marking with all technical information

Wila type I



Wila type II



Tool lengths

PUNCHES/TOP TOOLS WITH SIMPLE CLAMP

Length 515 mm



Length 300 mm



Length 200 mm

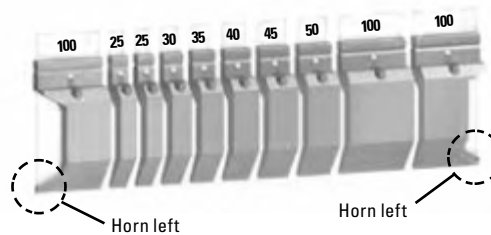


Length 100 mm



Length 550 mm sectionalized

- ▶ Sectionalized punches/top tools are delivered as a complete set
- ▶ 10 Segments with horn extension left and right



Simple Clamp

PUNCHES/TOP TOOLS WITH SAFETY PINS

Length 515 mm



Length 300 mm



Length 200 mm

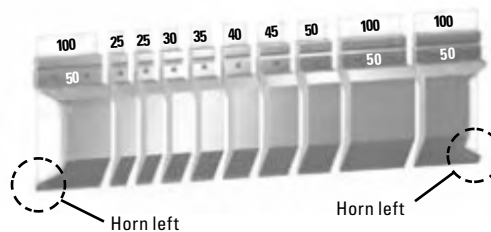


Length 100 mm



Length 550 mm sectionalized

- ▶ Sectionalized punches/top tools are delivered as a complete set
- ▶ 10 Segments with horn extension left and right



Safety pin

DIES

Length 515 mm



Length 300 mm



Length 200 mm

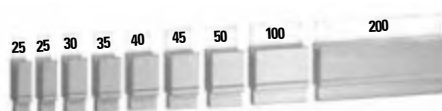


Length 100 mm



Length 550 mm sectionalized

- ▶ Sectionalized dies are delivered as a complete set
- ▶ 9 Segments



Simple Clamp

ADVANTAGES

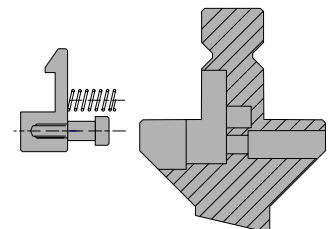
- **Vertical** tool change for segments **up to 12,5 kg**
- Less set-up time
- Easy handling



Set consists of screw, spring and Simple Clamp



Vertical tool change



70.714

Set	11,—	0,012 kg
-----	------	----------

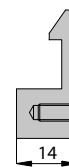
Suitable for punches/top tools
19.034 / 19.024



70.715

Set	11,—	0,014 kg
-----	------	----------

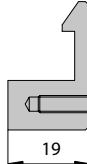
Suitable for punches/top tools
19.031 / 19.021 / 19.224



70.716

Set	12,—	0,016 kg
-----	------	----------

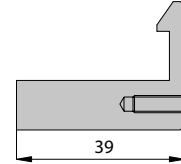
Suitable for punches/top tools
19.032 / 19.022



70.718

Set	14,—	0,027 kg
-----	------	----------

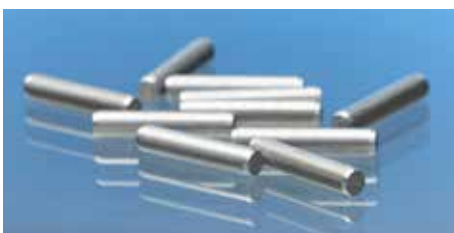
Suitable for punches/top tools
19.033 / 19.233 / 19.023 / 19.226



Safety pins

ADVANTAGES

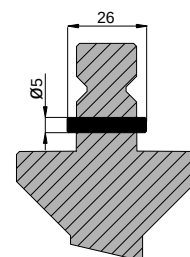
- **Horizontal** tool change for segments **more than 12,5 kg**
- Favorable purchase price (in comparison with Simple Clamp)
- Hardened Safety pins on demand



Safety pins



Horizontal tool change



70.130

10 Pieces	2,50	0,16 kg
-----------	------	---------

Hardened

70.140

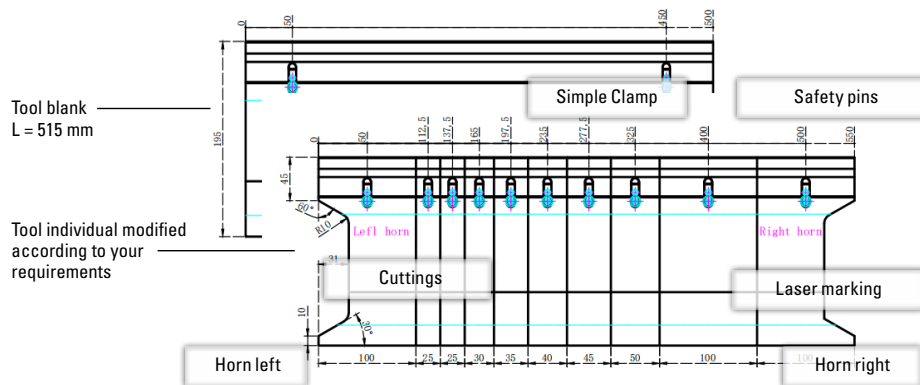
10 Pieces	1,00	0,16 kg
-----------	------	---------

Not hardened

Flexible modification

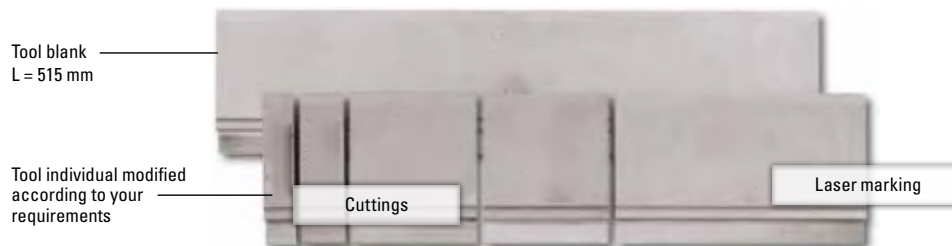
PUNCHES/TOP TOOLS

- Special cuttings
- Individual horn extensions
- Insertion of Simple Clamp
- Insertion of Safety pins
- Laser marking



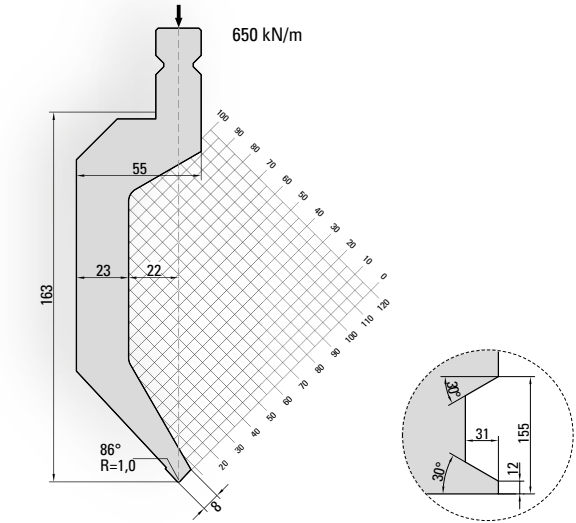
DIES

- Special cuttings
- Laser marking



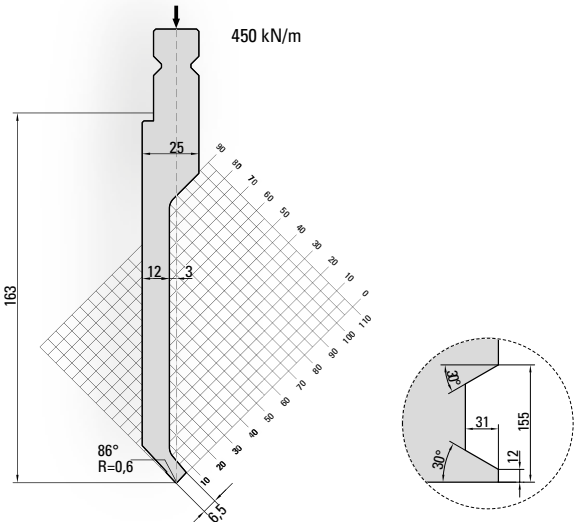
Punches/top tools Wila type I, H = 163 mm

19.023		
Safety pins		
515 mm	419,—	19,1 kg
Simple Clamp		
300 mm	347,—	11,1 kg
200 mm	278,—	7,4 kg
100 mm	143,—	3,7 kg
550 mm sectionalized	526,—	20,4 kg



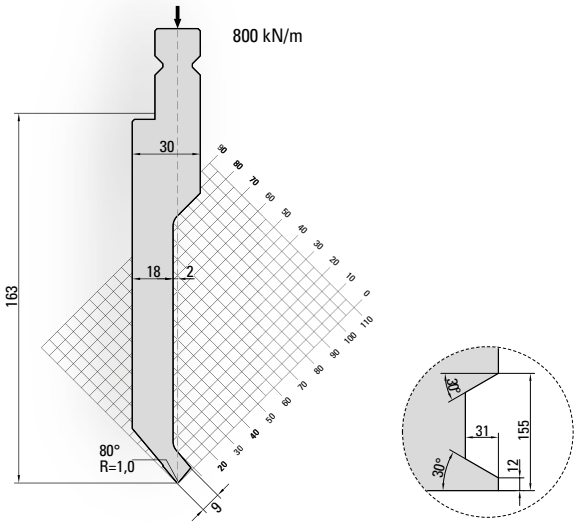
Further radii	
R (mm)	H (mm)
0,5	162,8
2,0	162,2
2,5	162,0
3,0	161,7
4,0	161,3
5,0	160,8
6,0	160,3

19.224		
Simple Clamp		
515 mm	294,—	12,2 kg
300 mm	248,—	7,1 kg
200 mm	195,—	4,7 kg
100 mm	113,—	2,4 kg
550 mm sectionalized	370,—	13,0 kg



Further radii	
R (mm)	H (mm)
1,0	162,4
2,0	162,0
2,5	161,7
3,0	161,5
4,0	161,0
5,0	160,6

19.022		
Safety pins		
515 mm	306,—	16,0 kg
Simple Clamp		
300 mm	252,—	9,3 kg
200 mm	203,—	6,2 kg
100 mm	105,—	3,1 kg
550 mm sectionalized	385,—	17,1 kg



Further radii	
R (mm)	H (mm)
0,5	162,8
2,0	162,2
2,5	161,9
3,0	161,6
4,0	161,1
5,0	160,5
6,0	160,0

Punches/top tools Wila type I, H = 163 mm

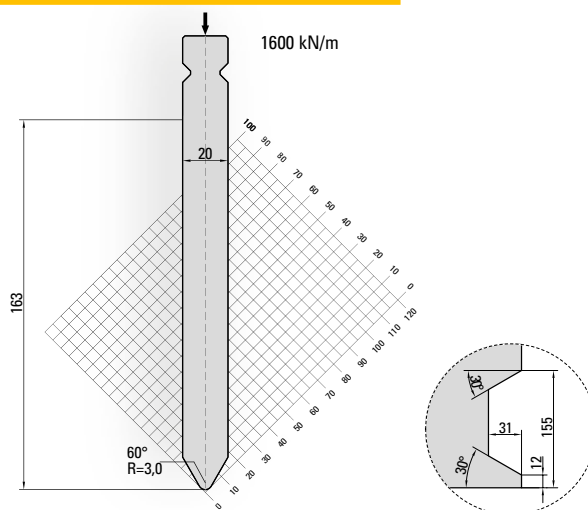
19.024

Safety pins

515 mm	206,—	16,0 kg
--------	-------	---------

Simple Clamp

300 mm	164,—	9,3 kg
200 mm	135,—	6,2 kg
100 mm	69,—	3,1 kg
550 mm sectionalized	212,—	17,1 kg



Further radii

R (mm)	H (mm)
1,0	162,8
2,0	162,8
2,5	162,8
4,0	161,6
5,0	160,6
6,0	159,6

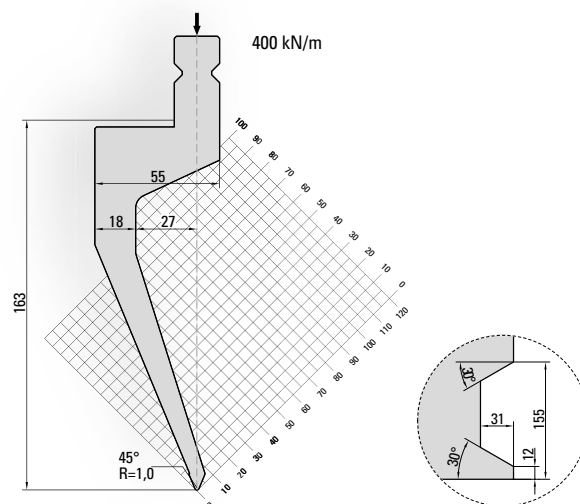
19.226

Safety pins

515 mm	485,—	15,5 kg
--------	-------	---------

Simple Clamp

300 mm	398,—	9,0 kg
200 mm	320,—	6,0 kg
100 mm	165,—	3,0 kg
550 mm sectionalized	609,—	16,5 kg



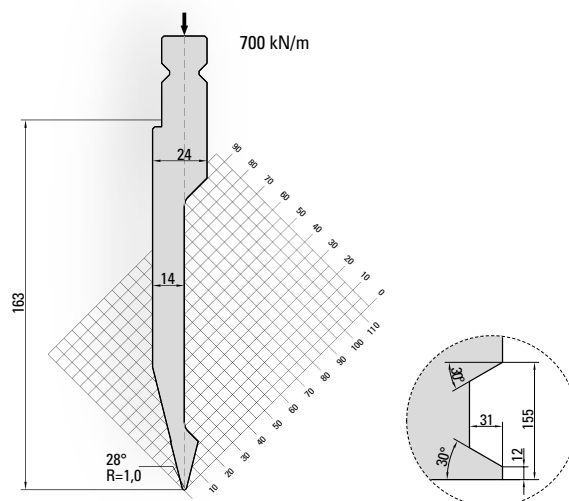
Further radii

R (mm)	H (mm)
0,5	162,8
2,0	160,8
2,5	159,2

19.021

Simple Clamp

515 mm	297,—	12,4 kg
300 mm	239,—	7,2 kg
200 mm	197,—	4,8 kg
100 mm	102,—	2,4 kg
550 mm sectionalized	374,—	13,2 kg



Further radii

R (mm)	H (mm)
0,5	162,8
2,0	159,0
2,5	157,4
3,0	155,8
4,0	152,8

Punches/top tools Wila type I, H = 200 mm

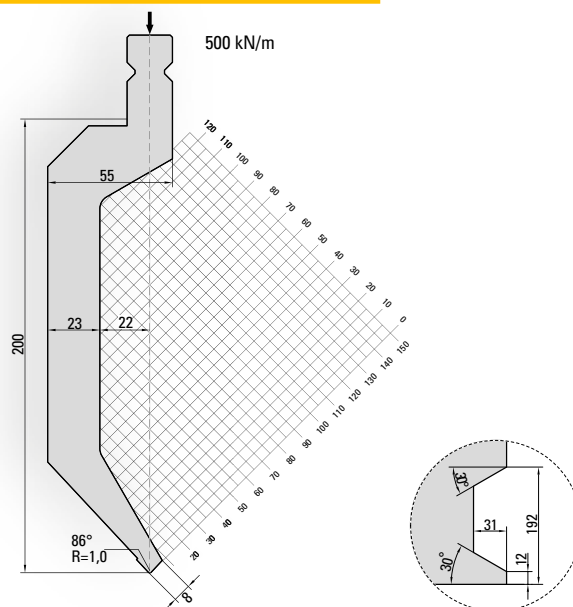
19.033

Safety pins

515 mm	453,-	22,7 kg
300 mm	276,-	13,2 kg

Simple Clamp

200 mm	299,-	8,8 kg
100 mm	155,-	4,4 kg
550 mm sectionalized	569,-	24,2 kg



Further radii

R (mm)	H (mm)
0,5	199,8
2,0	199,2
2,5	199,0
3,0	198,7
4,0	198,3
5,0	197,8
6,0	197,3

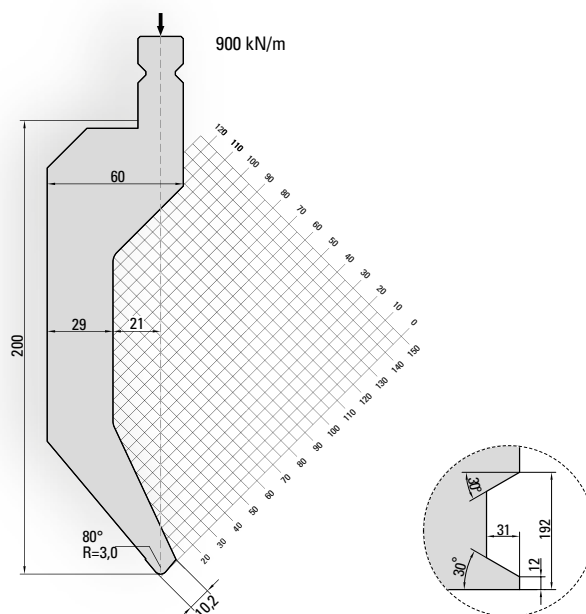
19.233

Safety pins

515 mm	507,-	28,9 kg
300 mm	326,-	16,8 kg

Simple Clamp

200 mm	273,-	11,2 kg
100 mm	156,-	5,6 kg
550 mm sectionalized	637,-	30,9 kg



Further radii

R (mm)	H (mm)
2,0	199,8
2,5	199,8
4,0	199,1
5,0	198,5
6,0	198,0

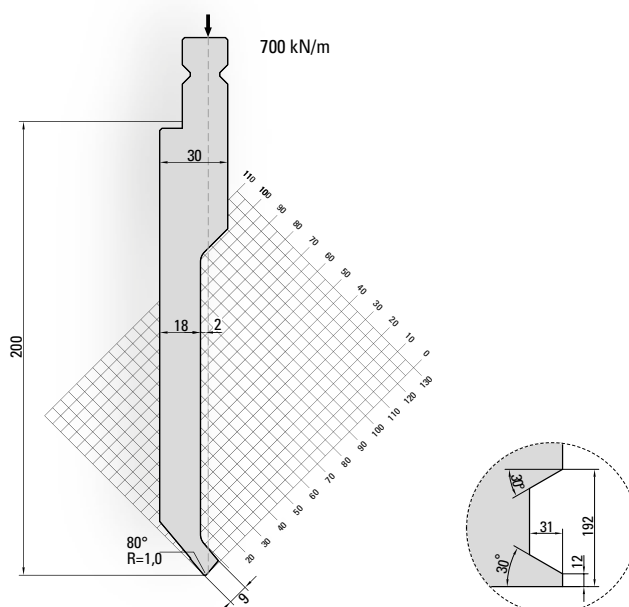
19.032

Safety pins

515 mm	330,-	19,6 kg
--------	-------	---------

Simple Clamp

300 mm	273,-	11,4 kg
200 mm	219,-	7,6 kg
100 mm	113,-	3,8 kg
550 mm sectionalized	415,-	20,9 kg



Further radii

R (mm)	H (mm)
0,5	199,8
2,0	199,2
2,5	198,9
3,0	198,6
4,0	198,1
5,0	197,5
6,0	197,0

Punches/top tools Wila type I, H = 200 mm

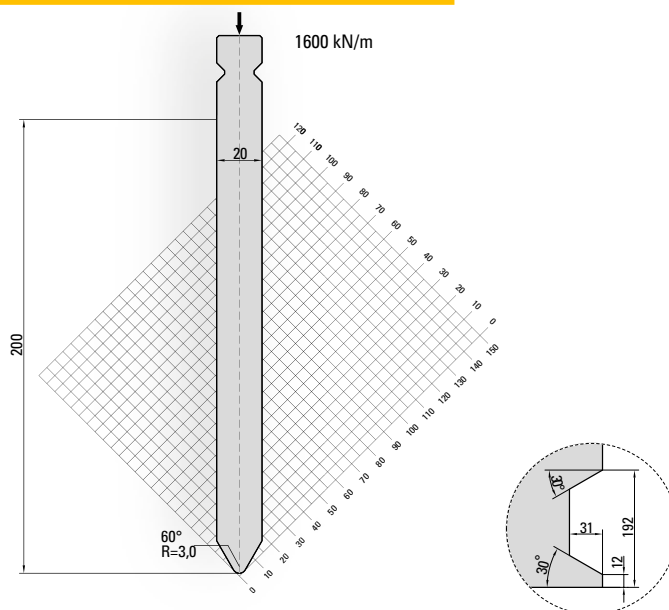
19.034

Safety pins

515 mm	296,—	19,0 kg
--------	-------	---------

Simple Clamp

300 mm	245,—	11,1 kg
200 mm	195,—	7,4 kg
100 mm	101,—	3,7 kg
550 mm sectionalized	378,—	20,4 kg



Further radii

R (mm)	H (mm)
1,0	199,8
2,0	199,8
2,5	199,8
4,0	198,6
5,0	197,6
6,0	196,6

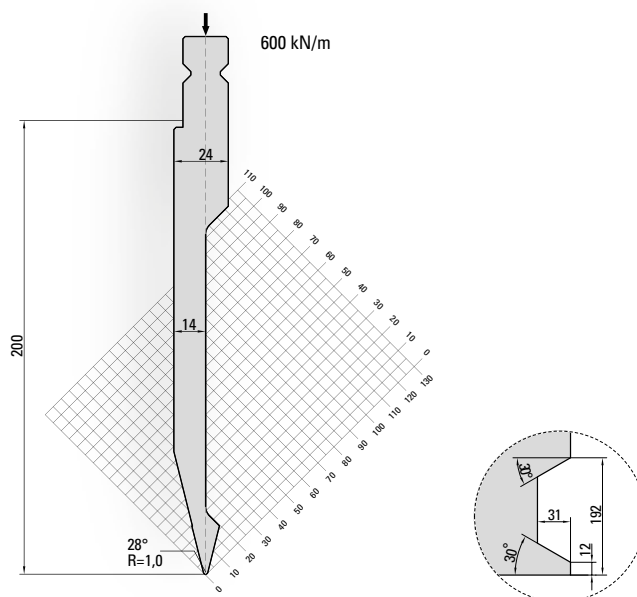
19.031

Safety pins

515 mm	321,—	15,0 kg
--------	-------	---------

Simple Clamp

300 mm	266,—	8,7 kg
200 mm	212,—	5,8 kg
100 mm	110,—	2,9 kg
550 mm sectionalized	403,—	16,0 kg



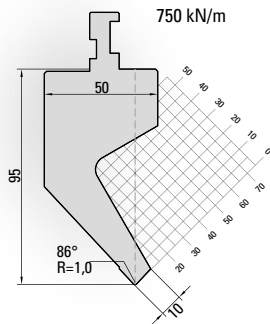
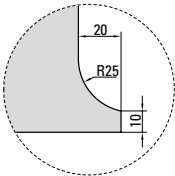
Further radii

R (mm)	H (mm)
0,5	199,8
2,0	196,0
2,5	194,4
3,0	192,8
4,0	189,8

Punches/top tools Wila type II, H = 95/175 mm

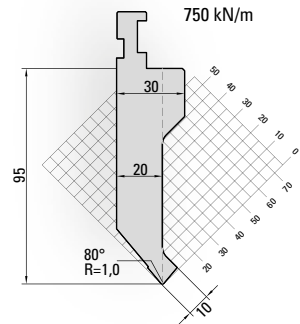
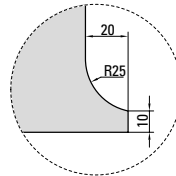
14.040

500 mm	213,-	12,5 kg
300 mm	146,-	7,5 kg
200 mm	98,-	5,0 kg
100 mm	54,-	2,5 kg
550 mm sectionalized	254,-	13,8 kg



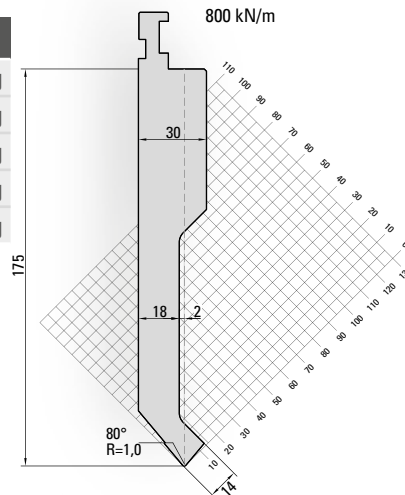
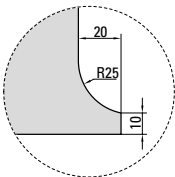
14.020

500 mm	162,-	9,0 kg
300 mm	119,-	5,4 kg
200 mm	81,-	3,6 kg
100 mm	45,-	1,8 kg
550 mm sectionalized	311,-	9,9 kg



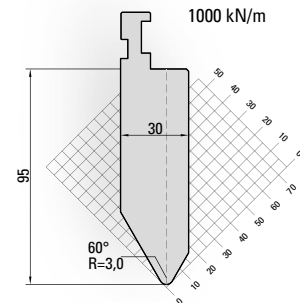
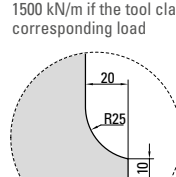
14.060

500 mm	255,-	17,0 kg
300 mm	185,-	10,2 kg
200 mm	128,-	6,8 kg
100 mm	71,-	3,4 kg
550 mm sectionalized	353,-	18,7 kg



14.010

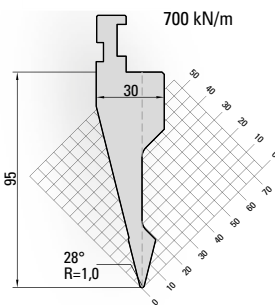
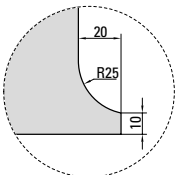
500 mm	138,-	11,0 kg
300 mm	98,-	6,6 kg
200 mm	69,-	4,4 kg
100 mm	38,-	2,2 kg
550 mm sectionalized	190,-	12,1 kg



1500 kN/m if the tool clamping has the corresponding load

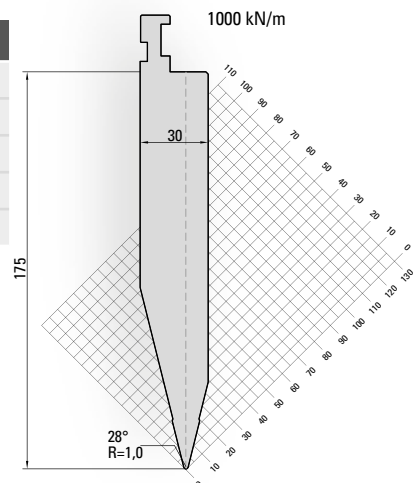
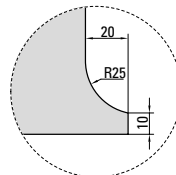
14.030

500 mm	186,-	7,0 kg
300 mm	138,-	4,2 kg
200 mm	95,-	2,8 kg
100 mm	50,-	1,4 kg
550 mm sectionalized	224,-	7,7 kg

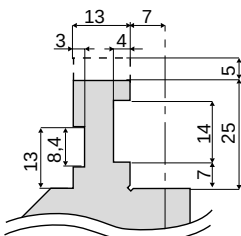


14.050

500 mm	276,-	18,0 kg
300 mm	200,-	10,8 kg
200 mm	138,-	7,2 kg
100 mm	78,-	3,6 kg
550 mm sectionalized	391,-	19,8 kg



MODIFICATION OF CLAMPING ZNW-SYSTEM AMADA

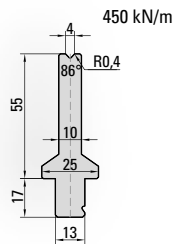


By milling an additional groove and shortening of the head (page 240) punches/top tools ZNW-System Amada (chapter 1) can also be used in a clamping ZNW-System Wila type II.

86° Dies H = 55 mm

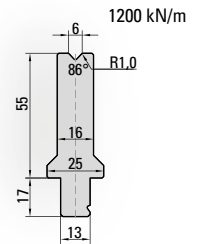
29.524

515 mm	180,—	3,6 kg
300 mm	156,—	2,1 kg
200 mm	122,—	1,4 kg
100 mm	62,—	0,7 kg
550 mm sectionalized	218,—	3,9 kg



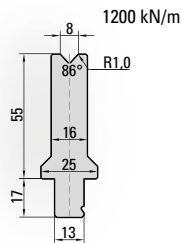
29.521

515 mm	173,—	4,6 kg
300 mm	147,—	2,7 kg
200 mm	116,—	1,8 kg
100 mm	60,—	0,9 kg
550 mm sectionalized	207,—	5,0 kg



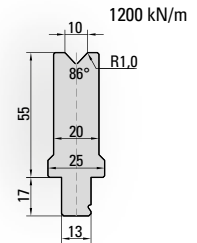
29.510

515 mm	173,—	4,6 kg
300 mm	147,—	2,7 kg
200 mm	116,—	1,8 kg
100 mm	60,—	0,9 kg
550 mm sectionalized	207,—	5,0 kg



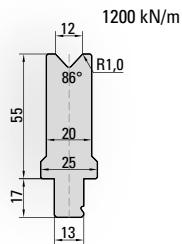
29.522

515 mm	173,—	5,7 kg
300 mm	147,—	3,3 kg
200 mm	116,—	2,2 kg
100 mm	60,—	1,1 kg
550 mm sectionalized	207,—	6,0 kg



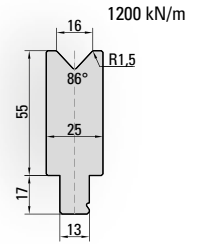
29.511

515 mm	173,—	5,2 kg
300 mm	147,—	3,0 kg
200 mm	116,—	2,0 kg
100 mm	60,—	1,0 kg
550 mm sectionalized	207,—	5,5 kg



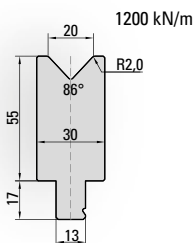
29.512

515 mm	171,—	6,2 kg
300 mm	147,—	3,6 kg
200 mm	116,—	2,4 kg
100 mm	60,—	1,2 kg
550 mm sectionalized	207,—	6,6 kg



29.523

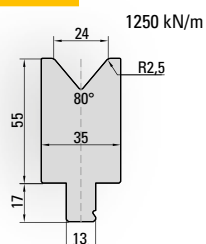
515 mm	177,—	7,2 kg
300 mm	153,—	4,2 kg
200 mm	120,—	2,8 kg
100 mm	62,—	1,4 kg
550 mm sectionalized	216,—	7,7 kg



80° Dies, H = 55/65 mm

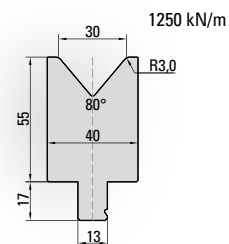
29.513

515 mm	182,—	8,2 kg
300 mm	156,—	4,8 kg
200 mm	122,—	3,2 kg
100 mm	63,—	1,6 kg
550 mm sectionalized	219,—	8,8 kg



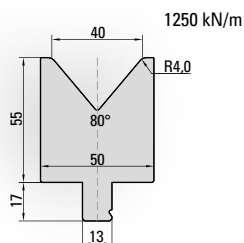
29.514

515 mm	201,—	8,8 kg
300 mm	173,—	5,1 kg
200 mm	135,—	3,4 kg
100 mm	71,—	1,7 kg
550 mm sectionalized	243,—	9,3 kg



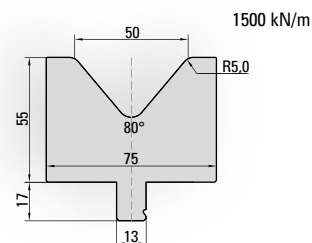
29.515

515 mm	219,—	10,3 kg
300 mm	188,—	6,0 kg
200 mm	147,—	4,0 kg
100 mm	77,—	2,0 kg
550 mm sectionalized	265,—	11,0 kg



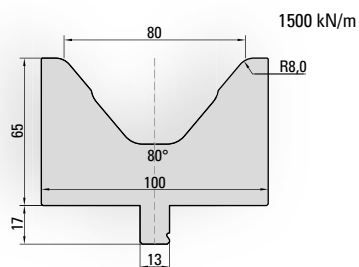
29.535

515 mm	261,—	14,9 kg
300 mm	225,—	8,7 kg
200 mm	176,—	5,8 kg
100 mm	92,—	2,9 kg
550 mm sectionalized	317,—	15,9 kg



29.517

515 mm	446,—	19,6 kg
300 mm	290,—	11,4 kg
200 mm	228,—	7,6 kg
100 mm	104,—	3,8 kg
550 mm sectionalized	486,—	20,9 kg



ZNW-ADJUSTABLE DIES

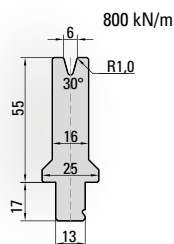
see chapter 11



30° Dies, H = 55 mm

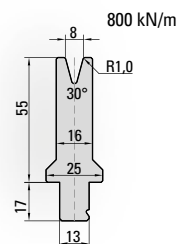
29.561

515 mm	173,—	4,6 kg
300 mm	147,—	2,7 kg
200 mm	116,—	1,8 kg
100 mm	60,—	0,9 kg
550 mm sectionalized	207,—	5,0 kg



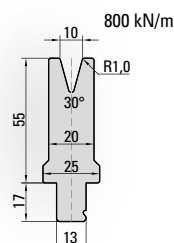
29.551

515 mm	173,—	4,6 kg
300 mm	147,—	2,7 kg
200 mm	116,—	1,8 kg
100 mm	60,—	0,9 kg
550 mm sectionalized	207,—	5,0 kg



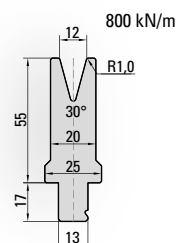
29.562

515 mm	173,—	5,2 kg
300 mm	147,—	3,0 kg
200 mm	116,—	2,0 kg
100 mm	60,—	1,0 kg
550 mm sectionalized	207,—	5,5 kg



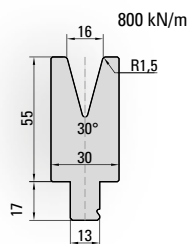
29.552

515 mm	173,—	5,2 kg
300 mm	147,—	3,0 kg
200 mm	116,—	2,0 kg
100 mm	60,—	1,0 kg
550 mm sectionalized	207,—	5,5 kg



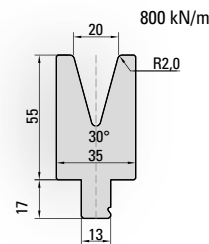
29.553

515 mm	177,—	6,7 kg
300 mm	153,—	3,9 kg
200 mm	120,—	2,6 kg
100 mm	62,—	1,3 kg
550 mm sectionalized	216,—	7,2 kg



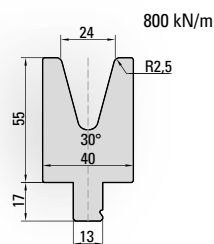
29.563

515 mm	188,—	7,2 kg
300 mm	162,—	4,2 kg
200 mm	126,—	2,8 kg
100 mm	65,—	1,4 kg
550 mm sectionalized	226,—	7,7 kg



29.554

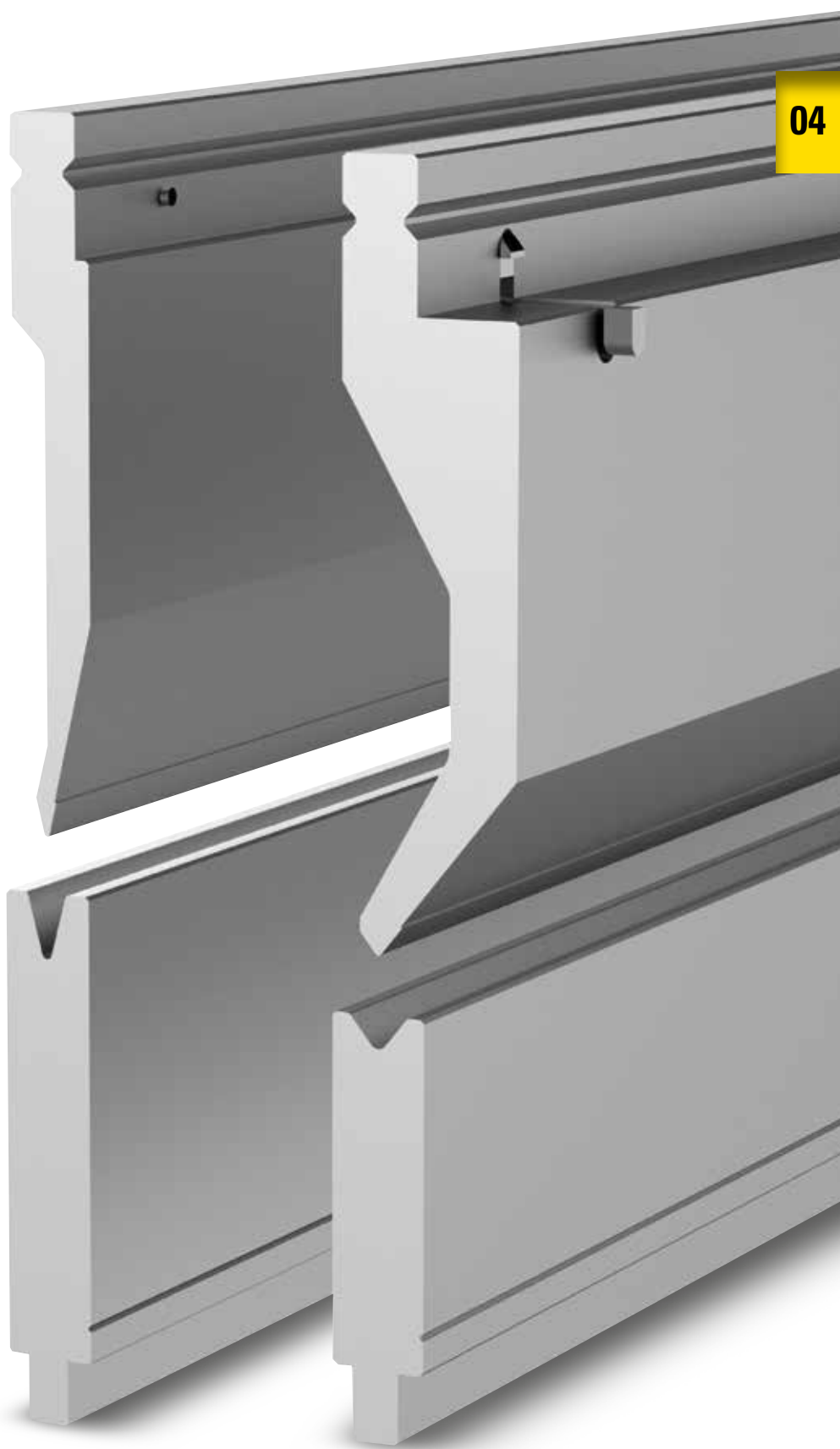
515 mm	200,—	7,7 kg
300 mm	170,—	4,5 kg
200 mm	134,—	3,0 kg
100 mm	69,—	1,5 kg
550 mm sectionalized	362,—	8,3 kg



PRESS BRAKE TOOLS

ZNW-SYSTEM LVD

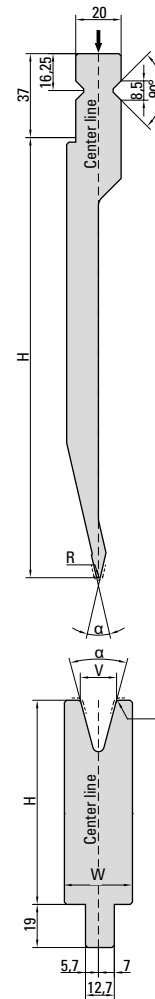
Explanation	98 – 99
Insertion of a steel insert	99
Punches/top tools	
Simple Clamp	100
Safety pins.	100
Punches/top tools LVD type I, H = 159 mm	101
Punches/top tools LVD type I, H = 194 mm	102
Punches/top tools LVD type II, H = 180 mm.	103
Dies	
78° Dies, H = 90 mm	104 – 105
30° Dies, H = 90 mm	105 – 106
78° Dies, H = 130 mm.	107 – 108
30° Dies, H = 130 mm	108 – 109



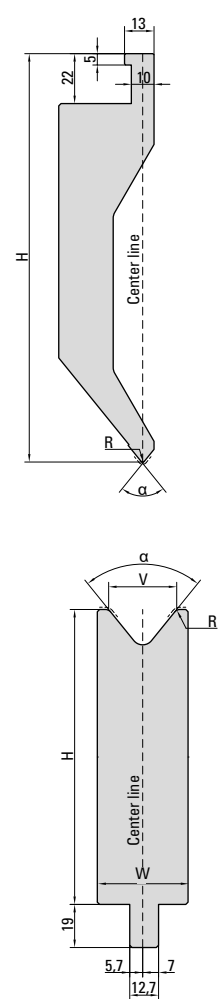
Quality and precision

- ▶ Optimum materials
 - 42 CrMo4, tempered to 1100 – 1200 N/mm²
 - C45, tempered to 800 – 850 N/mm²
 - C45, 650 – 800 N/mm²
- ▶ Bending radius/intake radii hardened up to 54 – 60 HRC
- ▶ Precision ground
- ▶ Guaranteed exchangeability and parallelism
- ▶ Punch/top tool clampings LVD type I in two different models
 - Simple Clamp at segments < 12,5 kg
 - Safety pin at segments > 12,5 kg
- ▶ Punch/top tool clampings LVD type I
 - Self centering
 - Usable on both sides
- ▶ Tool marking with all technical information

LVD type I



LVD type II

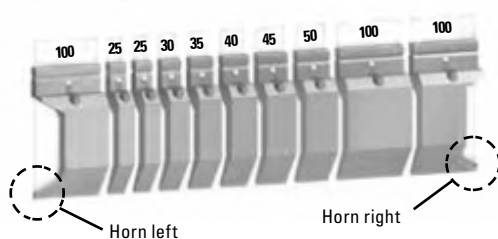


Tool lengths

PUNCHES/TOP TOOLS LVD TYPE I WITH SIMPLE CLAMP



Length 510mm



Length 550mm sectionalized

- Sectionalized punches/top tools are delivered as a complete set
- 10 Segments with horn extension left and right

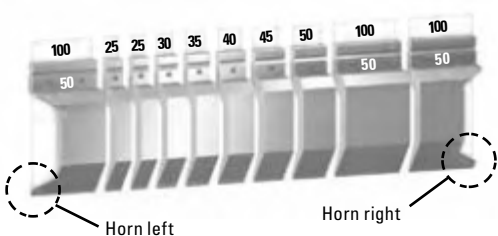


Simple Clamp

PUNCHES/TOP TOOLS LVD TYPE I WITH SAFETY PINS



Length 510mm



Length 550mm sectionalized

- Sectionalized punches/top tools are delivered as a complete set
- 10 Segments with horn extension left and right



Safety pin

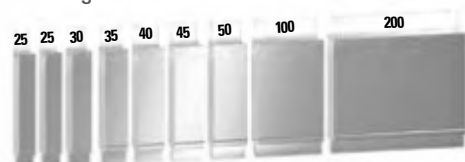
DIES

Length 510 mm



Length 550mm sectionalized

- Sectionalized dies are delivered as a complete set
- 9 Segments



Simple Clamp

ADVANTAGES

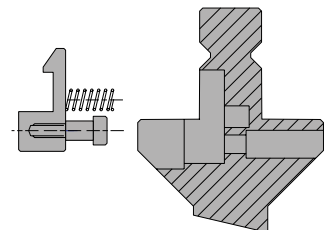
- **Vertical** tool change for segments **up to 12,5 kg**
- Less set-up time
- Easy handling



Set consists of screw, spring and Simple Clamp

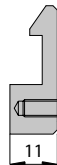


Vertical tool change



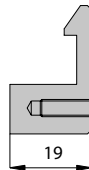
70.714		
Set	11,—	0,012 kg

Suitable for punches/top tools
16.204 / 16.209



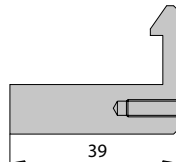
70.716		
Set	12,—	0,016 kg

Suitable for punches/top tools
16.201 / 16.202 / 16.203
16.206 / 16.207 / 16.208



70.718		
Set	14,—	0,027 kg

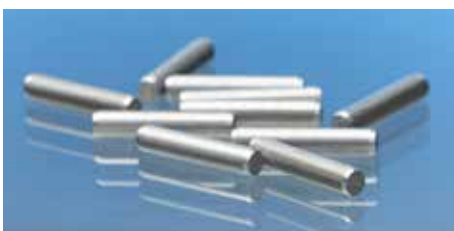
Suitable for punches/top tools
16.200 / 16.205



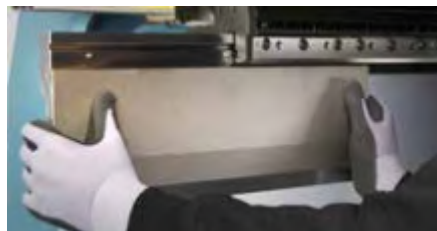
Safety pins

ADVANTAGES

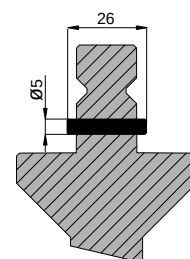
- **Horizontal** tool change for segments **more than 12,5 kg**
- Favorable purchase price (in comparison with Simple Clamp)
- Hardened Safety pins on demand



Safety pins



Horizontal tool change



70.130		
10 pieces	2,50	0,16 kg

Hardened

70.140		
10 pieces	1,00	0,16 kg
Not hardened		

Punches/top tools LVD type I, H = 159 mm

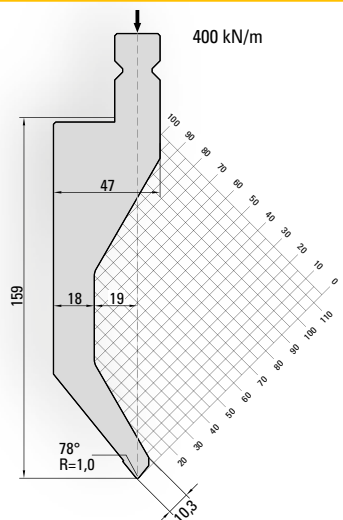
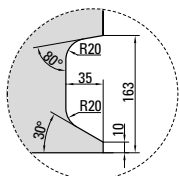
16.200

Safety pins

510 mm 398,- 19,0 kg

Simple Clamp

550 mm sectionalized 575,- 20,6 kg



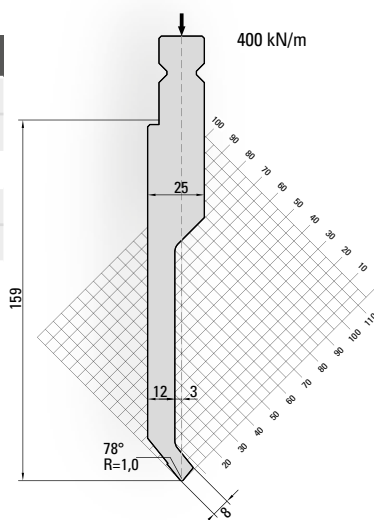
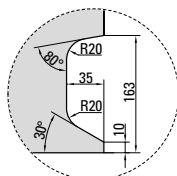
16.201

Safety pins

510 mm 329,- 15,1 kg

Simple Clamp

550 mm sectionalized 511,- 16,3 kg

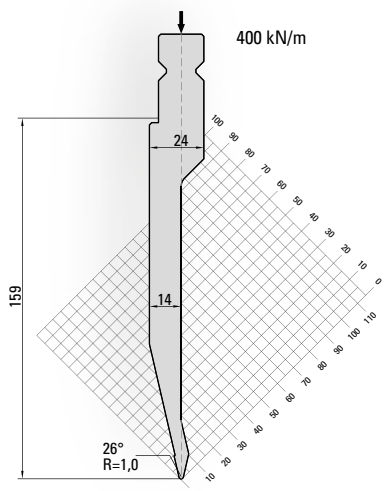
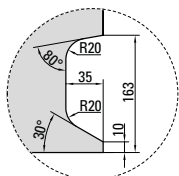


16.202

Simple Clamp

510 mm 324,- 11,5 kg

550 mm sectionalized 538,- 12,4 kg

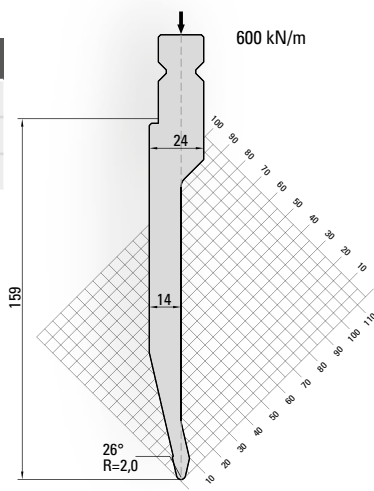
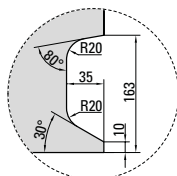


16.203

Simple Clamp

510 mm 324,- 11,6 kg

550 mm sectionalized 538,- 12,5 kg



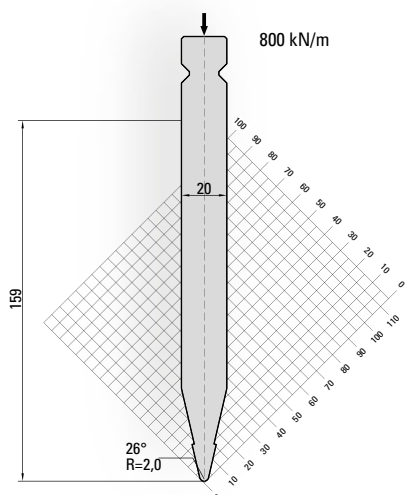
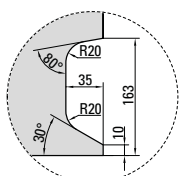
16.204

Safety pins

510 mm 302,- 14,1 kg

Simple Clamp

550 mm sectionalized 497,- 15,2 kg



Punches/top tools LVD type I, H = 194 mm

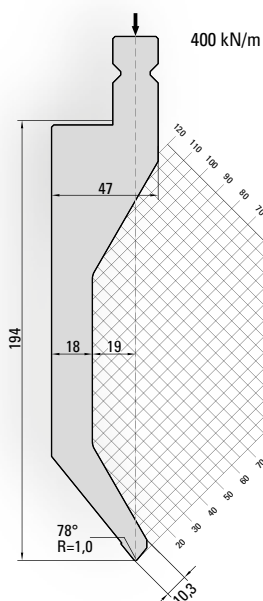
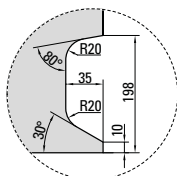
16.205

Safety pins

510 mm 504,— 22,4 kg

Simple Clamp

550 mm sectionalized 753,— 24,2 kg



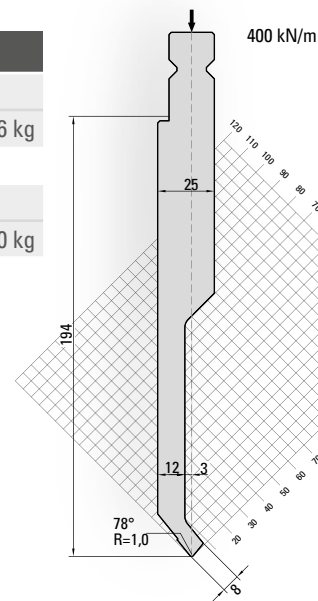
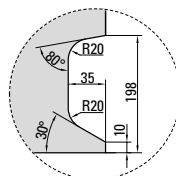
16.206

Safety pins

510 mm 417,— 18,6 kg

Simple Clamp

550 mm sectionalized 584,— 20,0 kg



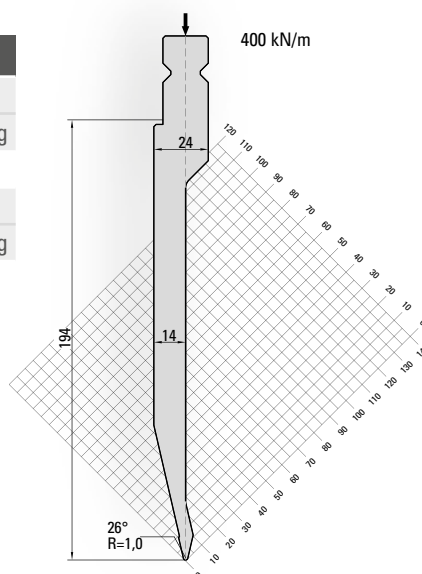
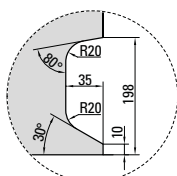
16.207

Safety pins

510 mm 393,— 13,5 kg

Simple Clamp

550 mm sectionalized 616,— 14,6 kg



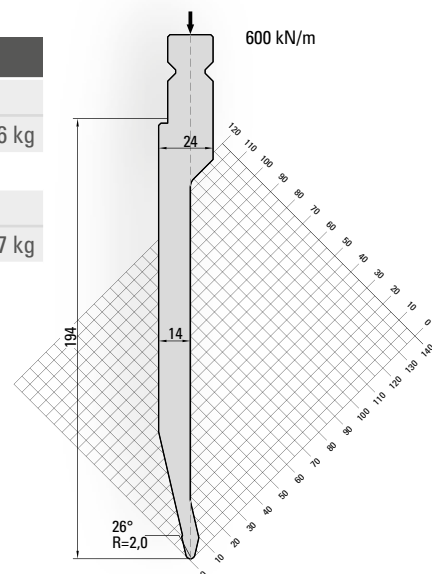
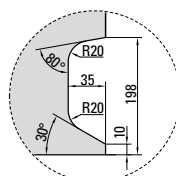
16.208

Safety pins

510 mm 393,— 13,6 kg

Simple Clamp

550 mm sectionalized 616,— 14,7 kg



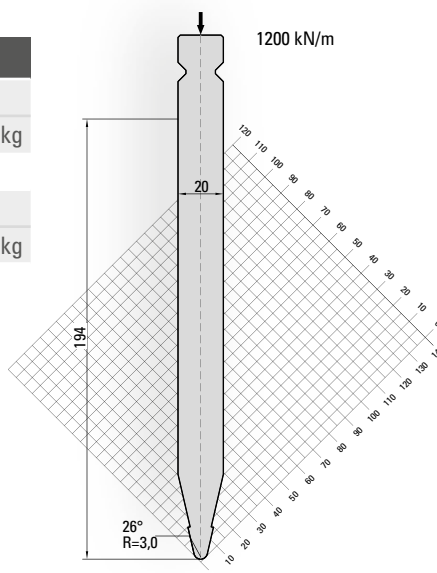
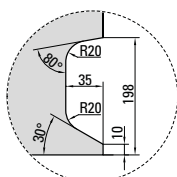
16.209

Safety pins

510 mm 353,— 17,1 kg

Simple Clamp

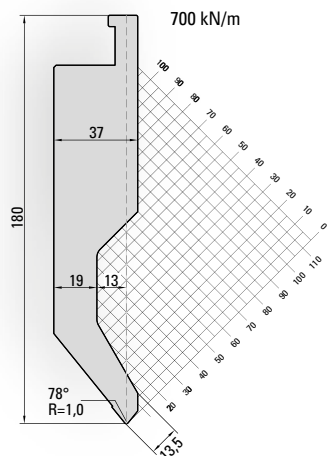
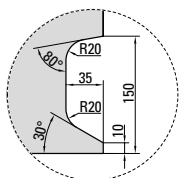
550 mm sectionalized 561,— 18,5 kg



Punches/top tools LVD type II, H = 180 mm

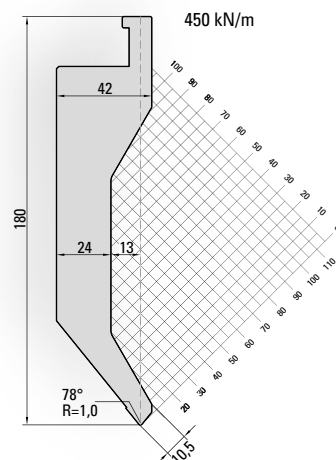
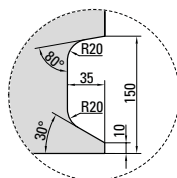
16.500

510 mm	287,—	17,7 kg
550 mm sectionalized	315,—	19,2 kg



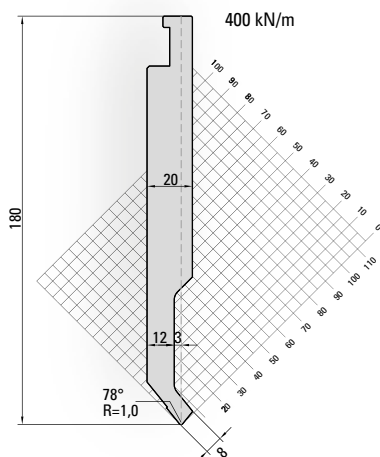
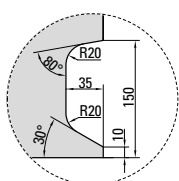
16.510

510 mm	306,—	16,8 kg
550 mm sectionalized	330,—	18,2 kg



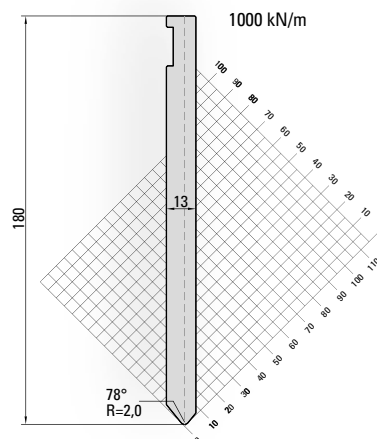
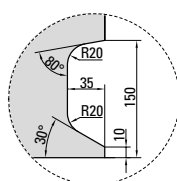
16.520

510 mm	224,—	11,5 kg
550 mm sectionalized	267,—	12,4 kg



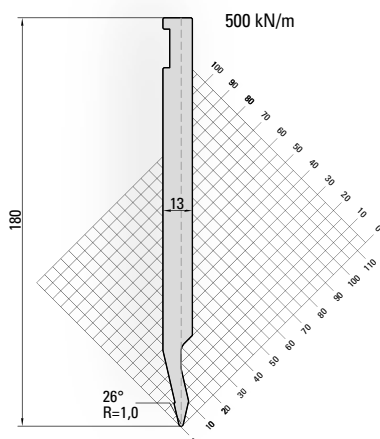
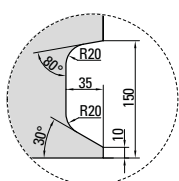
16.540

510 mm	191,—	9,1 kg
550 mm sectionalized	241,—	9,8 kg



16.530

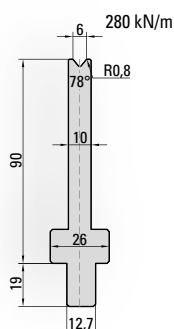
510 mm	207,—	8,0 kg
550 mm sectionalized	252,—	8,7 kg



78° Dies, H = 90 mm

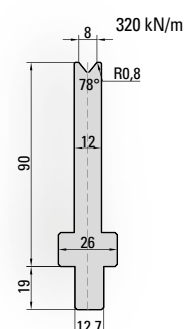
26.211

510 mm	200,—	5,4 kg
550 mm sectionalized	239,—	5,8 kg



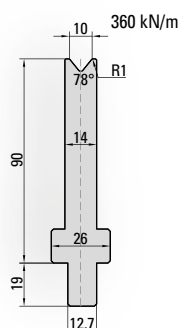
26.212

510 mm	200,—	6,0 kg
550 mm sectionalized	239,—	6,5 kg



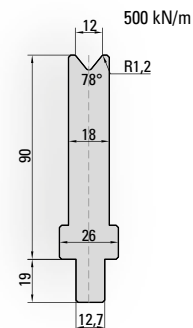
26.213

510 mm	200,—	6,5 kg
550 mm sectionalized	239,—	7,1 kg



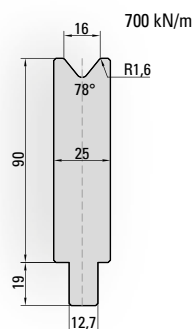
26.214

510 mm	200,—	7,7 kg
550 mm sectionalized	239,—	8,3 kg



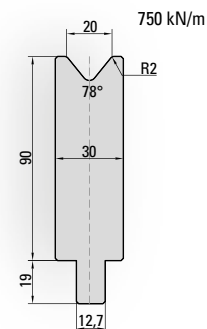
26.215

510 mm	200,—	9,6 kg
550 mm sectionalized	239,—	10,4 kg



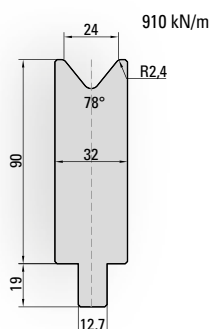
26.216

510 mm	200,—	11,2 kg
550 mm sectionalized	239,—	12,1 kg



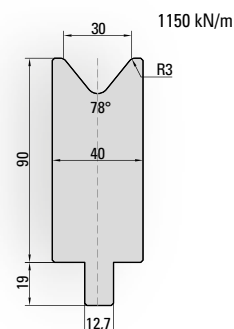
26.217

510 mm	206,—	11,7 kg
550 mm sectionalized	240,—	12,7 kg



26.218

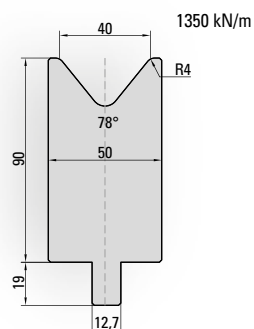
510 mm	239,—	14,2 kg
550 mm sectionalized	265,—	15,4 kg



78° Dies, H = 90 mm

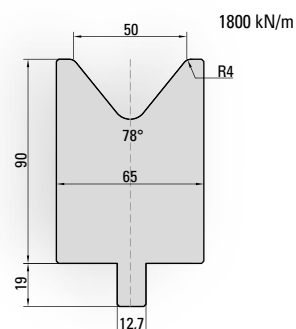
26.219

510 mm	260,—	17,0 kg
550 mm sectionalized	279,—	18,3 kg



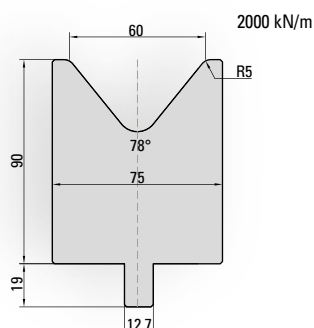
26.220

510 mm	293,—	21,3 kg
550 mm sectionalized	301,—	23,0 kg



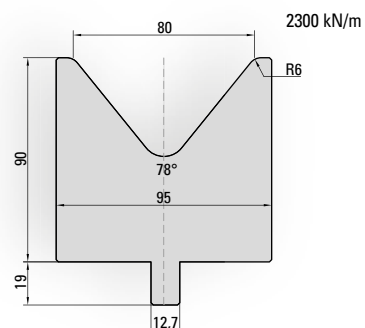
26.221

510 mm	332,—	23,6 kg
550 mm sectionalized	345,—	25,4 kg



26.222

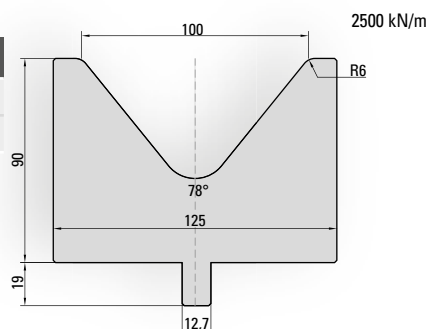
510 mm	414,—	27,3 kg
550 mm sectionalized	431,—	29,5 kg



30° Dies, H = 90 mm

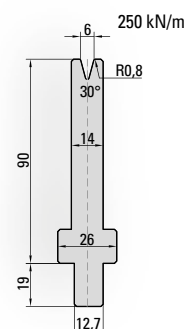
26.223

510 mm	554,—	33,9 kg
550 mm sectionalized	659,—	36,5 kg



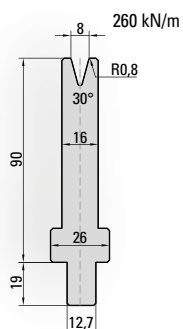
26.200

510 mm	225,—	6,5 kg
550 mm sectionalized	256,—	7,1 kg



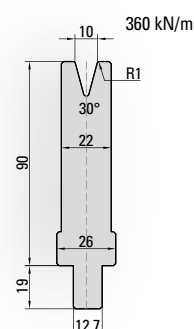
26.201

510 mm	225,—	7,0 kg
550 mm sectionalized	258,—	7,6 kg



26.202

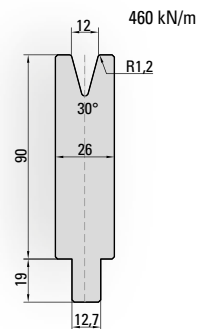
510 mm	225,—	8,7 kg
550 mm sectionalized	256,—	9,4 kg



30° Dies, H = 90 mm

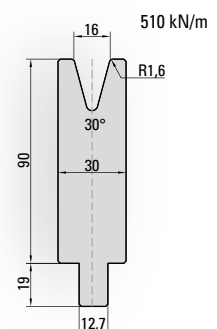
26.203

510 mm	233,—	10,2 kg
550 mm sectionalized	261,—	11,0 kg



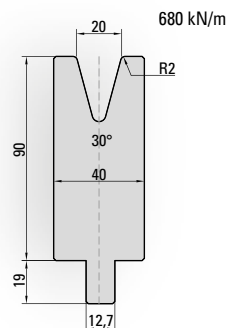
26.204

510 mm	239,—	10,8 kg
550 mm sectionalized	265,—	11,7 kg



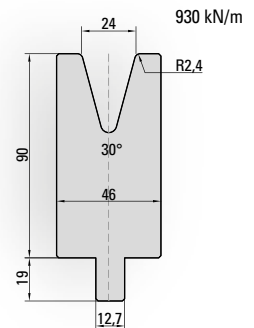
26.205

510 mm	245,—	13,9 kg
550 mm sectionalized	270,—	15,0 kg



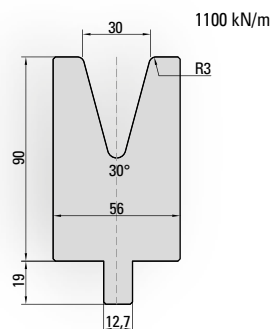
26.206

510 mm	257,—	15,5 kg
550 mm sectionalized	278,—	16,7 kg



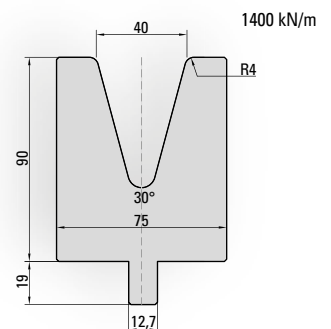
26.207

510 mm	410,—	17,9 kg
550 mm sectionalized	429,—	19,3 kg



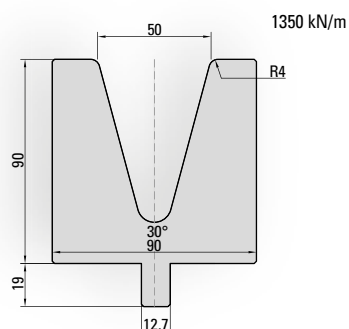
26.208

510 mm	465,—	22,3 kg
550 mm sectionalized	481,—	24,1 kg



26.209

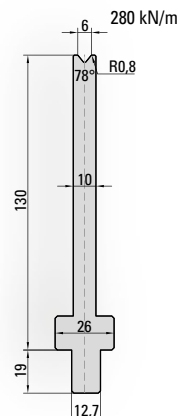
510 mm	531,—	24,5 kg
550 mm sectionalized	609,—	26,5 kg



78° Dies, H = 130 mm

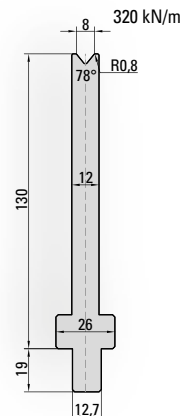
26.262

510 mm	246,—	7,0 kg
550 mm sectionalized	279,—	7,6 kg



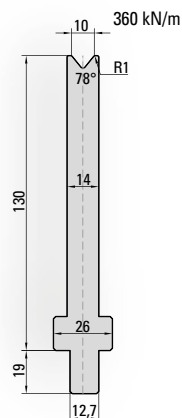
26.263

510 mm	246,—	7,9 kg
550 mm sectionalized	279,—	8,5 kg



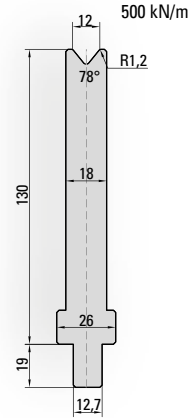
26.264

510 mm	246,—	8,8 kg
550 mm sectionalized	279,—	9,5 kg



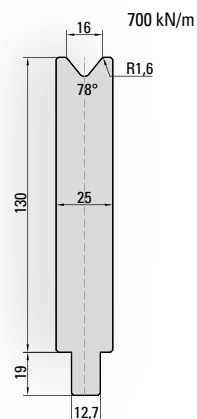
26.265

510 mm	246,—	10,6 kg
550 mm sectionalized	279,—	11,4 kg



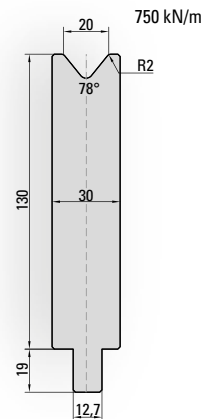
26.266

510 mm	251,—	13,6 kg
550 mm sectionalized	278,—	14,7 kg



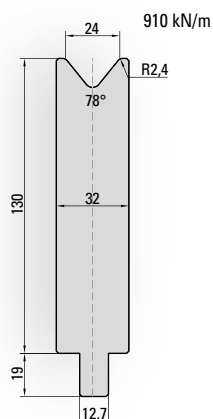
26.267

510 mm	257,—	16,0 kg
550 mm sectionalized	282,—	17,3 kg



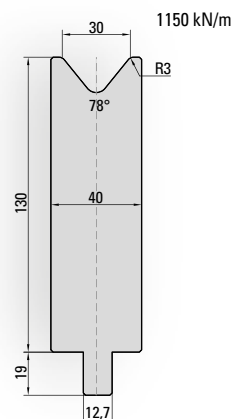
26.268

510 mm	264,—	16,8 kg
550 mm sectionalized	287,—	18,2 kg



26.269

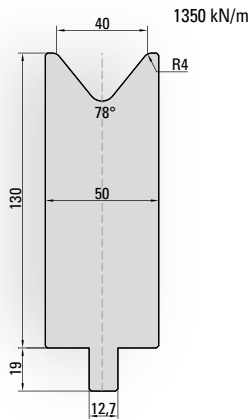
510 mm	279,—	20,6 kg
550 mm sectionalized	301,—	22,2 kg



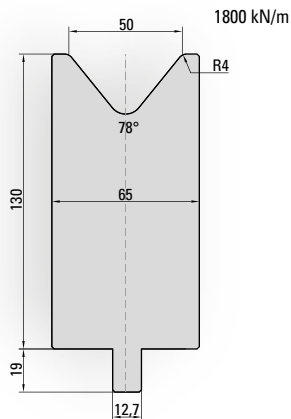
ZNW-SYSTEM LVD

78° Dies, H = 130 mm

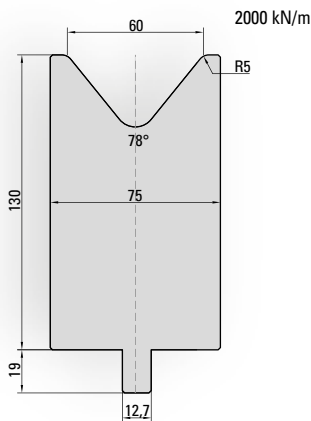
26.270		
510 mm	312,—	25,0 kg
550 mm sectionalized	345,—	26,9 kg



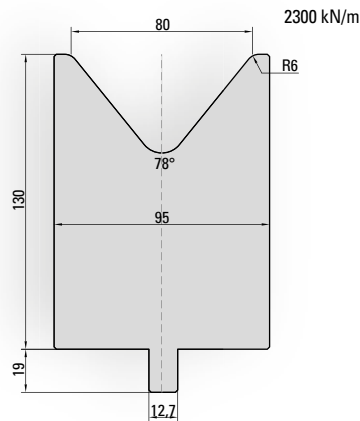
26.271		
510 mm	345,—	31,7 kg
550 mm sectionalized	398,—	34,2 kg



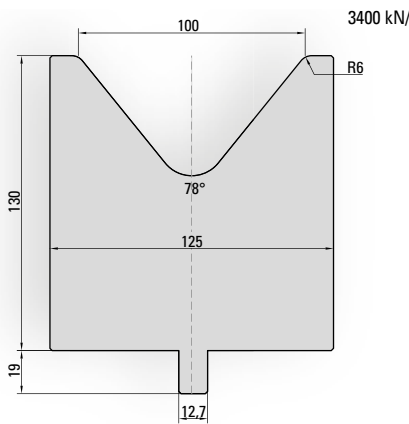
26.272		
510 mm	398,—	35,6 kg
550 mm sectionalized	473,—	38,4 kg



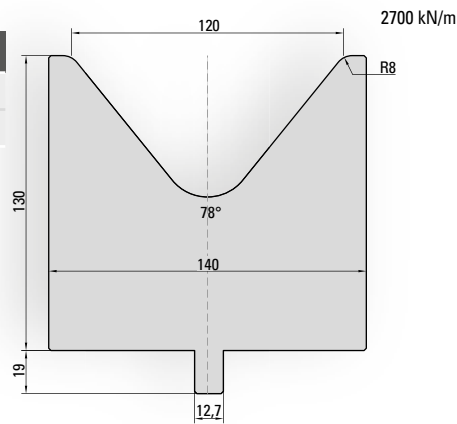
26.273		
510 mm	503,—	42,5 kg
550 mm sectionalized	562,—	45,9 kg



26.274		
510 mm	666,—	53,9 kg
550 mm sectionalized	664,—	58,1 kg

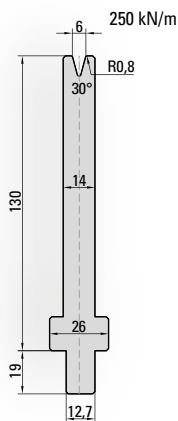


26.275		
510 mm	726,—	56,5 kg
550 mm sectionalized	778,—	60,9 kg

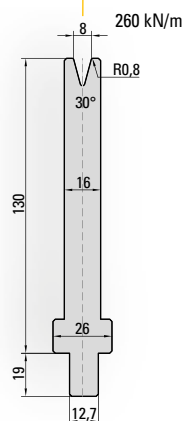


30° Dies, H = 130 mm

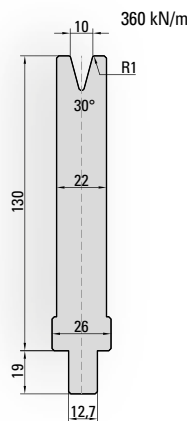
26.250		
510 mm	266,—	8,8 kg
550 mm sectionalized	309,—	9,5 kg



26.251		
510 mm	266,—	9,6 kg
550 mm sectionalized	309,—	10,3 kg



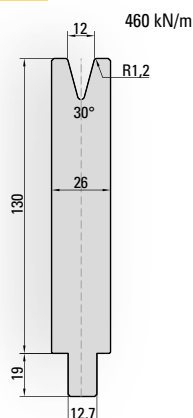
26.252		
510 mm	266,—	12,2 kg
550 mm sectionalized	309,—	13,2 kg



30° Dies, H = 130 mm

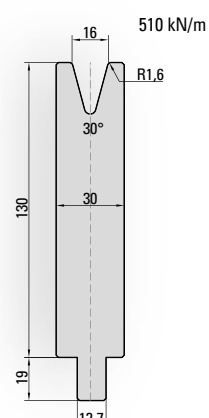
26.253

510 mm	245,—	14,4 kg
550 mm sectionalized	314,—	15,5 kg



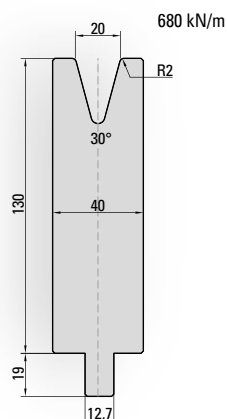
26.254

510 mm	270,—	15,6 kg
550 mm sectionalized	313,—	16,8 kg



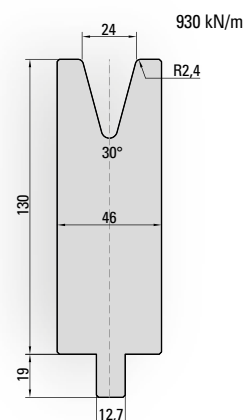
26.255

510 mm	276,—	20,3 kg
550 mm sectionalized	312,—	22,0 kg



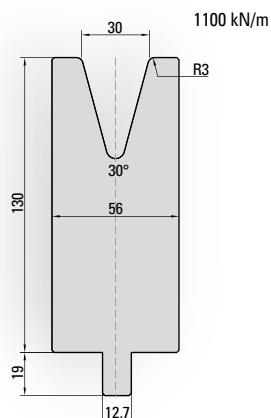
26.256

510 mm	302,—	22,8 kg
550 mm sectionalized	376,—	24,6 kg



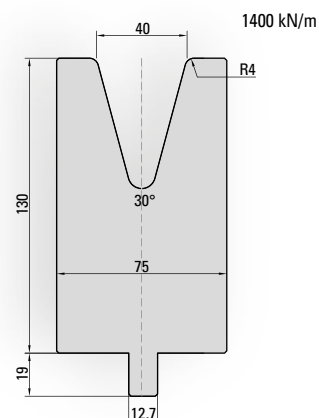
26.257

510 mm	417,—	26,8 kg
550 mm sectionalized	494,—	29,0 kg



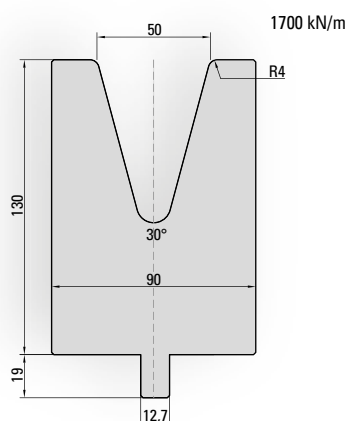
26.258

510 mm	458,—	34,3 kg
550 mm sectionalized	543,—	37,0 kg



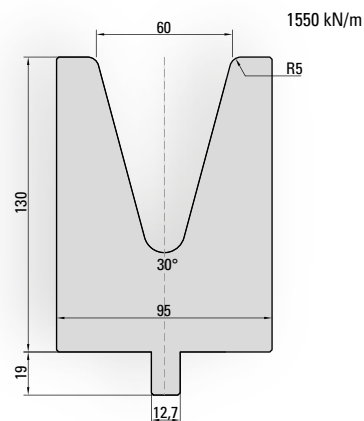
26.259

510 mm	629,—	39,9 kg
550 mm sectionalized	713,—	42,0 kg



26.260

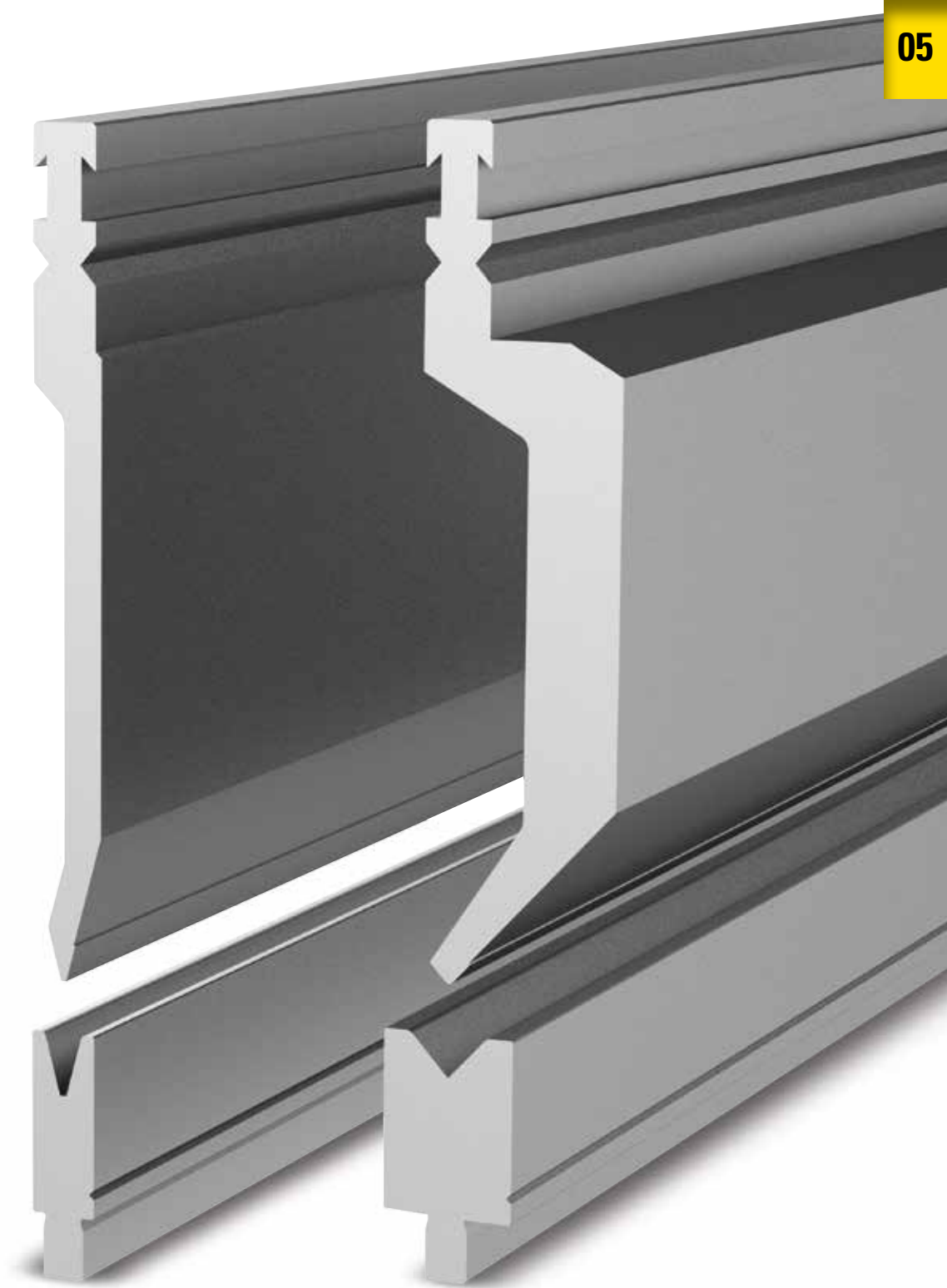
510 mm	726,—	37,6 kg
550 mm sectionalized	793,—	40,6 kg



PRESS BRAKE TOOLS

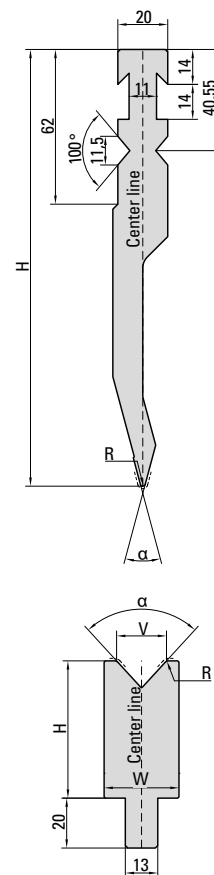
ZNW-SYSTEM BYSTRONIC

Explanation	112 – 113
Insertion of a steel insert	113
Punches/top tools	
Punches/top tools H = 175 mm	114 – 115
Punches/top tools H = 250 mm	115 – 116
Punch/top tool distance piece	117
Dies	
85° Dies, H = 55 mm	118 – 119
60° Dies, H = 55 mm	119
60° Die, H = 65 mm	119
30° Dies, H = 55 mm	120
30° Die, H = 60 mm	120
Flattening punches/top tools and flattening dies	121



Quality and precision

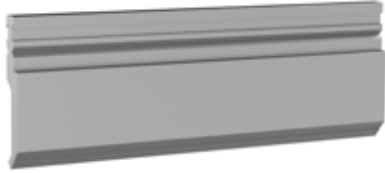
- ▶ Optimum materials
 - 42 CrMo4, tempered to 1100 – 1200 N/mm²
 - C45, 650 – 800 N/mm²
- ▶ Bending radius/intake radii hardened up to 52 – 55 HRC
- ▶ Precision ground
- ▶ Guaranteed exchangeability and parallelism
- ▶ Tool marking with all technical information



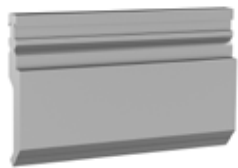
Tool lengths

PUNCHES/TOP TOOLS

Length 515 mm



Length 300 mm



Length 200 mm

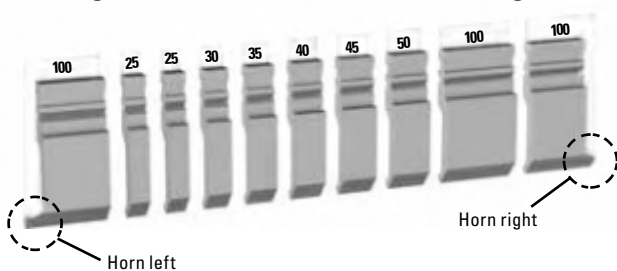


Length 100 mm



Length 550 mm sectionalized

- Sectionalized punches/top tools are delivered as a complete set
- 10 Segments, with horn extension left and right



DIES

Length 515 mm



Length 300 mm



Length 200 mm

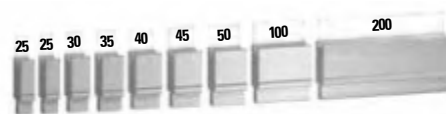


Length 100 mm



Length 550 mm sectionalized

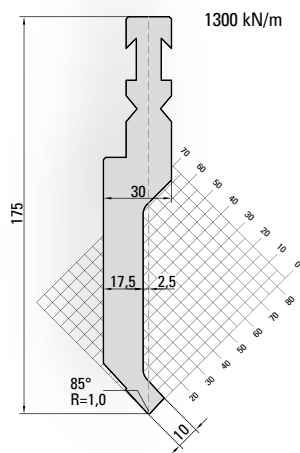
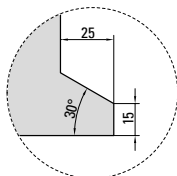
- Sectionalized dies are delivered as a complete set
- 9 Segments



Punches/top tools H = 175 mm

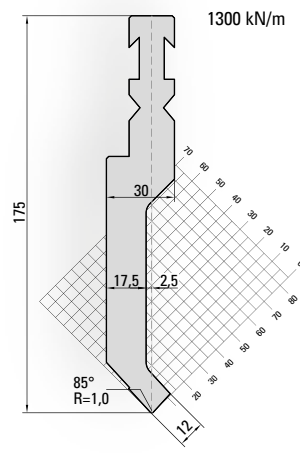
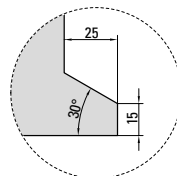
14.150

515 mm	338,-	12,5 kg
300 mm	216,-	7,2 kg
200 mm	158,-	4,8 kg
100 mm	87,-	2,4 kg
550 mm sectionalized	434,-	13,4 kg



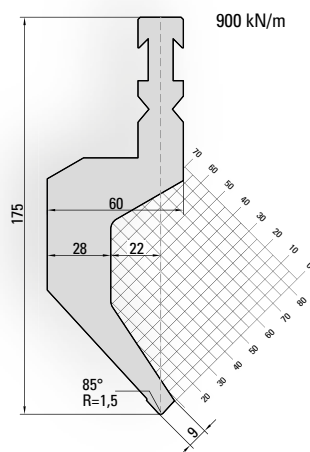
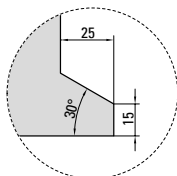
14.151

515 mm	338,-	12,6 kg
300 mm	216,-	7,3 kg
200 mm	158,-	5,0 kg
100 mm	87,-	2,4 kg
550 mm sectionalized	434,-	13,4 kg



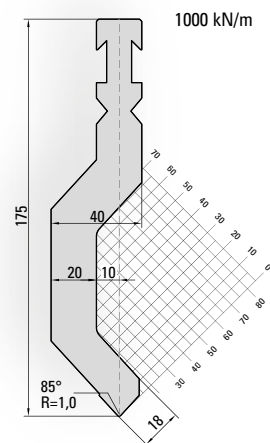
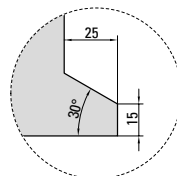
14.152

515 mm	516,-	16,6 kg
300 mm	332,-	9,7 kg
200 mm	243,-	6,5 kg
100 mm	134,-	3,2 kg
550 mm sectionalized	574,-	17,8 kg



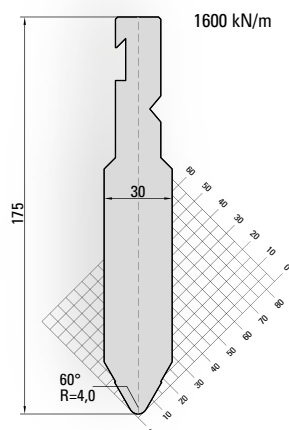
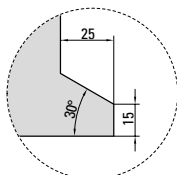
14.156

515 mm	479,-	14,0 kg
300 mm	308,-	8,2 kg
200 mm	225,-	5,0 kg
100 mm	125,-	2,7 kg
550 mm sectionalized	544,-	15,0 kg



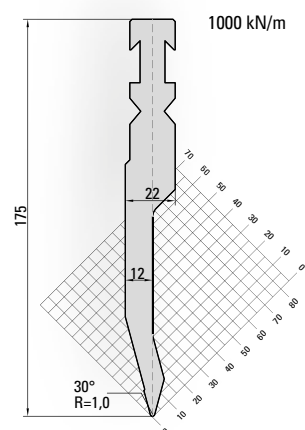
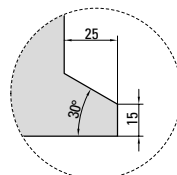
14.157

515 mm	330,-	17,0 kg
300 mm	212,-	10,0 kg
200 mm	154,-	6,6 kg
100 mm	86,-	3,3 kg
550 mm sectionalized	409,-	18,2 kg



14.153

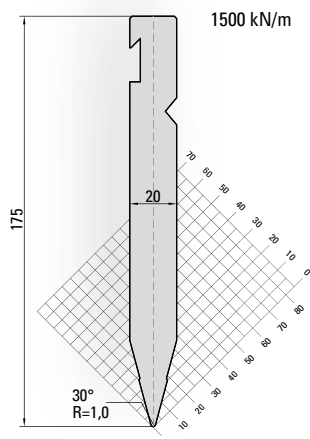
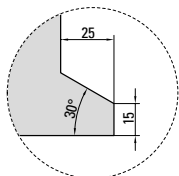
515 mm	353,-	9,7 kg
300 mm	225,-	5,7 kg
200 mm	165,-	3,8 kg
100 mm	92,-	1,9 kg
550 mm sectionalized	444,-	10,4 kg



Punches/top tools H = 175 mm

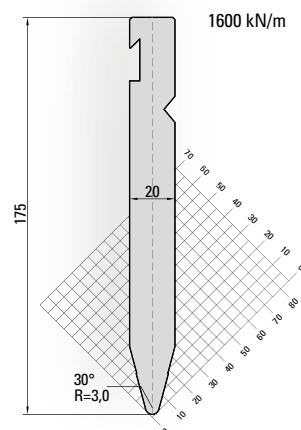
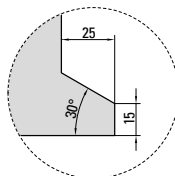
14.154

515 mm	285,-	12,4 kg
300 mm	182,-	7,2 kg
200 mm	134,-	4,8 kg
100 mm	74,-	2,4 kg
550 mm sectionalized	379,-	13,2 kg



14.155

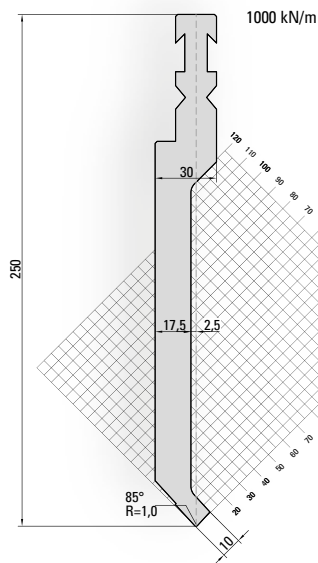
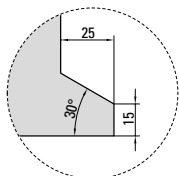
515 mm	285,-	12,8 kg
300 mm	182,-	7,5 kg
200 mm	134,-	5,0 kg
100 mm	74,-	2,5 kg
550 mm sectionalized	379,-	13,7 kg



Punches/top tools H = 250 mm

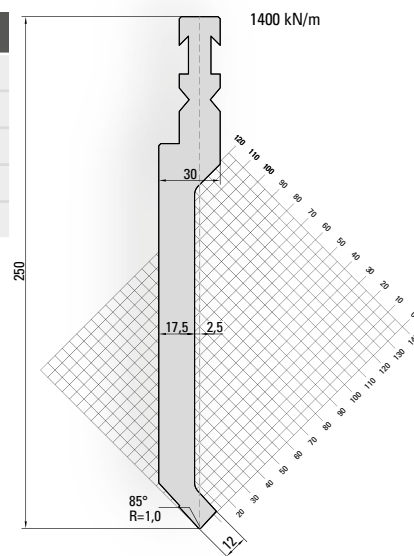
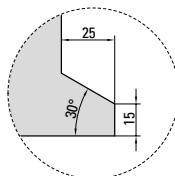
14.158

515 mm	471,-	17,8 kg
300 mm	303,-	10,4 kg
200 mm	222,-	7,0 kg
100 mm	123,-	3,5 kg
550 mm sectionalized	569,-	19,0 kg



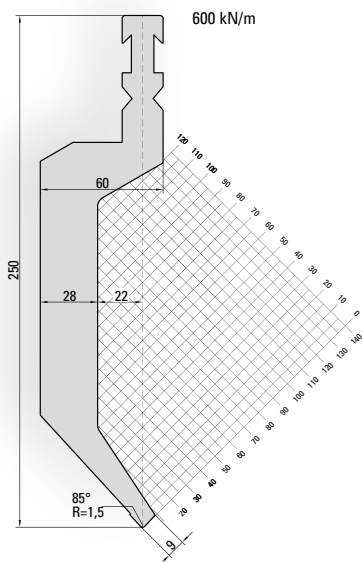
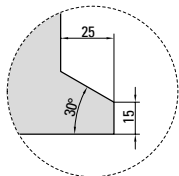
14.159

515 mm	471,-	18,0 kg
300 mm	303,-	10,4 kg
200 mm	222,-	7,0 kg
100 mm	123,-	3,5 kg
550 mm sectionalized	569,-	19,1 kg



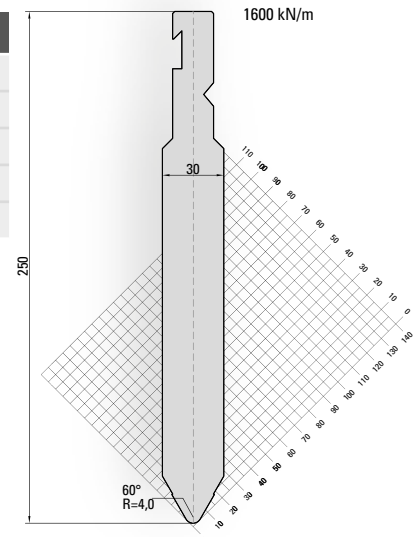
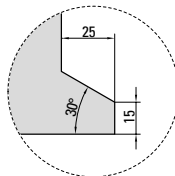
14.160

515 mm	734,-	25,0 kg
300 mm	470,-	14,6 kg
200 mm	345,-	9,8 kg
100 mm	189,-	4,9 kg
550 mm sectionalized	763,-	26,8 kg



14.165

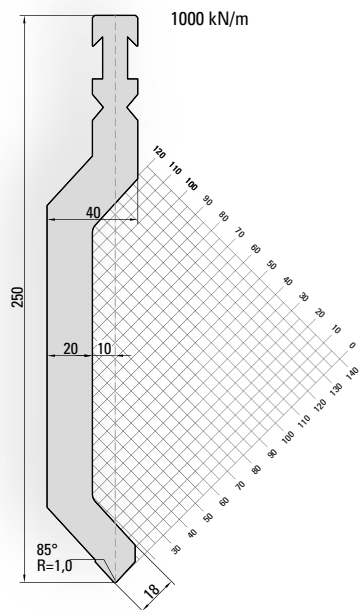
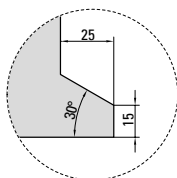
515 mm	464,-	26,1 kg
300 mm	297,-	15,2 kg
200 mm	218,-	10,0 kg
100 mm	120,-	5,0 kg
550 mm sectionalized	549,-	27,9 kg



Punches/top tools H = 250 mm

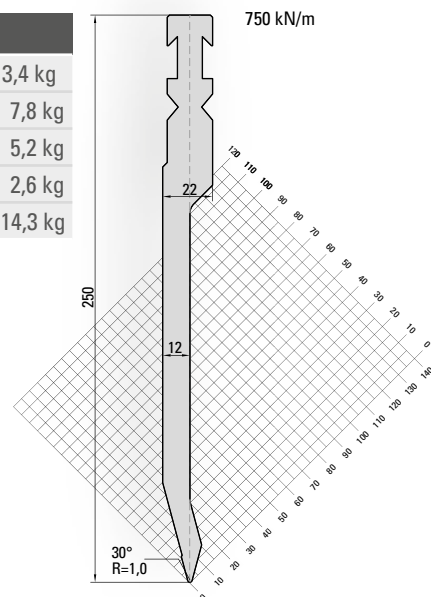
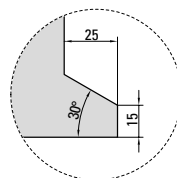
14.164

515 mm	696,-	20,1 kg
300 mm	447,-	11,7 kg
200 mm	327,-	7,8 kg
100 mm	180,-	3,9 kg
550 mm sectionalized	713,-	21,5 kg



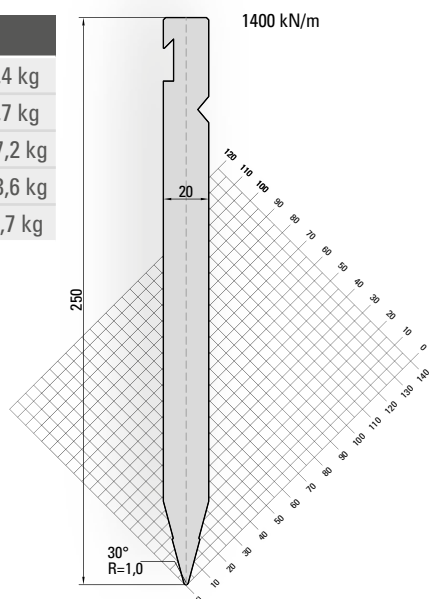
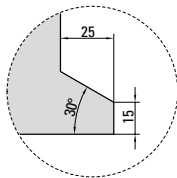
14.161

515 mm	398,-	13,4 kg
300 mm	255,-	7,8 kg
200 mm	186,-	5,2 kg
100 mm	104,-	2,6 kg
550 mm sectionalized	479,-	14,3 kg



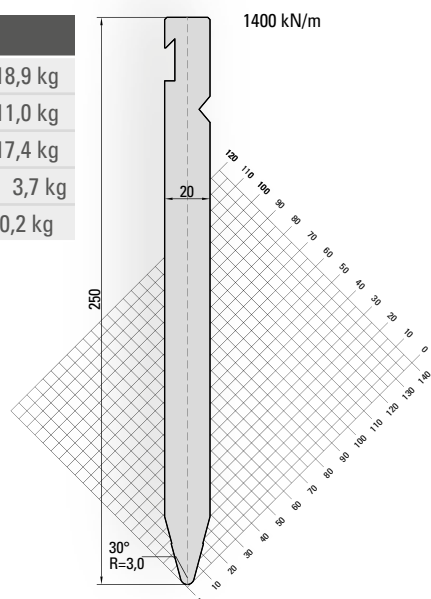
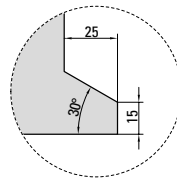
14.162

515 mm	368,-	18,4 kg
300 mm	236,-	10,7 kg
200 mm	172,-	7,2 kg
100 mm	95,-	3,6 kg
550 mm sectionalized	459,-	19,7 kg



14.163

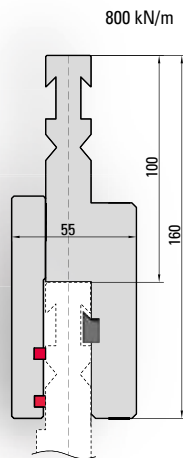
515 mm	368,-	18,9 kg
300 mm	236,-	11,0 kg
200 mm	172,-	17,4 kg
100 mm	95,-	3,7 kg
550 mm sectionalized	459,-	20,2 kg



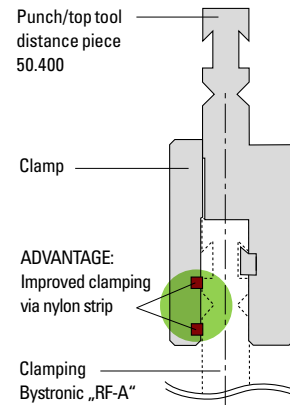
Punch/top tool distance piece

50.400

150 mm 231,- 6,0 kg



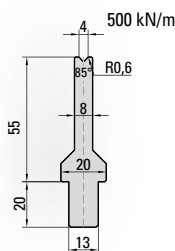
EXAMPLE OF USE



85° Dies, H = 55 mm

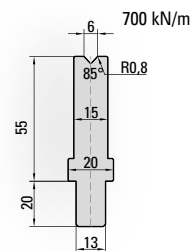
24.100

515 mm	156,-	3,6 kg
300 mm	107,-	2,1 kg
200 mm	74,-	1,4 kg
100 mm	42,-	0,7 kg
550 mm sectionalized	196,-	3,8 kg



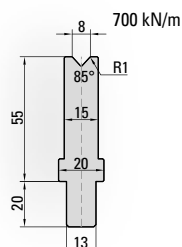
24.101

515 mm	147,-	4,6 kg
300 mm	102,-	2,7 kg
200 mm	71,-	1,8 kg
100 mm	36,-	0,9 kg
550 mm sectionalized	191,-	5,0 kg



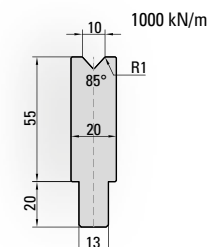
24.102

515 mm	147,-	4,6 kg
300 mm	102,-	2,7 kg
200 mm	71,-	1,8 kg
100 mm	36,-	0,9 kg
550 mm sectionalized	191,-	5,0 kg



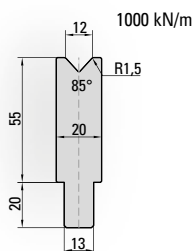
24.104

515 mm	107,-	5,7 kg
300 mm	80,-	3,3 kg
200 mm	56,-	2,2 kg
100 mm	32,-	1,1 kg
550 mm sectionalized	152,-	6,1 kg



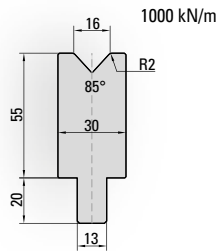
24.106

515 mm	107,-	5,7 kg
300 mm	80,-	3,3 kg
200 mm	56,-	2,2 kg
100 mm	32,-	1,1 kg
550 mm sectionalized	152,-	6,1 kg



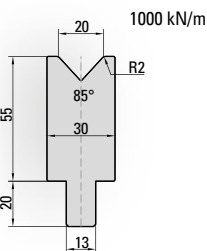
24.108

515 mm	119,-	7,7 kg
300 mm	86,-	4,5 kg
200 mm	60,-	3,0 kg
100 mm	35,-	1,5 kg
550 mm sectionalized	163,-	8,3 kg



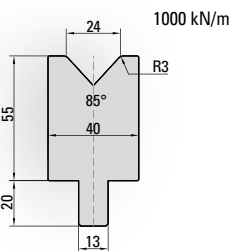
24.109

515 mm	123,-	7,7 kg
300 mm	89,-	4,5 kg
200 mm	62,-	3,0 kg
100 mm	35,-	1,5 kg
550 mm sectionalized	166,-	8,3 kg



24.110

515 mm	140,-	9,8 kg
300 mm	99,-	5,7 kg
200 mm	75,-	3,8 kg
100 mm	51,-	1,9 kg
550 mm sectionalized	191,-	10,5 kg

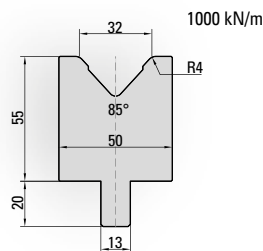


85° Dies, H = 55 mm

24.011

515 mm	161,—	10,8 kg
300 mm	117,—	6,3 kg
200 mm	80,—	4,2 kg
100 mm	45,—	2,1 kg
550 mm sectionalized	211,—	11,5 kg

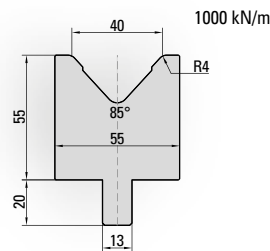
1200 kN/m if the tool clamping has the corresponding load



24.012

515 mm	173,—	11,1 kg
300 mm	125,—	6,6 kg
200 mm	84,—	4,4 kg
100 mm	48,—	2,2 kg
550 mm sectionalized	224,—	12,1 kg

1200 kN/m if the tool clamping has the corresponding load

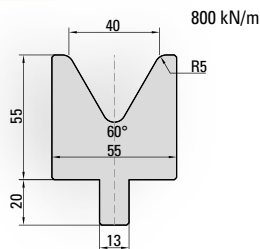


60° Dies, H = 55 mm

24.040

515 mm	233,—	10,3 kg
300 mm	120,—	6,0 kg
200 mm	80,—	4,0 kg
100 mm	45,—	2,0 kg
550 mm sectionalized	252,—	11,0 kg

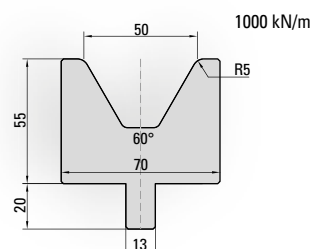
1200 kN/m if the tool clamping has the corresponding load



24.050

515 mm	257,—	12,7 kg
300 mm	156,—	7,5 kg
200 mm	104,—	5,0 kg
100 mm	57,—	2,5 kg
550 mm sectionalized	264,—	13,8 kg

1200 kN/m if the tool clamping has the corresponding load

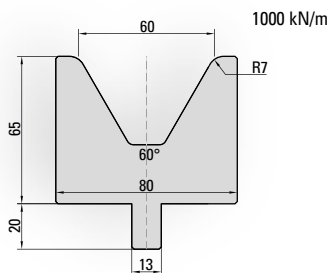


60° Die, H = 65 mm

24.060

515 mm	288,—	16,0 kg
300 mm	201,—	9,3 kg
200 mm	137,—	6,2 kg
100 mm	72,—	3,1 kg
550 mm sectionalized	325,—	17,0 kg

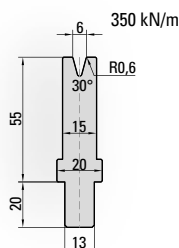
1200 kN/m if the tool clamping has the corresponding load



30° Dies, H = 55 mm

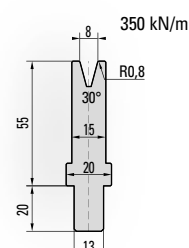
24.013

515 mm	152,-	4,1 kg
300 mm	113,-	2,4 kg
200 mm	77,-	1,6 kg
100 mm	41,-	0,8 kg
550 mm sectionalized	174,-	4,4 kg



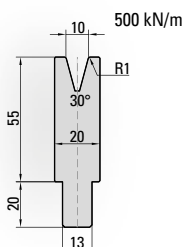
24.014

515 mm	152,-	4,1 kg
300 mm	113,-	2,4 kg
200 mm	77,-	1,6 kg
100 mm	41,-	0,8 kg
550 mm sectionalized	174,-	4,4 kg



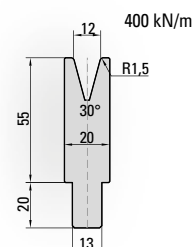
24.015

515 mm	149,-	5,1 kg
300 mm	108,-	3,0 kg
200 mm	72,-	2,0 kg
100 mm	39,-	1,0 kg
550 mm sectionalized	171,-	5,5 kg



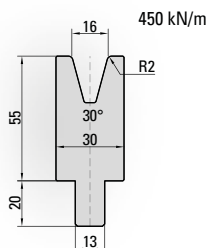
24.016

515 mm	149,-	5,1 kg
300 mm	108,-	3,0 kg
200 mm	72,-	2,0 kg
100 mm	39,-	1,0 kg
550 mm sectionalized	171,-	5,5 kg



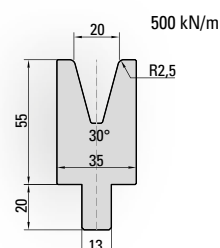
24.017

515 mm	156,-	7,0 kg
300 mm	113,-	4,2 kg
200 mm	77,-	2,8 kg
100 mm	41,-	1,4 kg
550 mm sectionalized	176,-	7,7 kg



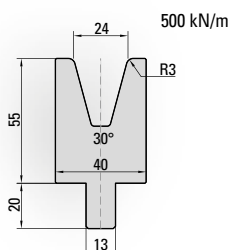
24.019

515 mm	161,-	7,2 kg
300 mm	117,-	4,2 kg
200 mm	80,-	2,8 kg
100 mm	45,-	1,4 kg
550 mm sectionalized	192,-	7,7 kg



24.018

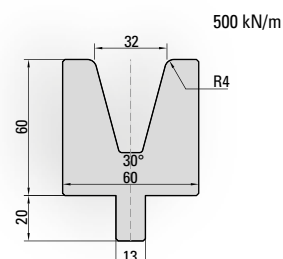
515 mm	173,-	8,0 kg
300 mm	125,-	4,8 kg
200 mm	89,-	3,2 kg
100 mm	48,-	1,6 kg
550 mm sectionalized	203,-	8,8 kg



30° Die, H = 60 mm

24.035

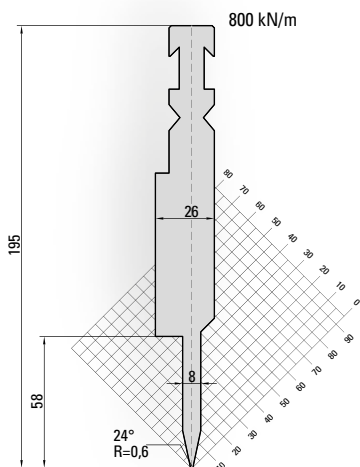
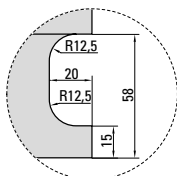
515 mm	237,-	11,8 kg
300 mm	173,-	6,9 kg
200 mm	117,-	4,6 kg
100 mm	62,-	2,3 kg
550 mm sectionalized	283,-	12,7 kg



Flattening punches/top tools and flattening dies

14.908

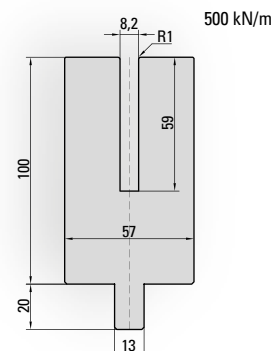
500 mm	393,-	13,0 kg
300 mm	282,-	7,8 kg
200 mm	189,-	5,2 kg
100 mm	96,-	2,6 kg
550 mm sectionalized	509,-	14,3 kg



25.992

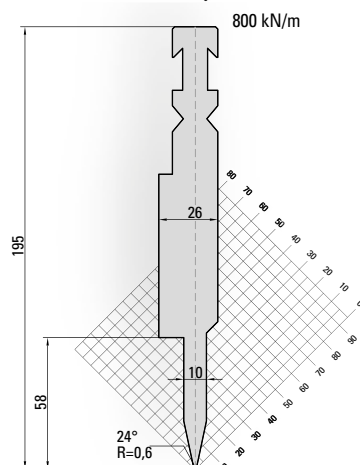
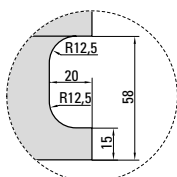
500 mm	333,-	21,5 kg
300 mm	245,-	12,9 kg
200 mm	174,-	8,6 kg
100 mm	104,-	4,3 kg
550 mm sectionalized	379,-	23,6 kg

Max. 1,2 mm material thickness
 $R_m = 400 \text{ N/mm}^2$



14.910

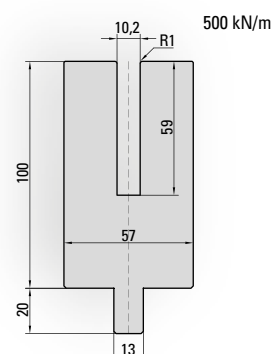
500 mm	393,-	13,5 kg
300 mm	282,-	8,1 kg
200 mm	189,-	5,4 kg
100 mm	96,-	2,7 kg
550 mm sectionalized	509,-	14,9 kg



25.994

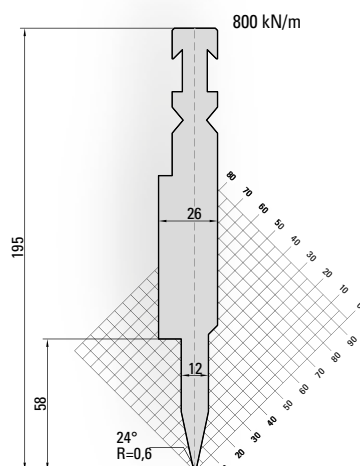
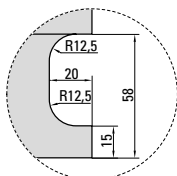
500 mm	333,-	21,0 kg
300 mm	245,-	12,6 kg
200 mm	174,-	8,4 kg
100 mm	104,-	4,2 kg
550 mm sectionalized	379,-	23,1 kg

Max. 1,8 mm material thickness
 $R_m = 400 \text{ N/mm}^2$



14.912

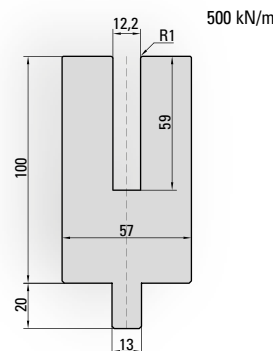
500 mm	393,-	14,0 kg
300 mm	282,-	8,4 kg
200 mm	189,-	5,6 kg
100 mm	96,-	2,8 kg
550 mm sectionalized	509,-	15,4 kg



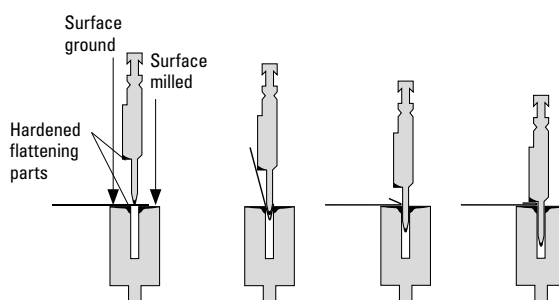
25.995

500 mm	333,-	20,5 kg
300 mm	245,-	12,3 kg
200 mm	174,-	8,2 kg
100 mm	104,-	4,1 kg
550 mm sectionalized	379,-	22,6 kg

Max. 2,5 mm material thickness
 $R_m = 400 \text{ N/mm}^2$



EXAMPLE OF USE



PRESS BRAKE TOOLS ZNW-SYSTEM EHT, ZNW-SYSTEM WEINBRENNER AND OTHER SYSTEMS

ZNW-System EHT

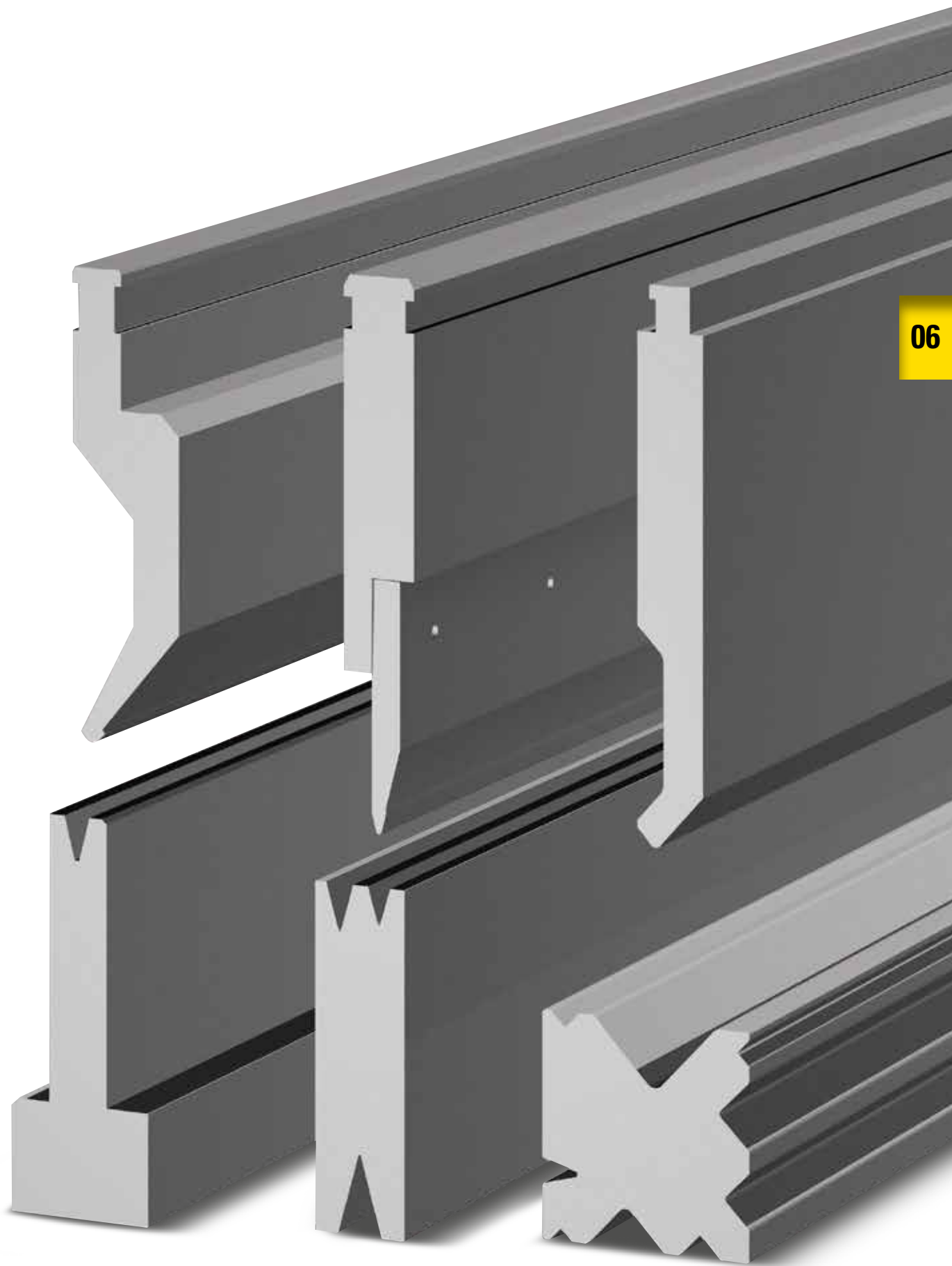
Explanation	124
86° Punch/top tool	125
78° Punches/top tools	125
50° Punch/top tool	125
26° Punch/top tool	125
Holder for blade with changeable blades.	126
Dies	127

ZNW-System Weinbrenner

Explanation	128
Punches/top tools	129
Holder for blade with changeable blade	129
Dies	130

Other Systems

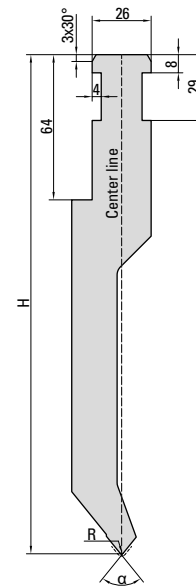
Explanation	131
Examples punch/top tool clampings.	131
Examples of die clampings	131
Examples punches/top tools	132
Examples dies.	133



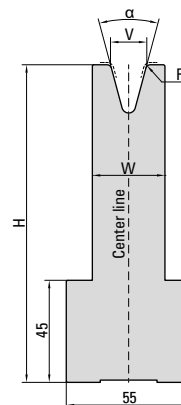
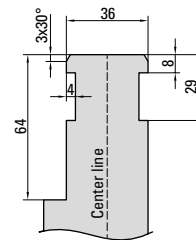
Quality and precision

- ▶ Optimum materials
 - 42 CrMo4, tempered to 1100 – 1200 N/mm²
 - C45, tempered to 800 – 850 N/mm²
 - C45, 650 – 800 N/mm²
 - 1.2312, tempered to 950 – 1100 N/mm²
- ▶ Bending radius/intake radii hardened up to 54 – 60 HRC
- ▶ Precision ground
- ▶ Guaranteed exchangeability and parallelism
- ▶ Tool marking with all technical information
- ▶ Individual production according to your specification

26mm clamping



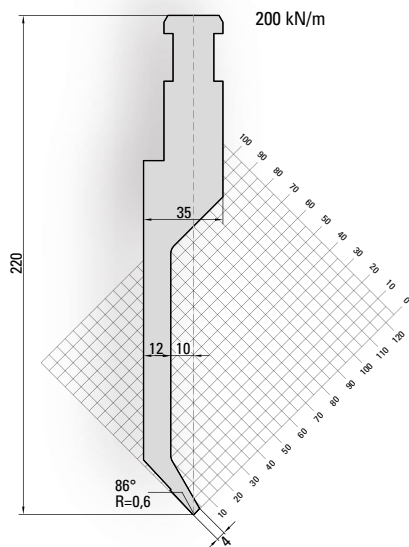
36mm clamping



86° Punch/top tool

17.100

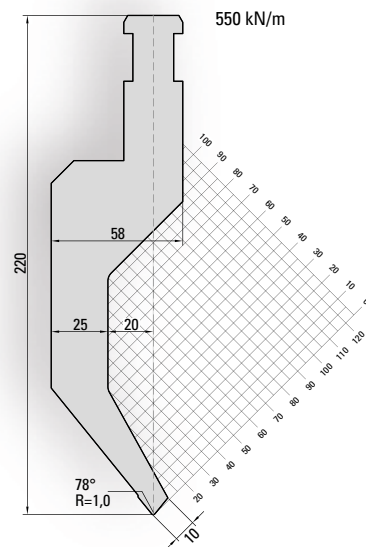
Delivery time on request



78° Punches/top tools

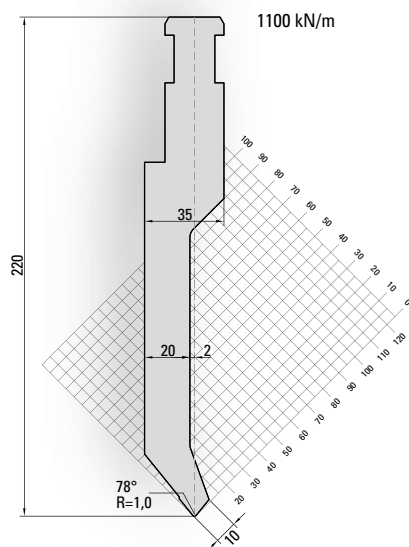
17.120

Delivery time on request



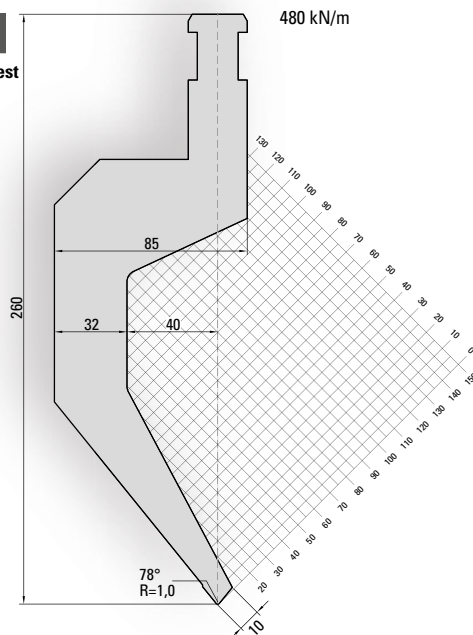
17.110

Delivery time on request



17.130

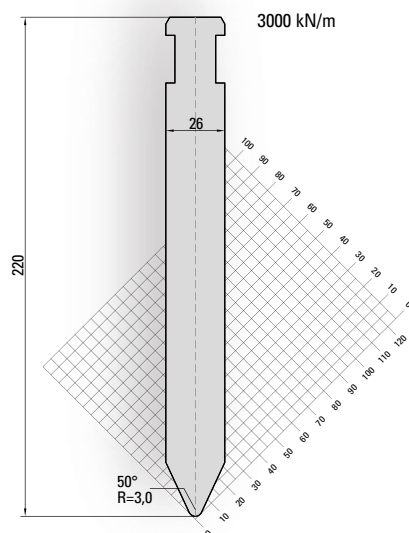
Delivery time on request



50° Punch/top tool

17.180

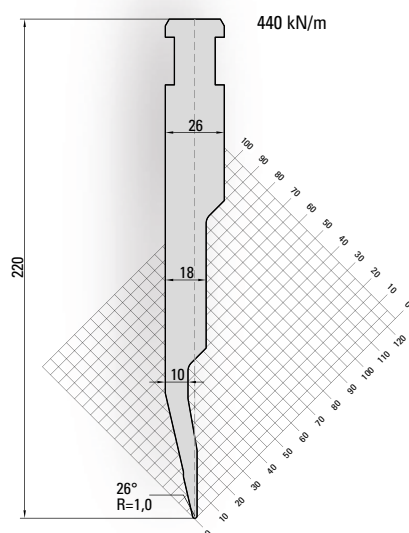
Delivery time on request



26° Punch/top tool

17.140

Delivery time on request



Holder for blade with changeable blades

17.150

H = 172 mm
Holder for blade with
hardened flattening part

Delivery time on request

17.151

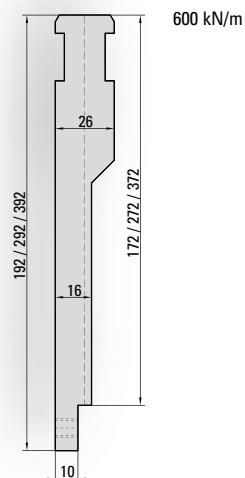
H = 272 mm
Holder for blade with
hardened flattening part

Delivery time on request

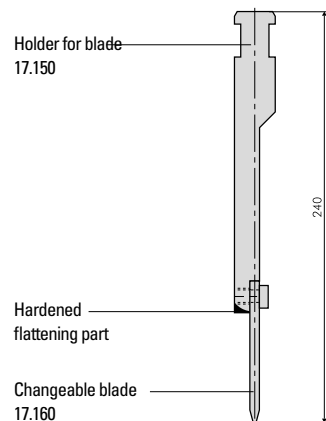
17.152

H = 372 mm
Holder for blade with
hardened flattening part

Delivery time on request



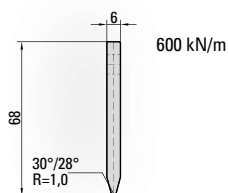
EXAMPLE OF USE



17.160

Changeable blade

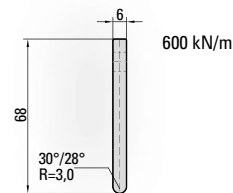
Delivery time on request



17.170

Changeable blade

Delivery time on request



**ZNW-HOLDERS FOR
BLADES AND
BLADES R 0,5 – 6,0**

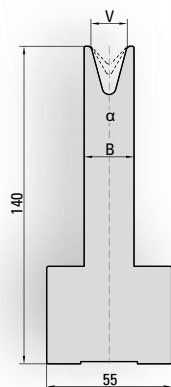
see chapter 07



Dies

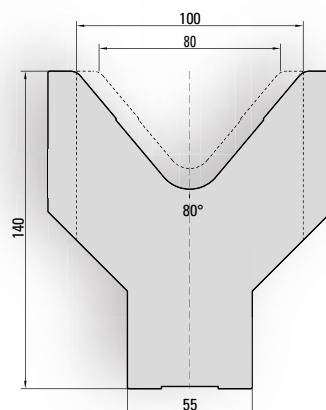
27.010

Delivery time on request



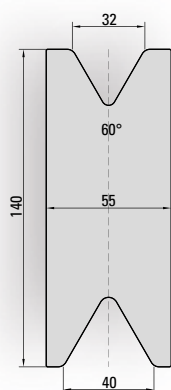
27.030

Delivery time on request



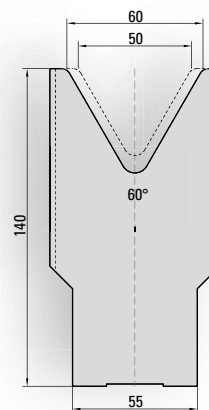
27.040

Delivery time on request



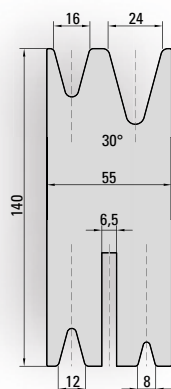
27.050

Delivery time on request



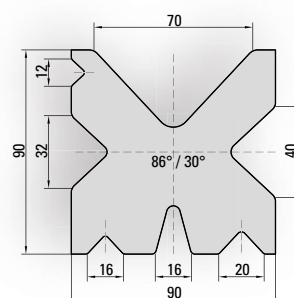
27.070

Delivery time on request



27.080

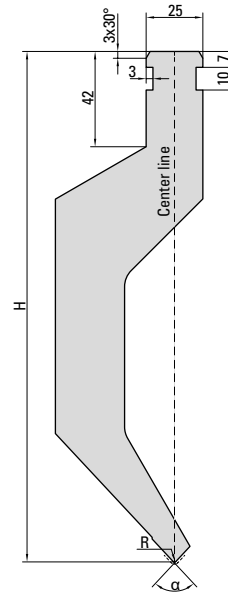
Delivery time on request



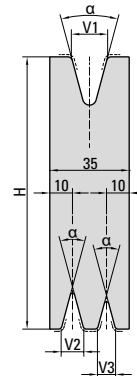
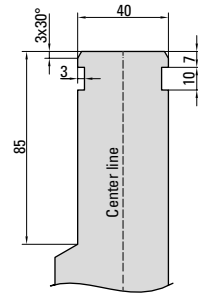
Quality and precision

- ▶ Optimum materials
 - 42 CrMo4, tempered to 1100 – 1200 N/mm²
 - C45, tempered to 800 – 850 N/mm²
 - C45, 650 – 800 N/mm²
 - 1.2312, tempered to 950 – 1100 N/mm²
- ▶ Bending radius/intake radii hardened up to 54 – 60 HRC
- ▶ Precision ground
- ▶ Guaranteed exchangeability and parallelism
- ▶ Tool marking with all technical information
- ▶ Individual production according to your specification

25mm clamping



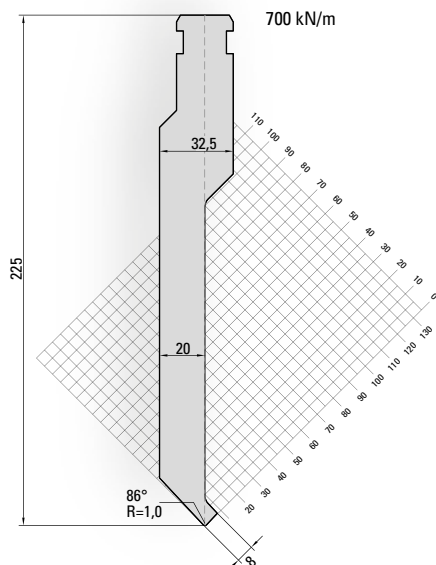
40mm clamping



Punches/top tools

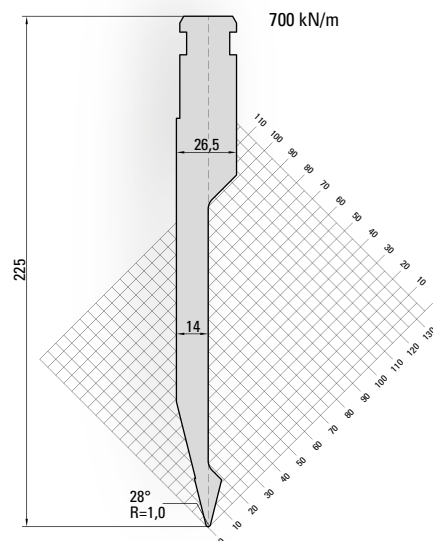
17.500

Delivery time on request



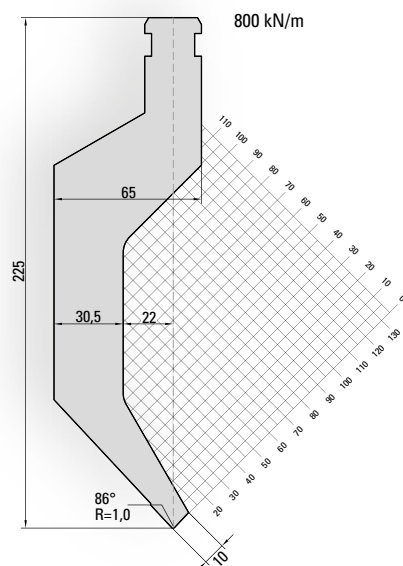
17.520

Delivery time on request



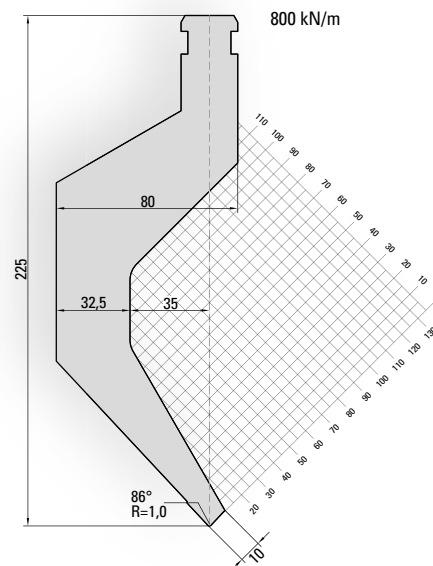
17.530

Delivery time on request



17.540

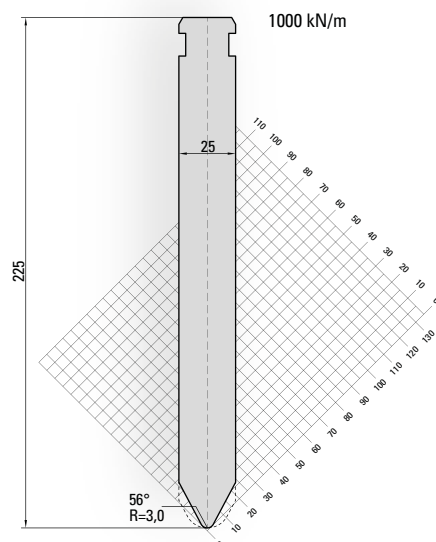
Delivery time on request



Holder for blade with changeable blade

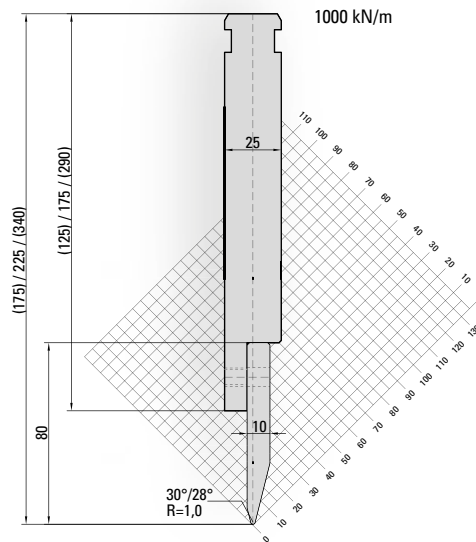
17.560

Delivery time on request



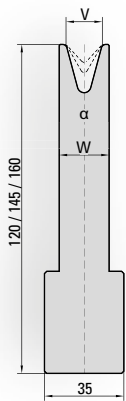
17.650

Delivery time on request

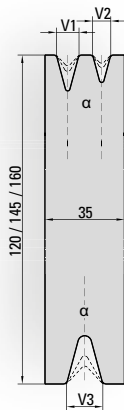


Dies

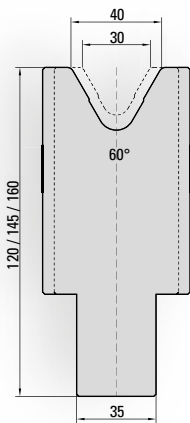
27.200
Delivery time on request



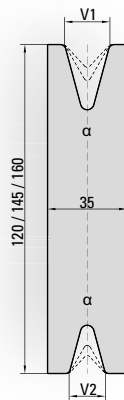
27.210
Delivery time on request



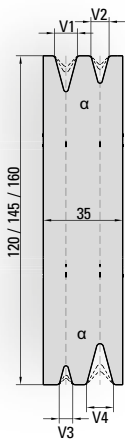
27.220
Delivery time on request



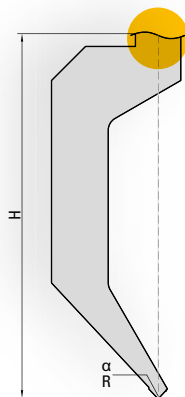
27.230
Delivery time on request



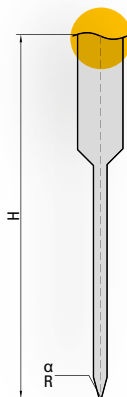
27.240
Delivery time on request



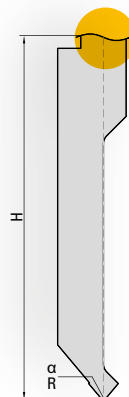
Examples punches/top tools



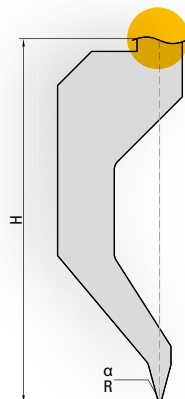
Example 1



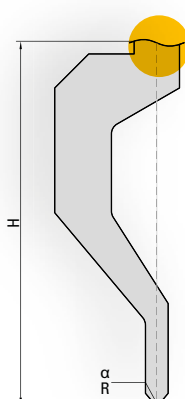
Example 2



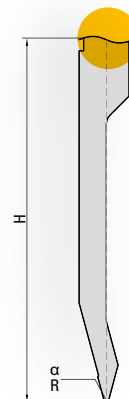
Example 3



Example 4

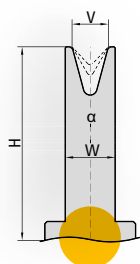


Example 5

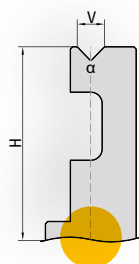


Example 6

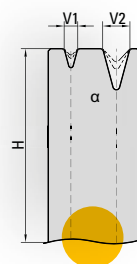
Examples dies



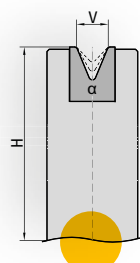
Example
1



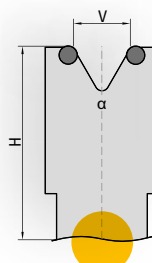
Example
2



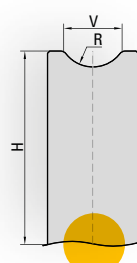
Example
3



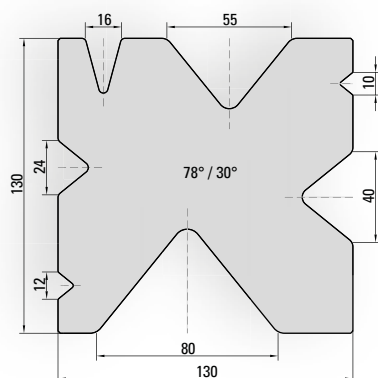
Example
4



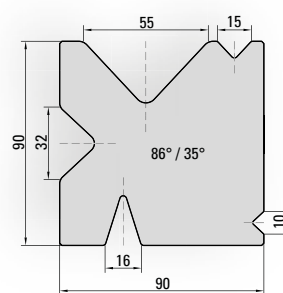
Example
5



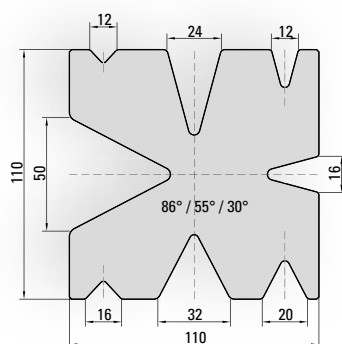
Example
6



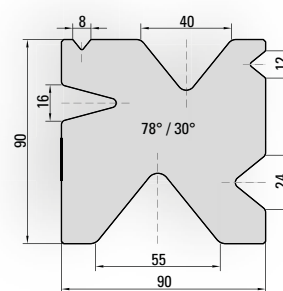
Example
7



Example
8



Example
9



Example
10

ZNW-HOLDERS FOR BLADES AND BLADES R 0,5 – 6,0

Explanation	136 – 137
Holders for blades	138 – 139
Blades R 0,5 – 6,0	139



07

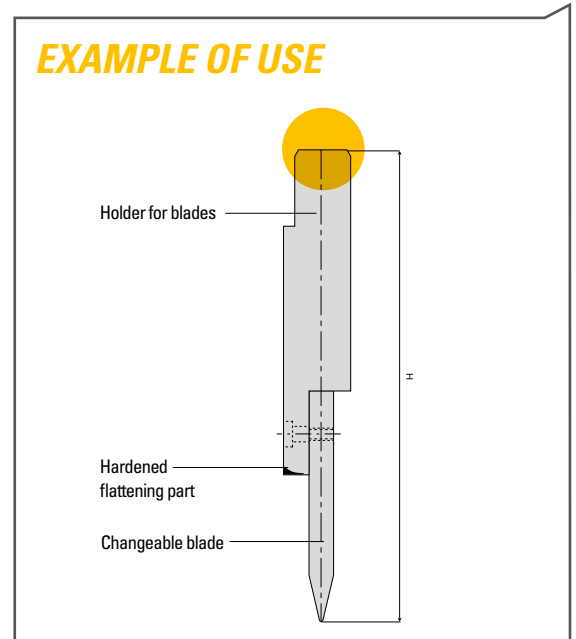
ZNW-HOLDERS FOR BLADES AND BLADES R 0,5 – 6,0

Quality and precision

- ▶ Optimum materials
 - 42 CrMo4, tempered to 1100 – 1200 N/mm²
 - C45, 650 – 800 N/mm²
- ▶ Bending radius/intake radii hardened up to 54 – 60 HRC
- ▶ Precision ground
- ▶ Guaranteed exchangeability and parallelism
- ▶ Tool marking with all technical information

Product advantages

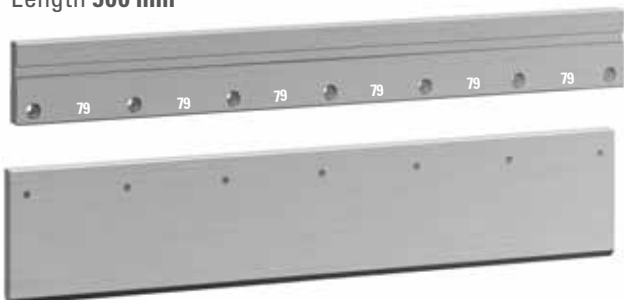
- ▶ Cost-saving: One holder for different blades
- ▶ Flexible application by changeable blades R 0,5 – R 6,0
- ▶ Fast and easy change of the blades
- ▶ Holder for blades with hardened flattening part



ZNW-HOLDERS FOR BLADES AND BLADES R 0,5 – 6,0

Tool lengths

Length 500 mm



Length 300 mm



Length 200 mm



Length 100 mm

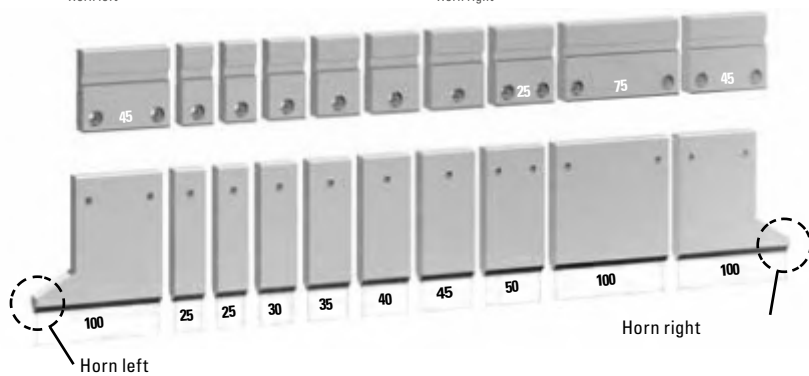


Length 550 mm sectionalized

- ▶ Sectionalized holders for blades are delivered as a complete set
- ▶ 10 Segments
(100, 25, 25, 30, 35, 40, 45, 50, 100, 100)

Horn left

Horn right



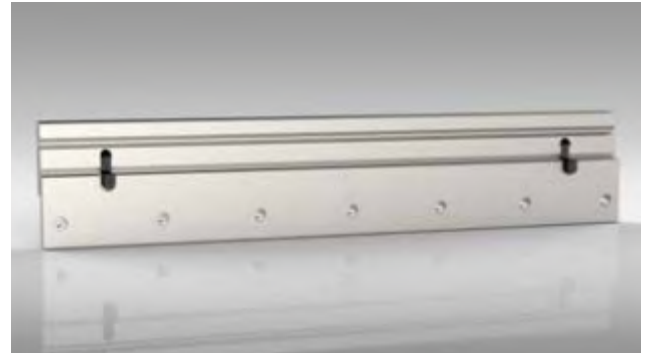
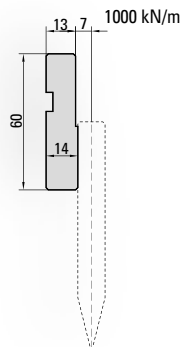
ZNW-HOLDERS FOR BLADES AND BLADES R 0,5 – 6,0

Holders for blades

ZNW-SYSTEM AMADA

10.400

500 mm	83,—	3,0 kg
300 mm	60,—	1,8 kg
200 mm	45,—	1,2 kg
100 mm	29,—	0,6 kg
488 mm sectionalized	103,—	2,9 kg

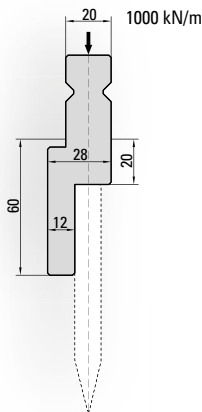


ZNW-SYSTEMS TRUMPF/WILA/LVD

15.755

Simple Clamp

500 mm	248,—	6,7 kg
300 mm	198,—	4,0 kg
200 mm	135,—	2,7 kg
100 mm	71,—	1,4 kg
550 mm sectionalized	400,—	7,4 kg



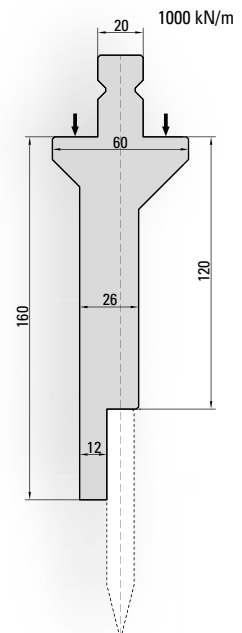
15.760

Safety pins

500 mm	473,—	19,5 kg
300 mm	345,—	11,7 kg

Simple Clamp

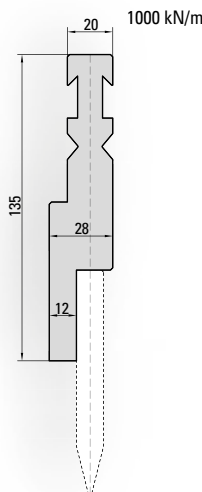
200 mm	276,—	7,8 kg
100 mm	156,—	3,9 kg
550 mm sectionalized	681,—	21,5 kg



ZNW-SYSTEM BYSTRONIC

14.282

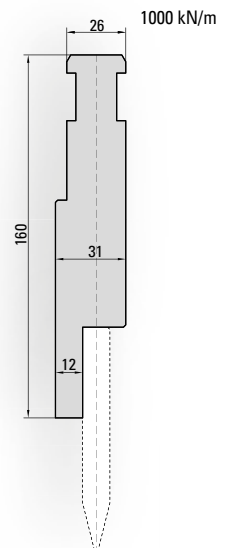
500 mm	296,—	7,0 kg
300 mm	236,—	4,2 kg
200 mm	162,—	2,8 kg
100 mm	87,—	1,4 kg
550 mm sectionalized	393,—	7,7 kg



ZNW-SYSTEM EHT

17.070

500 mm	303,—	15,0 kg
300 mm	201,—	9,0 kg
200 mm	140,—	6,0 kg
100 mm	90,—	3,0 kg
550 mm sectionalized	414,—	16,5 kg



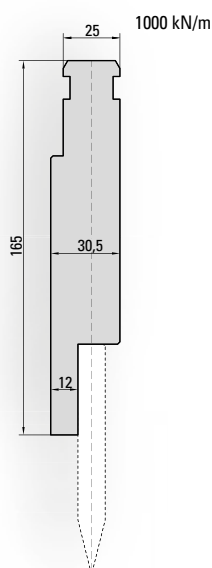
ZNW-HOLDERS FOR BLADES AND BLADES R 0,5 – 6,0

Holders for blades

ZNW-SYSTEM WEINBRENNER

17.570

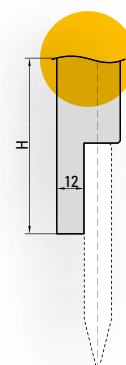
500 mm	306,—	15,5 kg
300 mm	245,—	9,3 kg
200 mm	168,—	6,2 kg
100 mm	90,—	3,1 kg
550 mm sectionalized	417,—	17,0 kg



OTHER SYSTEMS

Holder for blades with individual clamping, suitable for your press brake

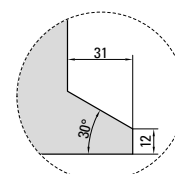
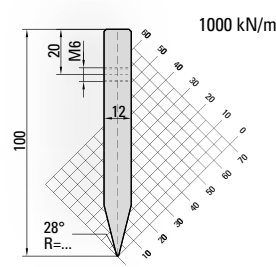
Delivery time on request



Blades R 0,5 – 6,0

28°

Model	R (mm)	500 mm Price	300 mm Price	200 mm Price	100 mm Price	550 mm sect. Price
15.761	0,5	102,—	81,—	59,—	35,—	120,—
15.763	1,0	102,—	81,—	59,—	35,—	120,—
15.762	1,5	102,—	81,—	59,—	35,—	120,—
15.765	2,0	102,—	81,—	59,—	35,—	120,—
15.764	2,5	102,—	81,—	59,—	35,—	120,—
15.766	3,0	102,—	81,—	59,—	35,—	120,—
15.767	4,0	102,—	81,—	59,—	35,—	120,—
15.768	5,0	102,—	81,—	59,—	35,—	120,—
15.769	6,0	102,—	81,—	59,—	35,—	120,—
Weight		4,5 kg	2,7 kg	1,8 kg	0,9 kg	5,0 kg



ZNW-HOLDERS FOR RADIUS- TOOLS AND RADIUS-TOOLS R 7,0 – 50,0

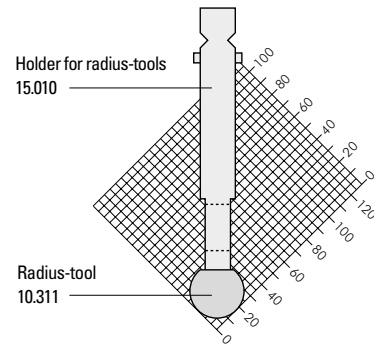
Explanation	142
Holders for radius-tools	143 – 145
Radius-tools R 7,0 – 50,0	146 – 147
Flattening-tool	146



Quality and precision

- ▶ Optimum materials
 - 42 CrMo4, tempered to 1100 – 1200 N/mm²
 - C45, 650 – 800 N/mm²
- ▶ Radius-tools in two different models:
 - Hardened up to 60 HRC
 - Not hardened
- ▶ Precision ground
- ▶ Guaranteed exchangeability and parallelism
- ▶ Tool marking with all technical information

EXAMPLE OF USE



Product advantages

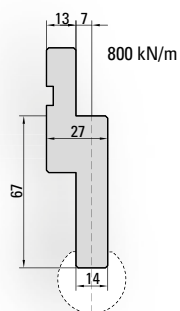
- ▶ Cost-saving: One holder for different radius-tools
- ▶ Easy handling
- ▶ No adjustment necessary for R 12,5 – 50,0
- ▶ High stability
- ▶ Flexible application through changeable radius-tools
- ▶ Sectionalized radius-tools on request

Holders for radius-tools

ZNW-SYSTEM AMADA

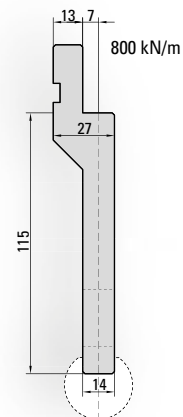
10.115

830 mm	134,—	10,0 kg
412 mm	77,—	5,0 kg



10.116

830 mm	209,—	14,0 kg
412 mm	117,—	7,0 kg

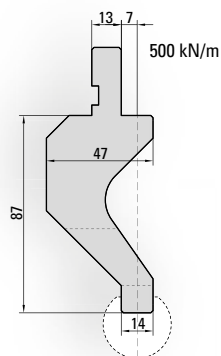


ZNW-INFO

ZNW-Holders for radius-tools and
radius-tools R 3,0 - 6,5
see page 19

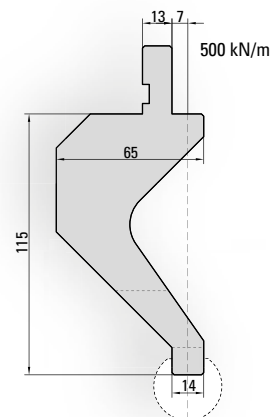
10.190

830 mm	330,—	16,0 kg
412 mm	185,—	8,0 kg



10.191

830 mm	440,—	26,0 kg
412 mm	248,—	13,0 kg



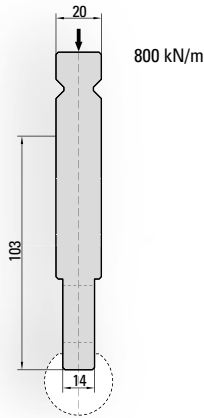
Holders for radius-tools

ZNW-SYSTEMS TRUMPF/WILA/LVD

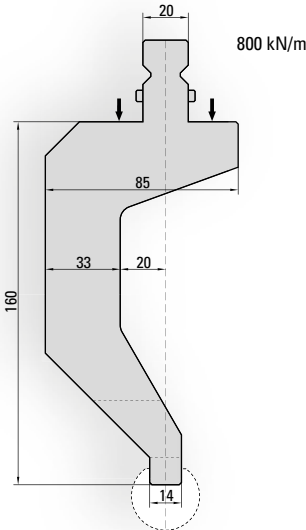
15.010			
Safety pins			
830 mm	224,—	16,0 kg	
412 mm	132,—	8,0 kg	

Simple Clamp			
412 mm	177,—	8,0 kg	

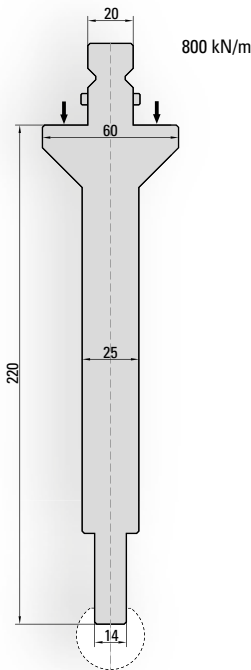
You should not exceed the weight of 12,5 kg incl. the radius tool



15.014			
Safety pins			
830 mm	674,—	47,0 kg	
412 mm	375,—	23,5 kg	



15.018			
Safety pins			
830 mm	563,—	41,0 kg	
412 mm	300,—	20,5 kg	



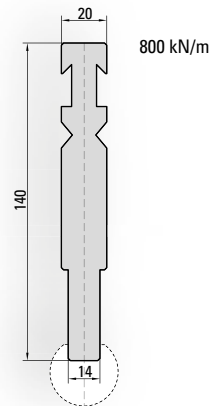
ZNW-HOLDERS FOR RADIUS-TOOLS AND RADIUS-TOOLS R 7,0 – 50,

Holders for radius-tools

ZNW-SYSTEM BYSTRONIC

14.252

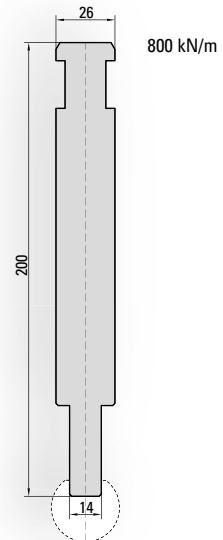
830 mm	239,—	15,5 kg
412 mm	140,—	7,8 kg



ZNW-SYSTEM EHT

17.010

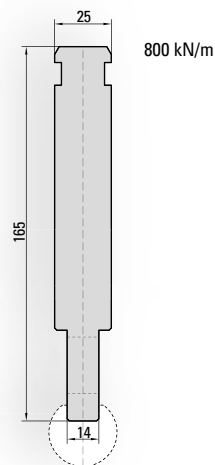
830 mm	318,—	28,2 kg
412 mm	183,—	14,1 kg



ZNW-SYSTEM WEINBRENNER

17.510

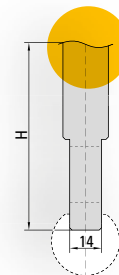
830 mm	279,—	22,6 kg
412 mm	159,—	11,3 kg



OTHER SYSTEMS

Holder for radius tools with individual clamping, suitable for your press brake

Delivery time on request



ZNW-HOLDERS FOR RADIUS-TOOLS AND RADIUS-TOOLS R 7,0 – 50,0

Radius-tools R 7,0 – 50,0

R 7,0 – 12,0

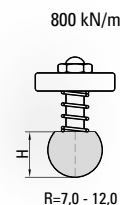
R (mm)	H (mm)	Model	835 mm		415 mm		Model	835 mm		415 mm	
			Price	Weight	Price	Weight		Price	Weight	Price	Weight
7,0	11,5	10.300	51,—	0,90 kg	32,—	0,45 kg	11.300	120,—	0,90 kg	72,—	0,45 kg
7,5	11,5	10.301	51,—	1,00 kg	32,—	0,50 kg	11.301	125,—	1,00 kg	74,—	0,50 kg
8,0	13,0	10.302	51,—	1,20 kg	32,—	0,60 kg	11.302	128,—	1,20 kg	75,—	0,60 kg
9,0	16,0	10.303	56,—	1,60 kg	33,—	0,80 kg	11.303	135,—	1,60 kg	80,—	0,80 kg
10,0	16,0	10.304	45,—	2,00 kg	29,—	1,00 kg	11.304	143,—	2,00 kg	83,—	1,00 kg
11,0	16,0	10.305	66,—	2,10 kg	39,—	1,05 kg	11.305	150,—	2,10 kg	87,—	1,05 kg
11,5	19,0	10.306	66,—	2,50 kg	39,—	1,25 kg	11.306	155,—	2,50 kg	90,—	1,25 kg
12,0	20,0	10.307	66,—	2,70 kg	39,—	1,35 kg	11.307	158,—	2,70 kg	90,—	1,35 kg

C45

Radius-tools not hardened

42CrMo4

Radius-tools hardened up to 60 HRC



R=7,0 - 12,0

R 12,5 – 50,0

R (mm)	H (mm)	Model	835 mm		415 mm		Model	835 mm		415 mm	
			Price	Weight	Price	Weight		Price	Weight	Price	Weight
12,5	16,0	10.308	74,—	3,30 kg	44,—	1,65 kg	11.308	161,—	3,30 kg	96,—	1,65 kg
13,0	17,0	10.309	74,—	3,50 kg	44,—	1,75 kg	11.309	165,—	3,50 kg	98,—	1,75 kg
14,0	19,0	10.310	74,—	3,80 kg	44,—	1,90 kg	11.310	173,—	3,80 kg	101,—	1,90 kg
15,0	20,0	10.311	62,—	5,00 kg	38,—	2,50 kg	11.311	180,—	5,00 kg	105,—	2,50 kg
16,0	21,0	10.312	87,—	5,10 kg	51,—	2,55 kg	11.312	188,—	5,10 kg	108,—	2,55 kg
17,0	21,5	10.313	87,—	5,80 kg	51,—	2,90 kg	11.313	195,—	5,80 kg	113,—	2,90 kg
17,5	22,0	10.314	74,—	6,00 kg	48,—	3,00 kg	11.314	200,—	6,00 kg	119,—	3,00 kg
19,0	25,0	10.315	93,—	6,30 kg	57,—	3,15 kg	11.315	210,—	6,30 kg	125,—	3,15 kg
20,0	24,0	10.316	89,—	6,80 kg	56,—	3,40 kg	11.316	218,—	6,80 kg	128,—	3,40 kg
22,5	25,0	10.317	108,—	8,00 kg	65,—	4,00 kg	11.317	240,—	8,00 kg	140,—	4,00 kg
25,0	29,0	10.318	89,—	10,00 kg	62,—	5,00 kg	11.318	263,—	10,00 kg	150,—	5,00 kg
27,5	34,0	10.319	123,—	12,50 kg	74,—	6,25 kg	11.319	285,—	12,50 kg	165,—	6,25 kg
30,0	34,0	10.320	122,—	13,50 kg	77,—	6,75 kg	11.320	330,—	13,50 kg	188,—	6,75 kg
35,0	45,0	10.321	185,—	21,00 kg	110,—	10,00 kg	11.321	353,—	21,00 kg	200,—	10,50 kg
40,0	45,0	10.322	215,—	24,00 kg	128,—	12,00 kg	11.322	465,—	24,00 kg	255,—	12,00 kg
45,0	50,0	10.323	248,—	29,50 kg	152,—	14,00 kg	11.323	510,—	29,50 kg	285,—	14,75 kg
50,0	54,0	10.324	266,—	34,50 kg	165,—	17,00 kg	11.324	540,—	34,50 kg	308,—	17,25 kg

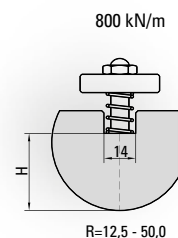
C45

Radius-tools not hardened

25 kg

42CrMo4

Radius-tools hardened up to 60 HRC

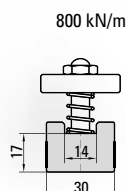


R=12,5 - 50,0

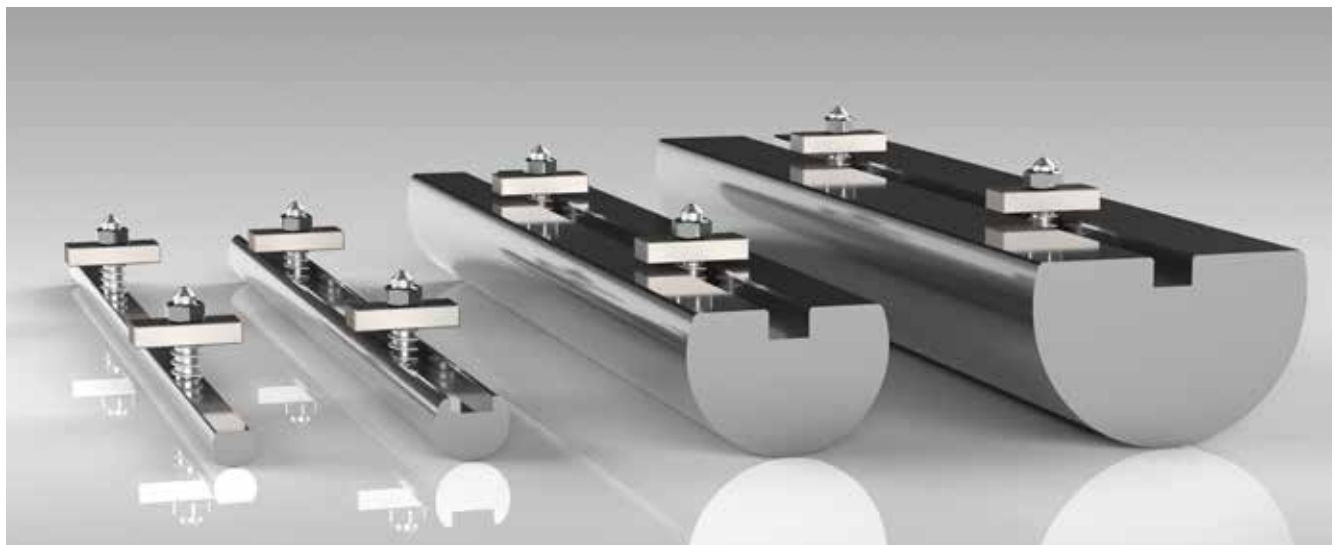
Flattening-tool

10.325

835 mm	77,—	4,00 kg
415 mm	45,—	2,00 kg

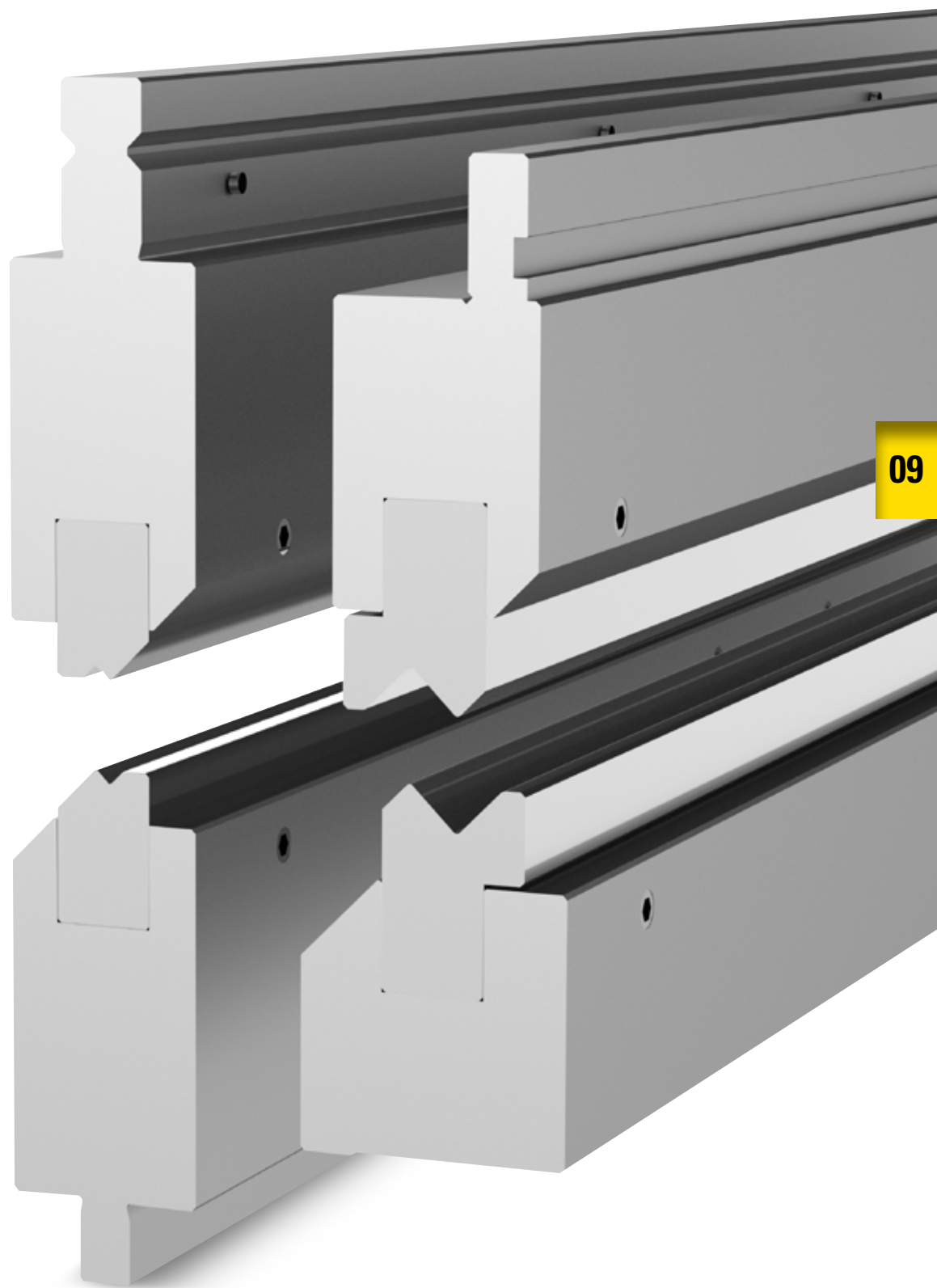


Radius-tools R 7,0 – 50,0



ZNW-Z-TOOL HOLDES AND Z-TOOL INSERTSZ 1,0 – 15,0

Explanation	150
Z-Tool holders	151 – 152
Flattening insert	152
Z-Tool inserts Z 1,0 – 15,0	153



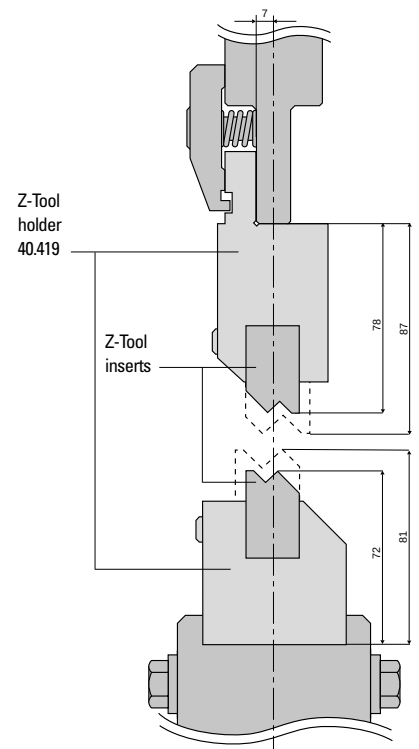
Quality and precision

- ▶ Optimum materials
 - C45, 650 – 800 N/mm²
- ▶ Bending radius/intake radii hardened up to 54 – 60 HRC
- ▶ Precision ground
- ▶ Guaranteed exchangeability and parallelism
- ▶ Tool marking with all technical information

Product advantages

- ▶ Cost-saving: One holder for different Z-Tool tool inserts
- ▶ Z-Tool holders and Z-Tool inserts Z 1,0 – 15,0 are each delivered as a set
- ▶ Flexible application by changeable Z-Tool inserts Z 1,0 – 15,0
- ▶ No adjustment necessary
- ▶ Short Z-bending in one stroke
- ▶ Z-bending with long flanges possible
- ▶ Sectionalized Z-Tools on request

EXAMPLE OF USE



Z-Tool inserts are fixed by M8 grub screws in the Z-Tool holders.

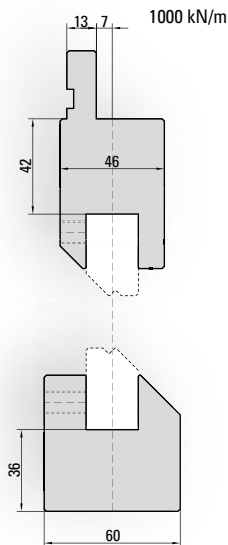
Z-TOOL HOLDERS AND Z-TOOL INSERTS Z 1,0 – 15,0

Z-Tool holders

ZNW-SYSTEM AMADA

40.419

835 mm	554,—	37,4 kg
415 mm	311,—	18,7 kg

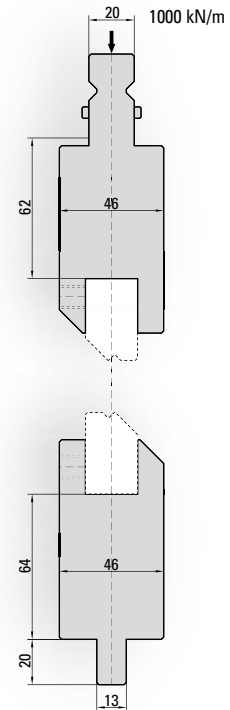


ZNW-SYSTEMS TRUMPF/WILA

15.050

Safety pins

835 mm	788,—	50,0 kg
415 mm	431,—	25,0 kg

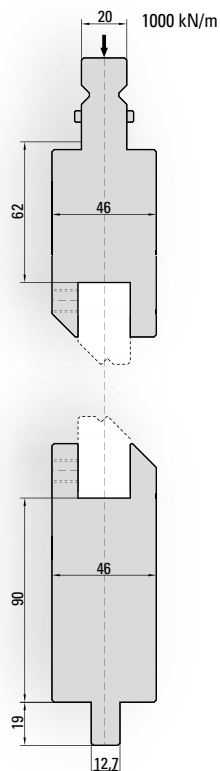


ZNW-SYSTEM LVD

16.060

Safety pins

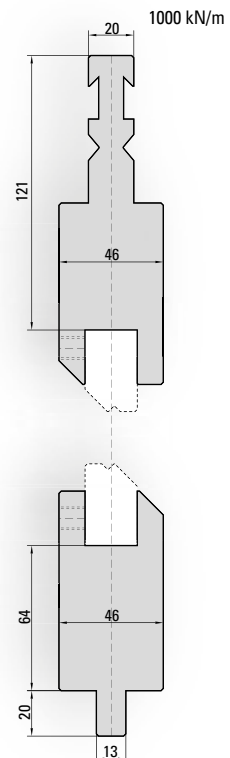
835 mm	936,—	60,0 kg
415 mm	488,—	30,0 kg



ZNW-SYSTEM BYSTRONIC

14.080

835 mm	998,—	53,0 kg
415 mm	539,—	26,5 kg



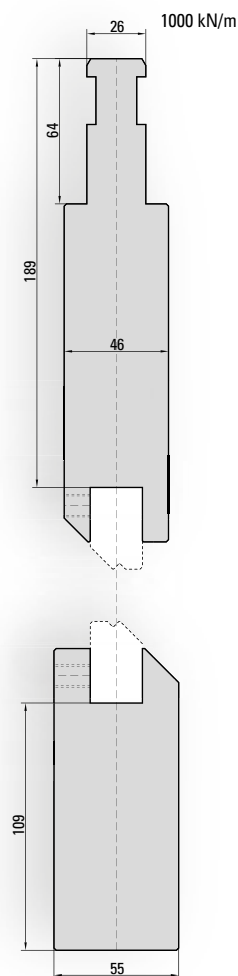
ZNW-Z-TOOL HOLDERS AND Z-TOOL INSERTS Z 1,0 – 15,0

Z-Tool holders

ZNW-SYSTEM EHT

17.050

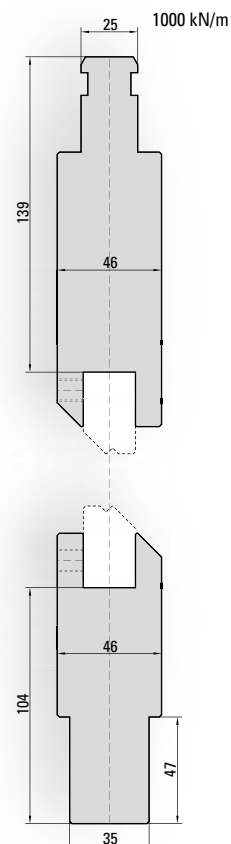
415 mm 480,- 46,8 kg



ZNW-SYSTEM WEINBRENNER

17.550

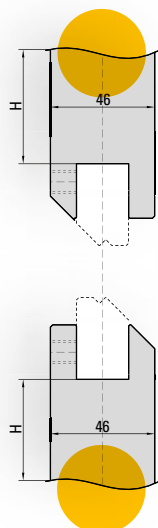
415 mm 467,- 35,0 kg



OTHER SYSTEMS

Z-Tool holder with individual clamping, suitable for your press brake

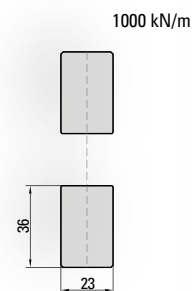
Delivery time on request



Flattening insert

40.500

835 mm 188,- 10,0 kg
415 mm 105,- 5,0 kg

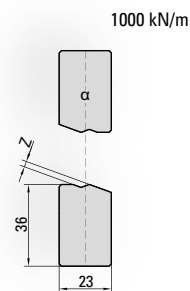


ZNW-Z-TOOL HOLDERS AND Z-TOOL INSERTS Z 1,0 – 15,0

Z-Tool inserts Z 1,0 – 15,0

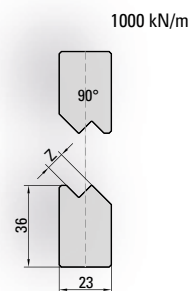
Z 1,0 – 2,5

Model	α	Z (mm)	835 mm Price	415 mm Price
40.510	160°	1,0	281,—	155,—
40.515	160°	1,5	281,—	155,—
40.520	150°	2,0	281,—	155,—
40.525	140°	2,5	281,—	155,—
Weight			10,0 kg	5,0 kg



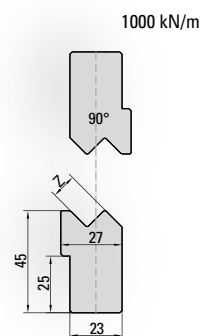
Z 1,0 – 8,0

Model	α	Z (mm)	835 mm Price	415 mm Price
40.511	90°	1,0	281,—	155,—
40.516	90°	1,5	281,—	155,—
40.521	90°	2,0	281,—	155,—
40.526	90°	2,5	281,—	155,—
40.530	90°	3,0	281,—	155,—
40.535	90°	3,5	281,—	155,—
40.540	90°	4,0	281,—	155,—
40.545	90°	4,5	281,—	155,—
40.550	90°	5,0	281,—	155,—
40.555	90°	5,5	281,—	155,—
40.560	90°	6,0	281,—	155,—
40.565	90°	6,5	281,—	155,—
40.570	90°	7,0	281,—	155,—
40.575	90°	7,5	281,—	155,—
40.580	90°	8,0	281,—	155,—
Weight			10,0 kg	5,0 kg



Z 8,5 – 12,0

Model	α	Z (mm)	835 mm Price	415 mm Price
40.585	90°	8,5	312,—	173,—
40.590	90°	9,0	312,—	173,—
40.610	90°	10,0	312,—	173,—
40.611	90°	11,0	312,—	173,—
40.612	90°	12,0	312,—	173,—
Weight			13,5 kg	6,7 kg



Z 13,0 – 15,0

Model	α	Z (mm)	835 mm Price	415 mm Price
40.613	90°	13,0	312,—	173,—
40.614	90°	14,0	312,—	173,—
40.615	90°	15,0	312,—	173,—
Weight			14,5 kg	7,3 kg

