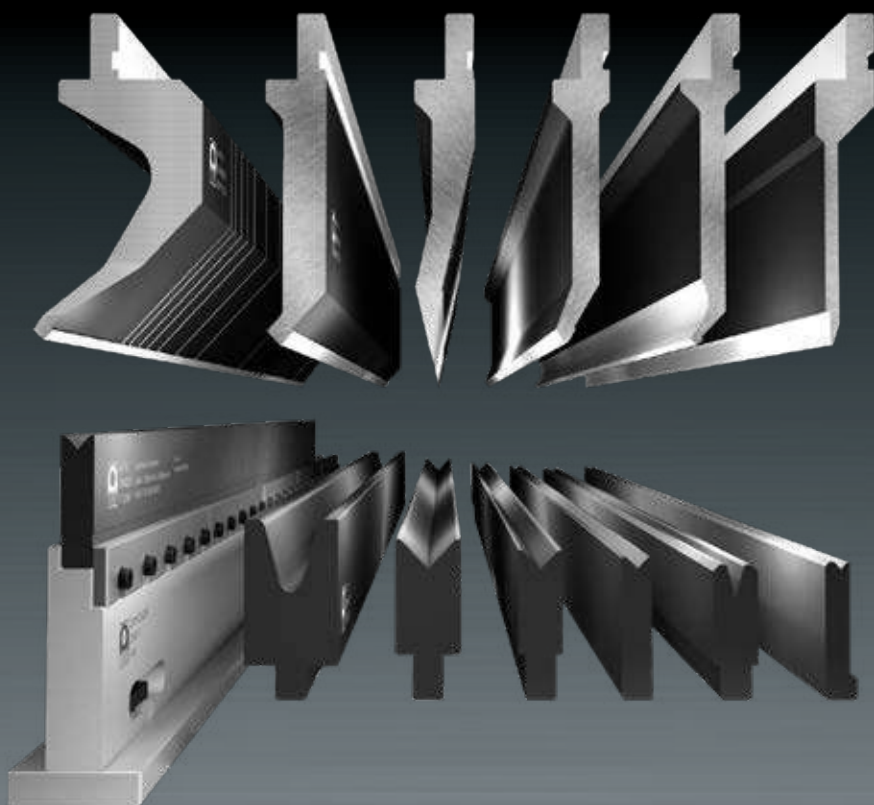


SOLUTION

BENDING



BENDING TOOLS CATALOGUE



PREMIUM RANGE TOOLS AND ACCESSORIES



AMADA[®]



CATALOGUE INDEX

AMADA QUALITY	5
NEW AFH - NEW TOOLING RANGE	6
NEW AFH - STAGE BENDING	7
NEW AFH - OTHER FEATURES	8
LENGTH OF TOOL SETS	9
PUNCHES	11
H120 PUNCHES 86°, 88°, 90°	12
H120 PUNCHES 86°, 88°	13
H120 PUNCHES 60°	14
H120 PUNCHES 26°, 30°	14
LARGE R AND FLATTENING PUNCHES	15
H90 PUNCHES 86°, 88°, 90°	16
H90 PUNCHES 86°, 88°	17
H90 PUNCHES 30°	18
H160 PUNCHES	19
H67 PUNCHES 88°, 90°	20
H70 PUNCHES 60°, 30°	21
H70 FLATTENING PUNCHES	22
RADIUS INSERTS	23
RADIUS TOOLS	25
DIES	27
DIES 30°	28
DIES 45°	30
DIES 60°	30
DIES 86°, 88°, 90°	32
DIES 84°	37
HEMMING AND OFFSET TOOLS	38
2V-90° REVERSIBLE DIES	40
2V-88° REVERSIBLE DIES	41
2V-60° & 30° REVERSIBLE DIES	42
LARGE V DIES	42
HEMMING DIES	45
MARK FREE BENDING	49
POLYCARBONATE DIES	50
POLYAMIDE INSERT DIES	51
POLYURETHANE DIES	52
ACCESSORIES FOR MARK FREE BENDING	53
HOLDERS, OTHER TOOLING AND ACCESSORIES	55
DIE HOLDERS	56
PUNCH HOLDERS	58
MULTI OFFSET TOOL	60
BENDING ACCESSORIES	61
TOOL FOR CLOSED BENDS	62
ADJUSTABLE HIGH TONNAGE DIE	62
WINGBEND DIE	63
HIGH TONNAGE TOOLS	65
SEMI STANDARD TOOLS	68
SPECIAL TOOLS	69
TABLES AND GRAPHS	73
AIR BENDING FORCE CHART	74
RETURN BEND LIMIT GRAPH	75



AMADA QUALITY

PUNCH QUALITY

Through hardened from hot formed steel

- for long lasting high precision
- surface hardness: 45-50 HRC
- body strength: 1500 N/mm²



TOOLING SAFETY

With innovative heat treatment strategies and special testing techniques we are giving best durability to the steel, not only against failure caused by dead loads but also against fatigue caused by an infinite number of repeated loads.

SINGLE SOURCE

For machine, tooling and software

STANDARD TOOLING LENGTHS

Sectionalization

Punch: 100ear, 10; 2 X 15; 20; 40; 50; 150; 300; 100ear = 800 mm
 Die: 100; 10; 2 X 15; 20; 40; 50; 150; 400 = 800 mm

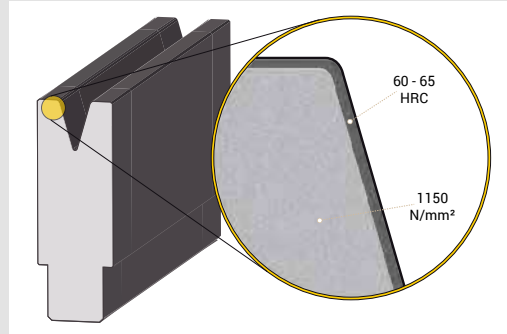
Special lengths are available at additional cost.



DIE QUALITY

AMANIT

- highest wear resistance on tool surface (60-65 HRC)
- low friction on the shoulder radii
- highest strength of the body - 1150 N/mm²
- corrosion resistance

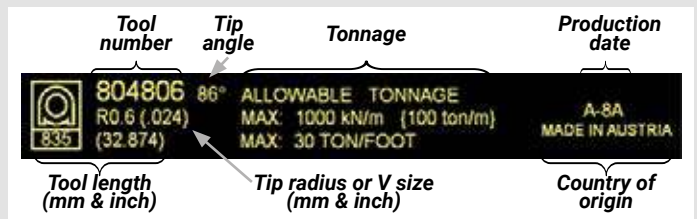


NON CORROSIVE COATING ON PUNCH BODY



LASER MARKING

All AMADA press brake tooling is marked by laser. Essential information like tooling type, angle, tonnage, length and radius are marked even on the sectional parts. *Special markings are available at additional cost.*



AMADA tooling factory in Austria

NEW AFH - NEW TOOLING RANGE

THE NECESSITY TO MANUFACTURE HIGH QUALITY TOOLS

All our activities are targeting precision, performance and safety. Being the first company offering standard tools for unlimited staged bending or offering standard tools for more process reliability while boosting tool life with AMANIT, we repeatedly demonstrated that all our activities are developed in close coordination with our customers, meeting the demands of the "best in class".

For example, the manufacturing of this electronic chassis requires 90-degree bends, acute bends, hems and offset bends. Using traditional bending, the operator would set up his press brake several times, handling the same part again and again. Press brake tools would play a significant role in this case. Because of their differing heights, they mostly allow only identical stages on the same machine. As a result, several setup times have to be added to the processing cost.

Our New AFH tools are designed in order to enable the operator to setup multiple bends within one brake bed. While in the past the operator was more focused on tool alignments and how different tools could run

at the same time, the New AFH now allows focusing on his sheet part, giving trouble-free, unlimited staging possibilities. Staged bending will make small runs cost-effective by simplifying complex bending sequences and handling each part only once.

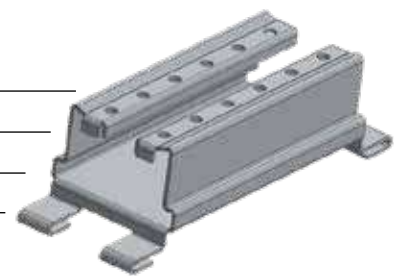
Our punches are categorized into four levels, depending on their operating height. H70mm, H90mm, H120mm and H160mm. Our staged dies are offering stage bending in combination with acute bending, hemming and offset bending. NEW AFH is the successful unification of our powerful tooling systems like OneStroke or AFH with standard tools.

Acute bending (<90°)

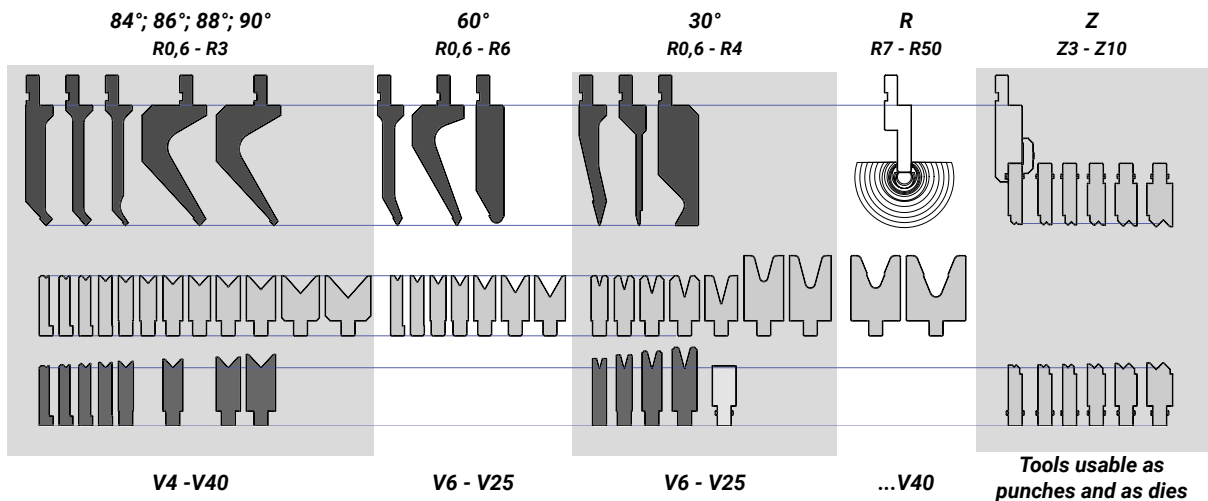
Offset bending

90° bending

Flattening



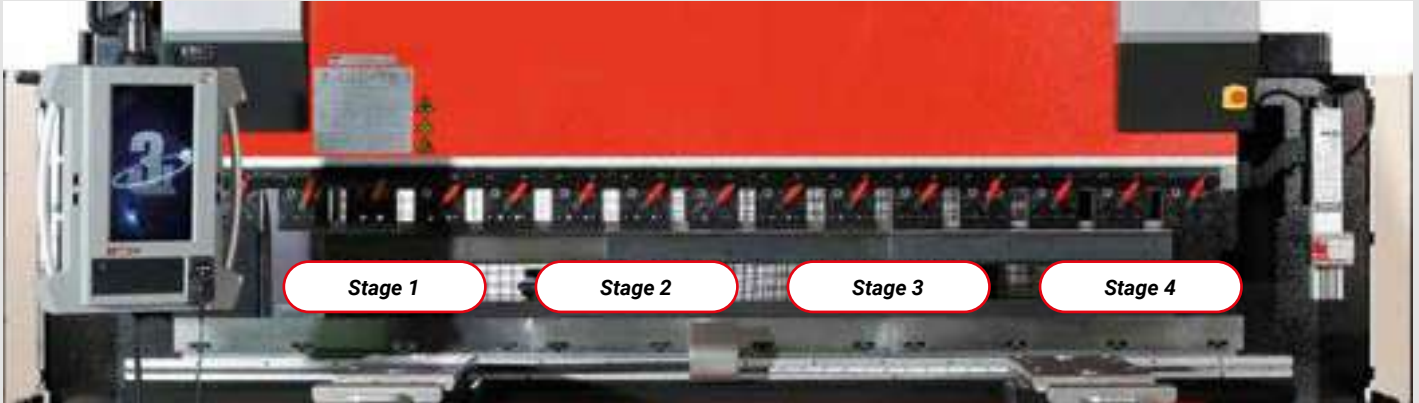
EXAMPLE OF TOOLING CHOICE WITH H120 PUNCHES



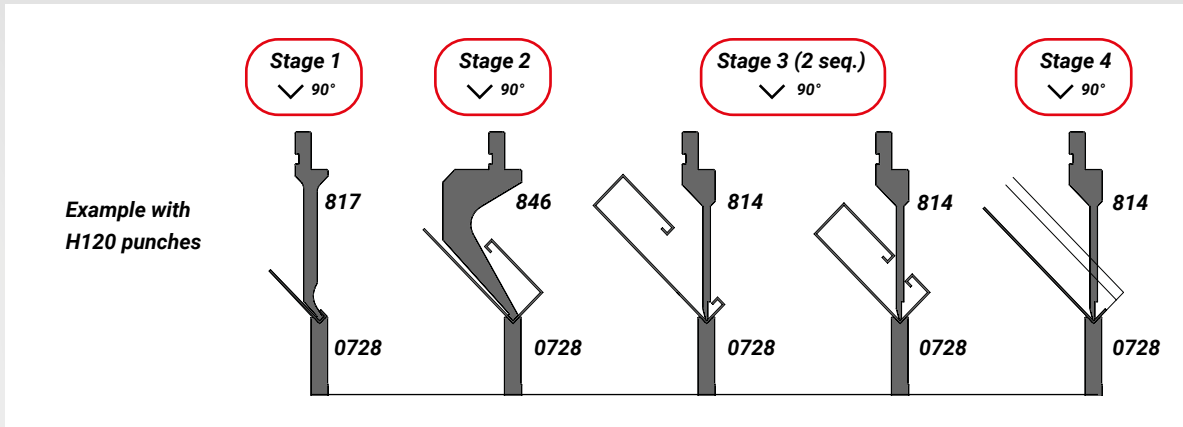


NEW AFH - STAGE BENDING

With stage bending, the operator can carry a complex part through multiple bends on different tool sets within one machine bed, and finish it after just one handling. All tools for these options are available from stock.



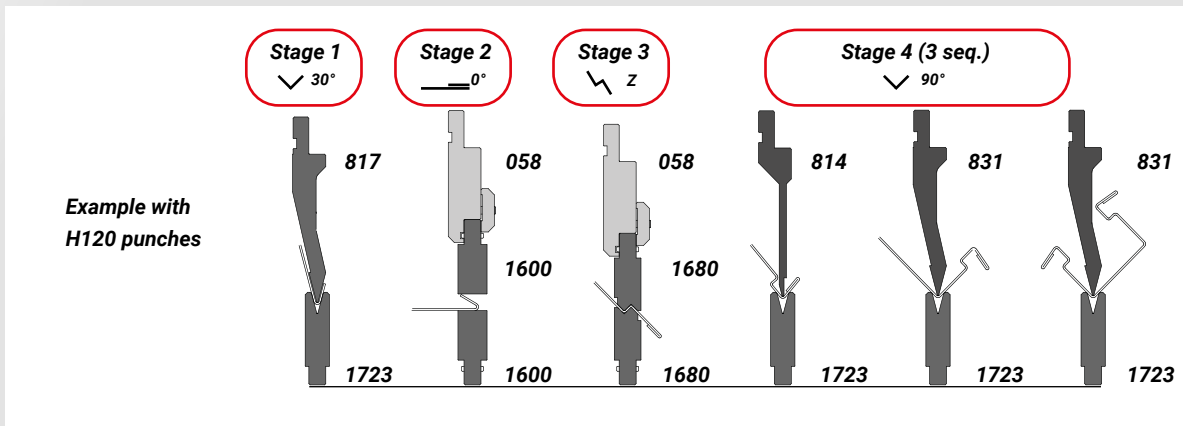
STAGE ENGINEERING FOR SHEET PARTS NEEDING ONLY 90° BENDS



Note:

- for perfect staging please use H120 punches (alternatively H90 or H160)
- all H120 - R0,6 punches are manufactured on same height (AFH principle)
- please use H60 dies from type 070... to 088...
- all above tools are able to build unlimited stages for 90° bends

STAGE ENGINEERING FOR PARTS NEEDING MULTIPLE BENDS

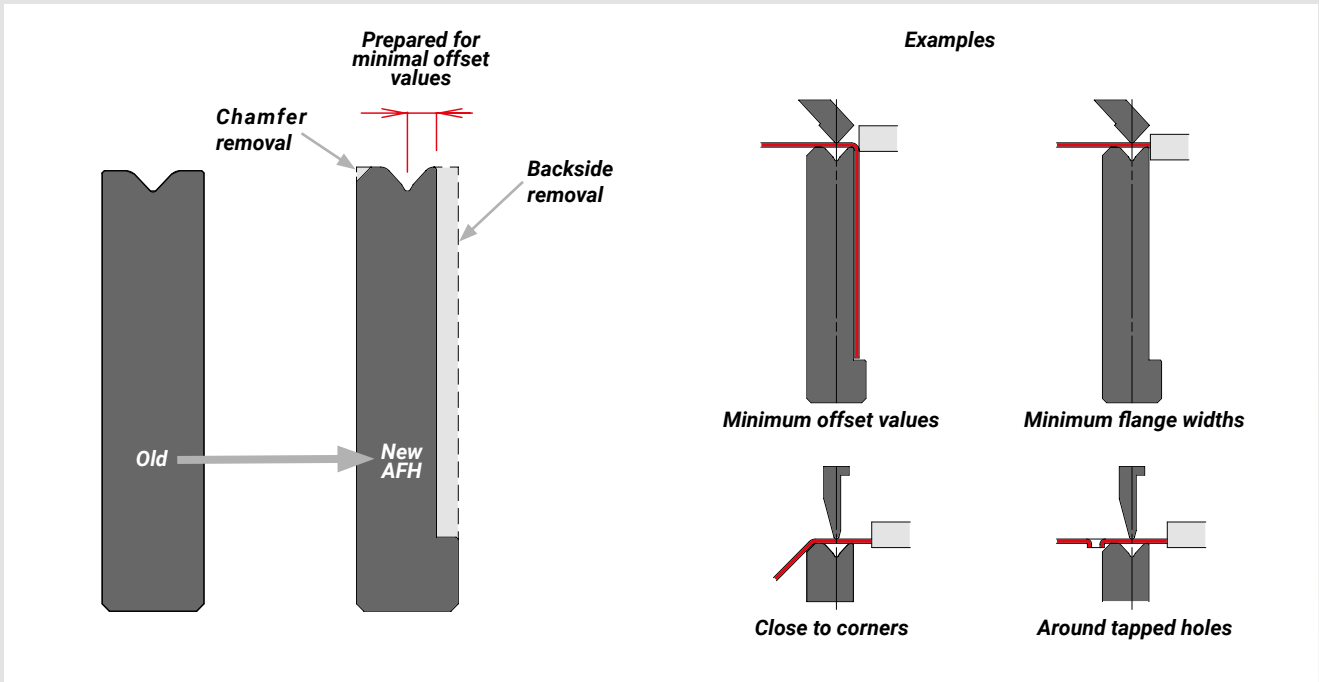


Note:

- for perfect staging please use H120 punches (alternatively H90 or H160)
- please use dies from type 170... to 182...
- all staged dies paired with H120 (alternatively H90 or H160) punches have common shut height making machine setup fast and stage bending easy
- Common shut height tools available for 90°, acute angle, hemming and offset bending

NEW AFH - OTHER FEATURES

DIES PREPARED FOR MINIMAL OFFSET VALUES



USE WITH ANGLE MEASUREMENT SYSTEM

To ensure the highest part accuracy from the very first bend, an angle measuring and correcting system like BIS, BIJ or BIL is necessary. All generated bend correction data from our angle measuring systems are calibrated with NEW AFH tools.

ENLARGES RETURN BEND AREA AROUND THE PUNCH

EASES SOFTWARE SUCCESS OF DR.ABE_BEND

PREVENTS MISTAKES DUE TO SAME PUNCH HEIGHT

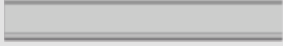
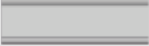

QUICK CHANGE IN COMBINATION WITH AGRIP CLAMPS





LENGTH OF TOOL SETS

Combination of tool-set per machine length

Machine length m	 835 solid	 415 solid	 800 sect.	Tool-set length mm
1,2	1	1		1 250
		3		1 245
		1	1	1 215
	1		1	1 635
2	2	1		2 085
	2		1	2 470
	1	1	1	2 050
		3	1	2 045
	1	2	1	2 465
2,5	3			2 505
	2	2		2 500
	2		1	2 470
	2	1	1	2 885
	1	2	1	2 465
	1		2	2 435
	1	3	1	2 880
	1	1	2	2 850
3	3	1		2 920
	3		1	3 305
	2	3		2 915
	2	2	1	3 300
	2	1	1	2 885
	2		2	3 270
	1	5		2 910
	1	4	1	3 295
	1	2	2	3 265
		4	2	3 260
4	5			4 175
	4	2		4 170
	4	1	1	4 555
	4		1	4 140
	3	3	1	4 550
	3	2	1	4 135
	3	1	2	4 520
	3		2	4 105
	2	2	2	4 100

Worldwide sales organization, ensuring excellent availability all over the world, and guaranteeing outstanding service for our customers.







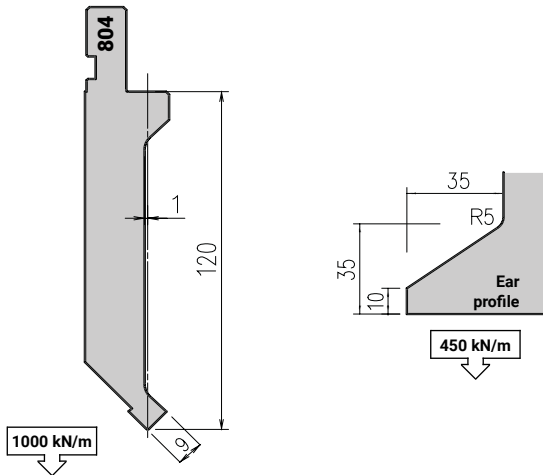
PUNCHES



H120 PUNCHES 86°, 88°, 90°

AFH Standard Punch 804 (9 mm tip)

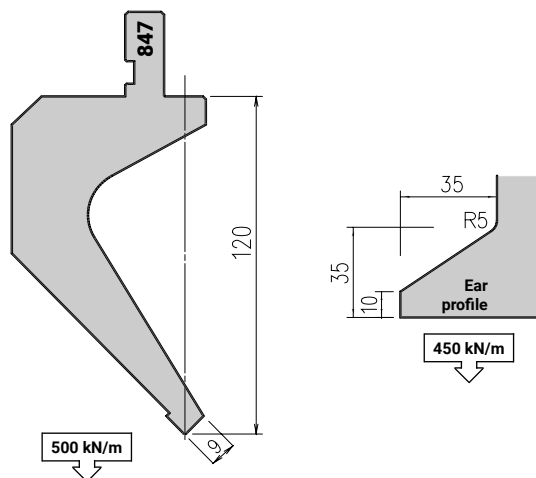
Punch 804 replaces old punches S51, S52, A04, A16



Tool angle	Tip radius	Length mm	Item No.	Weight kg
86°	R0.6	835	ES 8048061	17.1
		415	ES 8048062	8.5
		800 Sect	ES 8048063	15.1
	R1.5	835	ES 8048151	17.1
		415	ES 8048152	8.5
		800 Sect	ES 8048153	15.1
R3	835	ES 8048301	17.1	
	415	ES 8048302	8.5	
	800 Sect	ES 8048303	15.1	
88°	R0.6	835	ES 8047061	17.1
		415	ES 8047062	8.5
		800 Sect	ES 8047063	15.1
90°	R0.6	835	ES 8049061	17.1
		415	ES 8049062	8.5
		800 Sect	ES 8049063	15.1

AFH Gooseneck Punch 847 (9 mm tip)

Punch 847 replaces old punches 45, 47, S55, S56, A47, A48



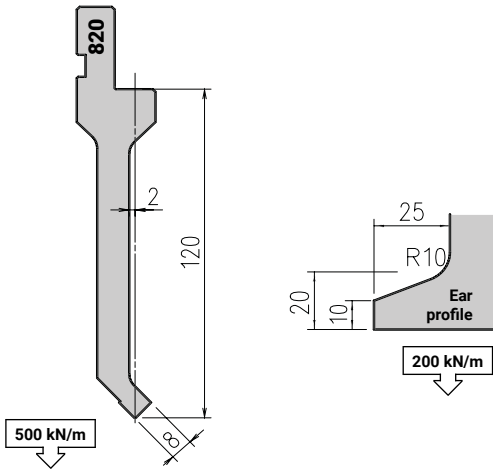
Tool angle	Tip radius	Length mm	Item No.	Weight kg
86°	R0.6	835	ES 8478061	25.2
		415	ES 8478062	12.5
		800 Sect	ES 8478063	22.2
	R1.5	835	ES 8478151	25.2
		415	ES 8478152	12.5
		800 Sect	ES 8478153	22.2
R3	835	ES 8478301	25.2	
	415	ES 8478302	12.5	
	800 Sect	ES 8478303	22.2	
88°	R0.6	835	ES 8477061	25.2
		415	ES 8477062	12.5
		800 Sect	ES 8477063	22.2
90°	R0.6	835	ES 8479061	25.2
		415	ES 8479062	12.5
		800 Sect	ES 8479063	22.2



H120 PUNCHES 86°, 88°

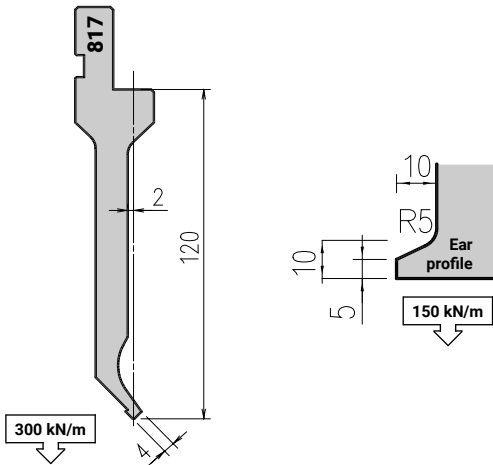
AFH Sash Punch 820 (8 mm tip)

Punch 820 replaces old punches 202, A20, A21



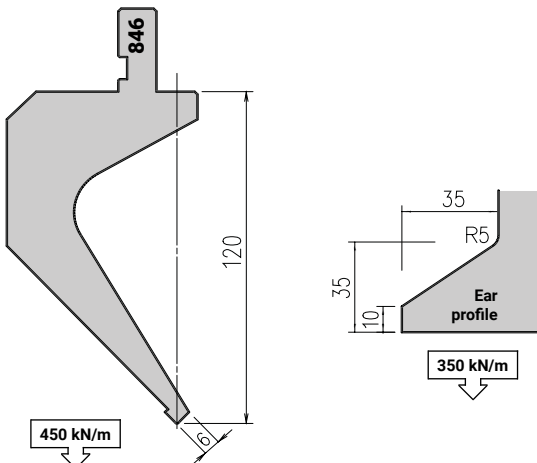
Tool angle	Tip radius	Length mm	Item No.	Weight kg
86°	R0.6	835	ES 8208061	11.7
		415	ES 8208062	5.8
		800 Sect	ES 8208063	10.5
	R1.5	835	ES 8208151	11.7
		415	ES 8208152	5.8
		800 Sect	ES 8208153	10.5
88°	R0.6	835	ES 8207061	11.7
		415	ES 8207062	5.8
		800 Sect	ES 8207063	10.5

AFH Sash Punch 817 (4 mm tip)



Tool angle	Tip radius	Length mm	Item No.	Weight kg
86°	R0.6	835	ES 8178061	11.1
		415	ES 8178062	5.5
		800 Sect	ES 8178063	10.4
88°	R0.6	835	ES 8177061	11.1
		415	ES 8177062	5.5
		800 Sect	ES 8177063	10.4

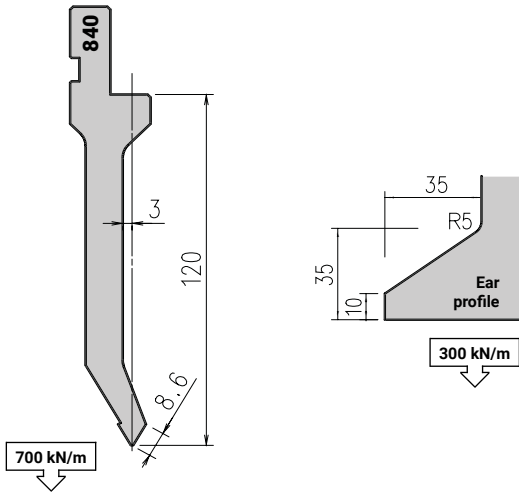
AFH Thin Gooseneck Punch 846 (6 mm tip)



Tool angle	Tip radius	Length mm	Item No.	Weight kg
86°	R0.6	835	ES 8468061	23.3
		415	ES 8468062	11.6
		800 Sect	ES 8468063	20.5
88°	R0.6	835	ES 8467061	23.3
		415	ES 8467062	11.6
		800 Sect	ES 8467063	20.5

H120 PUNCHES 60°

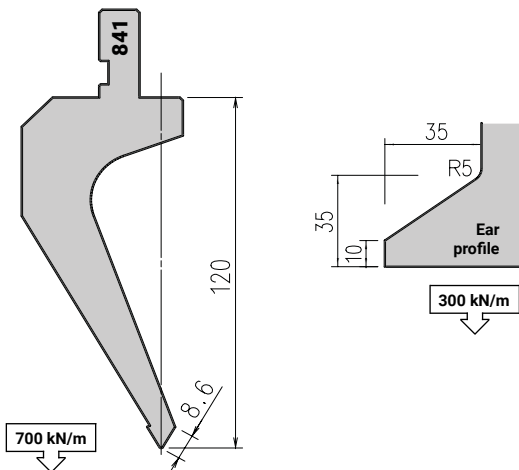
AFH Acute Sash Punch 840



Tool angle	Tip radius	Length mm	Item No.	Weight kg
60°	R0.6	835	ES 8406061	12.4
		415	ES 8406062	6.2
		800 Sect	ES 8406063	11.0
	R1.5	835	ES 8406151	12.4
		415	ES 8406152	6.2
		800 Sect	ES 8406153	11.0

AFH Gooseneck Punch 841

Punch 841 replaces old punch 454

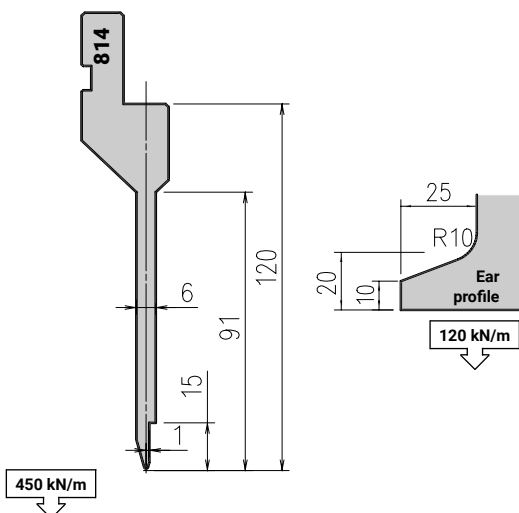


Tool angle	Tip radius	Length mm	Item No.	Weight kg
60°	R0.6	835	ES 8416061	19.2
		415	ES 8416062	9.5
		800 Sect	ES 8416063	16.9
	R1.5	835	ES 8416151	19.2
		415	ES 8416152	9.5
		800 Sect	ES 8416153	16.9

H120 PUNCHES 26°, 30°

AFH Acute Angle Punch 814

Punch 814 replaces old punches 109, S57, S58, A18, A19, A13

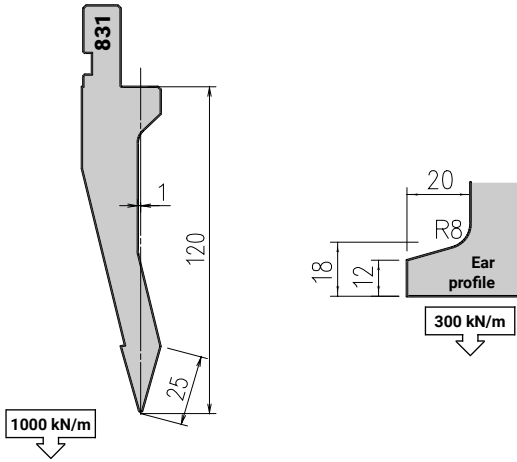


Tool angle	Tip radius	Length mm	Item No.	Weight kg
30°	R0.6	835	ES 8143061	9.8
		415	ES 8143062	4.9
		800 Sect	ES 8143063	8.8



AFH Hemming Punch 831

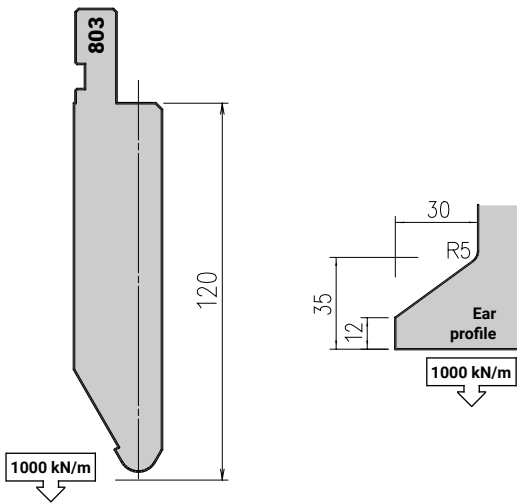
Punch 831 replaces old punches 210, Z330, S35



Tool angle	Tip radius	Length mm	Item No.	Weight kg
26°	R0.6	835	ES 8312061	13.9
		415	ES 8312062	6.9
		800 Sect	ES 8312063	12.7
30°	R0.6	835	ES 8313061	14.1
		415	ES 8313062	7.0
		800 Sect	ES 8313063	12.9
	R1.5	835	ES 8313151	14.1
		415	ES 8313152	7.0
		800 Sect	ES 8313153	12.9
	R3	835	ES 8313301	13.9
		415	ES 8313302	6.9
		800 Sect	ES 8313303	12.7
	R4	835	ES 8313401	13.9
		415	ES 8313402	6.9
		800 Sect	ES 8313403	12.7

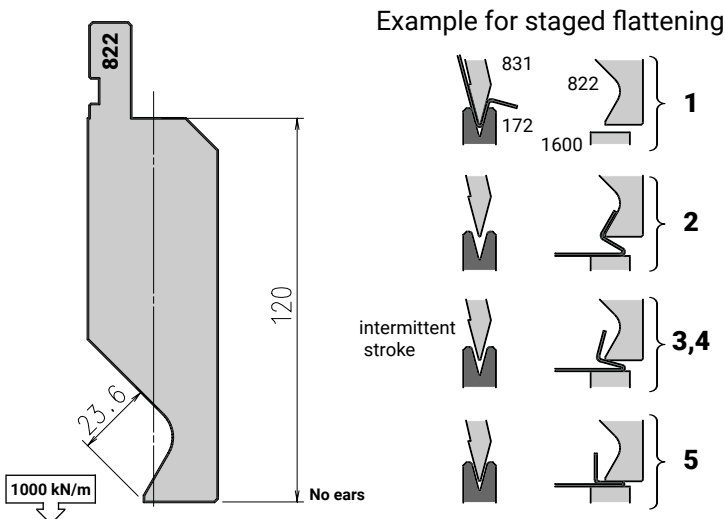
LARGE R AND FLATTENING PUNCHES

AFH Straight Punch 803



Tool angle	Tip radius	Length mm	Item No.	Weight kg
60°	R5.0	835	ES 8036501	21.8
		415	ES 8036502	10.8
		800 Sect	ES 8036503	19.5
	R6.0	835	ES 8036601	21.8
		415	ES 8036602	10.8
		800 Sect	ES 8036603	19.5

AFH Flattening Punch 822

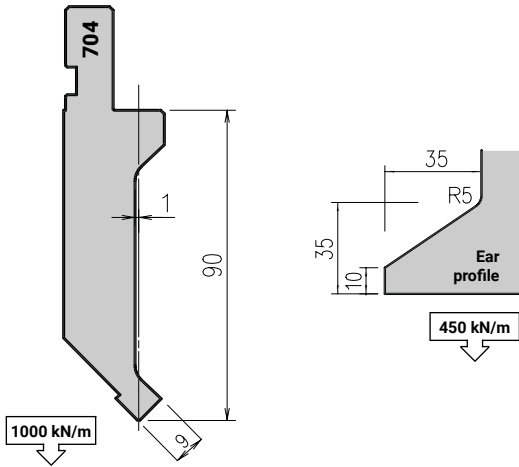


	Length mm	Item No.	Weight kg
Flattening	835	ES 8220001	27.8
	415	ES 8220002	13.8
	800 Sect	ES 8220003	26.6

H90 PUNCHES 86°, 88°, 90°

AFH Standard Punch 704 (9 mm tip)

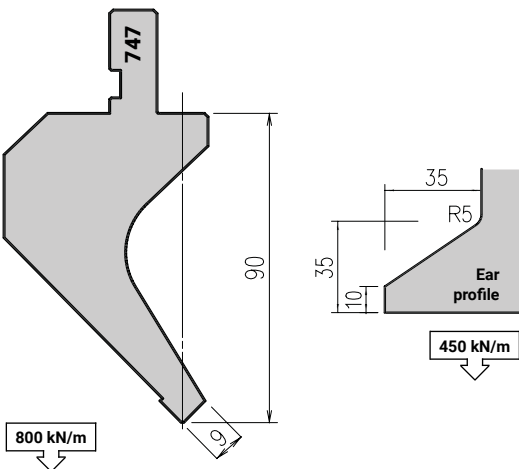
Punch 704 replaces old punches S01, S02



Tool angle	Tip radius	Length mm	Item No.	Weight kg
86°	R0.6	835	ES 7048061	13.3
		415	ES 7048062	6.6
		800 Sect	ES 7048063	11.8
	R1.5	835	ES 7048151	13.3
		415	ES 7048152	6.6
		800 Sect	ES 7048153	11.8
R3	835	ES 7048301	13.3	
	415	ES 7048302	6.6	
	800 Sect	ES 7048303	11.8	
88°	R0.6	835	ES 7047061	13.3
		415	ES 7047062	6.6
		800 Sect	ES 7047063	11.8
90°	R0.6	835	ES 7049061	13.3
		415	ES 7049062	6.6
		800 Sect	ES 7049063	11.8

AFH Gooseneck Punch 747 (9 mm tip)

Punch 747 replaces old punch 452



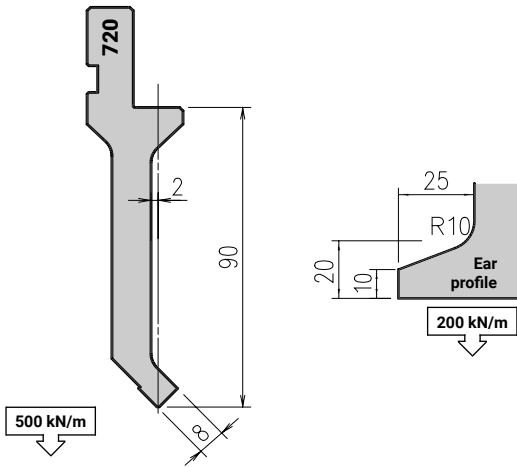
Tool angle	Tip radius	Length mm	Item No.	Weight kg
86°	R0.6	835	ES 7478061	19.4
		415	ES 7478062	9.6
		800 Sect	ES 7478063	17.1
	R1.5	835	ES 7478151	19.4
		415	ES 7478152	9.6
		800 Sect	ES 7478153	17.1
R3	835	ES 7478301	19.4	
	415	ES 7478302	9.6	
	800 Sect	ES 7478303	17.1	
88°	R0.6	835	ES 7477061	19.4
		415	ES 7477062	9.6
		800 Sect	ES 7477063	17.1
90°	R0.6	835	ES 7479061	19.4
		415	ES 7479062	9.6
		800 Sect	ES 7479063	17.1



H90 PUNCHES 86°, 88°

AFH Sash Punch 720 (8 mm tip)

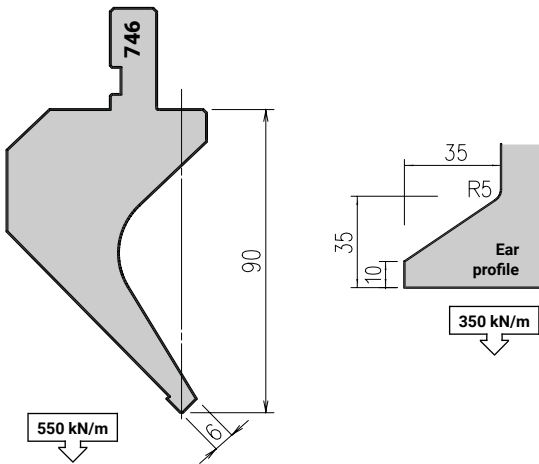
Punch 720 replaces old punches S03, S04



Tool angle	Tip radius	Length mm	Item No.	Weight kg
86°	R0.6	835	ES 7208061	9.1
		415	ES 7208062	4.5
		800 Sect	ES 7208063	8.2
	R1.5	835	ES 7208151	9.1
		415	ES 7208152	4.5
		800 Sect	ES 7208153	8.2
88°	R0.6	835	ES 7207061	9.1
		415	ES 7207062	4.5
		800 Sect	ES 7207063	8.2

AFH Gooseneck Punch 746 (6 mm tip)

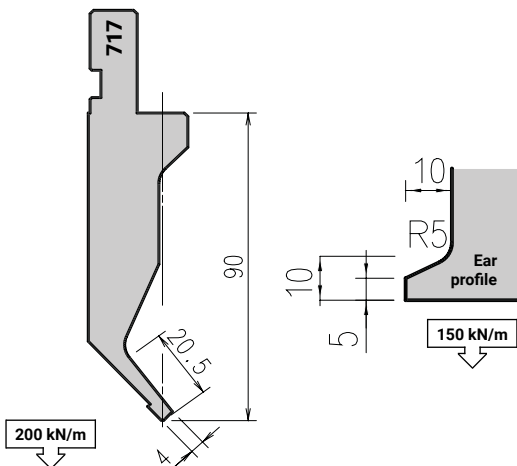
Punch 746 replaces old punches 453, S05, S06



Tool angle	Tip radius	Length mm	Item No.	Weight kg
86°	R0.6	835	ES 7468061	18.3
		415	ES 7468062	9.1
		800 Sect	ES 7468063	16.1
88°	R0.6	835	ES 7467061	18.3
		415	ES 7467062	9.1
		800 Sect	ES 7467063	16.1

AFH Thin Standard Punch 717 (4 mm tip)

Punch 717 replaces old punches Z2883, 670

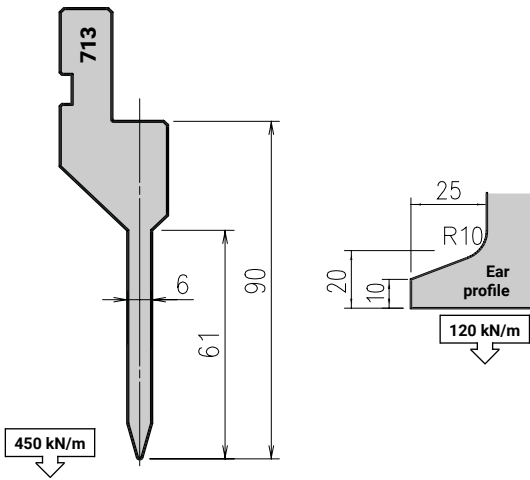


Tool angle	Tip radius	Length mm	Item No.	Weight kg
86°	R0.6	835	ES 7178061	11.8
		415	ES 7178062	5.8
		800 Sect	ES 7178063	11.0
88°	R0.6	835	ES 7177061	11.8
		415	ES 7177062	5.8
		800 Sect	ES 7177063	11.0

H90 PUNCHES 30°

AFH Acute Angle Punch 713

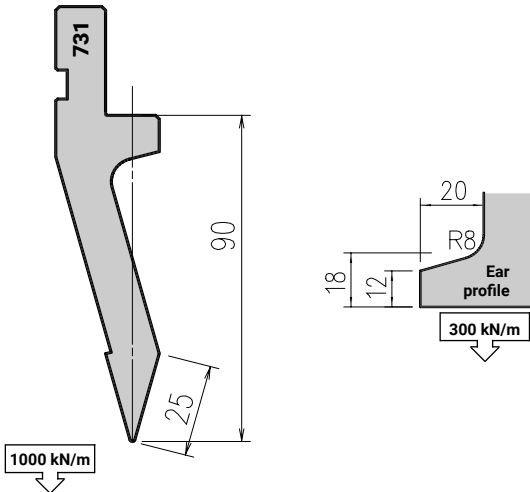
Punch 713 replaces old punches S07; S08; S31



Tool angle	Tip radius	Length mm	Item No.	Weight kg
30°	R0.6	835	ES 7133061	8.7
		415	ES 7133062	4.3
		800 Sect	ES 7133063	7.9

AFH Hemming Punch 731

Punch 731 replaces old punches 211, S30

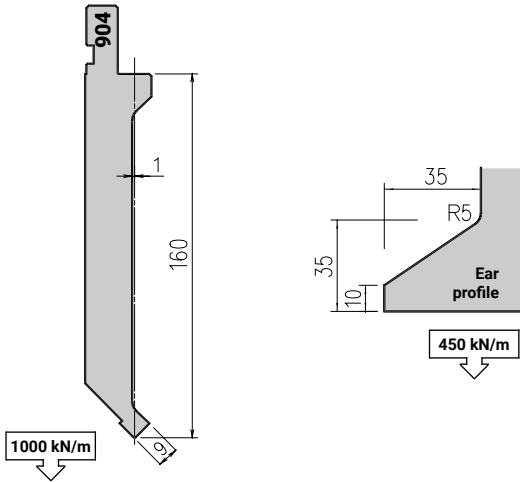


Tool angle	Tip radius	Length mm	Item No.	Weight kg
30°	R0.6	835	ES 7313061	10.1
		415	ES 7313062	5.0
		800 Sect	ES 7313063	9.2
	R1.5	835	ES 7313151	10.1
		415	ES 7313152	5.0
		800 Sect	ES 7313153	9.2
	R3	835	ES 7313301	10.1
		415	ES 7313302	5.0
		800 Sect	ES 7313303	9.2



H160 PUNCHES

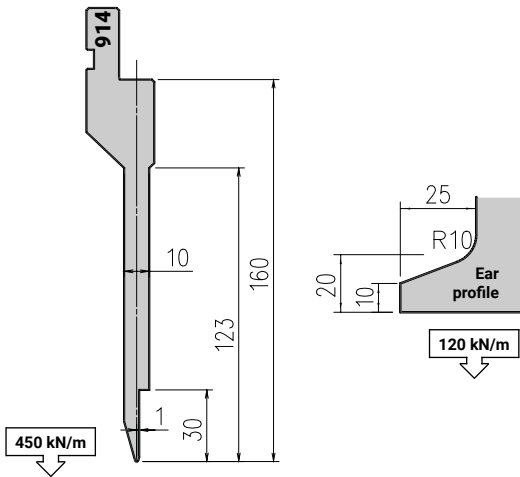
AFH Standard Punch 904



Tool angle	Tip radius	Length mm	Item No.	Weight kg
86°	R0.6	835	ES 9048061	22.1
		415	ES 9048062	11.0
		800 Sect	ES 9048063	19.5
	R1.5	835	ES 9048151	22.1
		415	ES 9048152	11.0
		800 Sect	ES 9048153	19.5
	R3	835	ES 9048301	22.1
		415	ES 9048302	11.0
		800 Sect	ES 9048303	19.5
88°	R0.6	835	ES 9047061	22.1
		415	ES 9047062	11.0
		800 Sect	ES 9047063	19.5

AFH Acute Angle Punch 914

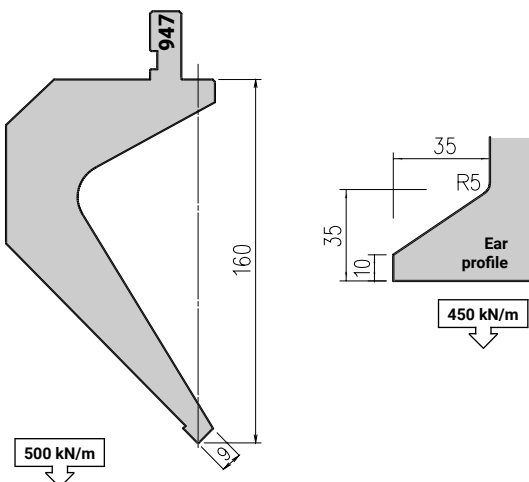
Punch 914 replaces old punches 110,113



Tool angle	Tip radius	Length mm	Item No.	Weight kg
30°	R0.6	835	ES 9143061	15.1
		415	ES 9143062	7.5
		800 Sect	ES 9143063	13.6

AFH Gooseneck Punch 947

Punch 947 replaces old punch 472

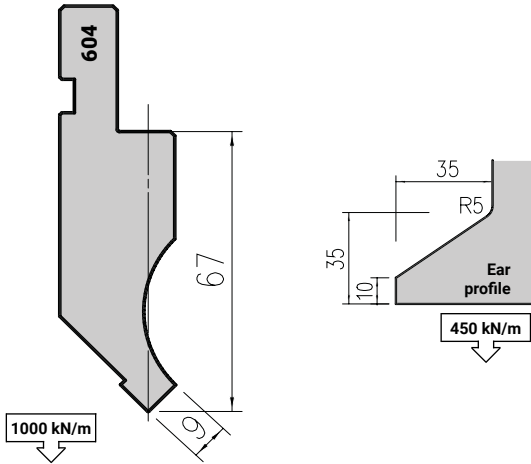


Tool angle	Tip radius	Length mm	Item No.	Weight kg
86°	R0.6	835	ES 9478061	39.1
		415	ES 9478062	19.4
		800 Sect	ES 9478063	34.3
	R1.5	835	ES 9478151	39.1
		415	ES 9478152	19.4
		800 Sect	ES 9478153	34.3
	R3	835	ES 9478301	39.1
		415	ES 9478302	19.4
		800 Sect	ES 9478303	34.3
88°	R0.6	835	ES 9477061	39.1
		415	ES 9477062	19.4
		800 Sect	ES 9477063	34.3

H67 PUNCHES 88°, 90°

Standard Punch 604 (9 mm tip)

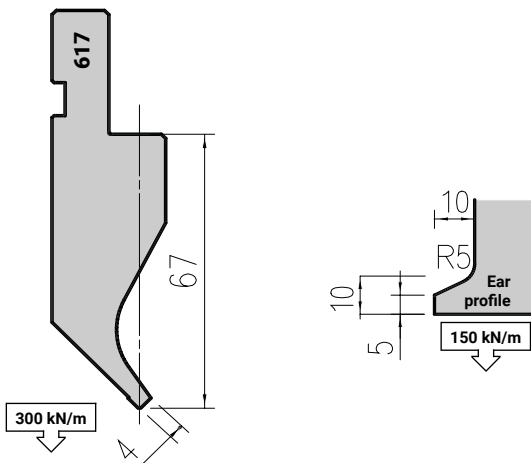
Punch 604 replaces old punch 4



Tool angle	Tip radius	Length mm	Item No.	Weight kg
88°	R0.2	835	ES 6047021	11.0
		415	ES 6047022	5.5
		800 Sect	ES 6047023	9.7
	R0.6	835	ES 6047061	11.0
		415	ES 6047062	5.5
		800 Sect	ES 6047063	9.7
	R0.8	835	ES 6047081	11.0
		415	ES 6047082	5.5
		800 Sect	ES 6047083	9.7
	R1.5	835	ES 6047151	11.0
		415	ES 6047152	5.5
		800 Sect	ES 6047153	9.7
R3	835	ES 6047301	11.0	
	415	ES 6047302	5.5	
	800 Sect	ES 6047303	9.7	
90°	R0.2	835	ES 6049021	11.0
		415	ES 6049022	5.5
		800 Sect	ES 6049023	9.7
	R0.6	835	ES 6049061	11.0
		415	ES 6049062	5.5
		800 Sect	ES 6049063	9.7

Standard Punch 617 (4 mm tip)

Punch 617 replaces old punch 117

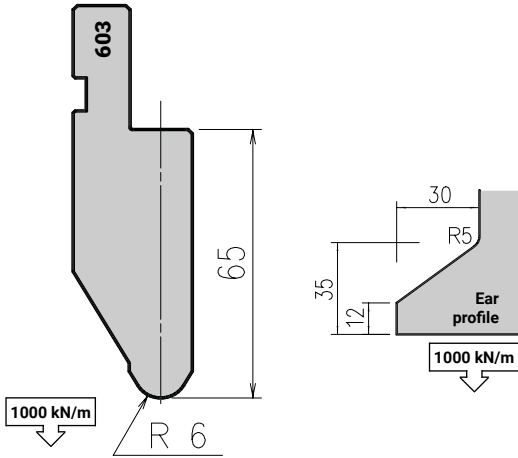


Tool angle	Tip radius	Length mm	Item No.	Weight kg
88°	R0.2	835	ES 6177021	10.2
		415	ES 6177022	5.1
		800 Sect	ES 6177023	9.5
	R0.6	835	ES 6177061	10.2
		415	ES 6177062	5.1
		800 Sect	ES 6177063	9.5
	R0.8	835	ES 6177081	10.2
		415	ES 6177082	5.1
		800 Sect	ES 6177083	9.5
90°	R0.2	835	ES 6179021	10.2
		415	ES 6179022	5.1
		800 Sect	ES 6179023	9.5
	R0.6	835	ES 6179061	10.2
		415	ES 6179062	5.1
		800 Sect	ES 6179063	9.5

H70 PUNCHES 60°, 30°

Straight Punch 603

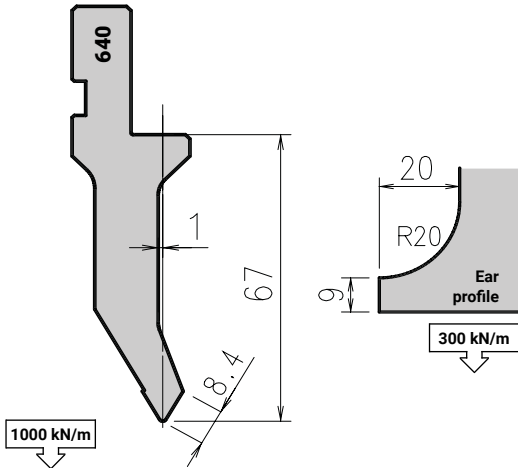
Punch 603 replaces old punch 3



Tool angle	Tip radius	Length mm	Item No.	Weight kg
60°	R6.0	835	ES 6036601	12.1
		415	ES 6036602	6.0
		800 Sect	ES 6036603	10.9

Acute Sash Punch 640

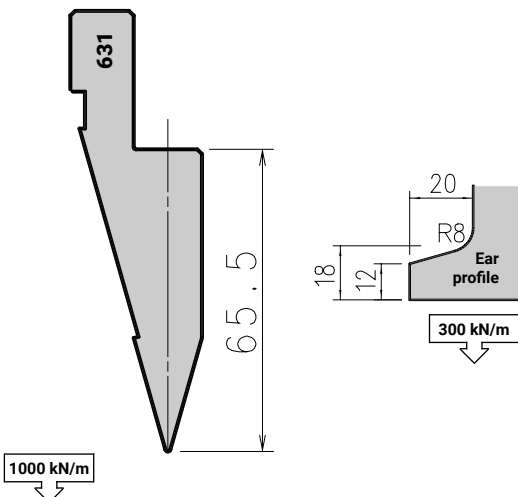
Punch 640 replaces old punch 704



Tool angle	Tip radius	Length mm	Item No.	Weight kg
60°	R0.8	835	ES 6406081	8.3
		415	ES 6406082	4.1
		800 Sect	ES 6406083	7.6
	R2.0	835	ES 6406201	8.3
		415	ES 6406202	4.1
		800 Sect	ES 6406203	7.6

Straight Punch 631

Punch 631 replaces old punches 103, 8

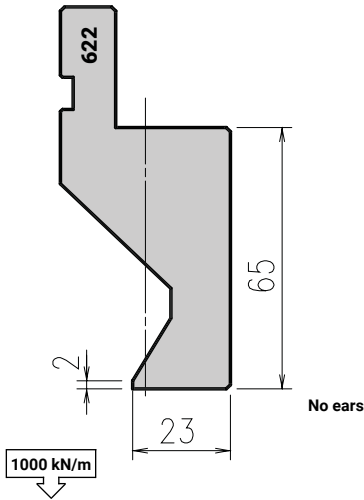


Tool angle	Tip radius	Length mm	Item No.	Weight kg
30°	R0.52	835	ES 6313051	8.4
		415	ES 6313052	4.2
		800 Sect	ES 6313053	7.7

H70 FLATTENING PUNCHES

Flattening Punch 622

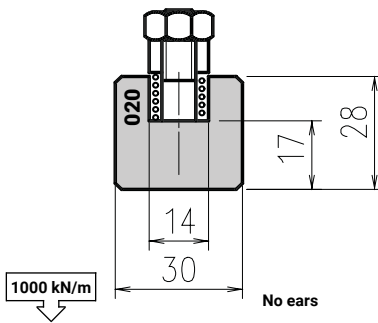
Punch 622 replaces old punch 220



	Length mm	Item No.	Weight kg
Flattening	835	ES 6220001	13.5
	415	ES 6220002	6.7

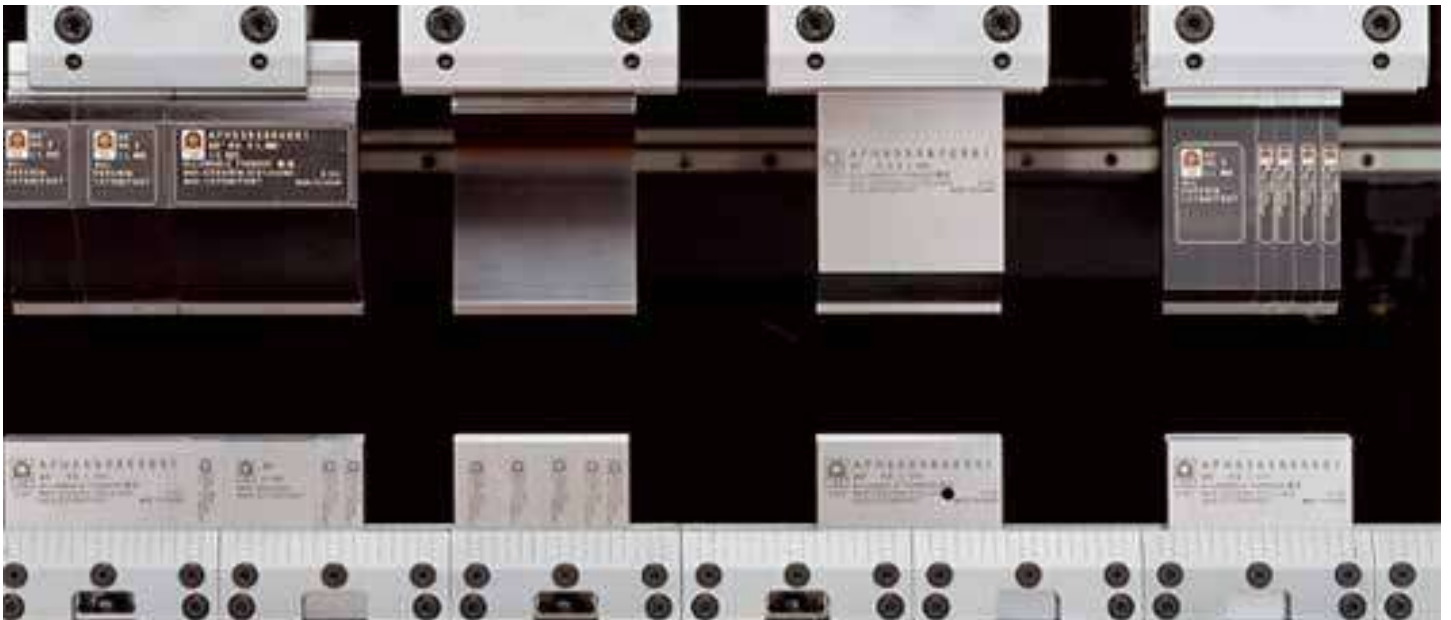
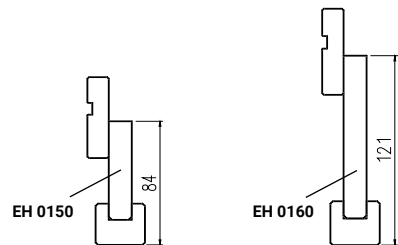
Flattening Punch 020

Punch 020 replaces old punch 20



	Length mm	Item No.	Weight kg
Flattening	835	ES 0200001	4.5
	415	ES 0200002	2.2

All mounting hardware included

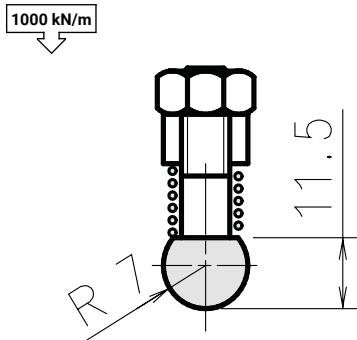




RADIUS INSERTS Use Radius Inserts with Punch Holder EH 015 or EH 016. Mounting hardware is included.

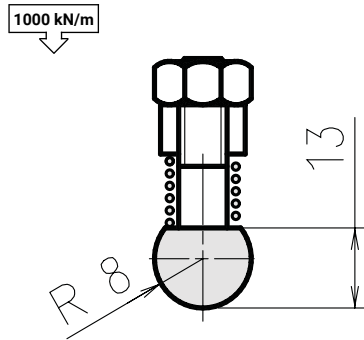
R7 Insert

Insert 017007 replaces old insert 01707



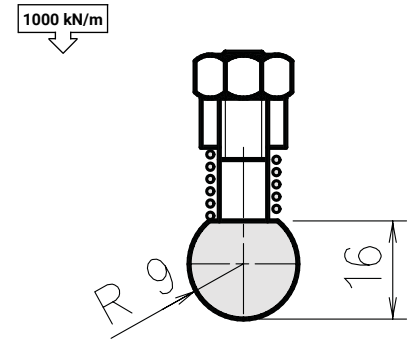
R8 Insert

Insert 017008 replaces old insert 01708



R9 Insert

Insert 017009 replaces old insert 01709



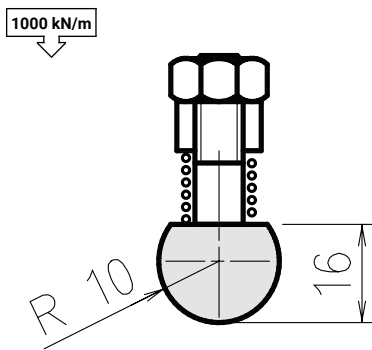
Length mm	Item No.	Weight kg
835	ES 0170071	1.0
415	ES 0170072	0.6

Length mm	Item No.	Weight kg
835	ES 0170081	1.5
415	ES 0170082	0.8

Length mm	Item No.	Weight kg
835	ES 0170091	1.9
415	ES 0170092	0.9

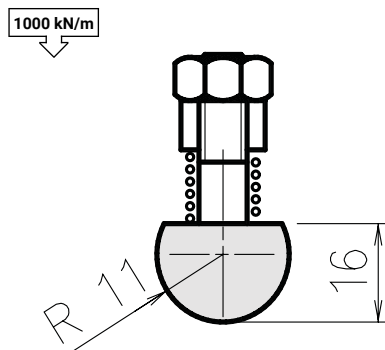
R10 Insert

Insert 017010 replaces old insert 01710



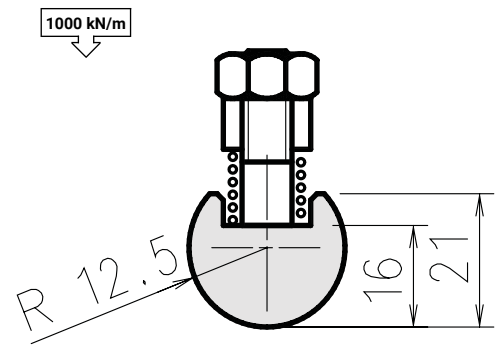
R11 Insert

Insert 017011 replaces old insert 01711



R12,5 Insert

Insert 017012 replaces old insert 01712



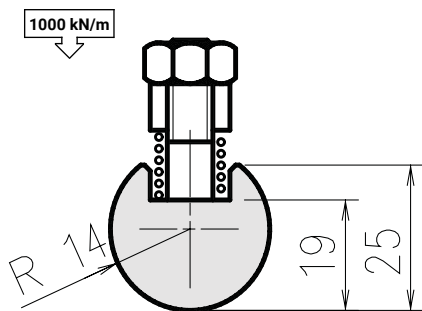
Length mm	Item No.	Weight kg
835	ES 0170101	2.1
415	ES 0170102	1.1

Length mm	Item No.	Weight kg
835	ES 0170111	2.3
415	ES 0170112	1.2

Length mm	Item No.	Weight kg
835	ES 0170121	2.7
415	ES 0170122	1.4

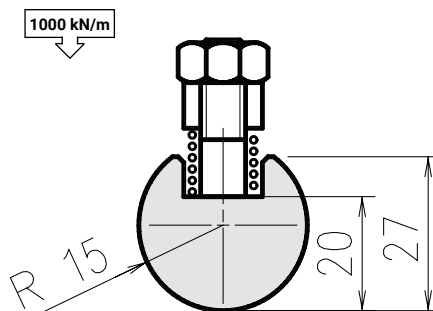
R14 Insert

Insert 017014 replaces old insert 01714



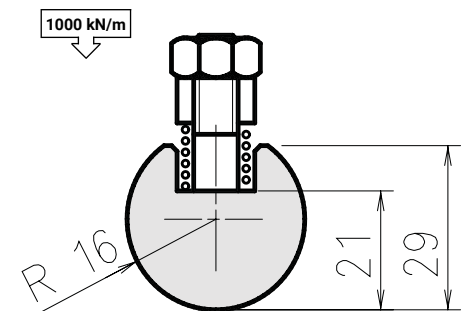
R15 Insert

Insert 017015 replaces old insert 01715



R16 Insert

Insert 017016 replaces old insert 01716



Length mm	Item No.	Weight kg
835	ES 0170141	3.6
415	ES 0170142	1.8

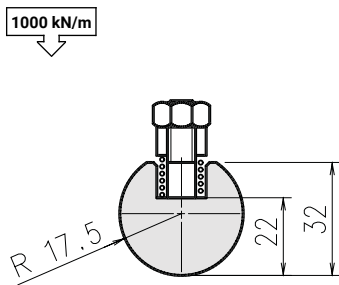
Length mm	Item No.	Weight kg
835	ES 0170151	4.1
415	ES 0170152	2.0

Length mm	Item No.	Weight kg
835	ES 0170161	4.6
415	ES 0170162	2.3

RADIUS INSERTS *Use Radius Inserts with Punch Holder EH 015 or EH 016. Mounting hardware is included*

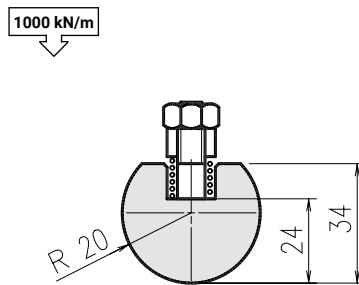
R17,5 Insert

Insert 017017 replaces old insert 01717



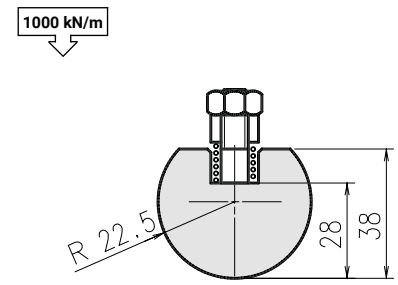
R20 Insert

Insert 017020 replaces old insert 01720



R22,5 Insert

Insert 017022 replaces old insert 01722



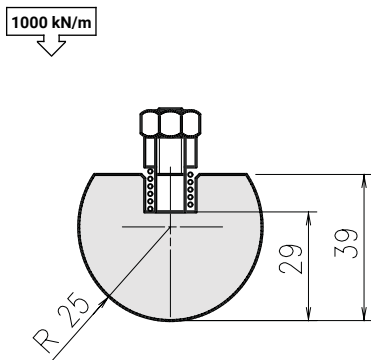
Length mm	Item No.	Weight kg
835	ES 0170171	5.2
415	ES 0170172	2.8

Length mm	Item No.	Weight kg
835	ES 0170201	6.8
415	ES 0170202	3.4

Length mm	Item No.	Weight kg
835	ES 0170221	8.8
415	ES 0170222	4.4

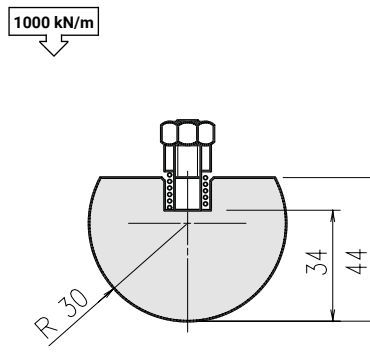
R25 Insert

Insert 017025 replaces old insert 01725



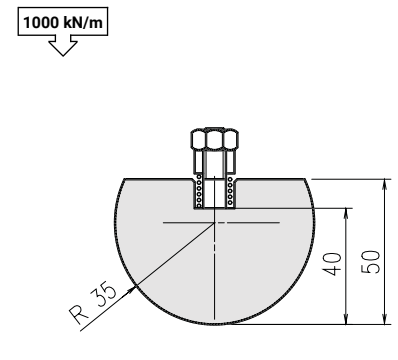
R30 Insert

Insert 017030 replaces old insert 01730



R35 Insert

Insert 017035 replaces old insert 01735



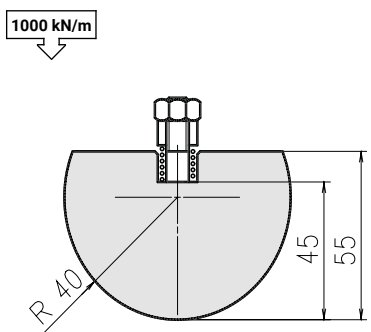
Length mm	Item No.	Weight kg
835	ES 0170251	10.2
415	ES 0170252	5.1

Length mm	Item No.	Weight kg
835	ES 0170301	14.0
415	ES 0170302	7.0

Length mm	Item No.	Weight kg
835	ES 0170351	18.9
415	ES 0170352	14.2

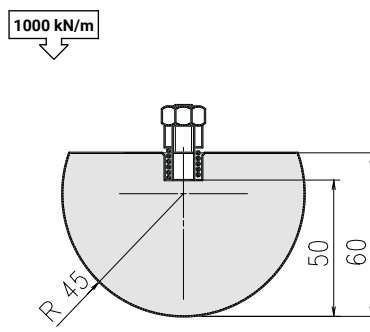
R40 Insert

Insert 017040 replaces old insert 01740



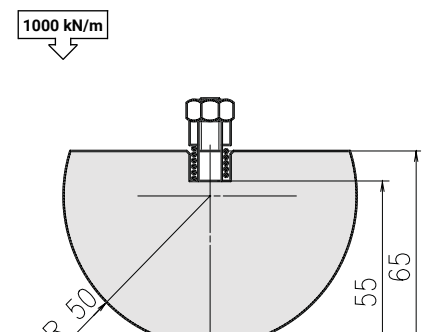
R45 Insert

Insert 017045 replaces old insert 01745



R50 Insert

Insert 017050 replaces old insert 01750



Length mm	Item No.	Weight kg
835	ES 0170401	23.7
415	ES 0170402	11.7

Length mm	Item No.	Weight kg
835	ES 0170451	29.1
415	ES 0170452	14.5

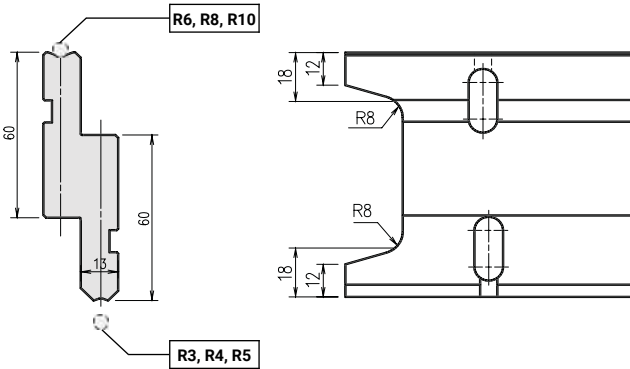
Length mm	Item No.	Weight kg
835	ES 0170501	35.0
415	ES 0170502	17.5



RADIUS TOOLS

PUNCH HOLDER 91

Sect. 835 mm = 2x 100 ear, 20, 25, 30, 35, 40, 50, 70, 165, 200



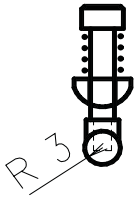
835 - 415 tools
1000 kN/m

Sect. tools
150 kN/m



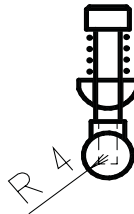
Length mm	Item No.	Weight kg
835	DX 091001	10.0
415	DX 091002	5.0
Sect.	DX 091801	10.0

R3 Insert



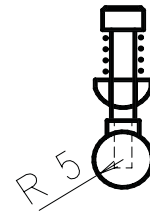
Length mm	Item No.	Weight kg
835	DX 090301	0.2
415	DX 090302	0.1
Sect.	DX 090831	0.2

R4 Insert



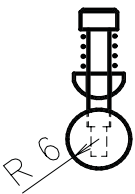
Length mm	Item No.	Weight kg
835	DX 090401	0.3
415	DX 090402	0.1
Sect.	DX 090841	0.3

R5 Insert



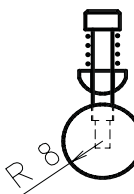
Length mm	Item No.	Weight kg
835	DX 090501	0.5
415	DX 090502	0.2
Sect.	DX 090851	0.5

R6 Insert



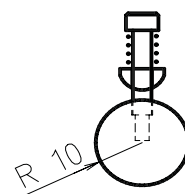
Length mm	Item No.	Weight kg
835	DX 090601	0.7
415	DX 090602	0.3
Sect.	DX 090861	0.7

R8 Insert



Length mm	Item No.	Weight kg
835	DX 090801	1.3
415	DX 090802	0.6
Sect.	DX 090881	1.3

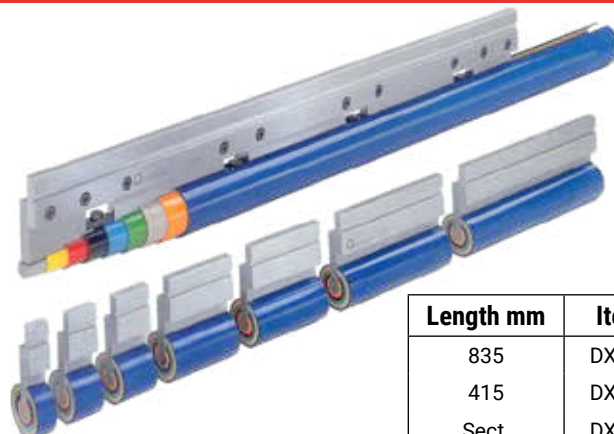
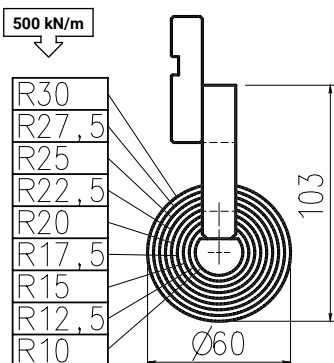
R10 Insert



Length mm	Item No.	Weight kg
835	DX 090101	2.1
415	DX 090102	1.0
Sect.	DX 090811	2.1

Colour - Multi - Radius

Sect. 835 mm = 25, 40, 50, 100, 120, 200, 300



Length mm	Item No.	Weight kg
835	DX 730001	13.0
415	DX 730002	6.4
Sect.	DX 730801	13.0





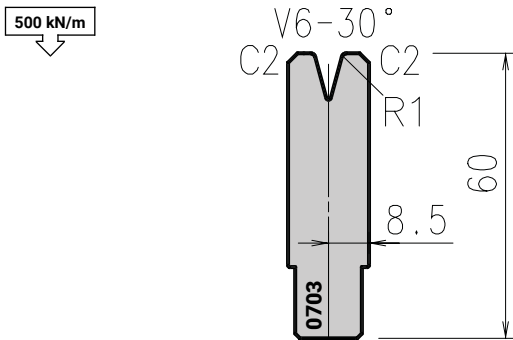
DIES



DIES 30°

AFH Standard Die 0703 (V6)

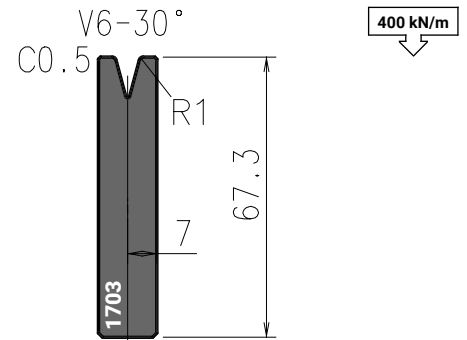
Die 0703 replaces old dies 14006 and A7003



Tool angle	Length mm	Item No.	Weight kg
30°	835	ED 0703101	6.0
	415	ED 0703102	3.0
	800 Sect	ED 0703103	5.7

Staged Die 1703 (V6) Compatible with previous One Stroke

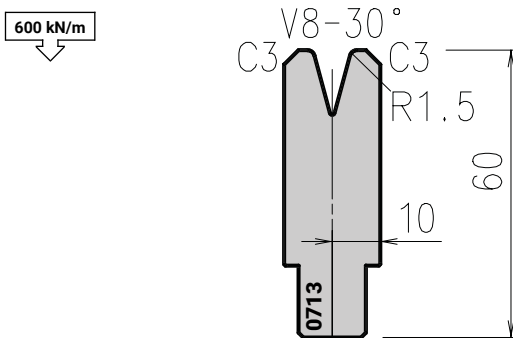
Die 1703 replaces old die S7030



Tool angle	Length mm	Item No.	Weight kg
30° staged	835	ED 1703101	5.9
	415	ED 1703102	3.0
	800 Sect	ED 1703103	5.7

AFH Standard Die 0713 (V8)

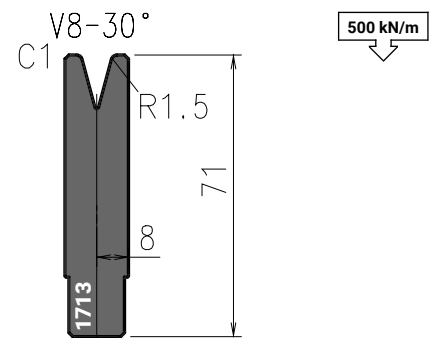
Die 0713 replaces old dies 14100 and A7103



Tool angle	Length mm	Item No.	Weight kg
30°	835	ED 0713151	6.8
	415	ED 0713152	3.4
	800 Sect	ED 0713153	6.5

Staged Die 1713 (V8) Compatible with previous OneStroke

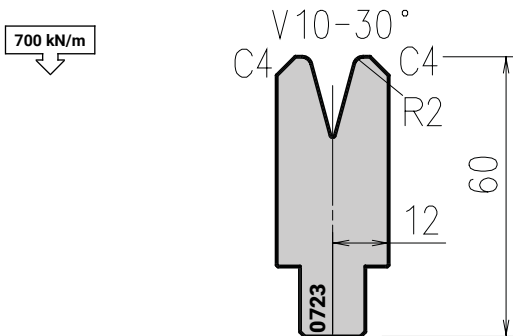
Die 1713 replaces old die S7130



Tool angle	Length mm	Item No.	Weight kg
30° staged	835	ED 1713151	6.8
	415	ED 1713152	3.4
	800 Sect	ED 1713153	6.5

AFH Standard Die 0723 (V10)

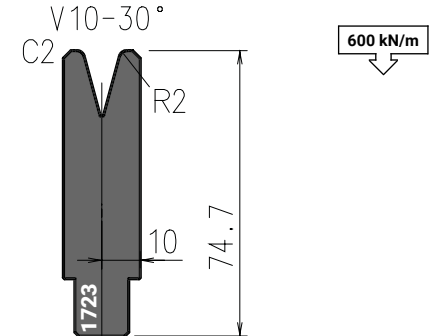
Die 0723 replaces old dies 14106 and A7203



Tool angle	Length mm	Item No.	Weight kg
30°	835	ED 0723201	7.7
	415	ED 0723202	3.8
	800 Sect	ED 0723203	7.4

Staged Die 1723 (V10) Compatible with previous OneStroke

Die 1723 replaces old die S7230



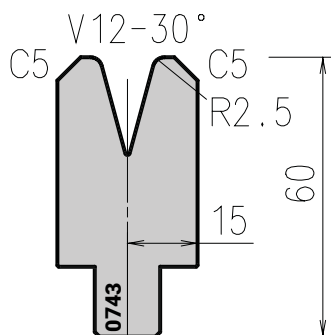
Tool angle	Length mm	Item No.	Weight kg
30° staged	835	ED 1723201	8.3
	415	ED 1723202	4.2
	800 Sect	ED 1723203	8.0



AFH Standard Die 0743 (V12)

Die 0743 replaces old dies 14200 and A7403

800 kN/m

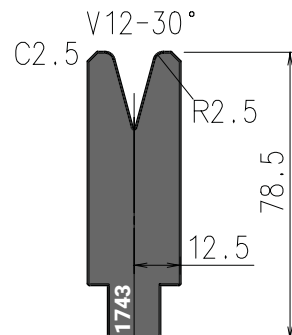


Tool angle	Length mm	Item No.	Weight kg
30°	835	ED 0743251	9.1
	415	ED 0743252	4.5
	800 Sect	ED 0743253	8.7

Staged Die 1743 (V12) Compatible with previous One Stroke

Die 1713 replaces old die S7430

700 kN/m

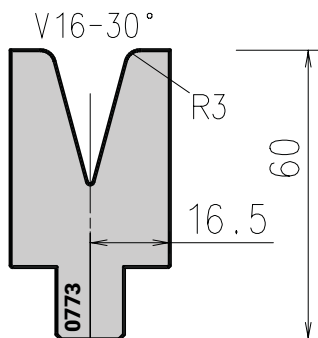


Tool angle	Length mm	Item No.	Weight kg
30° staged	835	ED 1743251	10.5
	415	ED 1743252	5.2
	800 Sect	ED 1743253	10.0

AFH Standard Die 0773 (V16)

Die 0773 replaces old die 14206

600 kN/m

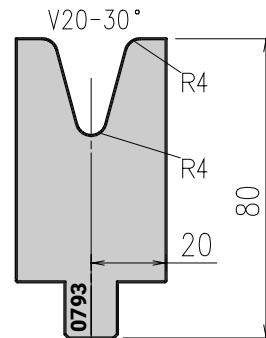


Tool angle	Length mm	Item No.	Weight kg
30°	835	ED 0773301	9.7
	415	ED 0773302	4.8
	800 Sect	ED 0773303	9.3

Standard Die 0793 (V20)

Die 0793 replaces old die 14300

600 kN/m

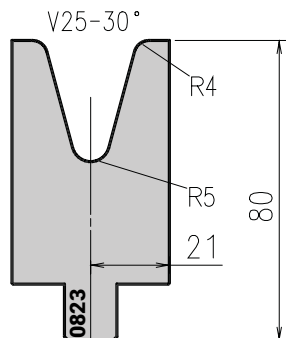


Tool angle	Length mm	Item No.	Weight kg
30°	835	ED 0793401	16.4
	415	ED 0793402	8.2
	800 Sect	ED 0793403	15.7

Standard Die 0823 (V25)

Die 0823 replaces old die 14306

600 kN/m



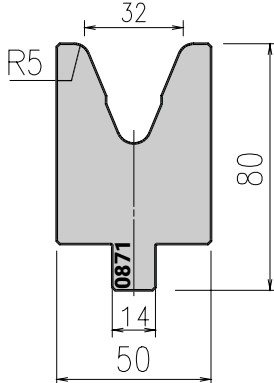
Tool angle	Length mm	Item No.	Weight kg
30°	835	ED 0823401	16.4
	415	ED 0823402	8.2
	800 Sect	ED 0823403	15.7

DIES 45°

Standard Die 0871 (V32)

Die 0871 replaces old die 28700

1000 kN/m

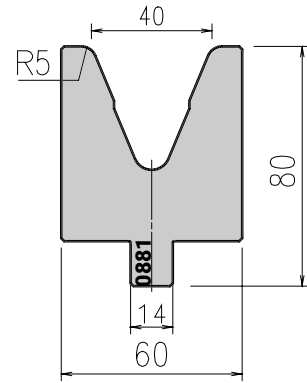


Tool angle	Length mm	Item No.	Weight kg
45°	835	ED 0871501	18.2
	415	ED 0871502	9.1
	800 Sect	ED 0871503	17.4

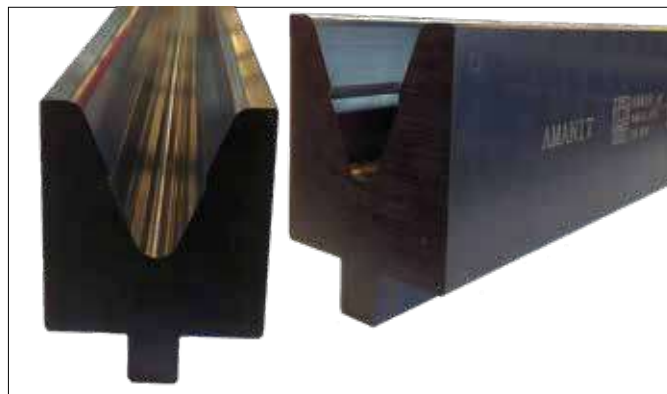
Standard Die 0881 (V40)

Die 0881 replaces old die 28800

1000 kN/m



Tool angle	Length mm	Item No.	Weight kg
45°	835	ED 0881501	20.1
	415	ED 0881502	10.0
	800 Sect	ED 0881503	19.3

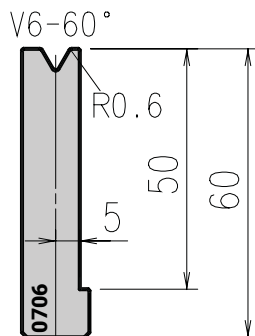


DIES 60°

AFH Die 0706 (V6)

Die 0706 replaces old die 1700

380 kN/m

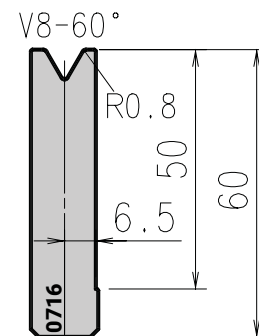


Tool angle	Length mm	Item No.	Weight kg
60°	835	ED 0706061	4.4
	415	ED 0706062	2.2
	800 Sect	ED 0706063	4.2

AFH Die 0716 (V8)

Die 0716 replaces old die 17100

450 kN/m



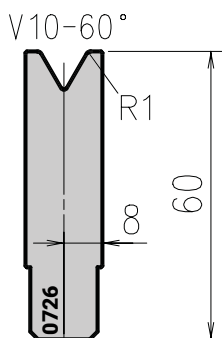
Tool angle	Length mm	Item No.	Weight kg
60°	835	ED 0716081	5.1
	415	ED 0716082	2.5
	800 Sect	ED 0716083	4.9



AFH Die 0726 (V10)

Die 0726 replaces old die 17200

550 kN/m

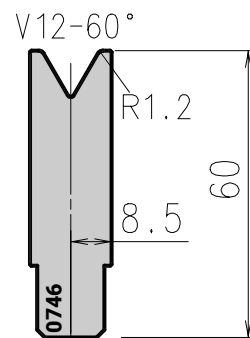


Tool angle	Length mm	Item No.	Weight kg
60°	835	ED 0726101	5.8
	415	ED 0726102	2.9
	800 Sect	ED 0726103	5.5

AFH Die 0746 (V12)

Die 0746 replaces old die 17400

550 kN/m

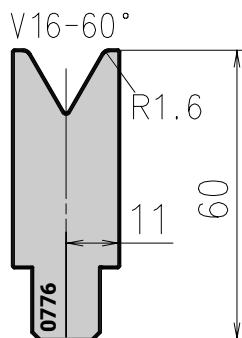


Tool angle	Length mm	Item No.	Weight kg
60°	835	ED 0746121	5.9
	415	ED 0746122	3.0
	800 Sect	ED 0746123	5.7

AFH Standard Die 0776 (V16)

Die 0776 replaces old die 17700

650 kN/m

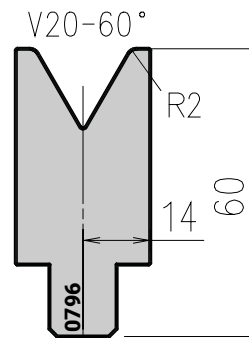


Tool angle	Length mm	Item No.	Weight kg
30°	835	ED 0776161	7.1
	415	ED 0776162	3.5
	800 Sect	ED 0776163	6.8

Standard Die 0796 (V20)

Die 0796 replaces old die 17900

850 kN/m

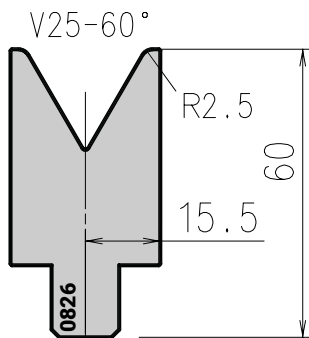


Tool angle	Length mm	Item No.	Weight kg
30°	835	ED 0796201	8.4
	415	ED 0796202	4.2
	800 Sect	ED 0796203	8.1

Standard Die 0826 (V25)

Die 0826 replaces old die 18200

850 kN/m



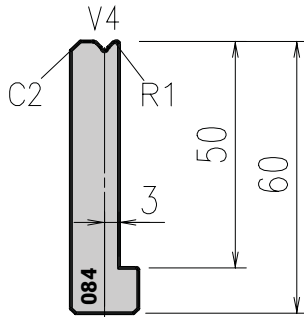
Tool angle	Length mm	Item No.	Weight kg
60°	835	ED 0826251	8.7
	415	ED 0826252	4.3
	800 Sect	ED 0826253	8.3

DIES 86°, 88°, 90°

AFH Standard Die 084 (V4)

Die 084 replaces old dies 084 and A840

750 kN/m

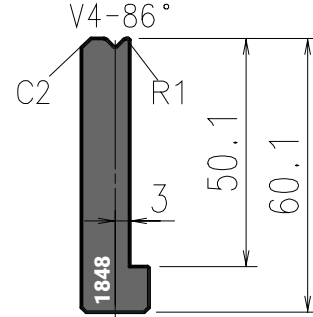


Tool angle	Length mm	Item No.	Weight kg
86°	835	ED 0848101	4.1
	415	ED 0848102	2.1
	800 Sect	ED 0848103	4.0
88°	835	ED 0847101	4.1
	415	ED 0847102	2.1
	800 Sect	ED 0847103	4.0
90°	835	ED 0849101	4.1
	415	ED 0849102	2.1
	800 Sect	ED 0849103	4.0

Staged Die 1848 (V4) Compatible with previous OneStroke

Die 1848 replaces old die S848

750 kN/m

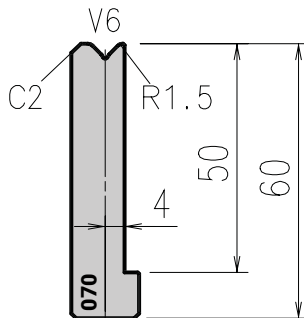


Tool angle	Length mm	Item No.	Weight kg
86° staged	835	ED 1848101	4.3
	415	ED 1848102	2.2
	800 Sect	ED 1848103	4.1

AFH Standard Die 070 (V6)

Die 070 replaces old dies 070 and A700

800 kN/m

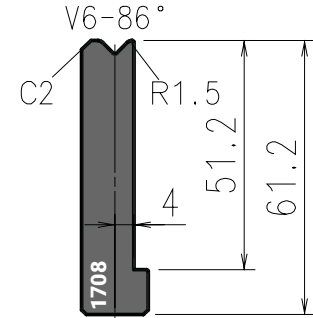


Tool angle	Length mm	Item No.	Weight kg
86°	835	ED 0708151	4.4
	415	ED 0708152	2.2
	800 Sect	ED 0708153	4.2
88°	835	ED 0707151	4.4
	415	ED 0707152	2.2
	800 Sect	ED 0707153	4.2
90°	835	ED 0709151	4.4
	415	ED 0709152	2.2
	800 Sect	ED 0709153	4.2

Staged Die 1708 (V6) Compatible with previous OneStroke

Die 1708 replaces old die S708

800 kN/m



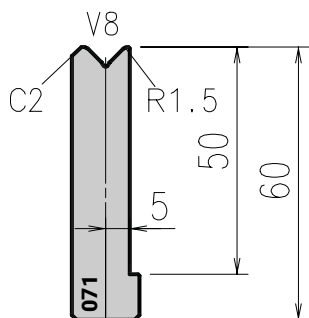
Tool angle	Length mm	Item No.	Weight kg
86° staged	835	ED 1708151	4.6
	415	ED 1708152	2.3
	800 Sect	ED 1708153	4.4



AFH Standard Die 071 (V8)

Die 071 replaces old dies 071 and A710

900 kN/m

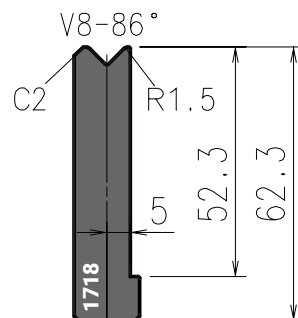


Tool angle	Length mm	Item No.	Weight kg
86°	835	ED 0718151	4.7
	415	ED 0718152	2.3
	800 Sect	ED 0718153	4.5
88°	835	ED 0717151	4.7
	415	ED 0717152	2.3
	800 Sect	ED 0717153	4.5
90°	835	ED 0719151	4.7
	415	ED 0719152	2.3
	800 Sect	ED 0719153	4.5

Staged Die 1718 (V8) Compatible with previous OneStroke

Die 1718 replaces old die S718

900 kN/m

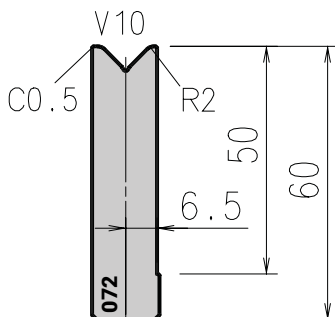


Tool angle	Length mm	Item No.	Weight kg
86° staged	835	ED 1718151	4.9
	415	ED 1718152	2.5
	800 Sect	ED 1718153	4.7

AFH Standard Die 072 (V10)

Die 072 replaces old dies 072 and A720

1000 kN/m

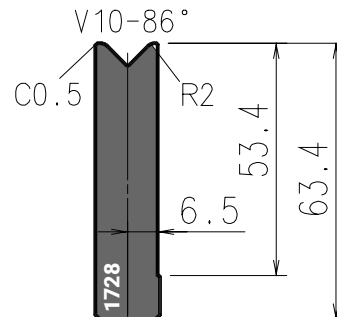


Tool angle	Length mm	Item No.	Weight kg
86°	835	ED 0728201	5.2
	415	ED 0728202	2.6
	800 Sect	ED 0728203	4.9
88°	835	ED 0727201	5.2
	415	ED 0727202	2.6
	800 Sect	ED 0727203	4.9
90°	835	ED 0729201	5.2
	415	ED 0729202	2.6
	800 Sect	ED 0729203	4.9

Staged Die 1728 (V10) Compatible with previous OneStroke

Die 1728 replaces old die S728

1000 kN/m

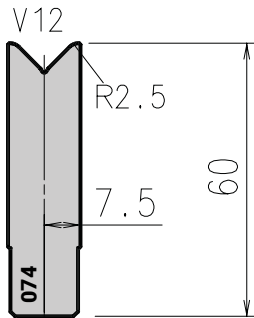


Tool angle	Length mm	Item No.	Weight kg
86° staged	835	ED 1728201	5.4
	415	ED 1728202	2.7
	800 Sect	ED 1728203	5.2

AFH Standard Die 074 (V12)

Die 074 replaces old dies 074 and A740

1000 kN/m

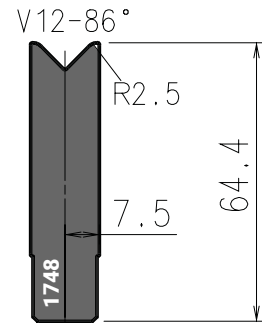


Tool angle	Length mm	Item No.	Weight kg
86°	835	ED 0748251	5.5
	415	ED 0748252	2.7
	800 Sect	ED 0748253	5.3
88°	835	ED 0747251	5.5
	415	ED 0747252	2.7
	800 Sect	ED 0747253	5.3
90°	835	ED 0749251	5.5
	415	ED 0749252	2.7
	800 Sect	ED 0749253	5.3

Staged Die 1748 (V12) Compatible with previous OneStroke

Die 1748 replaces old die S748

1000 kN/m

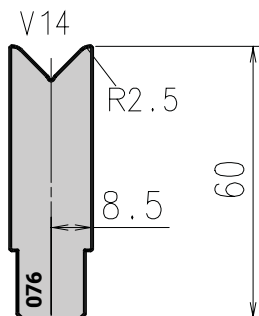


Tool angle	Length mm	Item No.	Weight kg
86° staged	835	ED 1748251	5.8
	415	ED 1748252	2.9
	800 Sect	ED 1748253	5.6

AFH Standard Die 076 (V14)

Die 076 replaces old dies 076 and A760

1000 kN/m



Tool angle	Length mm	Item No.	Weight kg
86°	835	ED 0768251	6.0
	415	ED 0768252	3.0
	800 Sect	ED 0768253	5.8
88°	835	ED 0767251	6.0
	415	ED 0767252	3.0
	800 Sect	ED 0767253	5.8

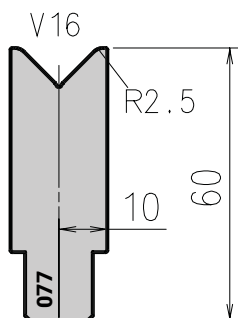




AFH Standard Die 077 (V16)

Die 077 replaces old dies 077 and A770

1000 kN/m

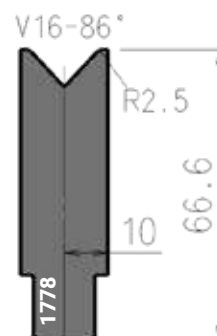


Tool angle	Length mm	Item No.	Weight kg
86°	835	ED 0778251	6.8
	415	ED 0778252	3.4
	800 Sect	ED 0778253	6.5
88°	835	ED 0777251	6.8
	415	ED 0777252	3.4
	800 Sect	ED 0777253	6.5

Staged Die 1778 (V16) Compatible with previous OneStroke

Die 1778 replaces old die S778

1000 kN/m

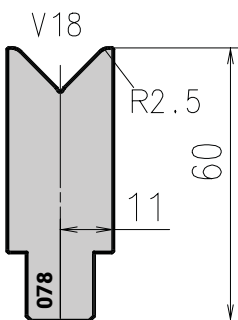


Tool angle	Length mm	Item No.	Weight kg
86° staged	835	ED 1778251	7.4
	415	ED 1778252	3.7
	800 Sect	ED 1778253	7.1

AFH Standard Die 078 (V18)

Die 078 replaces old dies 078 and A780

1000 kN/m



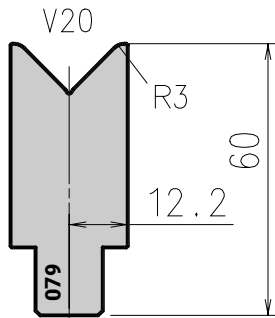
Tool angle	Length mm	Item No.	Weight kg
86°	835	ED 0788251	7.3
	415	ED 0788252	3.6
	800 Sect	ED 0788253	7.0
88°	835	ED 0787251	7.3
	415	ED 0787252	3.6
	800 Sect	ED 0787253	7.0



AFH Standard Die 079 (V20)

Die 079 replaces old dies 079 and A790

1000 kN/m

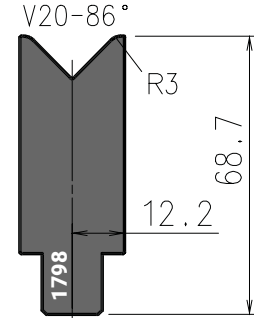


Tool angle	Length mm	Item No.	Weight kg
86°	835	ED 0798301	7.8
	415	ED 0798302	3.9
	800 Sect	ED 0798303	7.5
88°	835	ED 0797301	7.8
	415	ED 0797302	3.9
	800 Sect	ED 0797303	7.5

Staged Die 1798 (V20) Compatible with previous OneStroke

Die 1798 replaces old die S798

1000 kN/m

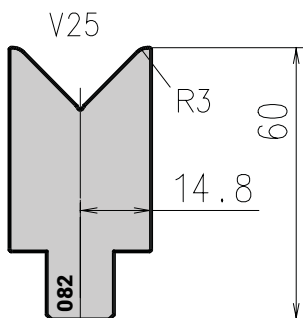


Tool angle	Length mm	Item No.	Weight kg
86° staged	835	ED 1798301	8.9
	415	ED 1798302	4.4
	800 Sect	ED 1798303	8.5

AFH Standard Die 082 (V25)

Die 082 replaces old dies 082 and A820

1000 kN/m

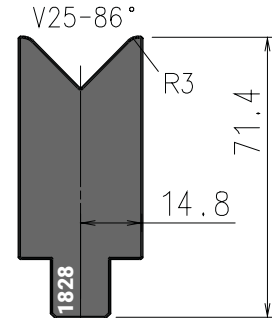


Tool angle	Length mm	Item No.	Weight kg
86°	835	ED 0828301	9.0
	415	ED 0828302	4.5
	800 Sect	ED 0828303	8.6
88°	835	ED 0827301	9.0
	415	ED 0827302	4.5
	800 Sect	ED 0827303	8.6

Staged Die 1828 (V25) Compatible with previous OneStroke

Die 1828 replaces old die S828

1000 kN/m



Tool angle	Length mm	Item No.	Weight kg
86° staged	835	ED 1828301	10.6
	415	ED 1828302	5.3
	800 Sect	ED 1828303	10.2

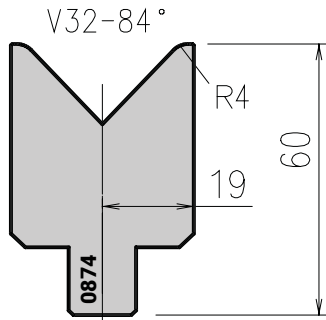


DIES 84°

AFH Standard Die 0874 (V32)

Die 0874 replaces old die A870

1000 kN/m

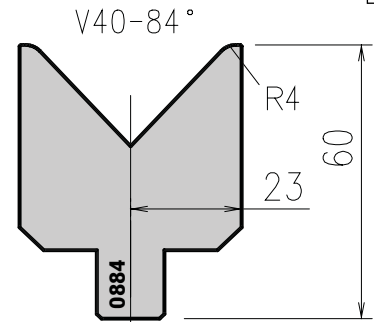


Tool angle	Length mm	Item No.	Weight kg
84°	835	ED 0874401	10.6
	415	ED 0874402	5.3
	800 Sect	ED 0874403	10.2

AFH Standard Die 0884 (V40)

Die 0884 replaces old die A880

1000 kN/m



Tool angle	Length mm	Item No.	Weight kg
84°	835	ED 0884401	11.8
	415	ED 0884402	5.9
	800 Sect	ED 0884403	11.3

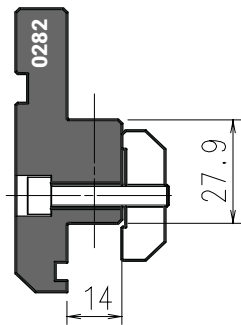


HEMMING AND OFFSET TOOLS

Staged Punch Holder 0282 (to use with H90 mm punches)

Holder 0282 replaces old holder SPH282

1000 kN/m

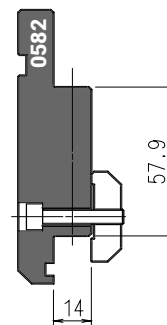


Length mm	Item No.	Weight kg
415	EH 0282002	4.3

Staged Punch Holder 0582 (to use with H120 mm punches)

Holder 0582 replaces old holder SPH582

1000 kN/m

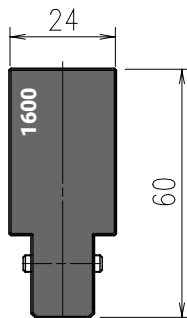


Length mm	Item No.	Weight kg
415	EH 0582002	7.5

Staged Hemming Tool 1600

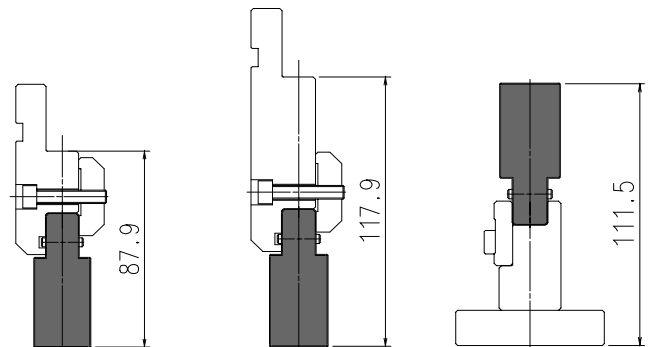
Tool 1600 replaces old tool SF600

1000 kN/m



Length mm	Item No.	Weight kg
835	ED 1600001	8.0
415	ED 1600002	4.0
800 Sect	ED 1600003	7.7

Note: Staged hemming tool is reversible and can be mounted on a punch or die holder.



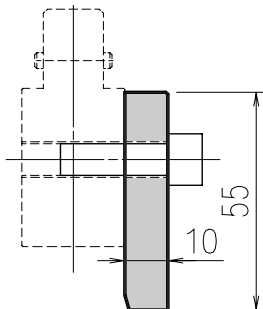
Hemming punch

Hemming punch H120

Hemming die

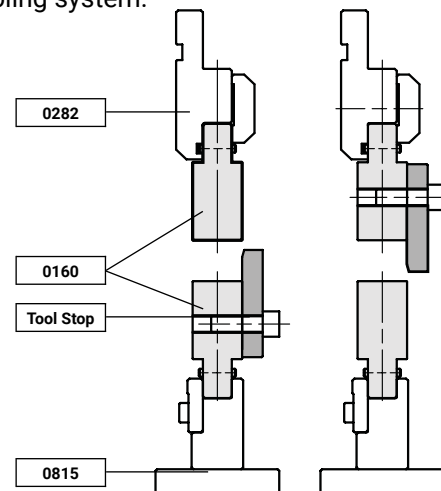
Tool Stop for flattening

Tool stop 1600 replaces old tool stop SF601



Length mm	Item No.	Weight kg
835	ED 1600011	3.7
415	ED 1600012	1.8
800 Sect	ED 1600013	3.5

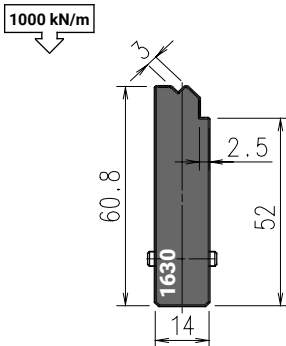
Note: Tool stop prevents lateral forces from affecting the rest of tooling system.





Staged Offset Tool Z3

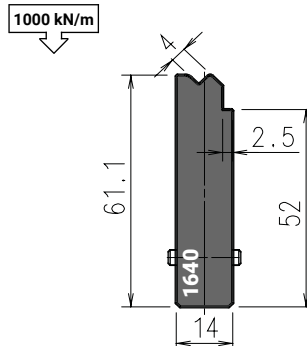
Tool 1630 replaces old tool SZ03



Length mm	Item No.	Weight kg
835	ED 1630061	5.4
415	ED 1630062	2.7
800 Sect	ED 1630063	5.2

Staged Offset Tool Z4

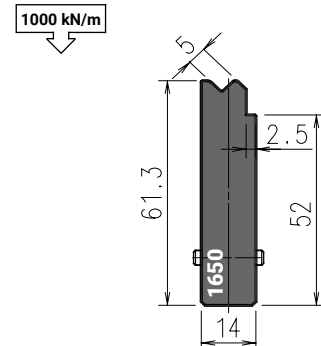
Tool 1640 replaces old tool SZ04



Length mm	Item No.	Weight kg
835	ED 1640081	5.4
415	ED 1640082	2.7
800 Sect	ED 1640083	5.2

Staged Offset Tool Z5

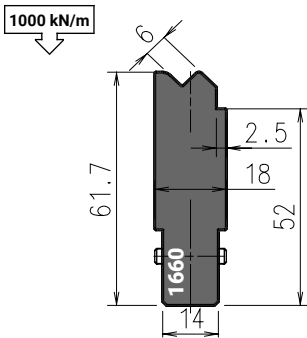
Tool 1650 replaces old tool SZ05



Length mm	Item No.	Weight kg
835	ED 1650101	5.4
415	ED 1650102	2.7
800 Sect	ED 1650103	5.2

Staged Offset Tool Z6

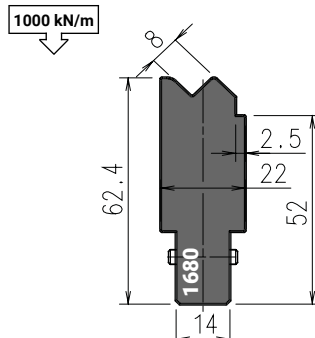
Tool 1660 replaces old tool SZ06



Length mm	Item No.	Weight kg
835	ED 1660101	6.4
415	ED 1660102	3.2
800 Sect	ED 1660103	6.1

Staged Offset Tool Z8

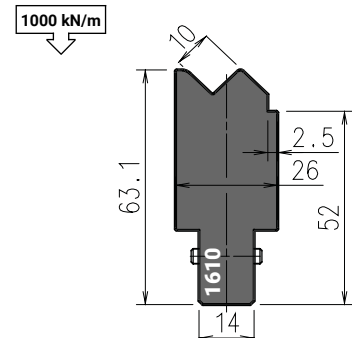
Tool 1680 replaces old tool SZ08



Length mm	Item No.	Weight kg
835	ED 1680101	7.5
415	ED 1680102	3.7
800 Sect	ED 1680103	7.2

Staged Offset Tool Z10

Tool 1610 replaces old tool SZ10



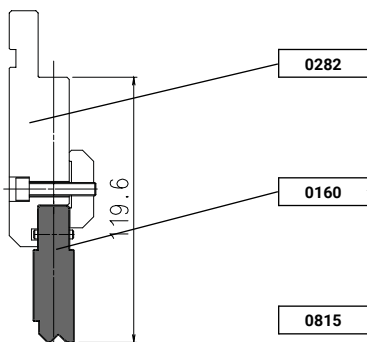
Length mm	Item No.	Weight kg
835	ED 1610101	8.6
415	ED 1610102	4.3
800 Sect	ED 1610103	8.2

Note:

- Staged offset tools are reversible and can be mounted on a punch or die holder
- Use with holder 0282 for H=90mm and with 0582 for H=120mm punch height
- Two of each code are required when ordering a punch and die set

As top tool

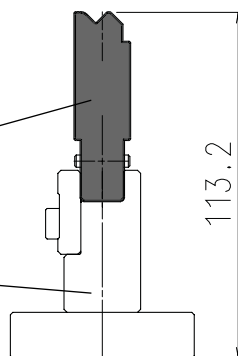
As bottom tool



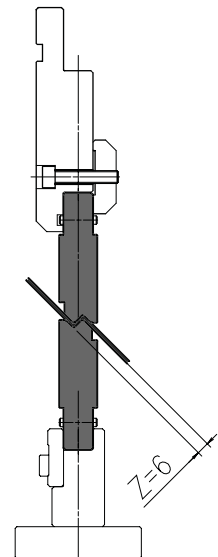
0282

0160

0815



113.2

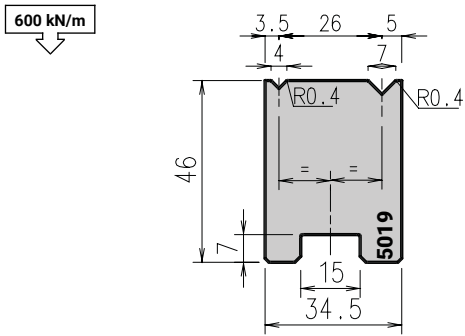


Z=6

2V-90° REVERSIBLE DIES

90° 2V dies V4 to V7

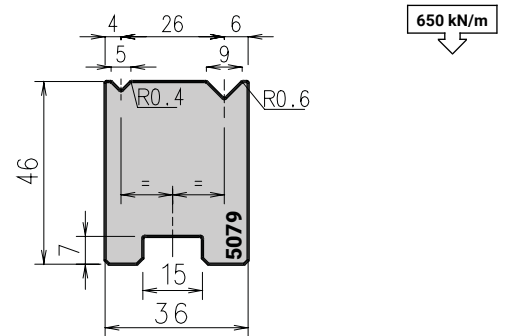
Die 501904 replaces old die 50190



Tool angle	Length mm	Item No.	Weight kg
90°	835	ED 5019041	9.6
	415	ED 5019042	4.8
	800 Sect	ED 5019043	9.2

90° 2V dies V5 to V9

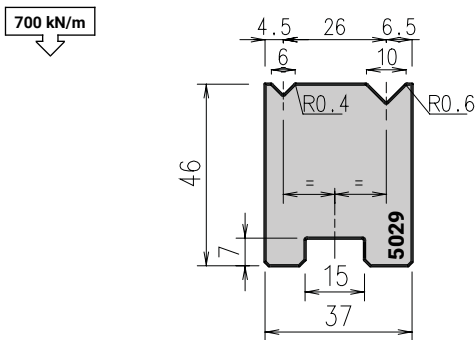
Die 507904 replaces old die 50790



Tool angle	Length mm	Item No.	Weight kg
90°	835	ED 5079041	10.0
	415	ED 5079042	5.0
	800 Sect	ED 5079043	9.6

90° 2V dies V6 to V10

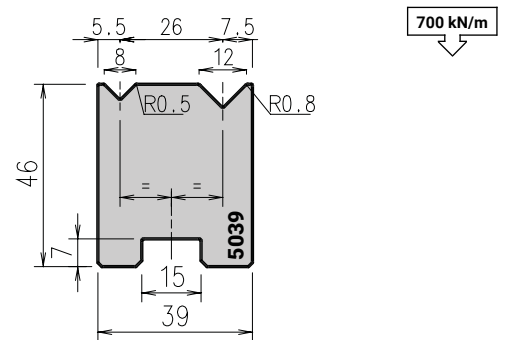
Die 502904 replaces old die 50290



Tool angle	Length mm	Item No.	Weight kg
90°	835	ED 5029041	10.3
	415	ED 5029042	5.1
	800 Sect	ED 5029043	9.9

90° 2V dies V8 to V12

Die 503905 replaces old die 50390



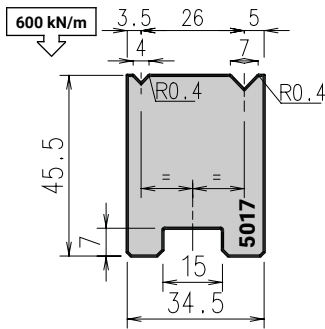
Tool angle	Length mm	Item No.	Weight kg
90°	835	ED 5039051	10.7
	415	ED 5039052	5.3
	800 Sect	ED 5039053	10.3



2V-88° REVERSIBLE DIES

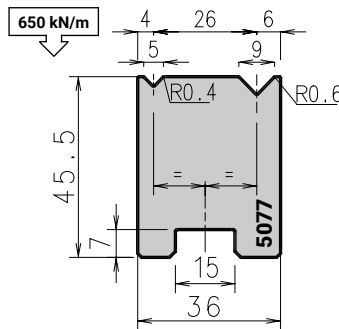
88° 2V dies V4 to V7

Die 501704 replaces old die 50196



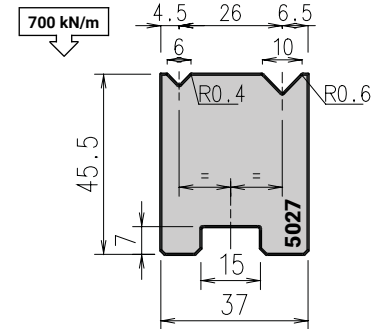
88° 2V dies V5 to V9

Die 507704 replaces old die 50796



88° 2V dies V6 to V10

Die 502704 replaces old die 50296



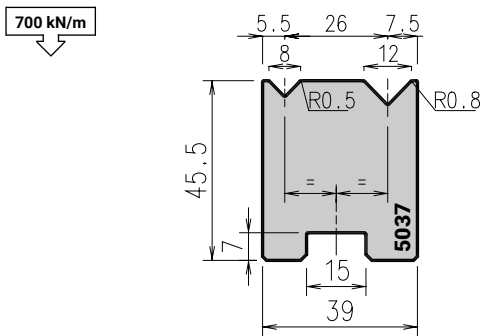
Length mm	Item No.	Weight kg
835	ED 5017041	9.5
415	ED 5017042	4.7
800 Sect	ED 5017043	9.1

Length mm	Item No.	Weight kg
835	ED 5077041	9.9
415	ED 5077042	4.9
800 Sect	ED 5077043	9.5

Length mm	Item No.	Weight kg
835	ED 5027041	10.2
415	ED 5027042	5.1
800 Sect	ED 5027043	9.8

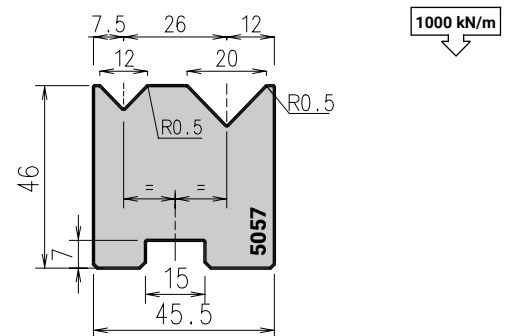
88° 2V dies V8 to V12

Die 503705 replaces old die 50396



88° 2V dies V12 to V20

Die 505705 replaces old die 50590

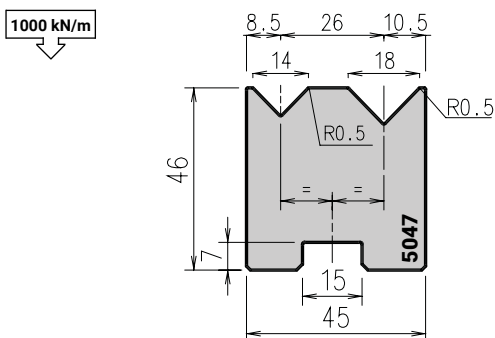


Tool angle	Length mm	Item No.	Weight kg
88°	835	ED 5037051	10.6
	415	ED 5037052	5.3
	800 Sect	ED 5037053	10.2

Tool angle	Length mm	Item No.	Weight kg
88°	835	ED 5057051	12.1
	415	ED 5057052	6.0
	800 Sect	ED 5057053	11.6

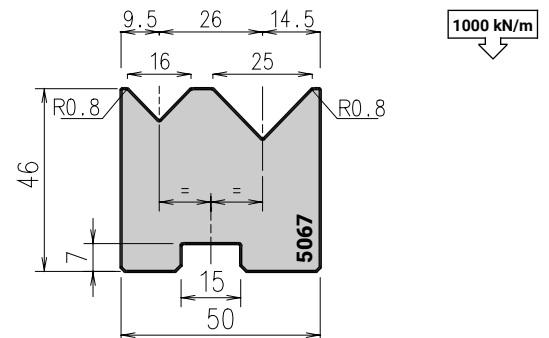
88° 2V dies V14 to V18

Die 504705 replaces old die 50490



88° 2V dies V16 to V25

Die 506708 replaces old die 50690



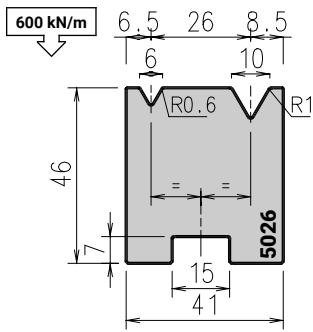
Tool angle	Length mm	Item No.	Weight kg
88°	835	ED 5047051	12.0
	415	ED 5047052	6.0
	800 Sect	ED 5047053	11.5

Tool angle	Length mm	Item No.	Weight kg
88°	835	ED 5067081	12.9
	415	ED 5067082	6.4
	800 Sect	ED 5067083	12.4

2V-60° & 30° REVERSIBLE DIES

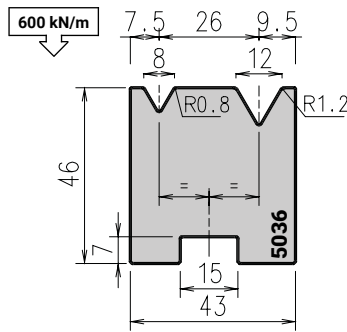
60° 2V dies V6 to V10

Die 502606 replaces old die 50260



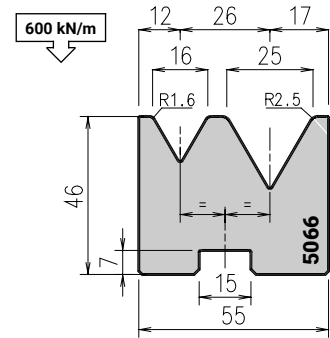
60° 2V dies V8 to V12

Die 503608 replaces old die 50360



60° 2V dies V16 to V25

Die 506616 replaces old die 50660



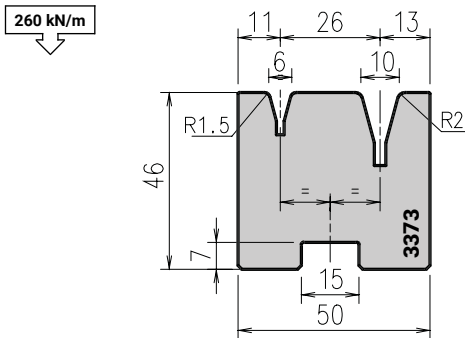
Length mm	Item No.	Weight kg
835	ED 5026061	11.3
415	ED 5026062	5.6
800 Sect	ED 5026063	10.8

Length mm	Item No.	Weight kg
835	ED 5036081	11.7
415	ED 5036082	5.8
800 Sect	ED 5036083	11.2

Length mm	Item No.	Weight kg
835	ED 5066161	13.4
415	ED 5066162	6.7
800 Sect	ED 5066163	12.8

30° 2V dies V6 to V10

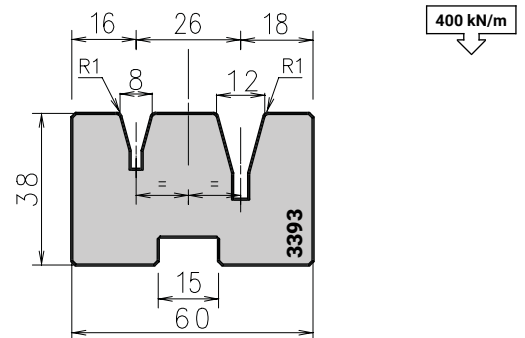
Die 337315 replaces old die 33706



Tool angle	Length mm	Item No.	Weight kg
30°	835	ED 3373151	10.3
	415	ED 3373152	5.1
	800 Sect	ED 3373153	9.9

30° 2V dies V8 to V12

Die 339310 replaces old die 33900

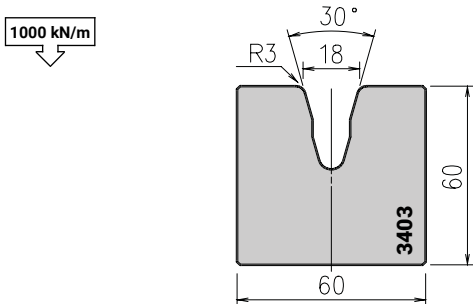


Tool angle	Length mm	Item No.	Weight kg
30°	835	ED 3393101	10.7
	415	ED 3393102	5.3
	800 Sect	ED 3393103	10.3

LARGE V DIES

30° large V dies V18

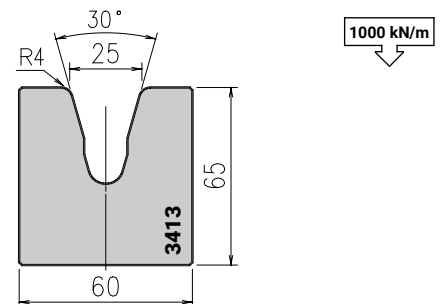
Die 340330 replaces old die 34000



Tool angle	Length mm	Item No.	Weight kg
30°	835	ED 3403301	21.4
	415	ED 3403302	10.6
	800 Sect	ED 3403303	20.5

30° large V dies V25

Die 341340 replaces old die 34100

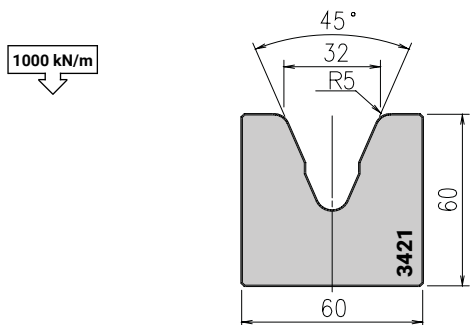


Tool angle	Length mm	Item No.	Weight kg
30°	835	ED 3413401	21.7
	415	ED 3413402	10.8
	800 Sect	ED 3413403	20.8



45° large V dies V32

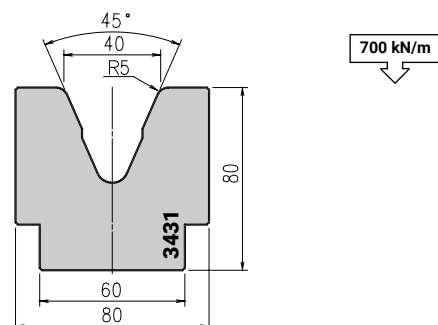
Die 342150 replaces old die 34200



Tool angle	Length mm	Item No.	Weight kg
45°	835	ED 3421501	19.3
	415	ED 3421502	9.6
	800 Sect	ED 3421503	18.5

45° large V dies V40

Die 343150 replaces old die 34300

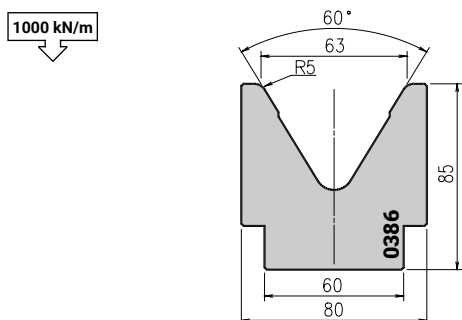


Tool angle	Length mm	Item No.	Weight kg
45°	835	ED 3431501	33.3
	415	ED 3431502	16.6
	800 Sect	ED 3431503	31.9

Hardness: 52-56 HRC inductionhard. Depth: 2mm

60° large V dies V63

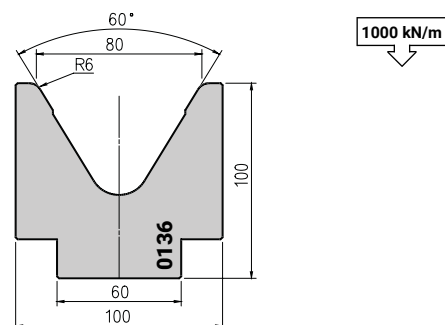
Die 038650 replaces old die 03806



Tool angle	Length mm	Item No.	Weight kg
60°	835	ED 0386501	32.4
	415	ED 0386502	16.2

60° large V dies V80

Die 013660 replaces old die 01306

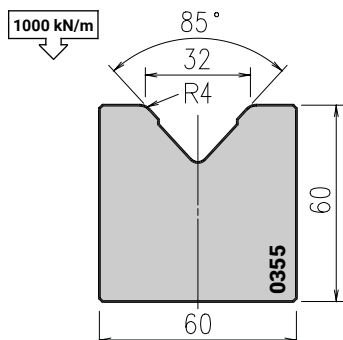


Tool angle	Length mm	Item No.	Weight kg
60°	835	ED 0136601	41.9
	415	ED 0136602	21.9

Hardness: 52-56 HRC inductionhard. Depth: 2mm

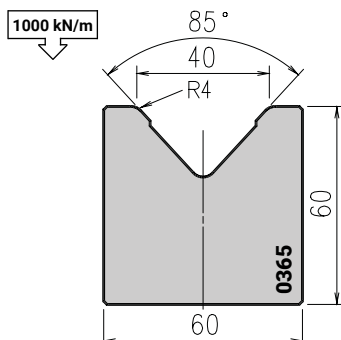
85° large V dies V32

Die 035540 replaces old die 03500



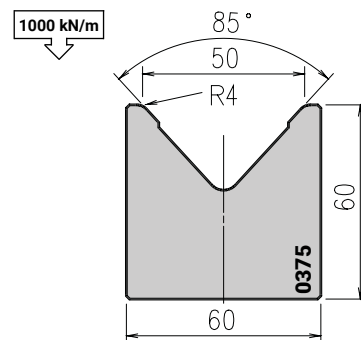
85° large V dies V40

Die 036540 replaces old die 03600



85° large V dies V50

Die 037540 replaces old die 03700



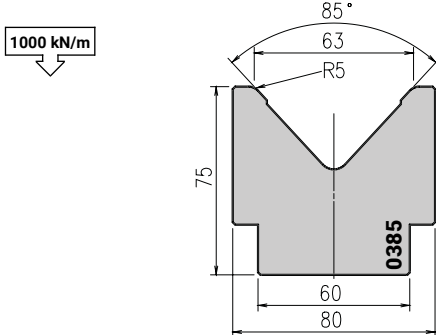
Length mm	Item No.	Weight kg
835	ED 0355401	21.5
415	ED 0355402	10.7
800 Sect	ED 0355403	20.6

Length mm	Item No.	Weight kg
835	ED 0365401	20.4
415	ED 0365402	10.1
800 Sect	ED 0365403	19.5

Length mm	Item No.	Weight kg
835	ED 0375401	18.7
415	ED 0375402	9.3
800 Sect	ED 0375403	17.9

85° large V dies V63

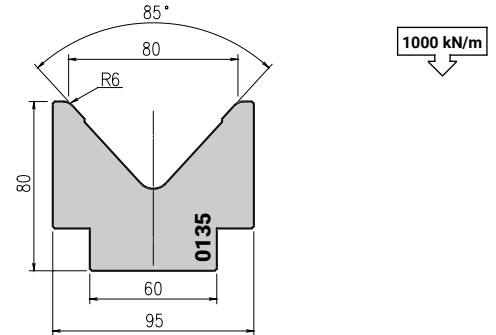
Die 038550 replaces old dies 03800 and Z0063



Tool angle	Length mm	Item No.	Weight kg
85°	835	ED 0385501	28.8
	415	ED 0385502	14.4
	800 Sect	ED 0385503	27.6

85° large V dies V80

Die 013560 replaces old die Z0080

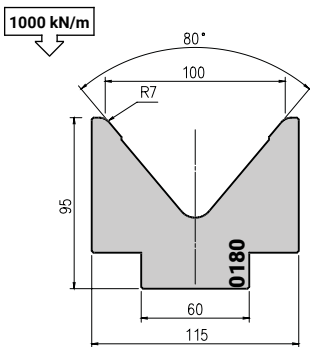


Tool angle	Length mm	Item No.	Weight kg
85°	835	ED 0135601	36.1
	415	ED 0135602	18.0

Hardness: 52-56 HRC inductionhard. Depth: 2mm

80° large V dies V100

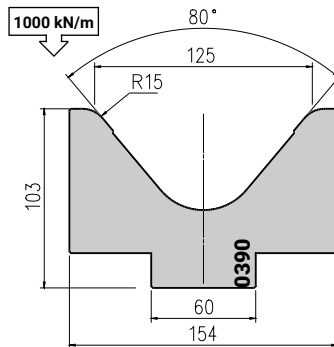
Die 018070 replaces old die Z0100



Length mm	Item No.	Weight kg
835	ED 0180701	46.2
415	ED 0180702	23.1

80° large V dies V125

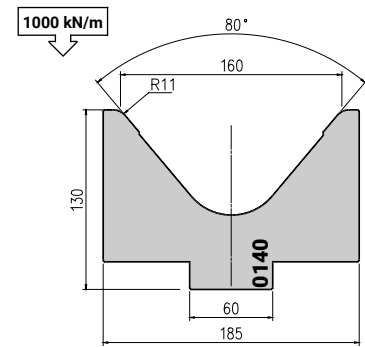
Die 039015 replaces old die Z0125



Length mm	Item No.	Weight kg
835	ED 0390151	72.8
415	ED 0390152	36.4

80° large V dies V160

Die 014011 replaces old die Z0160

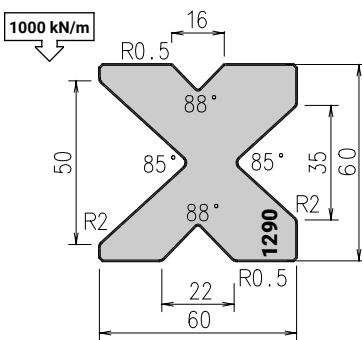


Length mm	Item No.	Weight kg
835	ED 0140111	102.8
415	ED 0140112	51.4

Hardness: 52-56 HRC inductionhard. Depth: 2mm

4V - 85° - 88°

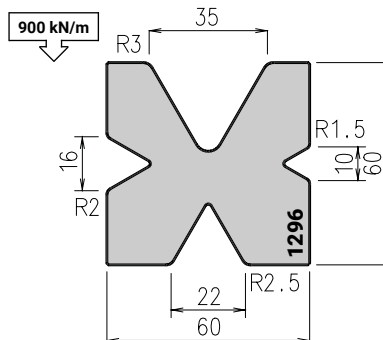
Die 129000 replaces old die Z0000



Length mm	Item No.	Weight kg
835	ED 1290001	18.0
415	ED 1290002	9.0

4V - 60°

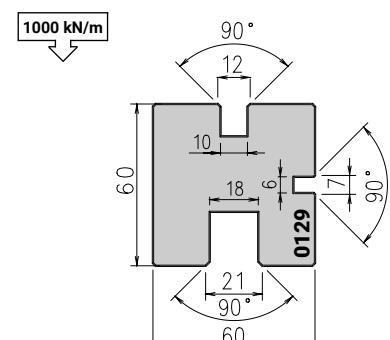
Die 129600 replaces old die Z0006



Length mm	Item No.	Weight kg
835	ED 1296001	16.4
415	ED 1296002	8.2

3U - 90°

Die 012900 replaces old die Z01200



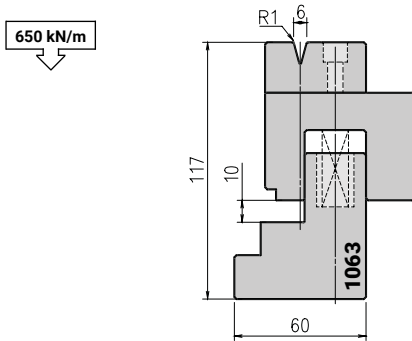
Length mm	Item No.	Weight kg
835	ED 0129001	20.2
415	ED 0129002	10.1

Hardness: 52-56 HRC inductionhard. Depth: 2mm

HEMMING DIES

30° Hemming dies V6

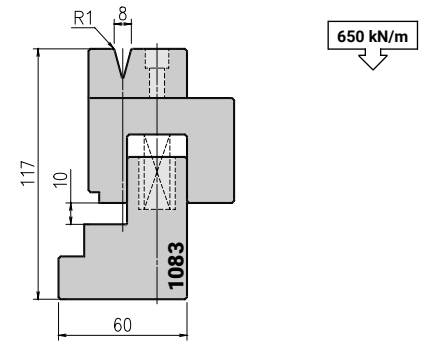
Die 106310 replaces old die 10469



Tool angle	Length mm	Item No.	Weight kg
30°	835	ED 1063101	40.4
	415	ED 1063102	20.1

30° Hemming dies V8

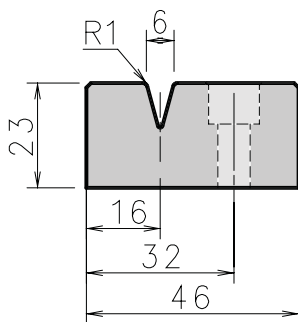
Die 108310 replaces old die 10409



Tool angle	Length mm	Item No.	Weight kg
30°	835	ED 1083101	40.2
	415	ED 1083102	20.0

Replacement parts for 30° Hemming dies V6

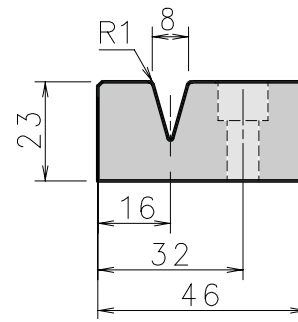
Die 006310 replaces old die 80149



Tool angle	Length mm	Item No.	Weight kg
30°	835	ED 0063101	6.7
	415	ED 0063102	3.3

Replacement parts for 30° Hemming dies V8

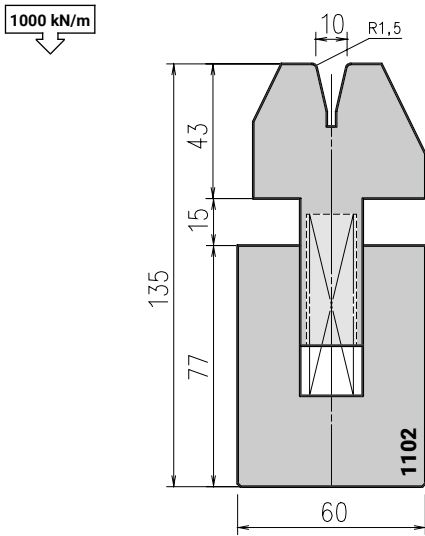
Die 008310 replaces old die 80139



Tool angle	Length mm	Item No.	Weight kg
30°	835	ED 0083101	6.5
	415	ED 0083102	3.2

Sheet thickness t (mm)	Mild steel (400 N/mm ²)			Stainless steel (600 N/mm ²)		
	C (mm)	Tonnage (kN/m)	Tonnage (kN/m)	C (mm)	Tonnage (kN/m)	Tonnage (kN/m)
0.60	3	90	230	3	150	350
0.80	3	120	320	3	200	500
1.00	3.5	150	400	3.5	250	600
1.25	3.5	170	500	3.5	260	800
1.50	4.6	220	630	4.6	380	950
2.00	5.5	300	800	5.5	500	1300
2.50	6.5	550	900	6.5	900	1800
3.00	8	700	1000	8	1000	2100

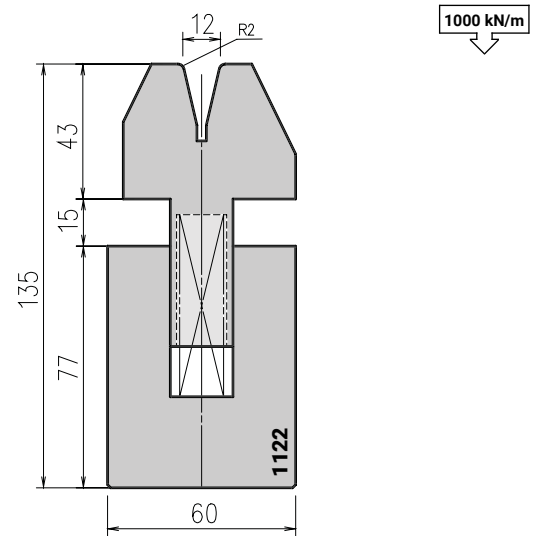
26° Hemming dies V10



Tool angle	Length mm	Item No.	Weight kg
26°	835	ED 1102151	42.0
	415	ED 1102152	20.9

26° Hemming dies V12

Die 112220 replaces old die Z33023

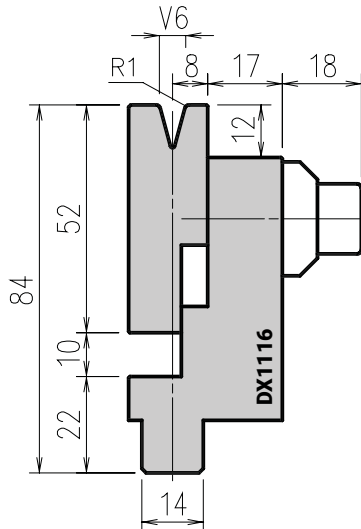


Tool angle	Length mm	Item No.	Weight kg
26°	835	ED 1122201	41.8
	415	ED 1122202	20.8

Hardness: 52-56 HRC inductionhard. Depth: 2mm

30° Hemming insert dies V6

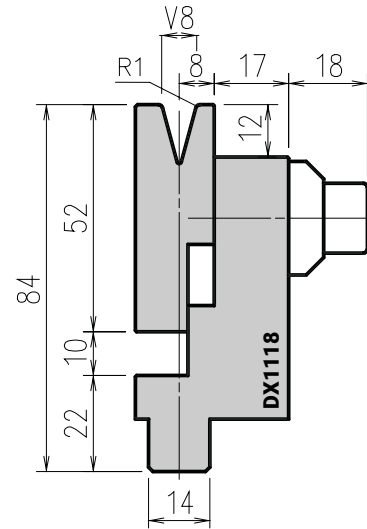
mild steel: tmax = 1,25 mm - stainless:tmax = 1 mm



Tool angle	Length mm	Item No.	Weight kg
30°	835	DX 111601	16.0
	415	DX 111602	8.0
	470 Sect	DX 111681	9.0

30° Hemming insert dies V8

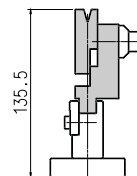
mild steel: tmax = 1,6mm - stainless:tmax = 1,25 mm



Tool angle	Length mm	Item No.	Weight kg
30°	835	DX 111801	16.0
	415	DX 111802	8.0
	470 Sect	DX 111881	9.0

Note:

- Tonnage for 30° prebending : 500 kN/m
- Tonnage for flattening 800 kN/m
- 470 Sect. = 45 + 2x50 + 55 + 60 + 65 + 70 + 75
- Tool hardness HRC 36 to 42

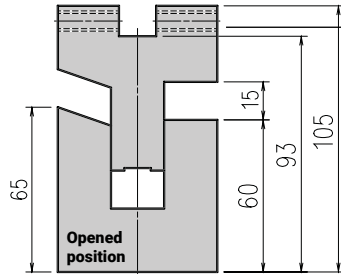
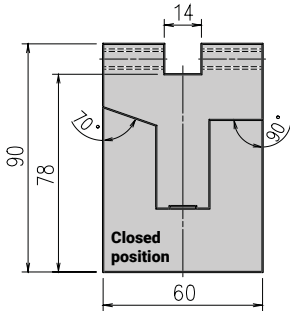




Pneumatic die holder (for standard and hemming bends)

The pneumatic die holder is a permanent fixture on the press brake machine and operates as:

- traditional die holder with standard (or special) dies for 90° or acute bends
- double decker hemming system with acute-angle dies. The pneumatic movement is considered as a programmable NC axis in the control system and ensures rapid opening or closing.



screw holes for mounting the optional clamps (during the use with large V dies)

Length mm	Item No.	Weight kg
1250	T04066AN	50
2050	T04067AN	82
2550	T04068AN	102
3050	T04069AN	122
4050	T04070AN	162

Note:

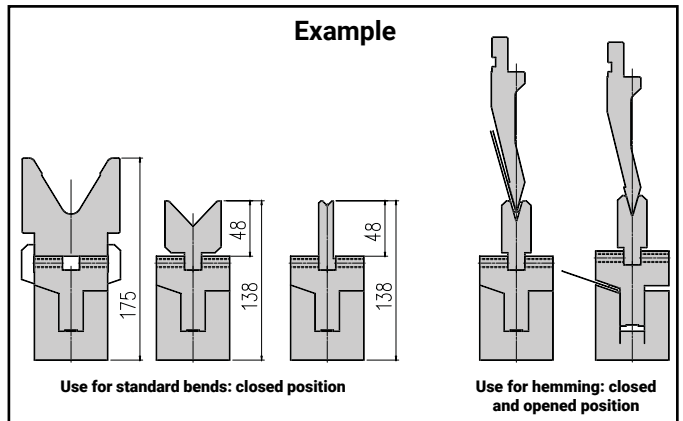
- tonnage with standard tools: up to 1000 kN/m, depends on die
- tonnage for 30° prebending: up to 600 kN/m, depends on die
- tonnage for flattening 600 kN/m
- included accessories:
 - air distribution and regulation assy,
 - relays 12V DC and 24V DC (according to your press brake),
 - air pipes and electric cables,
 - temporary plates for easy installation
- please read operator's manual before installation



For large V dies (with mounting hardware):

- for front side : T50001A and for rear side : T50002A
- please choose clamp quantity from the below table

For length mm	Front side	Rear side
1250	6	6
2050	10	10
2550	13	13
3050	15	15
4050	20	20





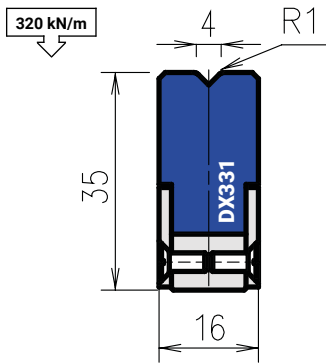


MARK FREE BENDING



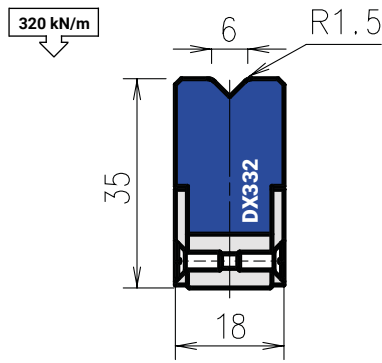
POLYCARBONATE DIES

V4



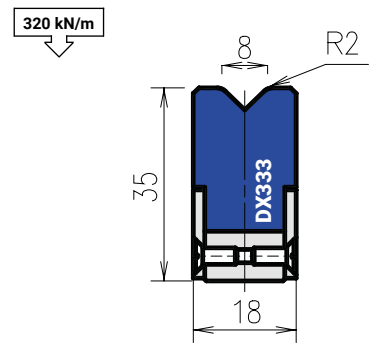
Tool angle	Length mm	Item No.	Weight kg
90°	835	DX 331001	1.2
	415	DX 331002	0.6

V6



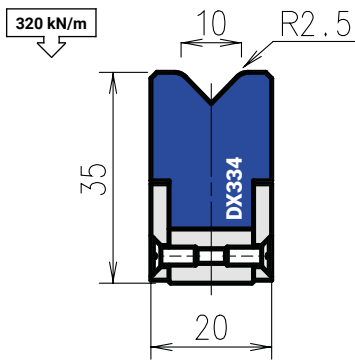
Tool angle	Length mm	Item No.	Weight kg
90°	835	DX 332001	1.4
	415	DX 332002	0.7

V8



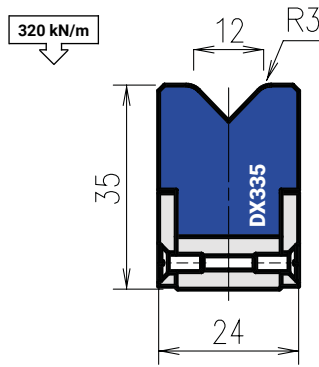
Tool angle	Length mm	Item No.	Weight kg
88°	835	DX 333001	1.4
	415	DX 333002	0.7

V10

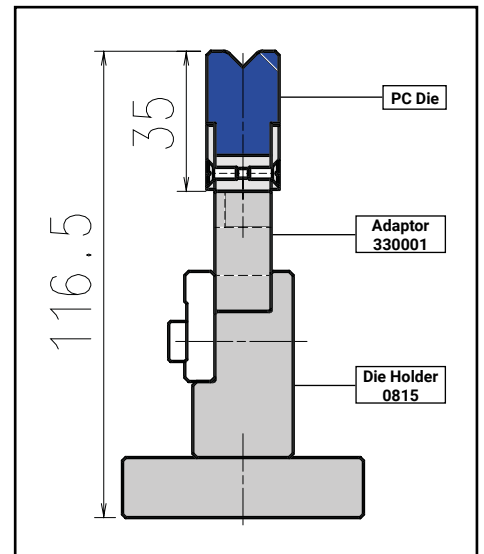


Tool angle	Length mm	Item No.	Weight kg
88°	835	DX 334001	1.6
	415	DX 334002	0.8

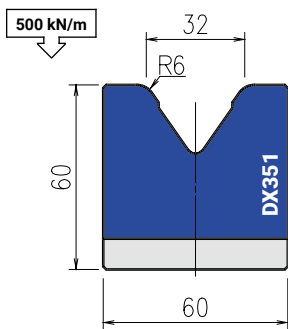
V12



Tool angle	Length mm	Item No.	Weight kg
88°	835	DX 335001	2.0
	415	DX 335002	1.0

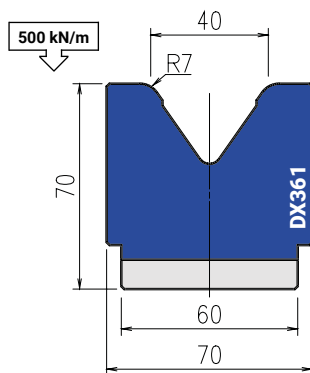


V32



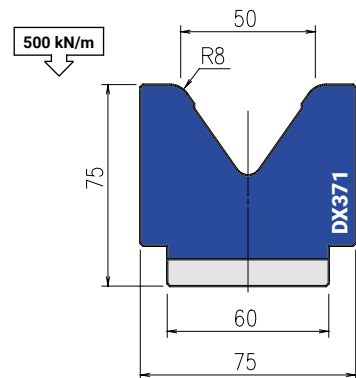
Tool angle	Length mm	Item No.	Weight kg
70°	835	DX 351001	8.4
	415	DX 351002	4.2

V40



Tool angle	Length mm	Item No.	Weight kg
70°	835	DX 361001	9.2
	415	DX 361002	4.6

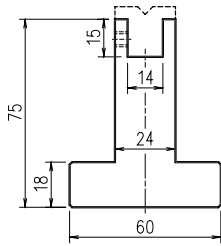
V50



Tool angle	Length mm	Item No.	Weight kg
70°	835	DX 371001	9.5
	415	DX 371002	4.7

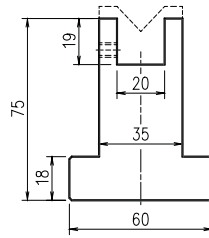
POLYAMIDE INSERT DIES

Holder for inserts W24



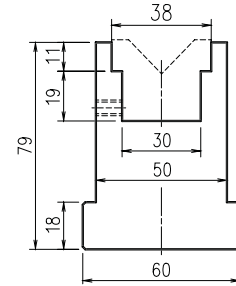
Length mm	Item No.	Weight kg
834	PT 100001	14.6
414	PT 100002	7.3

Holder for inserts W35



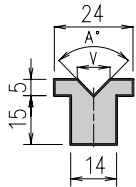
Length mm	Item No.	Weight kg
834	PT 200001	17.6
414	PT 200002	8.7

Holder for inserts W38



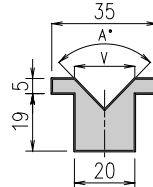
Length mm	Item No.	Weight kg
834	PT 300001	20.5
414	PT 300002	10.2

Polyamide inserts W24



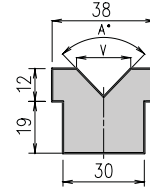
Tool angle	V	L mm	Item No.	Weight kg
88°	6	835	PT 106881	0.3
		415	PT 106882	0.2
	8	835	PT 108881	0.3
		415	PT 108882	0.2
60°	6	835	PT 106601	0.3
		415	PT 106602	0.2
	8	835	PT 108601	0.3
		415	PT 108602	0.2
30°	6	835	PT 106301	0.3
		415	PT 106302	0.2
	8	835	PT 108301	0.3
		415	PT 108302	0.2

Polyamide inserts W35

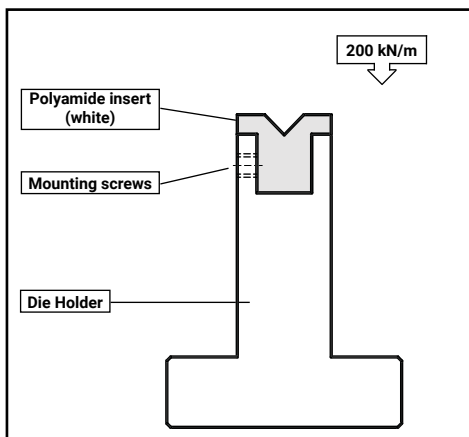


Tool angle	V	L mm	Item No.	Weight kg	
88°	6	835	PT 206881	0.5	
		415	PT 206882	0.3	
	8	835	PT 208881	0.5	
		415	PT 208882	0.3	
	10	835	PT 210881	0.5	
		415	PT 210882	0.3	
60°	12	835	PT 212881	0.5	
		415	PT 212882	0.3	
	16	835	PT 216881	0.5	
		415	PT 216882	0.3	
	30°	6	835	PT 206601	0.5
			415	PT 206602	0.3
8		835	PT 208601	0.5	
		415	PT 208602	0.3	
30°	10	835	PT 210601	0.5	
		415	PT 210602	0.3	
	12	835	PT 212601	0.5	
		415	PT 212602	0.3	
30°	16	835	PT 216601	0.4	
		415	PT 216602	0.2	
	6	835	PT 206301	0.5	
		415	PT 206302	0.3	
8	835	PT 208301	0.5		
	415	PT 208302	0.3		
10	835	PT 210301	0.5		
	415	PT 210302	0.3		

Polyamide inserts W38

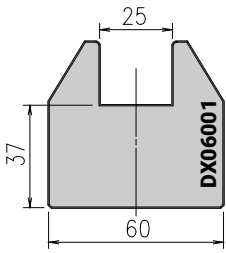


Tool angle	V	L mm	Item No.	Weight kg
88°	6	835	PT 306881	1.0
		415	PT 306882	0.5
	8	835	PT 308881	1.0
		415	PT 308882	0.5
	10	835	PT 310881	1.0
		415	PT 310882	0.5
60°	12	835	PT 312881	0.9
		415	PT 312882	0.5
	16	835	PT 316881	1.0
		415	PT 316882	0.5
	20	835	PT 320881	0.9
		415	PT 320882	0.5
30°	25	835	PT 325881	0.9
		415	PT 325882	0.5
	6	835	PT 306601	1.0
		415	PT 306602	0.5
	8	835	PT 308601	1.0
		415	PT 308602	0.5
	10	835	PT 310601	1.0
		415	PT 310602	0.5
	12	835	PT 312601	1.0
		415	PT 312602	0.5
	16	835	PT 316601	0.9
		415	PT 316602	0.5
30°	20	835	PT 320601	0.9
		415	PT 320602	0.5
	6	835	PT 306301	1.0
		415	PT 306302	0.5
	8	835	PT 308301	1.0
		415	PT 308302	0.5
10	835	PT 310301	0.9	
	415	PT 310302	0.5	
12	835	PT 312301	0.9	
	415	PT 312302	0.5	
16	835	PT 316301	0.8	
	415	PT 316302	0.4	



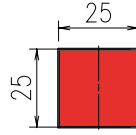
POLYURETHANE DIES

Pad Holder 25



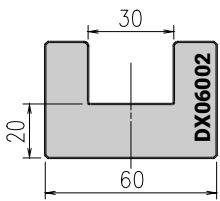
Length mm	Item No.	Weight kg
835	DX 060011	21
415	DX 060012	10.5

Urethane Pad 25



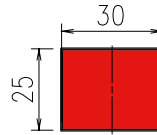
	Length mm	Item No.	Weight kg
Red Shore A 80°	835	DX 061111	1.0
	415	DX 061112	0.5
Blue Shore A 90°	835	DX 061121	1.0
	415	DX 061122	0.5

Pad Holder 30



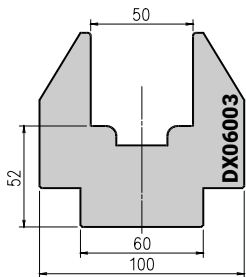
Length mm	Item No.	Weight kg
835	DX 060021	15
415	DX 060022	7.5

Urethane Pad 30



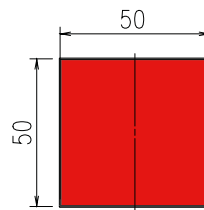
	Length mm	Item No.	Weight kg
Red Shore A 80°	835	DX 061211	1.0
	415	DX 061212	0.5
Blue Shore A 90°	835	DX 061221	1.0
	415	DX 061222	0.5

Pad Holder 50



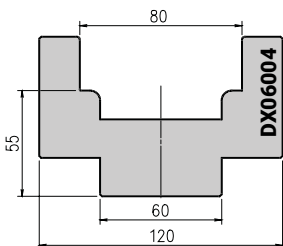
Length mm	Item No.	Weight kg
835	DX 060031	45
415	DX 060032	22.5

Urethane Pad 50



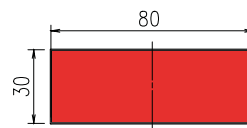
	Length mm	Item No.	Weight kg
Red Shore A 80°	835	DX 061311	3.0
	415	DX 061312	1.5
Blue Shore A 90°	835	DX 061321	3.0
	415	DX 061322	1.5

Pad Holder 80



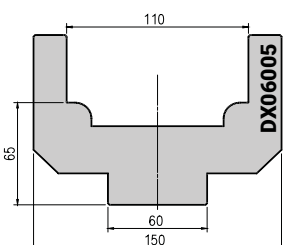
Length mm	Item No.	Weight kg
835	DX 060041	55
415	DX 060042	27.5

Urethane Pad 80



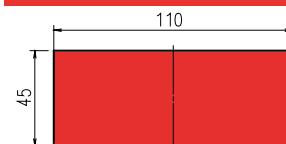
	Length mm	Item No.	Weight kg
Red Shore A 80°	835	DX 061411	3.0
	415	DX 061412	1.5
Blue Shore A 90°	835	DX 061421	3.0
	415	DX 061422	1.5

Pad Holder 110



Length mm	Item No.	Weight kg
835	DX 060051	62
415	DX 060052	31

Urethane Pad 110



	Length mm	Item No.	Weight kg
Red Shore A 80°	835	DX 061511	5.0
	415	DX 061512	2.5
Blue Shore A 90°	835	DX 061521	5.0
	415	DX 061522	2.5



ACCESSORIES FOR MARK FREE BENDING

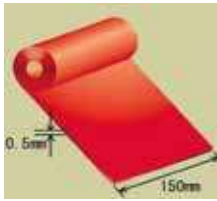
Urethane Sheet (RED)

0.3 mm x 150 mm



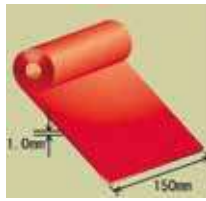
Item No.
AC 426201

0.5 mm x 150 mm



Item No.
AC 426191

1.0 mm x 150 mm



Item No.
AC 426181

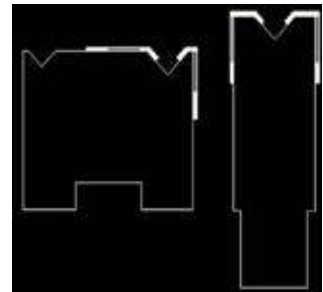
Note:
Please provide required length when ordering

Adhesive Strip (WHITE 0,3 mm)

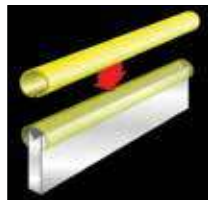
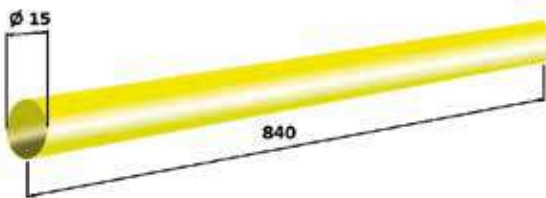


Length: 10 m

Item No.
10909910



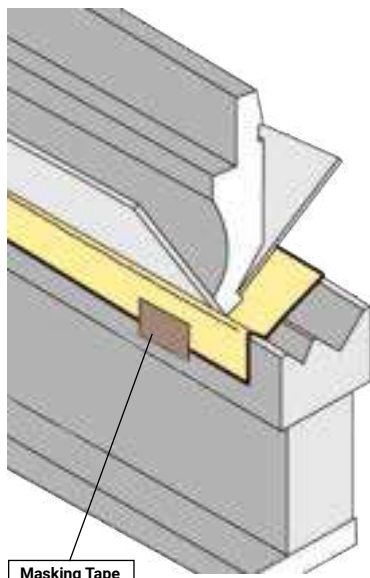
Urethane Cap (YELLOW 0,5 mm)



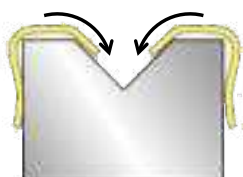
Length: 840 mm x 5 off as set

Item No.
909930

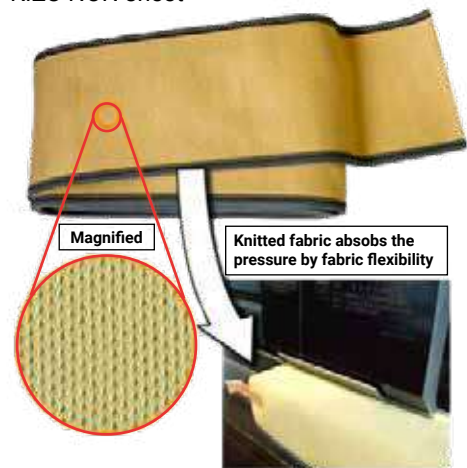
Scratch-resistant film KIZU-NON



When KIZU-NON sheet is used for **large V Die**, set the sheet on both sides of the die as shown. To adjust the position when worn, move it in the direction of the arrows.



KIZU-NON sheet



Length m	Item No.
5	10999905
10	10999910



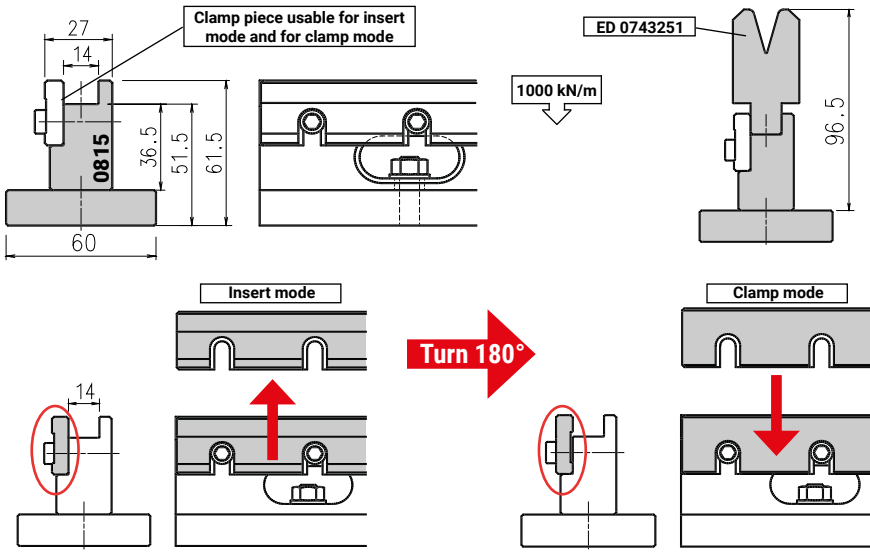


HOLDERS, OTHER TOOLING AND ACCESSORIES



DIE HOLDERS

Die Holder 0815

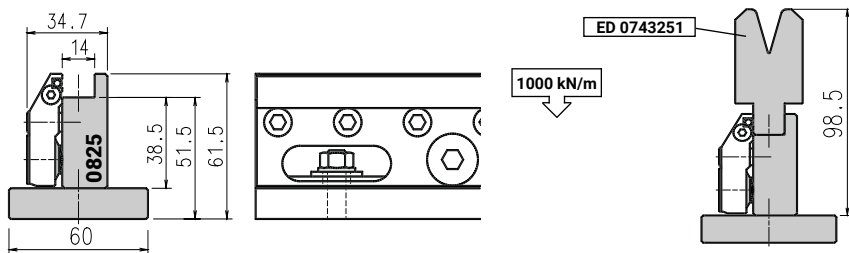


Holder 0815 replaces old holders 80 and 815

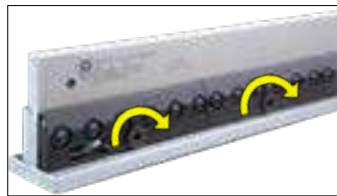
Length mm	Item No.	Weight kg
L= 840	EH 0815001	12.4
S= 420	EH 0815002	6.2



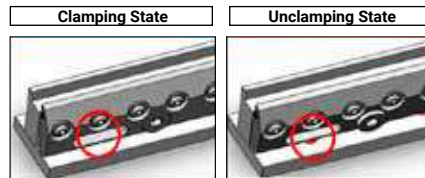
Die Holder FEAT



Length mm	Item No.	Weight kg
L= 850	DX 0825001	13.5
S= 510	DX 0825002	8.0



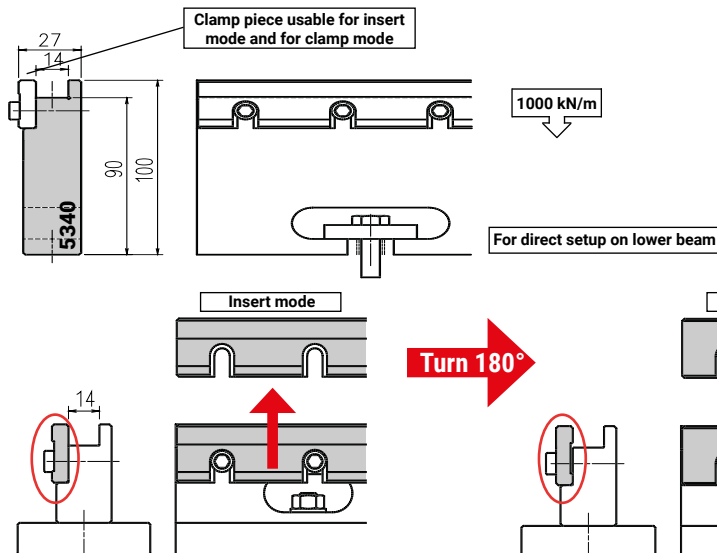
Dies are clamped by rotating 5 bolts by 180°.



Clamping check for security: An indicator (red circle) appears in the unclamped state. (2 indicators per clamp plate)



Die Holder 5340



Holder 5340 replaces old holder 534

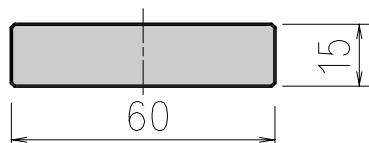
Length mm	Item No.	Weight kg
L= 1050	EH 5340001	21.3
S= 450	EH 5340002	9.2

All mounting hardware is included





Support for Die Holder 5340

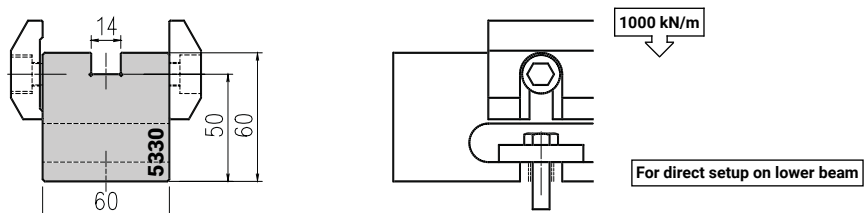


Length mm	Item No.	Weight kg
L= 1050	EH 5340011	7.4
S= 450	EH 5340012	3.2

All mounting hardware is included

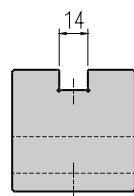
Die Holder 5330

Holder 5330 replaces old holder 533

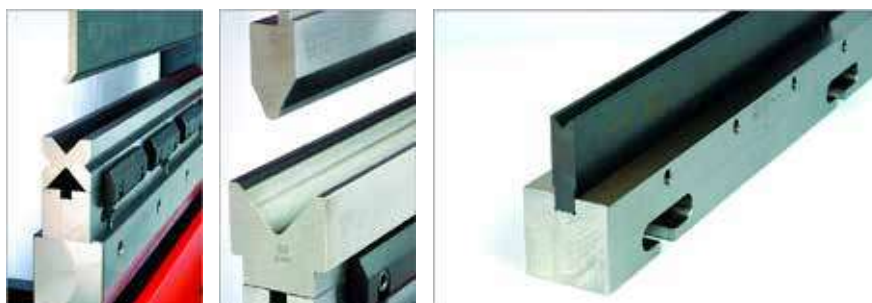
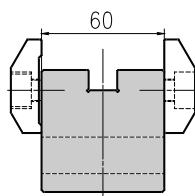


Length mm	Item No.	Weight kg
L= 1050	EH 5330001	34.2
S= 450	EH 5330002	14.6

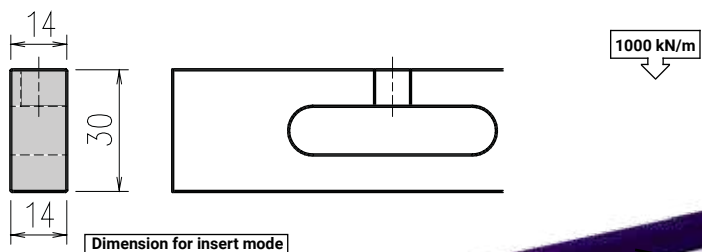
Insert mode



Clamp mode

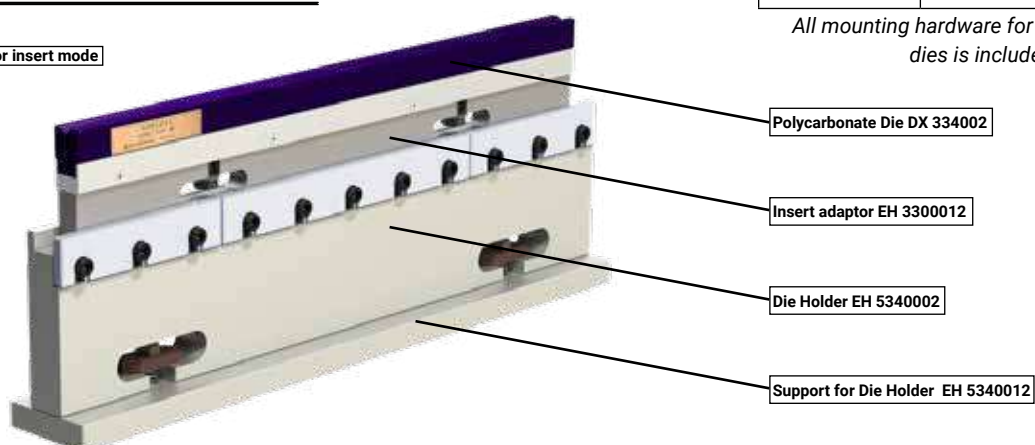


Insert adaptor for polycarbonate dies (V4 to V12)



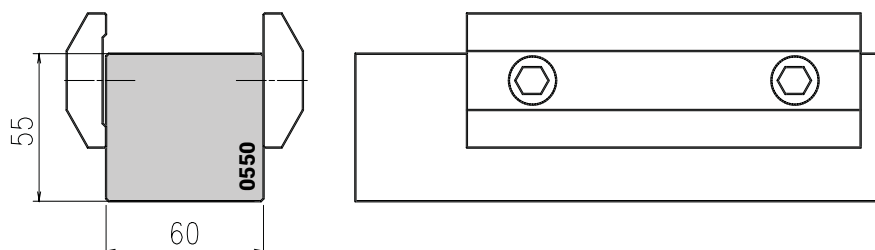
Length mm	Item No.	Weight kg
L= 834	EH 3300011	2.5
S= 414	EH 3300012	1.2

All mounting hardware for polycarbonate dies is included



Die Holder 0550

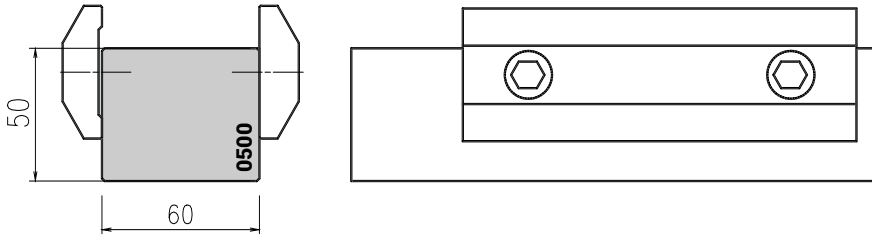
Holder 0550 replaces old holder 055



Length mm	Item No.	Weight kg
L= 835	EH 0550001	28.0
S= 415	EH 0550002	14.0

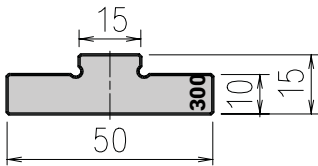
Die Holder 0500

Holder 0500 replaces old holder 05008



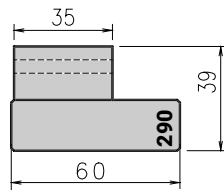
Length mm	Item No.	Weight kg
L= 835	EH 0500001	26.0
S= 415	EH 0500002	13.0

Die Holder for 2V reversible dies



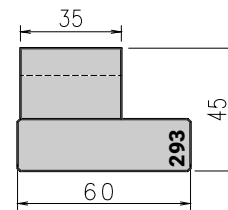
Holder 3000 replaces old rail 300

Length mm	Item No.	Weight kg
L= 835	EH 3000001	3.8
S= 415	EH 3000002	1.9



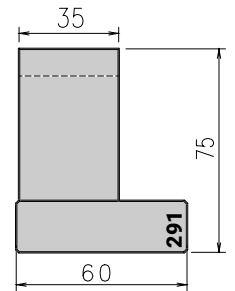
Holder 2900 replaces old holders 292 and 290

Length mm	Item No.	Weight kg
L= 830	EH 2900001	10.8
S= 412	EH 2900002	5.4



Holder 2930 replaces old holders 293

Item No.	Weight kg
EH 2930001	13.8
EH 2930002	6.9



Holder 2910 replaces old holders 294 and 291

Item No.	Weight kg
ED 2910001	17.6
ED 2910002	8.8

PUNCH HOLDERS

Punch Holder SGRIP DUAL or SINGLE



	Length mm	Item No.	Weight kg
DUAL	150	DX 903200	7.5
SINGLE	150	DX 903100	6.3

Note:

- Tonnage: 1000 kN/m
- Effective Height: 120 mm
- Front loading, unloading possible
- Adjustment wedge design allows adjacent mounting





Punch Holder AGRIP-M DUAL



Note:

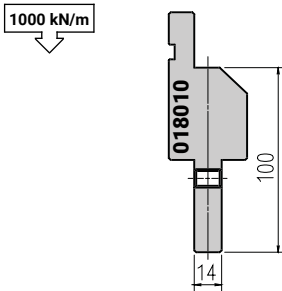
- Tonnage: 1000 kN/m
- Effective Height: 120 mm
- Front loading, unloading possible
- Adjustment wedge design allows adjacent mounting
- Accurate clamping, positioning and alignment

Length mm	Item No.	Weight kg
150	XZ 0041	7.5



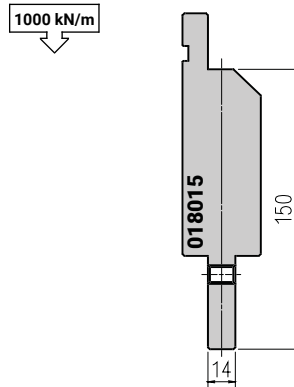
Distance piece 100

Holder 018010 replaces old ADA100



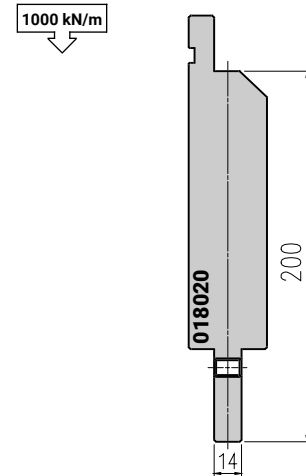
Distance piece 150

Holder 018015 replaces old ADA150



Distance piece 200

Holder 018020 replaces old ADA200



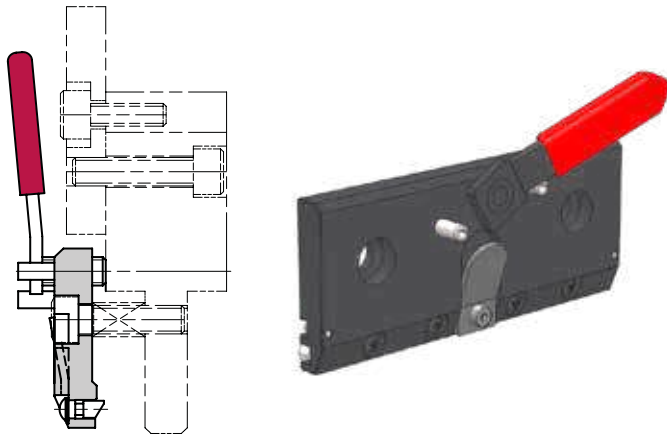
Clamps are not included

Length mm	Item No.	Weight kg
150	EH 0180100	3.5

Length mm	Item No.	Weight kg
150	EH 0180150	5.9

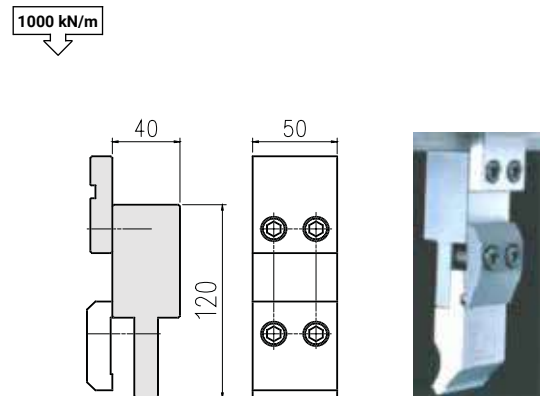
Length mm	Item No.	Weight kg
150	EH 0180200	8.5

Clamp plate Amaclip 980



Length mm	Item No.	Weight kg
150	AC 980000	0.9

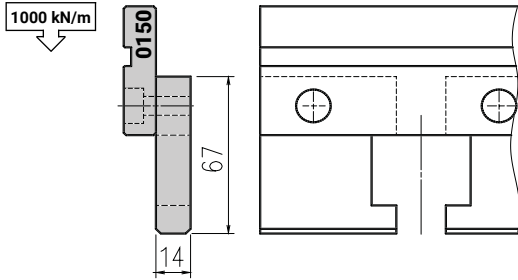
Narrow Punch Holder 913



Length mm	Item No.	Weight kg
150	AC 913000	3.0

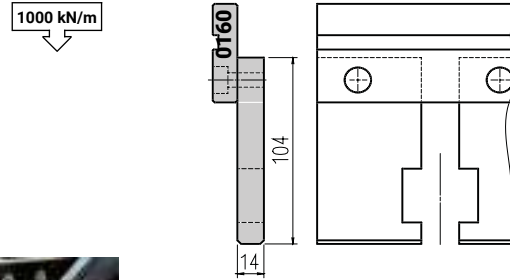
Punch Holder 0150

Holder 0150 replaces old holder 15



Length mm	Item No.	Weight kg
830	EH 0150001	9.8
412	EH 0150002	4.9

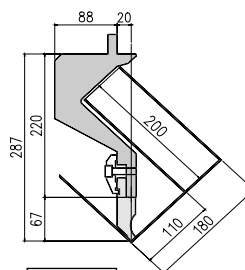
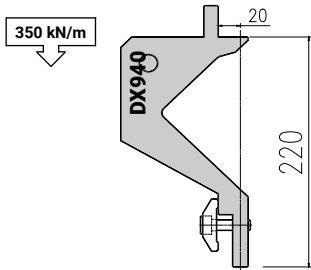
Punch Holder 0160



Length mm	Item No.	Weight kg
830	EH 0160001	11.8
412	EH 0160002	5.9



Deep Bend Punch Holder

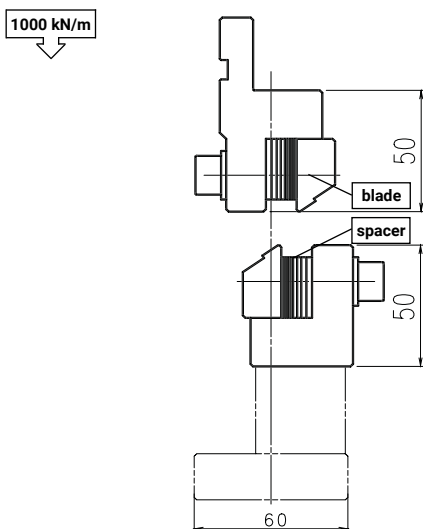


Length mm	Item No.	Weight kg
200	DX 940000	18.0

ES6047061

MULTI OFFSET TOOL

Super Multi II



Length mm	Item No.	Weight kg
835	S 20021	35.4
415	S 20022	17.6

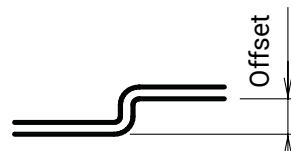
A variety of offset sizes in one tool !
 Super multi tool-set is a versatile bending tool that achieves a variety of offset bendings by changing tooling offset in accordance with the spacer thickness.

- Sectionalized blade available
- Max. material thickness:
 - 2.3 mm mild steel
 - 1.5 mm stainless steel
 - 3.0 mm aluminium
- Tool Offset range $H_{\text{tool}} = 1.79 - 7.81 \text{ mm}$
- Due to the air bending method, product offset value is differing from tool offset, so please ask for charts.



L-Set = 835 mm including all 835 mm spacers

S-Set = 415 mm including all 415 mm spacers





Replacement blades for Super Multi II

Blade 835 mm : S2B021



Blade 415 mm : S2B022



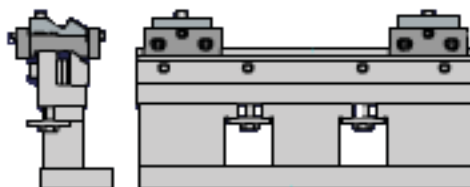
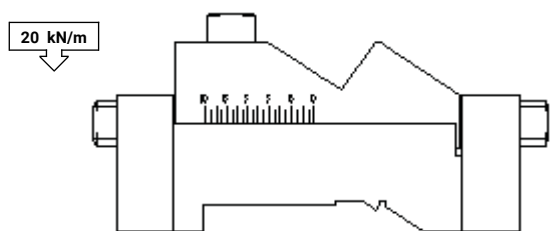
Sectional Blade 415 mm (10, 15, 20, 40, 50, 100, 180) : S2B802



Length mm	Item No.	Weight kg
835	S 2B021	2.6
415	S 2B022	1.3
415Sect	S 2B802	1.3

Alignment jig for Super Multi II

It guarantees perfect alignment and finest adjustments in all planes (Set includes 2 pcs.)



Item No.	Weight kg
S 20030	3.0

BENDING ACCESSORIES

90° Side gauge 930



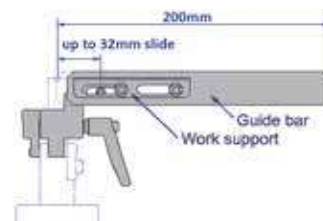
Note:
 - Max. 60 mm die width
 - Left-gauging or right-gauging
 - Mounting on die

Item No.	Weight kg
AC 930000	2.0

90° Side gauge for 1V dies 939



Note:
 - Left-gauging or right-gauging
 - Mounting on die holder



Item No.	Weight kg
AC 939000	1.0

Angle adjustable side gauge 932



Note:
 - Fixation on die (1V or 2V dies)
 - Left-gauging or right-gauging
 - Indexable within 100° (at 5° increments)

Item No.	Weight kg
AC 932000	2.6

Analogue angle gauge 935



Item No.	Weight kg
AC 935000	0.2

Digital angle gauge 9351

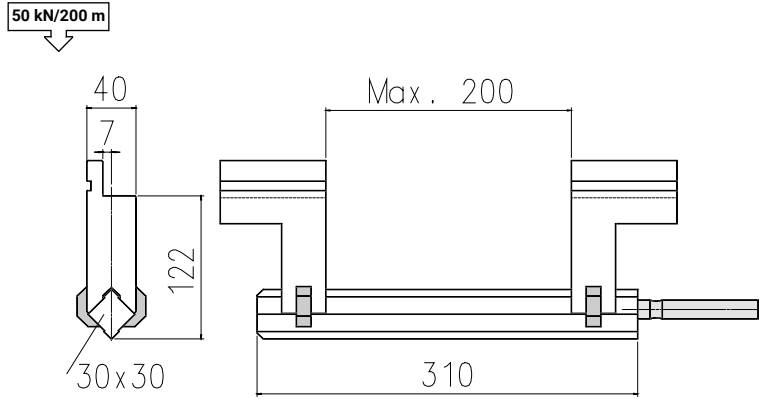
Note:
 - Shows bending angle in real time
 - Resolution of 0.1°
 - Use only with magnetisable sheet metal



Item No.	Weight kg
AC 935100	0.2

TOOL FOR CLOSED BENDS

Closing tool



Tool angle	Radius mm	Item No.	Weight kg
88°	0.6	C00010	6.0

Guidance for thickness and V opening by tool gap

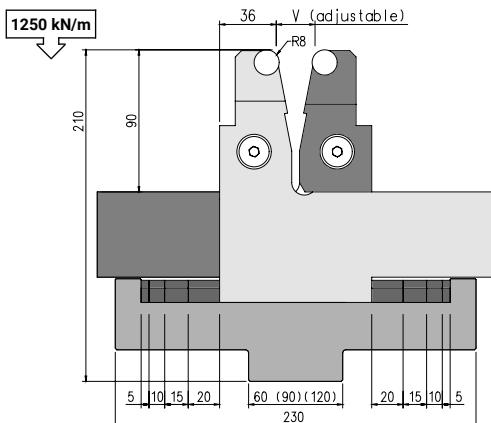
Tool gap	Mild steel	Stainless steel	Aluminium
100 mm	$t \leq 4.5$ $\geq V40$	$t \leq 2.5$ $\geq V25$	$t \leq 5.0$ $\geq V32$
150 mm	$t \leq 2.3$ $> V16$	$t \leq 1.5$ $\geq V12$	$t \leq 3.0$ $\geq V18$
200 mm	$t \leq 1.6$ $> V10$	$t \leq 0.8$ $\geq V6$	$t \leq 2.0$ $\geq V10$

Note: Please minimize tool gap, according to sheet part



ADJUSTABLE HIGH TONNAGE DIE

Type VLMBN



Minimum die angle: 30°
 V-Opening: adjust. each 10 mm ca. V25-V125
 Sheet thickness: 3 - 15 mm
 Shoulder Radius: R8 mm
 Die length: 500 mm
 Max. allowable tonnage: 1250 kN/m
 Hardness Radius inserts: HRC 60
 Spacers: 5; 10; 15; 20

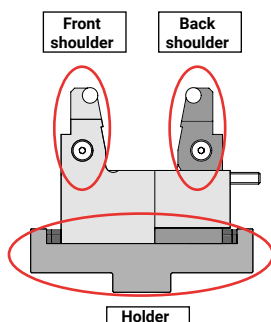
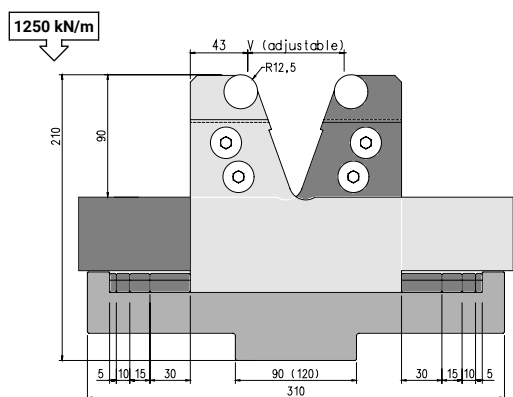
	for 60 mm beam		for 90 mm beam		for 120 mm beam	
	Item No.	Weight kg	Item No.	Weight kg	Item No.	Weight kg
set	BN1-500S	96	BN2-500S	99	BN3-500S	99
only holder	BN1-500H	33	BN1-500H	36	BN1-500H	36



	Item No	Weight kg
only die	BN 500D	58
only spacers	BN 500I	5.3
only strip	ACBN 150	0.1



Type VLMDN



Minimum die angle: 60°
 V-Opening: adjust. each 10 mm ca. V70-V190
 Sheet thickness: 3 - 20 mm
 Shoulder Radius: R12.5 mm
 Die length: 500 mm
 Max. allowable tonnage: 2000 kN/m
 Hardness Radius inserts: HRC 60
 Spacers: 5; 10; 15; 30

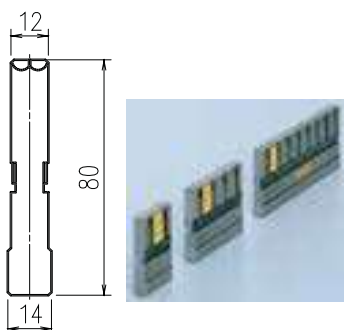


	for 90 mm beam		for 120 mm beam	
	Item No.	Weight kg	Item No.	Weight kg
set	DN2-500S	137.1	DN3-500S	44.6
only holder	DN1-500H	44.6	DN1-500H	44.6

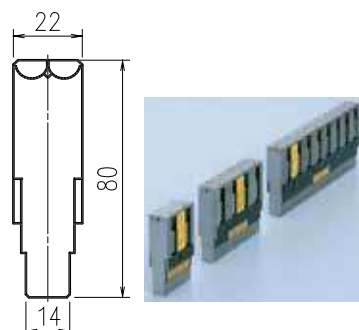
	Item No	Weight kg
only die	DN 500D	86
only spacers	DN 500I	6.4
only strip	ACDN 150	0.1

WINGBEND DIE®

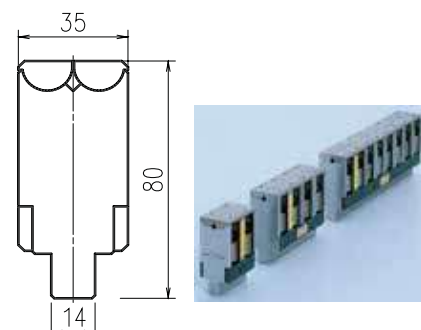
WB120-A



WB230-A



WB350-A



Equivalent die opening		Up to V6
Mat. Thickness	Mild steel	0.5 ~ 1.2
	Stainless steel	0.5 ~ 1.0
	Aluminium	0.5 ~ 1.0
Min. angle		80°
Tonnage		1000 kN/m
Item No.	50mm	70120A
	100mm	70120B
	200mm	70120C

Equivalent die opening		Up to V10
Mat. Thickness	Mild steel	0.5 ~ 2.3
	Stainless steel	0.5 ~ 2.0
	Aluminium	0.5 ~ 2.0
Min. angle		80°
Tonnage		1000 kN/m
Item No.	50mm	70230A
	100mm	70230B
	200mm	70230C

Equivalent die opening		Up to V15
Mat. Thickness	Mild steel	1.0 ~ 3.2
	Stainless steel	1.0 ~ 3.0
	Aluminium	1.0 ~ 3.0
Min. angle		80°
Tonnage		1000 kN/m
Item No.	50mm	70350A
	100mm	70350B
	200mm	70350C

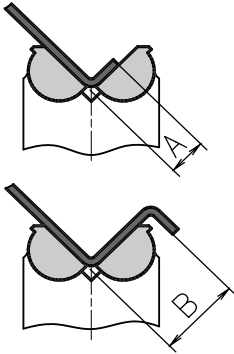
«How to read table data» section next page

WingBend bending features:

- very small flanges
- wide range of materials using the same die
- small bend radii
- bends closer to holes
- forming oblique flanges
- less scratches
- scratch-free bending for film protected sheet metal

Tonnage and process data:

How to read table data:



Tonnage (kN/m)			
A	Min. flange length (mm)	B	Min. offset value (mm)

t (mm)	WB120-A		WB230-A		WB350-A	
0.5	50		50		40	
	3.6	7.3	5.7	12.2	8.1	19.3
0.8	100		70		50	
	3.8	7.4	5.9	12.4	8.4	19.5
1.0	150		80		60	
	4.0	7.4	6.1	12.6	8.6	19.7
1.2	240		110		70	
	4.1	7.5	6.2	12.7	8.8	19.9
1.6			200		140	
			6.4	12.9	9.0	20.2
2.0			300		200	
			6.6	13.0	9.4	20.4
2.3			400		260	
			6.8	13.2	9.6	20.6
2.6					340	
					9.8	20.8
3.2					510	
					10.2	21.0

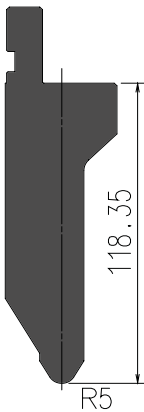
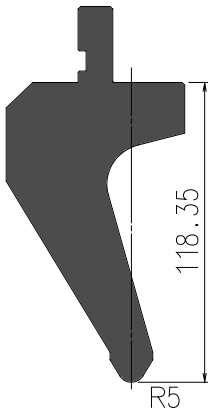
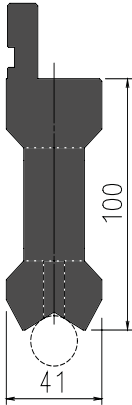
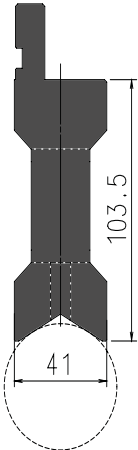
Note:

- This chart is showing bending data for mild steel
- Bending operation in the dark range is not recommended
- Min. flange length and min. offset value are reference values

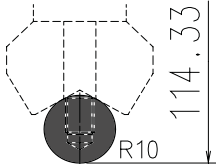
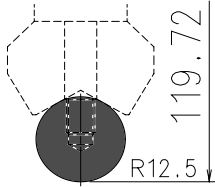
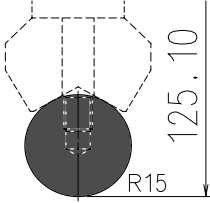
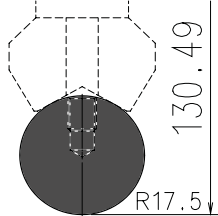


HIGH TONNAGE TOOLS

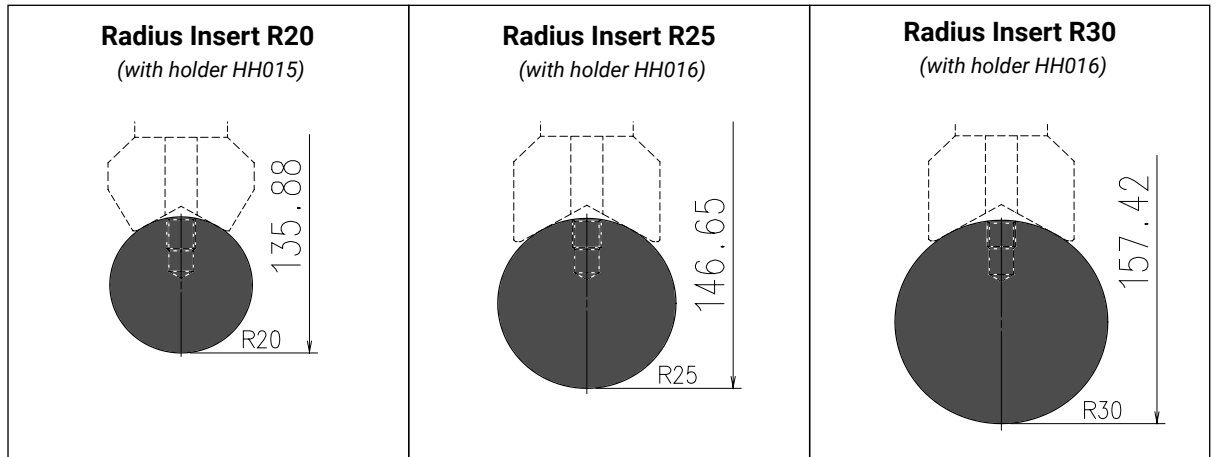
HIGH TONNAGE PUNCHES & PUNCH HOLDERS

	Punch Type HT 803	Punch Type HT 841	Punch Holder Type HH 015	Punch Holder Type HH 016
All tools 1300 kN/m				
Item No.	HT 8036502	HT 8416502	HH 0150002	HH 0160002
Tool angle	60°	60°	for 60°	for 60°
Tip radius	R5.0	R5.0	R10 to R20	R25 to R30
Strength [N/mm²]	1100 - 1200	1100 - 1200	1100 - 1200	1100 - 1200
Tip Hardness HRC	54 - 58	54 - 58	-	-
Length mm	415	415	415	415
Weight kg	12.08	14.44	10.89	11.28

Radius inserts

	Radius Insert R10 <i>(with holder HH015)</i>	Radius Insert R12.5 <i>(with holder HH015)</i>	Radius Insert R15 <i>(with holder HH015)</i>	Radius Insert R17.5 <i>(with holder HH015)</i>
All tools 1300 kN/m				
Item No.	HT 0170102	HT 0170122	HT 0170152	HT 0170172
Tip radius	R10	R12.5	R15	R17.5
Strength [N/mm²]	610 - 760	610 - 760	610 - 760	610 - 760
Tip Hardness HRC	59 - 61	59 - 61	59 - 61	59 - 61
Length mm	415	415	415	415
Weight kg	1.05	1.63	2.33	3.16

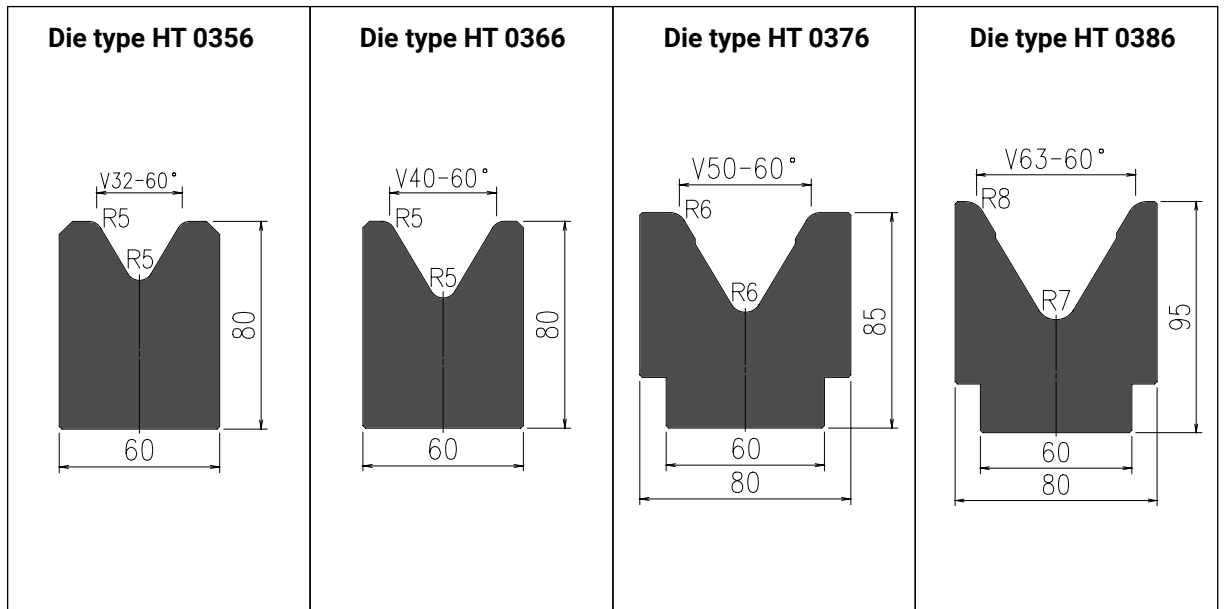
All tools
1300 kN/m



Item No.	HT 0170202	HT 0170252	HT 0170302
Tip radius	R20	R25	R30
Strength [N/mm²]	610 - 760	610 - 760	610 - 760
Tip Hardness HRC	59 - 61	59 - 61	59 - 61
Length mm	415	415	415
Weight kg	4.11	6.41	9.22

HIGH TONNAGE DIES

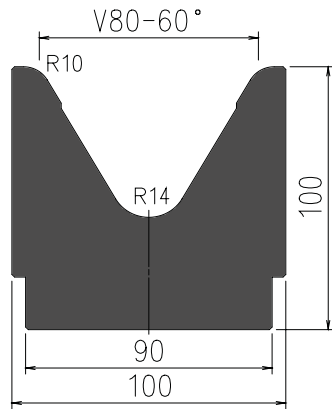
All tools
1300 kN/m



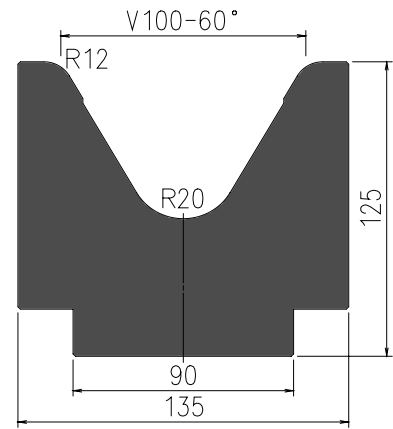
Item No.	HT 0356502	HT 0366502	HT 0376602	HH0386802
Tool angle	60°	60°	60°	60°
Sch. radius	R5.0	R5.0	R6	R8
Strength [N/mm²]	1100 - 1200	1100 - 1200	1100 - 1200	1100 - 1200
R Hardness HRC	54 - 58	54 - 58	54 - 58	54 - 58
Length mm	415	415	415	415
Weight kg	14.12	13.437	17.09	17.61



Die type HT 0136



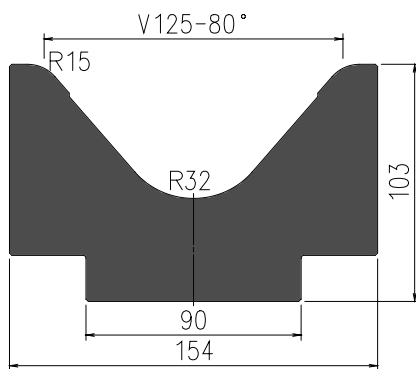
Die type HT 0186



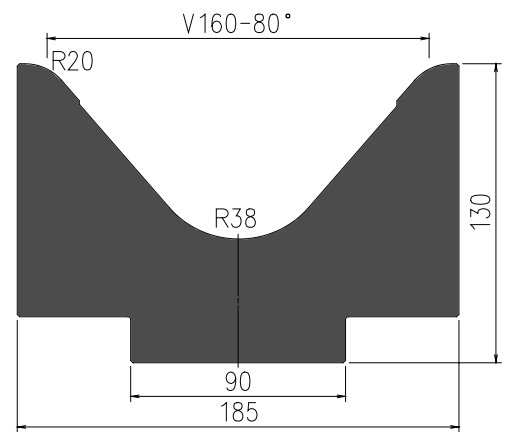
All tools
1300 kN/m

Item No.	HT 0136102	HT 0186124	HT 0186122
Tool angle	60°	60°	
Sch. radius	R10	R12	
Strength [N/mm²]	1100 - 1200	1100 - 1200	
R Hardness HRC	54 - 58	54 - 58	
Length mm	415	200	415
Weight kg	22.82	18.47	38.32

Die type HT 0390



Die type HT 0140

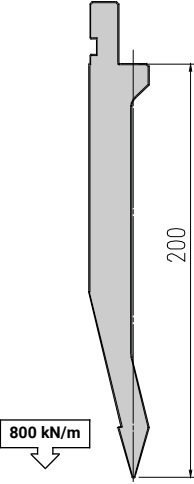
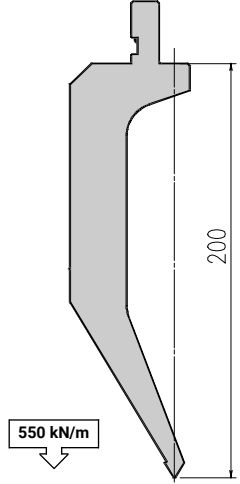
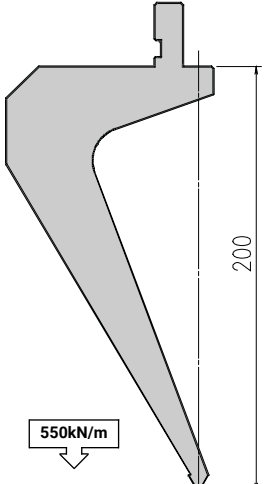
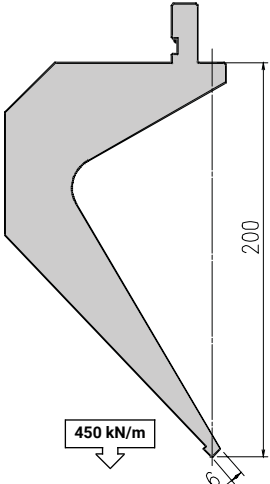


All tools
1300 kN/m

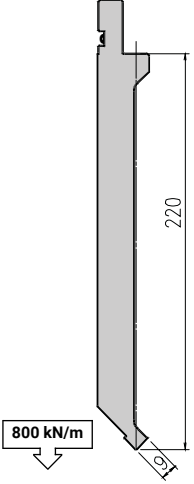
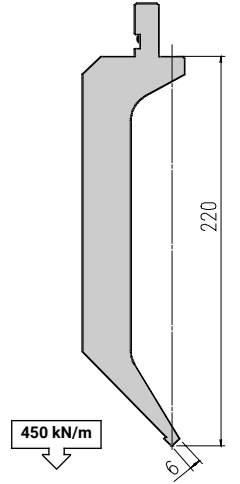
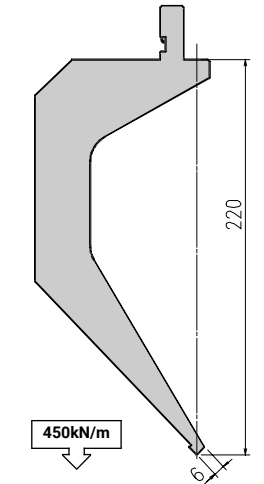
Item No.	HT 0390154	HT 0390152	HT 0140204	HT 0140202
Tool angle	80°		80°	
Sch. radius	R15		R20	
Strength [N/mm²]	580 - 720		580 - 720	
R Hardness HRC	54 - 58		54 - 58	
Length mm	200	415	200	415
Weight kg	15.78	32.74	23.10	47.93

SEMI STANDARD TOOLS

H 200 PUNCHES 30°, 60°, 86°

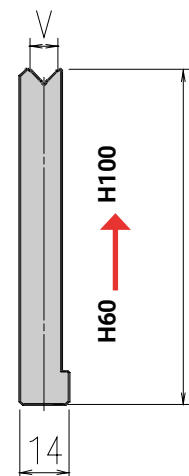
	Punch Type 831 H200 30°-R0.6	Punch Type 841 H200_W55 60°-R0.6	Punch Type 841 H200_W95 60°-R0.6	Punch Type 846 H200_W110 86°-R0.6
				
Tool angle	30°	60°	60°	86°
Tip radius	R0.6	R0.6	R0.6	R0.6
Length mm	415	415	415	415
Weight kg	12.2	16.8	22.4	27.2

Punch type 804, 846

	Punch Type 804 H220 86°-R0.6	Punch Type 846 H220_W55 86°-R0.6	Punch Type 846 H220_W95 86°-R0.6
			
Tool angle	86°	86°	86°
Tip radius	R0.6	R0.6	R0.6
Length mm	415	415	415
Weight kg	14.9	19.4	25.9

Semi Standard Dies

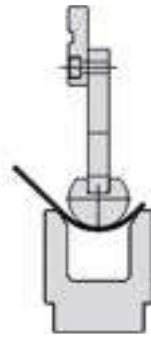
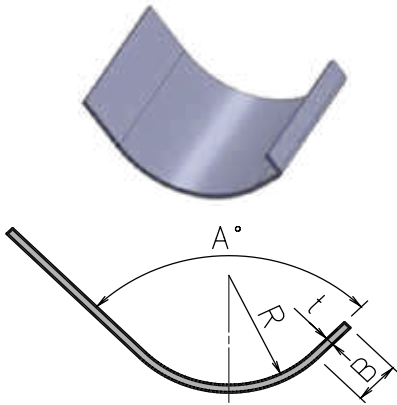
All AFH standard dies, up to V25 opening, can be ordered in AMANIT quality with 100mm special height.



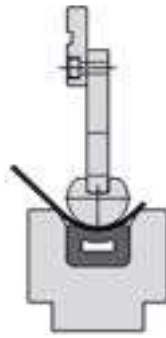
1. All punches with 1000 N/mm² body strength and 54-58 HRC tip hardness
2. According to your requirements please ask for special tip radius, special sectionalized lengths, special ear shapes (considering the reduced tonnage capacity)
3. Without non corrosive coating on punch body
4. See chapter «Tables and Graphs» for return bend area details

SPECIAL TOOLS

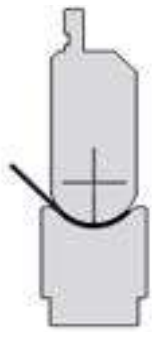
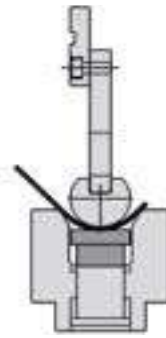
Large-radius bending



Using air-bending tools



Using counterpressure

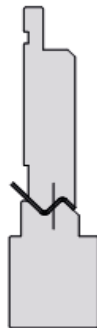
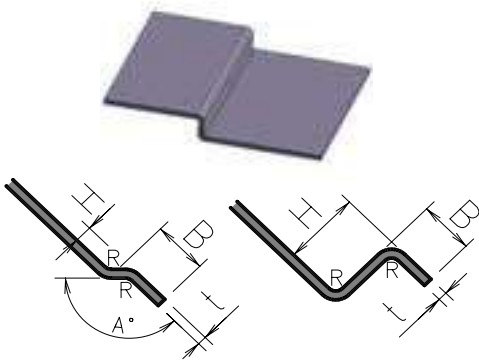


Using coining tools

Note:

- please check the option to use step-bending process
- for mild steel ($3t < R < 30t$), R value will vary around $\pm 5\%$
- for $R \geq 30t$ less accuracy should be considered
- for $B < 10t$ air bending is not recommended

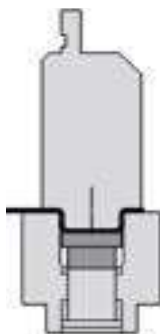
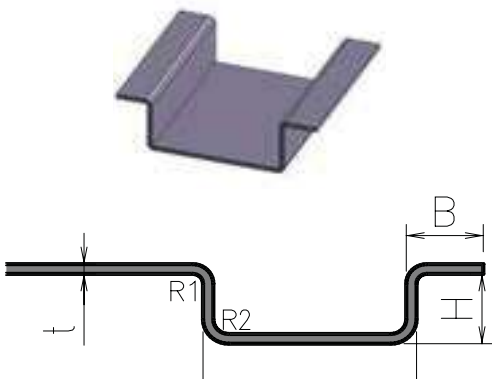
Offset bending



Note:

- please check the option to use standard offset tools
- best results for $R \approx 0.3H$; $B = 1.4H + 5$ mm; $H < 12$ mm (mild steel)
- H results will vary around ± 0.2 mm
- for $H < 2.8t$ less accuracy

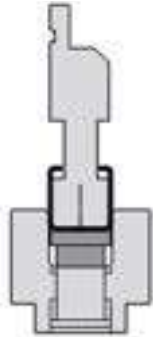
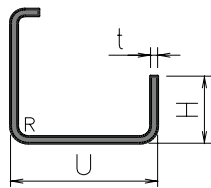
Hat bending



Note:

- best results for $R1 \approx t$; $R2 \approx 2t$; $H \approx (5t \text{ bis } 15 \text{ mm})$ $U \approx (4t \text{ bis } 30 \text{ mm})$
- H and U results will vary around ± 0.2 mm
- for $B < 10t$ less accuracy

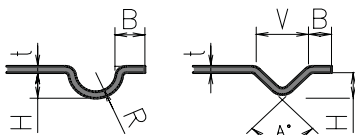
U bending



Note:

- best results for $R \approx t$; $U \approx (4t \text{ bis } 30 \text{ mm})$
- U results will vary around $\pm 0.2 \text{ mm}$
- top side of the U shape could slightly open

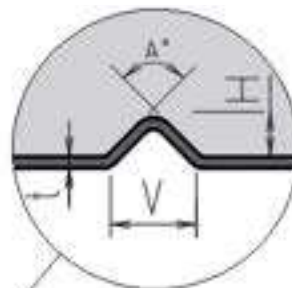
Beading (longitudinal to the bending line)



Note:

- best results for $R \approx (3t \text{ bis } 10 \text{ mm})$; $V \approx (4t \text{ bis } 30 \text{ mm})$ and $A > 60^\circ$ (mild steel)
- H results will vary around $\pm 0.2 \text{ mm}$
- for $B < 10t$ less accuracy

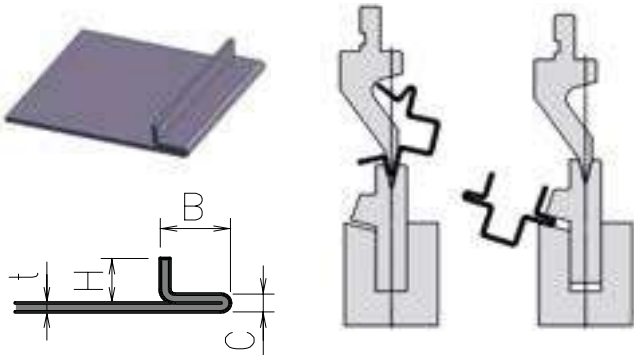
Beading (transversal to the bending line)



Needed data



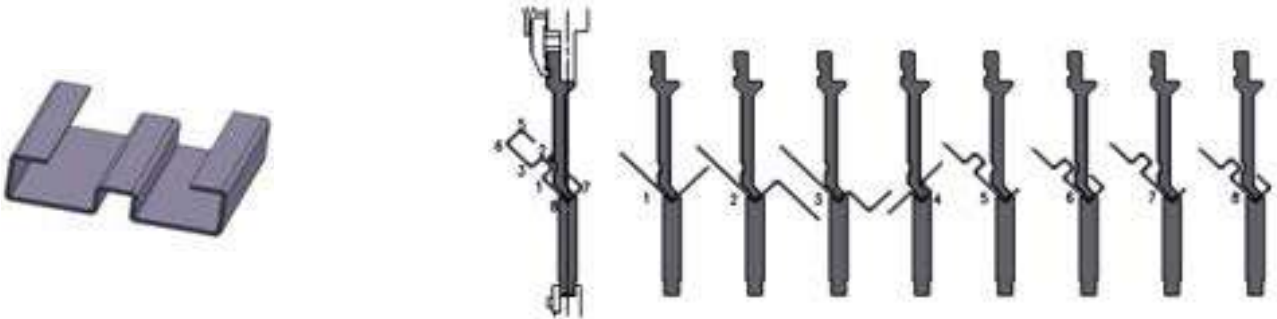
Flattening



Note:

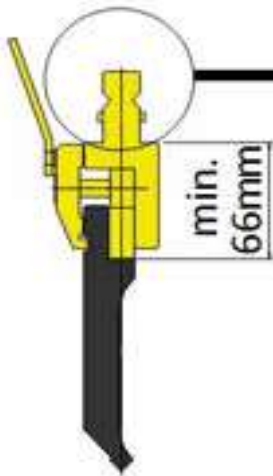
- for $C=2t$ high bending force is required
- for more complex parts double-deck type tools are not possible
- higher flange of $H > B$ could cause tonnage problems

Determination of customized bending sequences

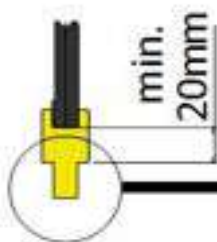


Conversion Adaptors

AMADA offers adapting solutions for press brakes with Non-AMADA style tooling. The advantage of these adaptors is the short and adjustable height in order to optimize 'open height of the press brake. For an quotation, all Non-AMADA dimensions are needed.



Height-adjustable adaptor for punches from NON-AMADA system (Beyeler, LVD, Wila, ...) to AMADA



Adaptor for Dies from NON-AMADA system (Beyeler, LVD, Wila, ...) to AMADA (Insert, Reversible, Direct)



Tooling profile change for punches



Modifications of the tool parameters

due to «through hardened» quality, AMADA tools have same hardness after modification (heat treatment is not necessary)

- Angle modifications (for springback compensations)
- Tip radius modifications
- Regrinding and repairing
- Modifications of the length or special section widths
- Special coatings against galling and special marking on request



Modifications according to the shape of the sheet metal part



Modifications of the punch body for closed bending



Due to highest strength of the body, AMADA tools can be modified much thinner than conventional tools

- Modifications for very thin U-shaped sheet metal parts
- Modifications for very close C-shaped sheet metal parts

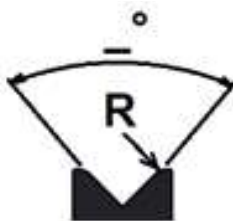


Modifications of the ear tool (length and profile)



Rulers with special radii

Tooling profile change for dies



Modifications of the tool parameters

- Angle modifications (for springback compensations)
- Shoulder radius modifications (for less marks)
- Regrinding and repairing
- Modifications of the length or special section widths
- Special coatings against galling and special marking on request



Modifications according to the shape of the sheet metal part



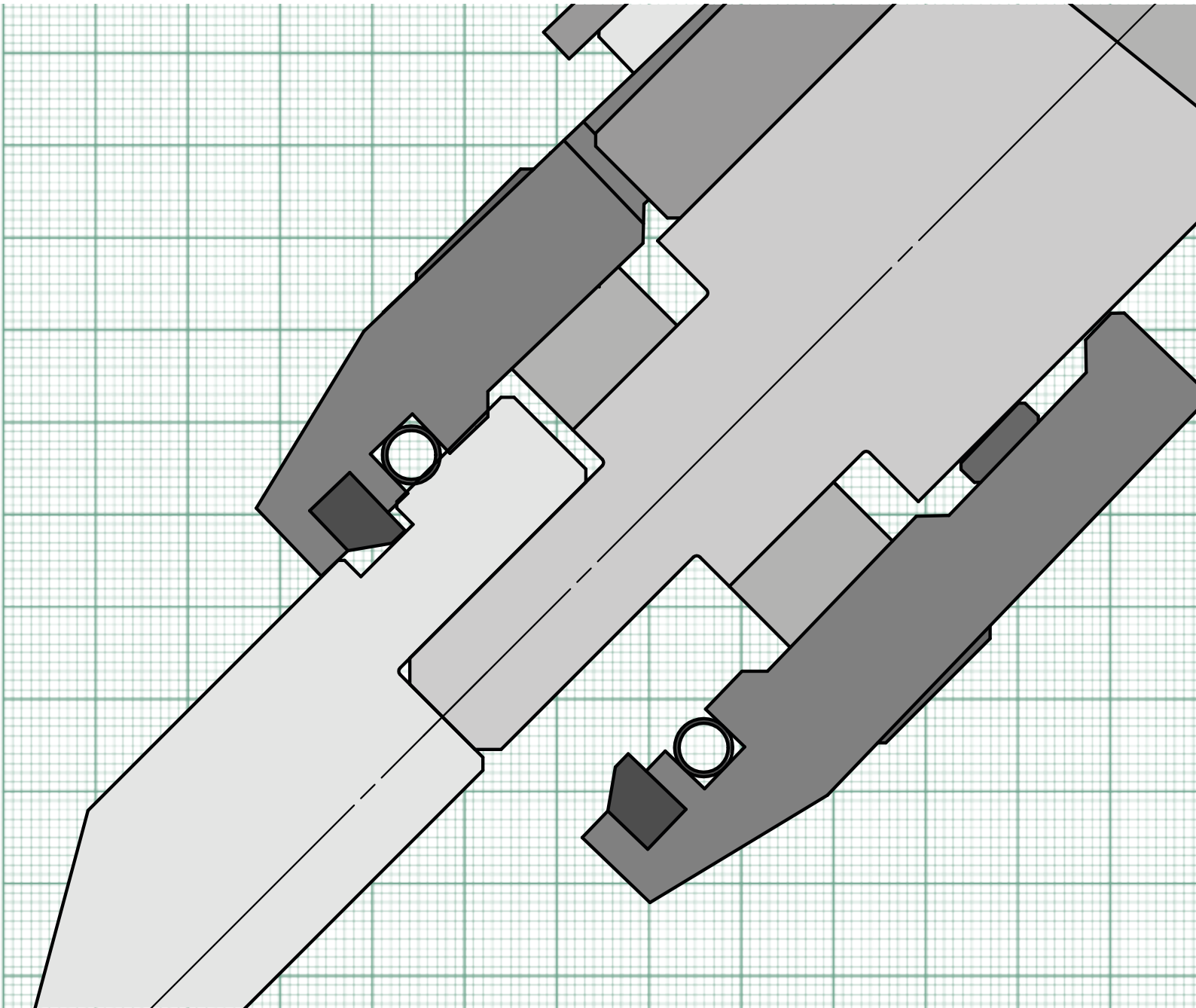
Adaptions for the reversible system



Adaptions for the insert system



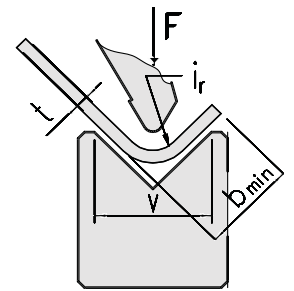
TABLES AND GRAPHS



AIR BENDING FORCE CHART

If **material thickness t** is known the recommended V opening can be selected using following formulas:

t	(0...3) mm	(3...8) mm	(8...12) mm	12mm or more
V	6t	8t	10t	12t



Considering t, V and tensile strength Rm [N/mm²] of sheet material, the table below shows the most important bending data:

1. Minimum bendable flange length bmin
2. Bending radius ir on the sheet metal
3. Pressure F in KN required for 1 metre bending length.

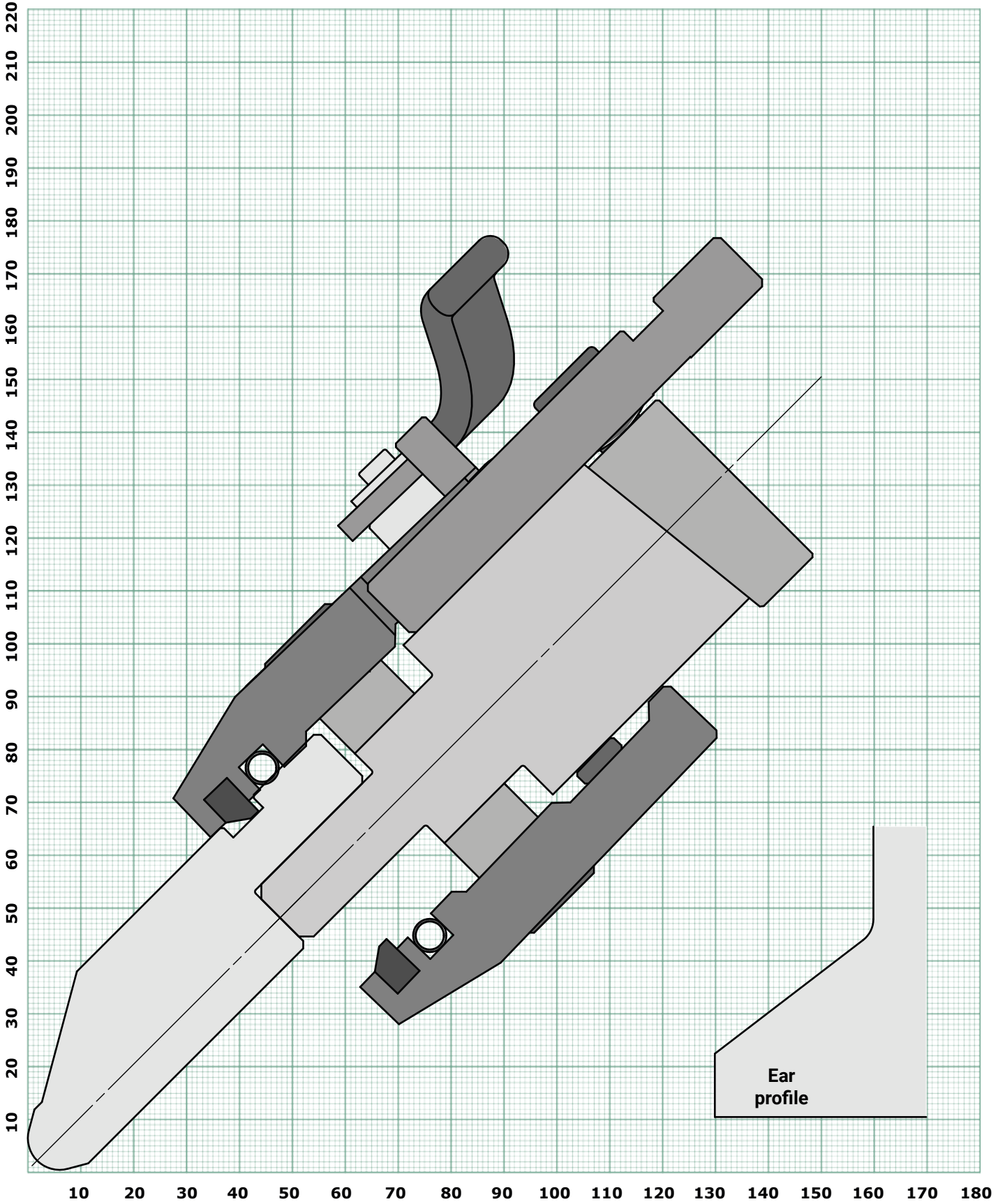
The tables are for mild and stainless steel. For other type of materials, please use the mild steel table with multiplier k=Rm/450

V	4	6	7	8	10	12	14	16	18	20	25	32	40	50	63	80	100	125	160	200	250			
bmin	2,8	4	5	5,5	7	8,5	10	11	13,5	14	17,5	22	28	35	45	55	71	89	113	140	175			
ir	0,7	1	1,1	1,3	1,6	2	2,3	2,6	3	3,3	4	5	6,5	8	10	13	16	20	26	33	41			
t	for mild steel Rm=450 N/mm ²																							
0,5	40	30																						
0,6	60	40	40	40																				
0,8		70	70	50	40																			
1,0		110	100	80	70	60																		
1,2			140	120	100	80	70	60																
1,4				150	130	110	100	90	80															
1,5				170	150	130	110	90	80															
1,6					170	150	130	110	100	90														
2,0						220	190	170	150	130	110													
2,3							250	230	190	170	150	120												
2,6								280	250	220	180	140												
3,0									340	300	240	190	150											
3,2										340	270	220	170	140										
3,5											330	260	200	160	130									
4												430	340	270	210	170								
4,5													440	340	270	210								
5														520	420	330	260	210						
6															600	480	380	300	240					
7																520	410	330	260					
9																	670	540	430					
10																		850	670	530	420			
12																			960	780	600	550		
16																				1360	1070	860		
19																					1500	1250	1000	
22																						1600	1300	
25																							2100	1700
30																								2400
t	for stainless steel Rm=700 N/mm ²																							
0,5	60	50																						
0,6	90	60	60	60																				
0,7	120	80	80	60	60																			
0,8		110	110	80	70																			
0,9		130	120	100	80	70																		
1,0		170	150	120	110	80																		
1,2			210	180	150	120	110	90																
1,5						200	170	150	130	120														
2,0						330	290	260	230	200	170													
2,5								390	350	300	250	190												
3									510	450	360	290	230											
4											650	510	410	320	260									
5												780	630	500	390	320								
6													900	720	570	450	360							
8															1020	810	650	510						
10																1280	1010	800	630					
12																	1440	1170	900	830				
15																		1800	1410	1140				
20																				2500	2080	1670		
25																						3150	2550	
30																							3600	

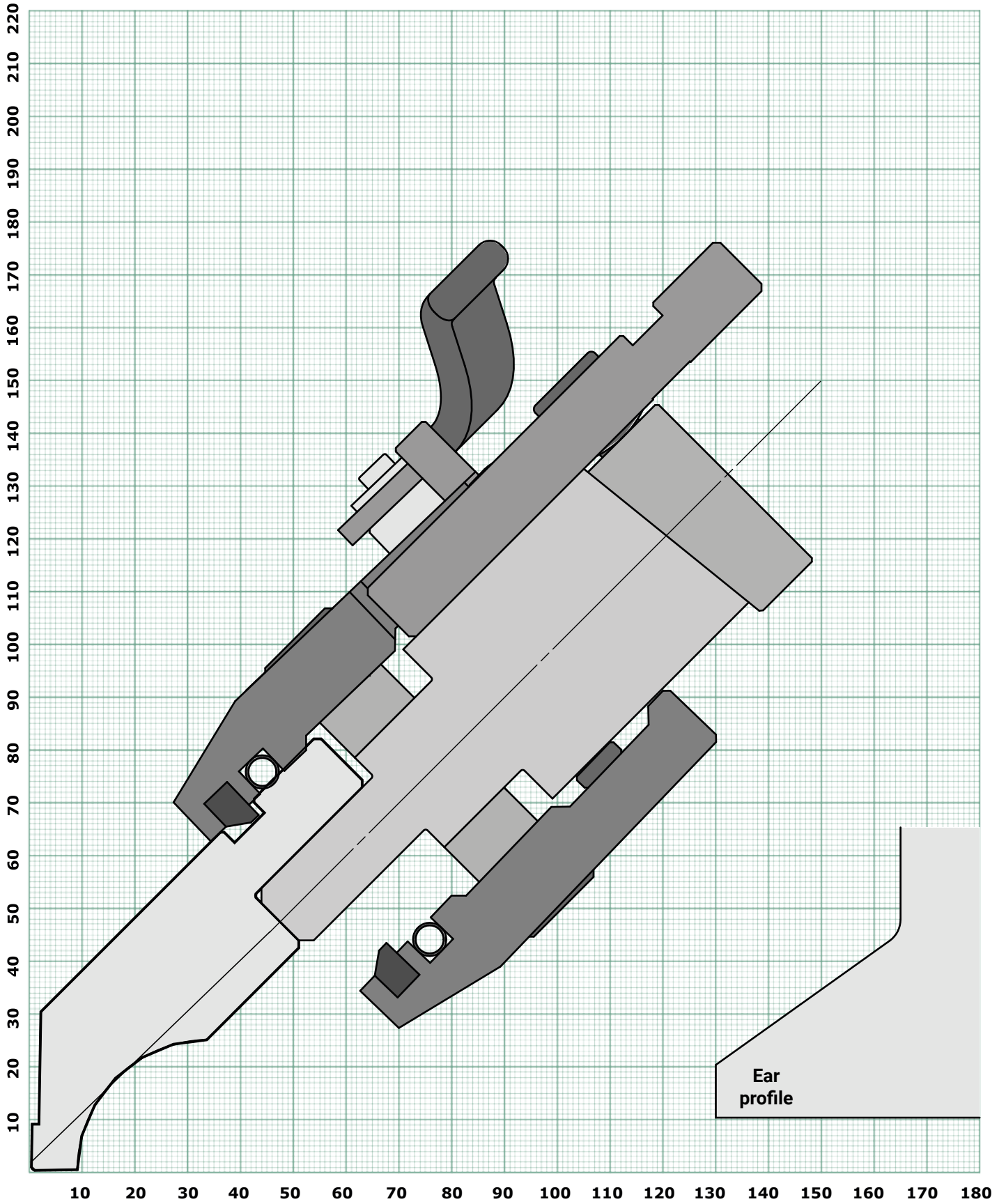


RETURN BEND LIMIT GRAPH

PUNCH 603

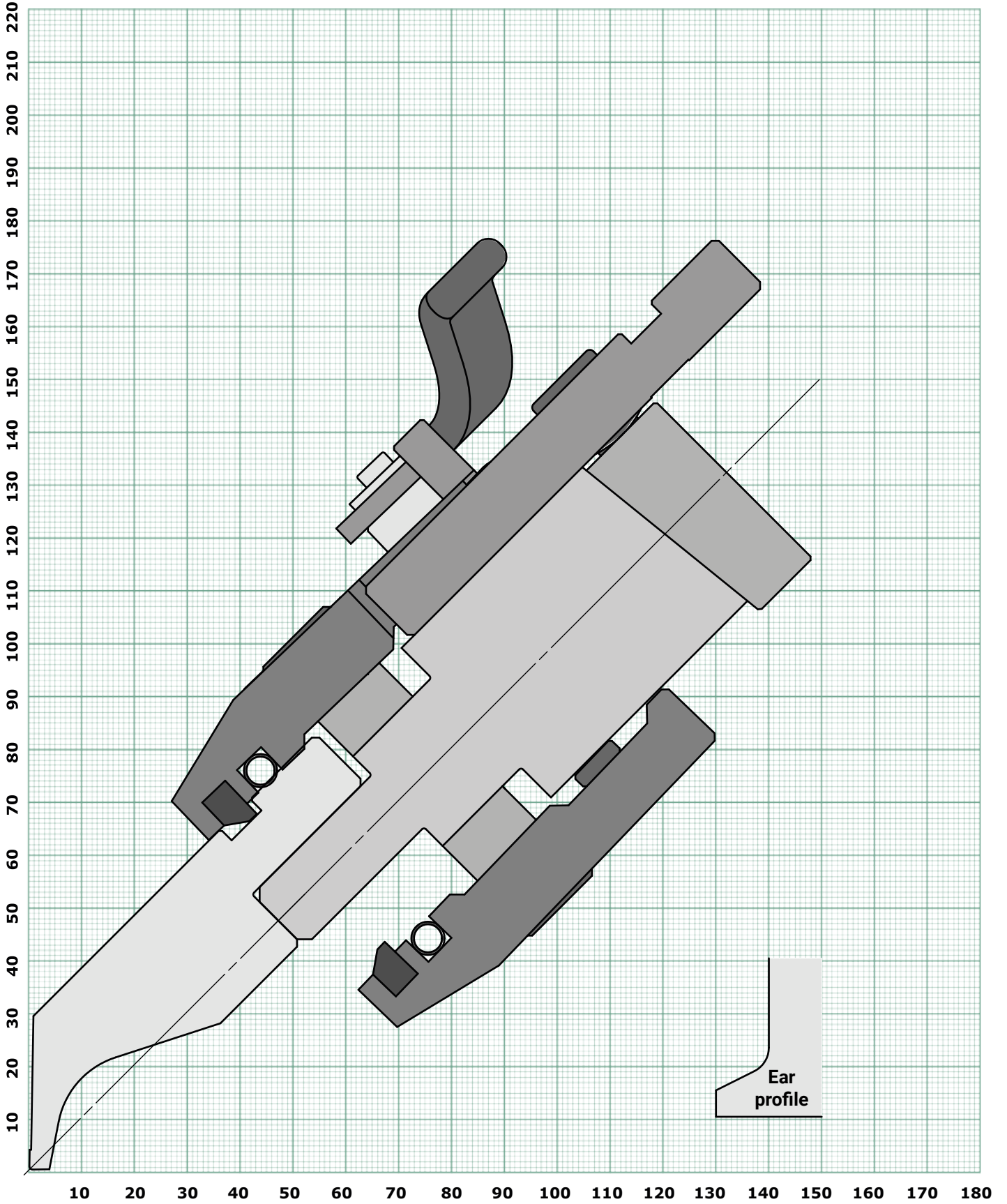


PUNCH 604

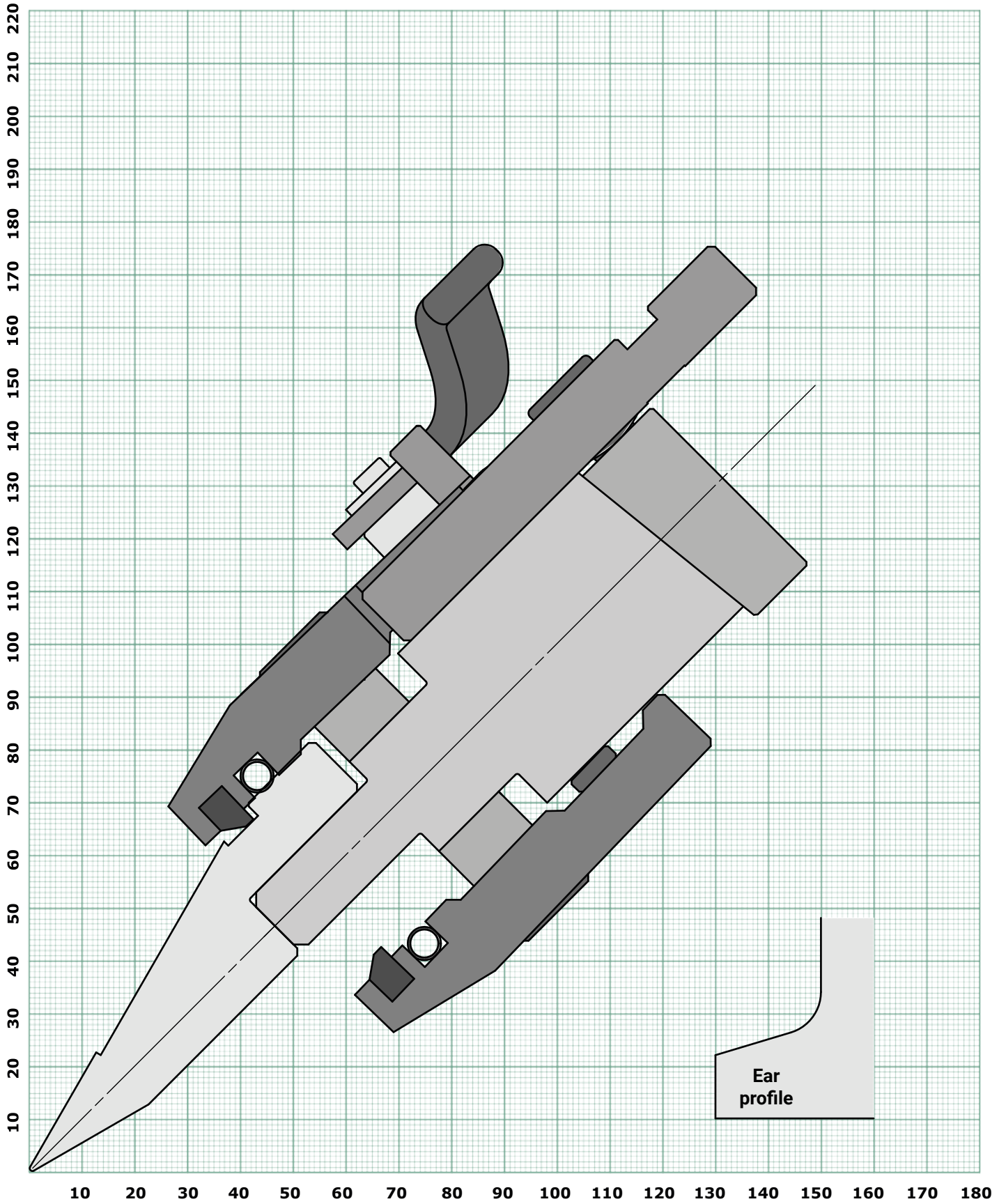




PUNCH 617

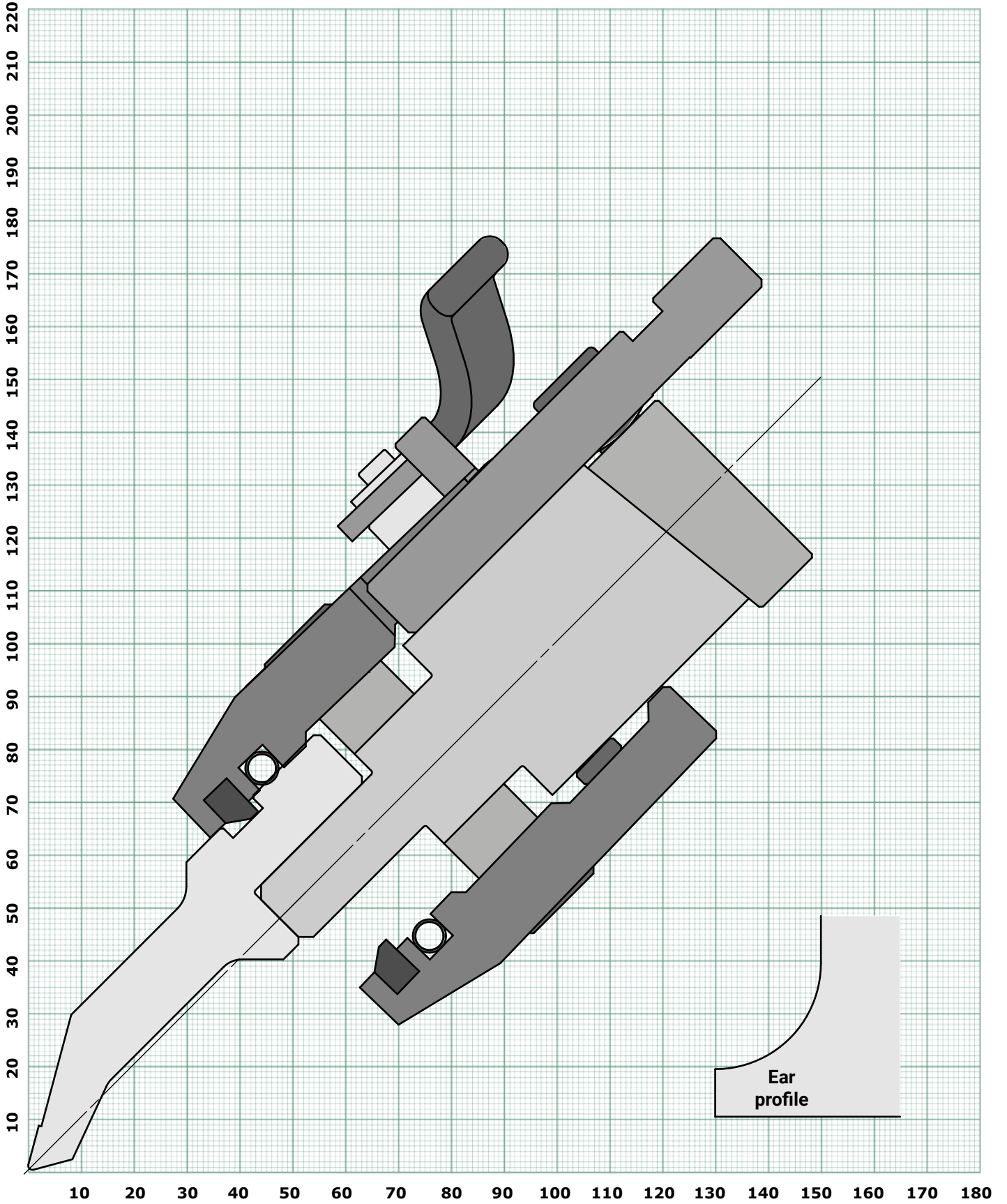


PUNCH 631

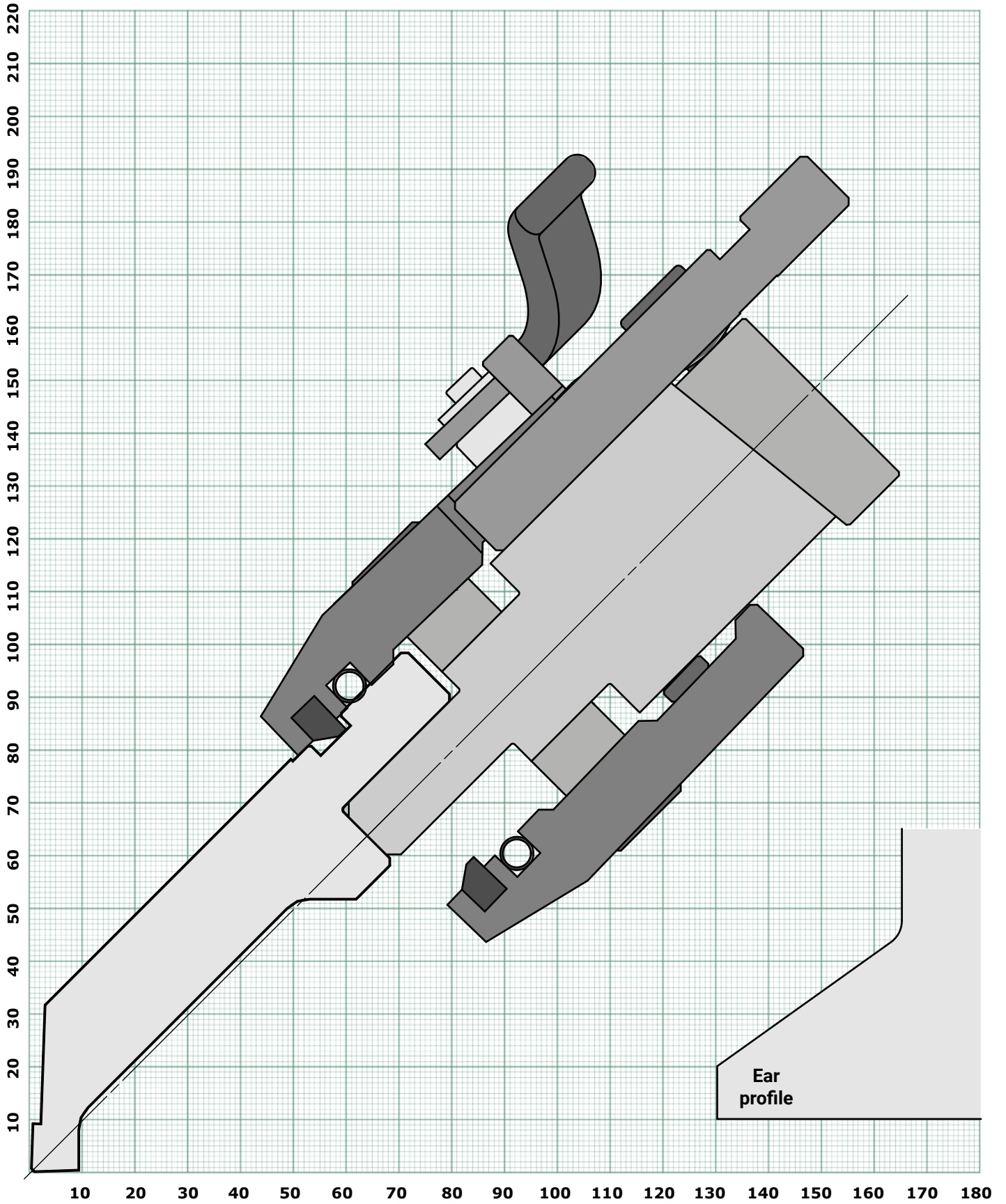




PUNCH 640

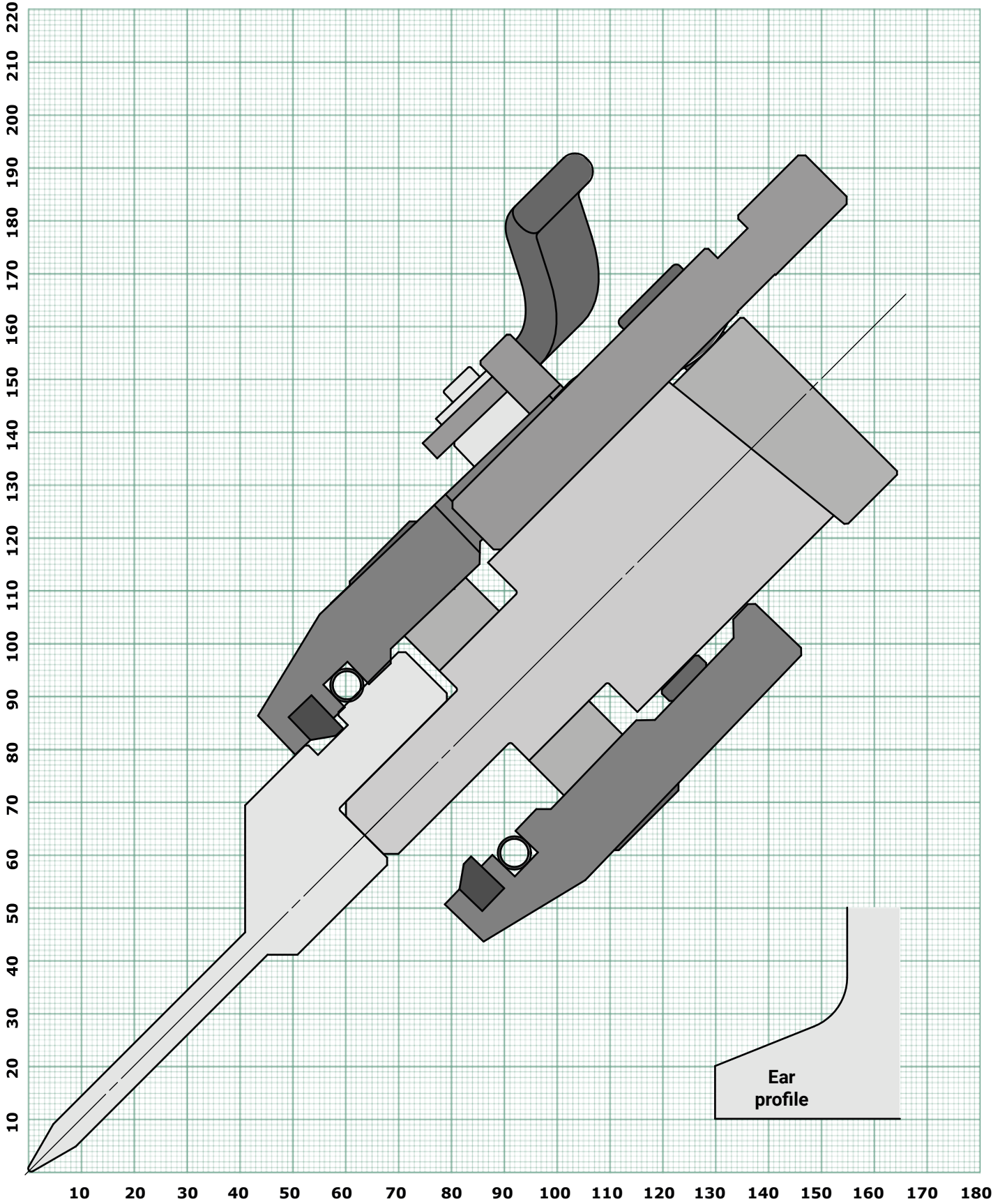


PUNCH 704

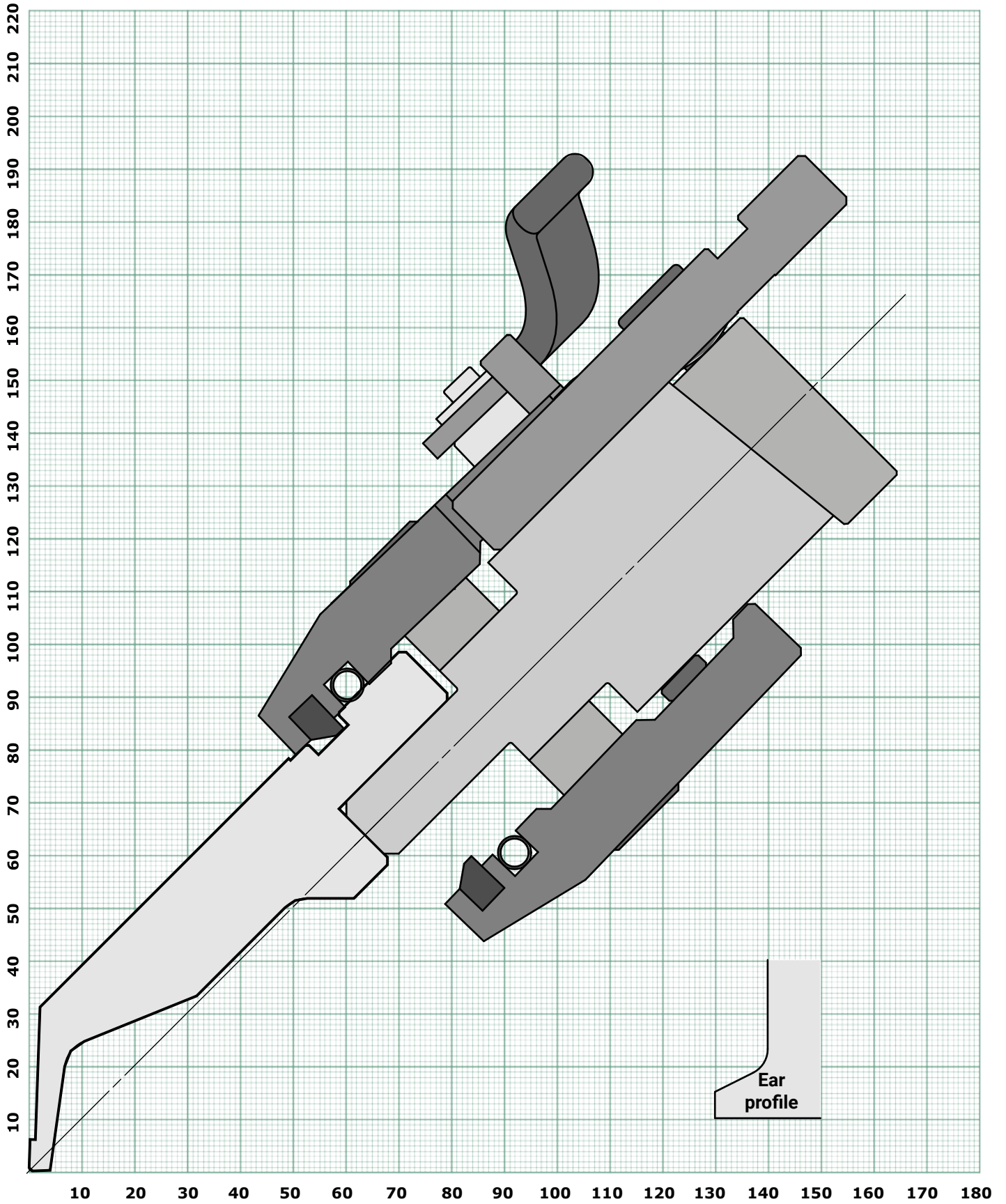




PUNCH 713

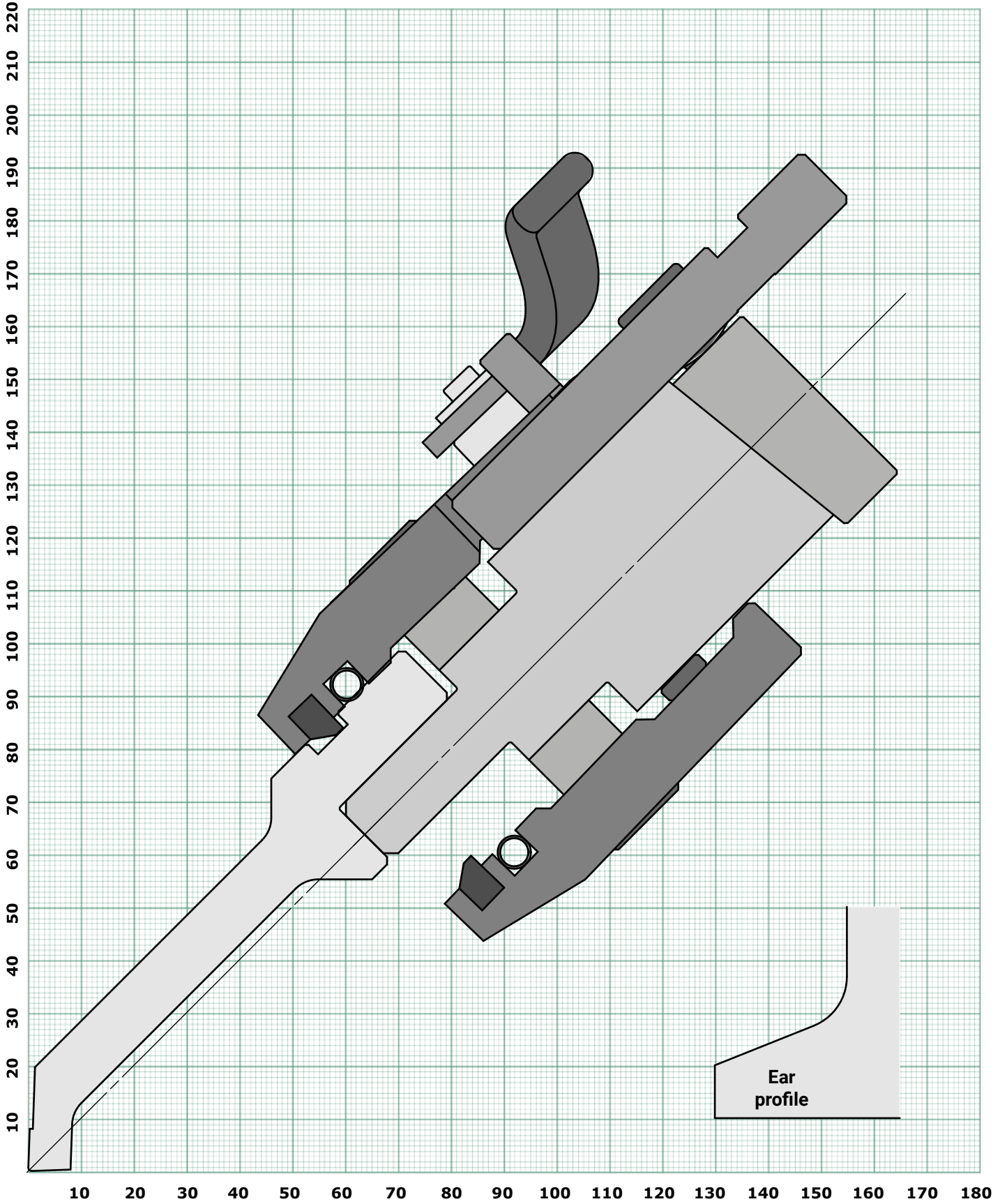


PUNCH 717

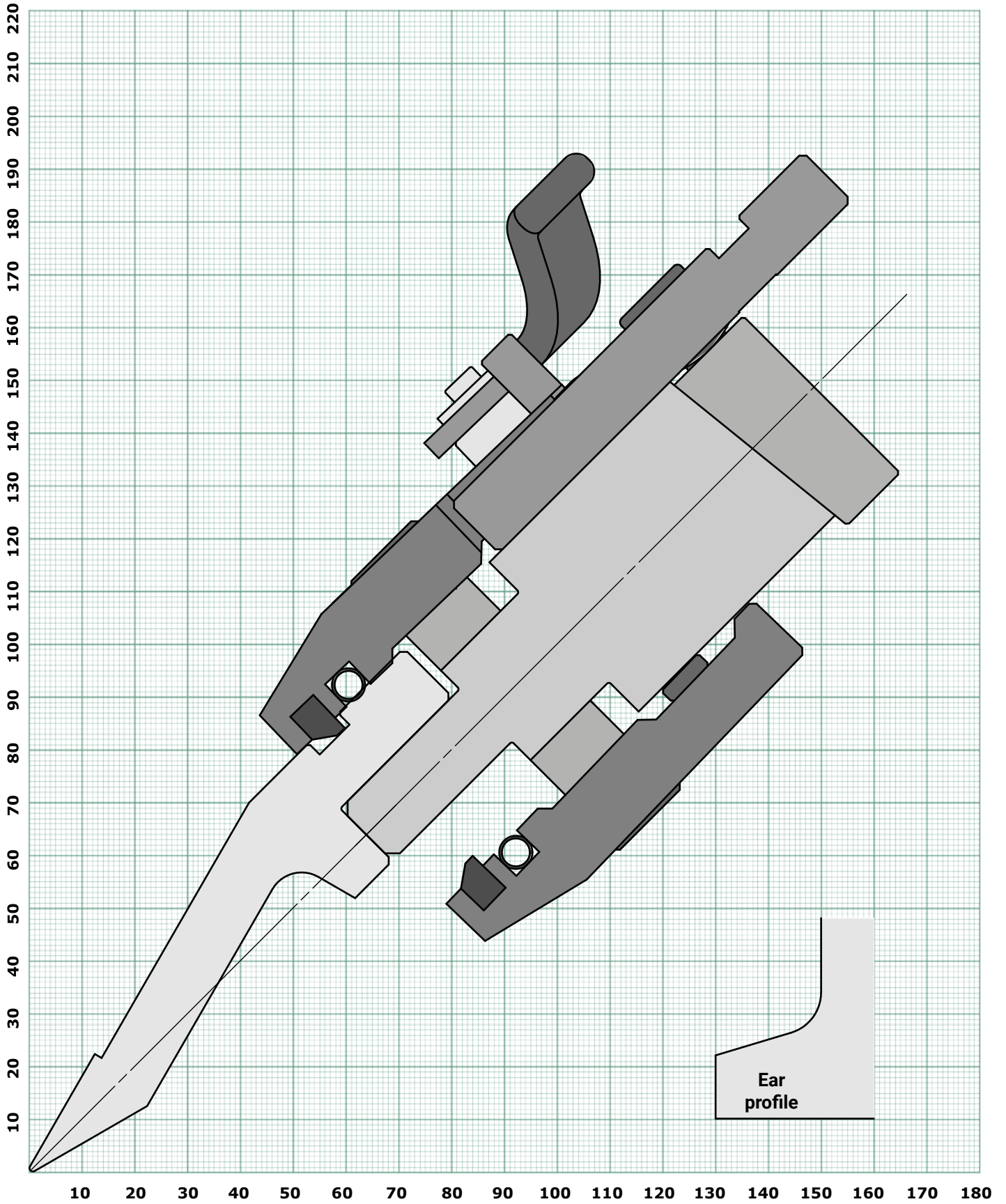




PUNCH 720

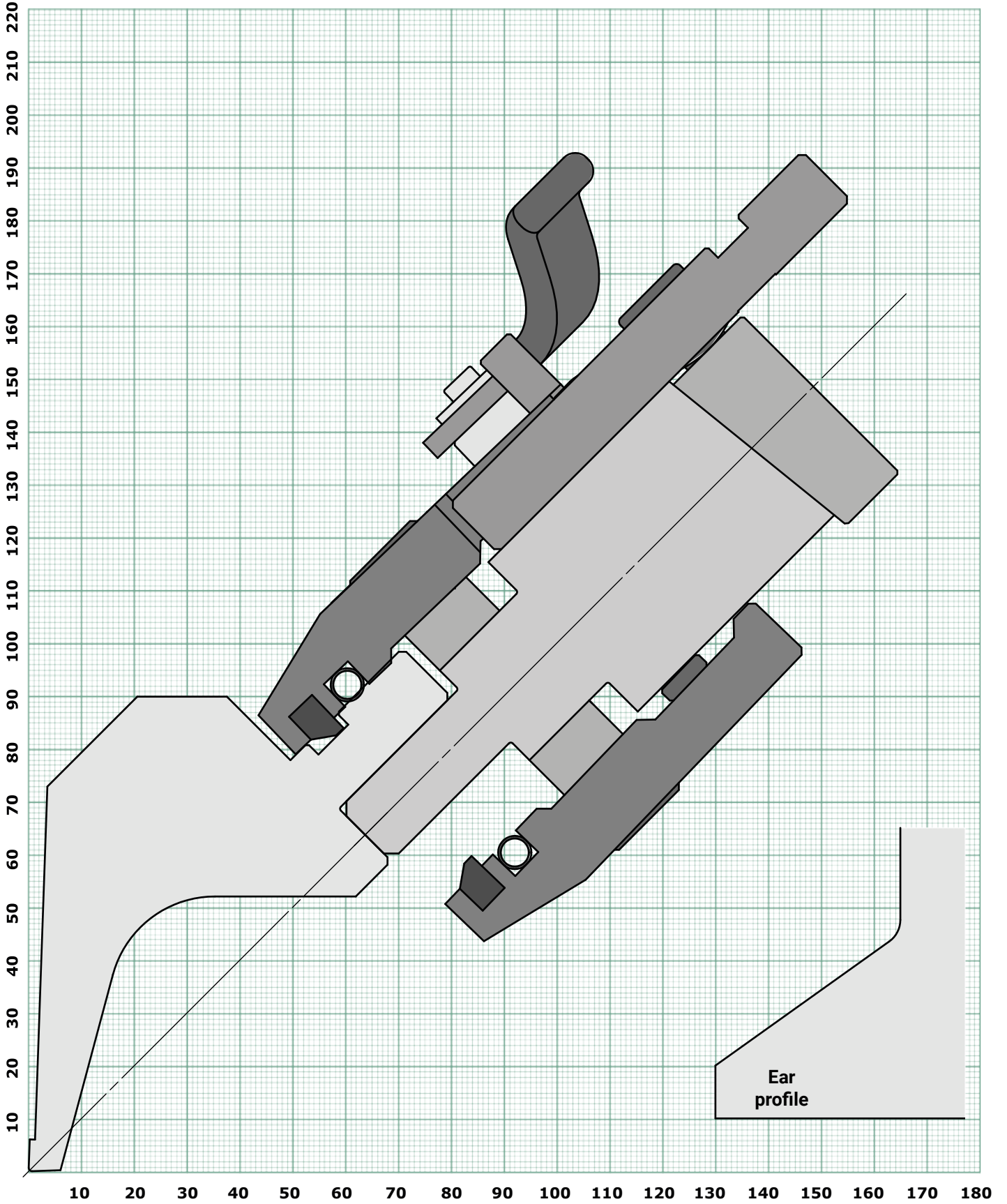


PUNCH 731

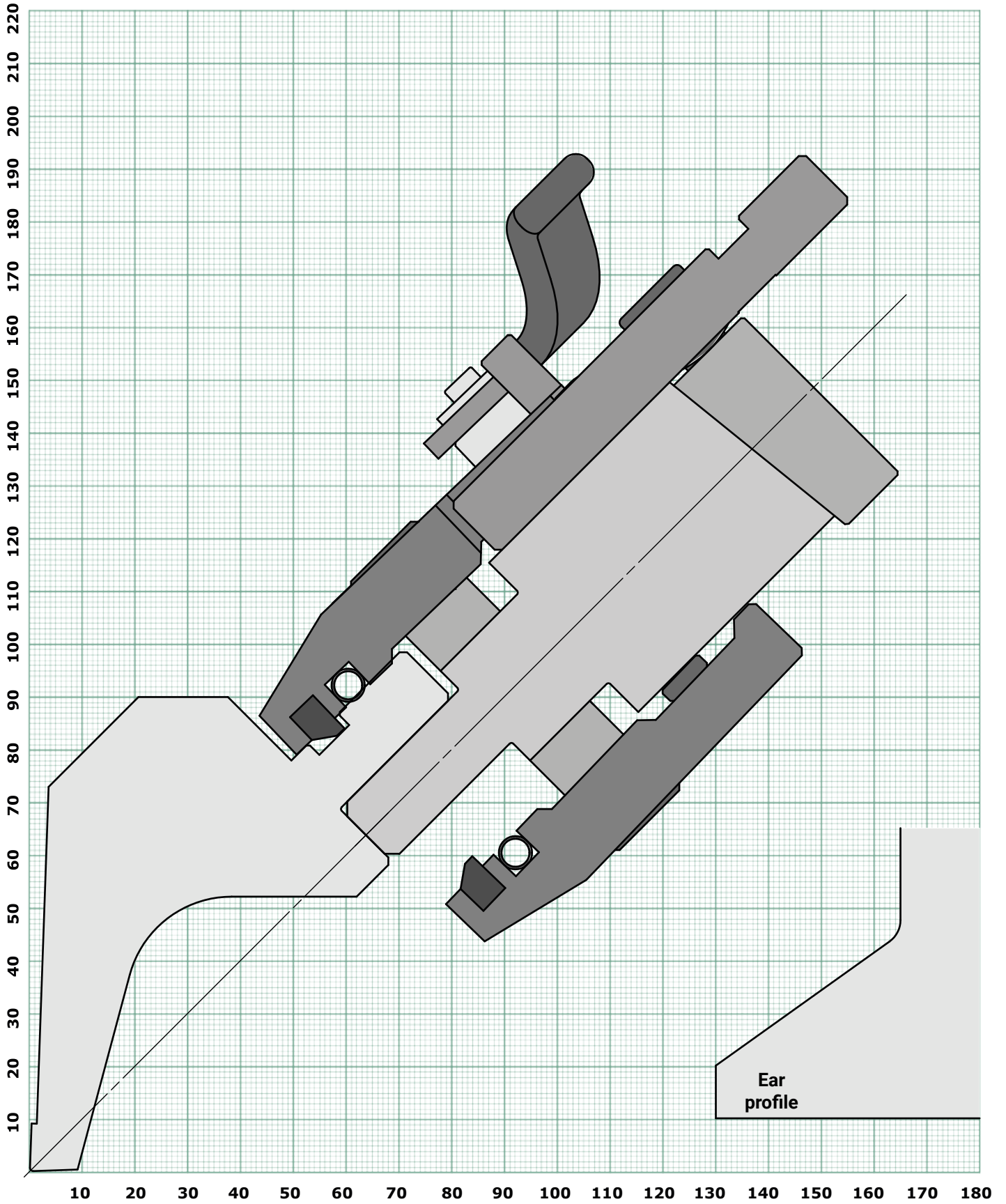




PUNCH 746

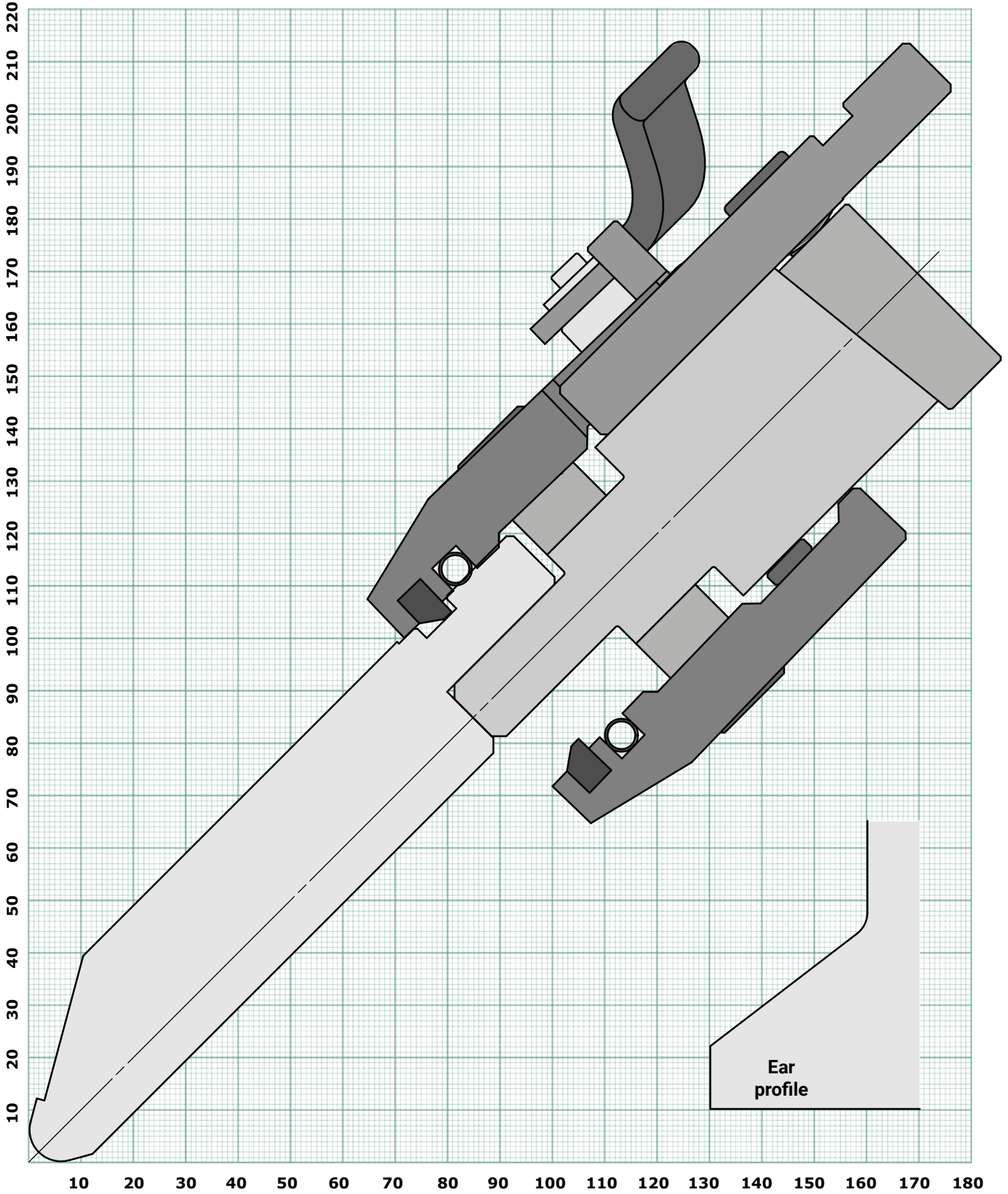


PUNCH 747

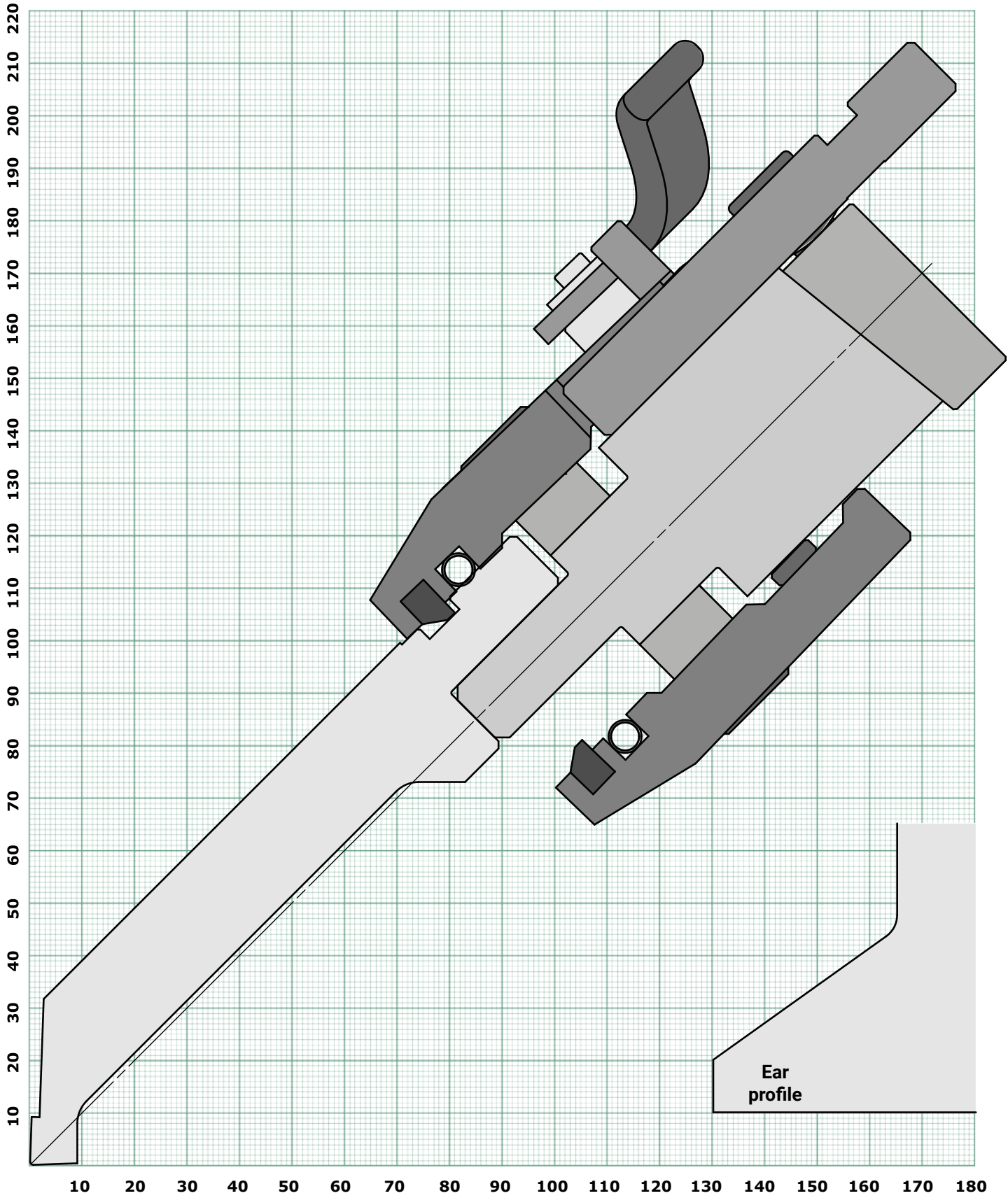




PUNCH 803

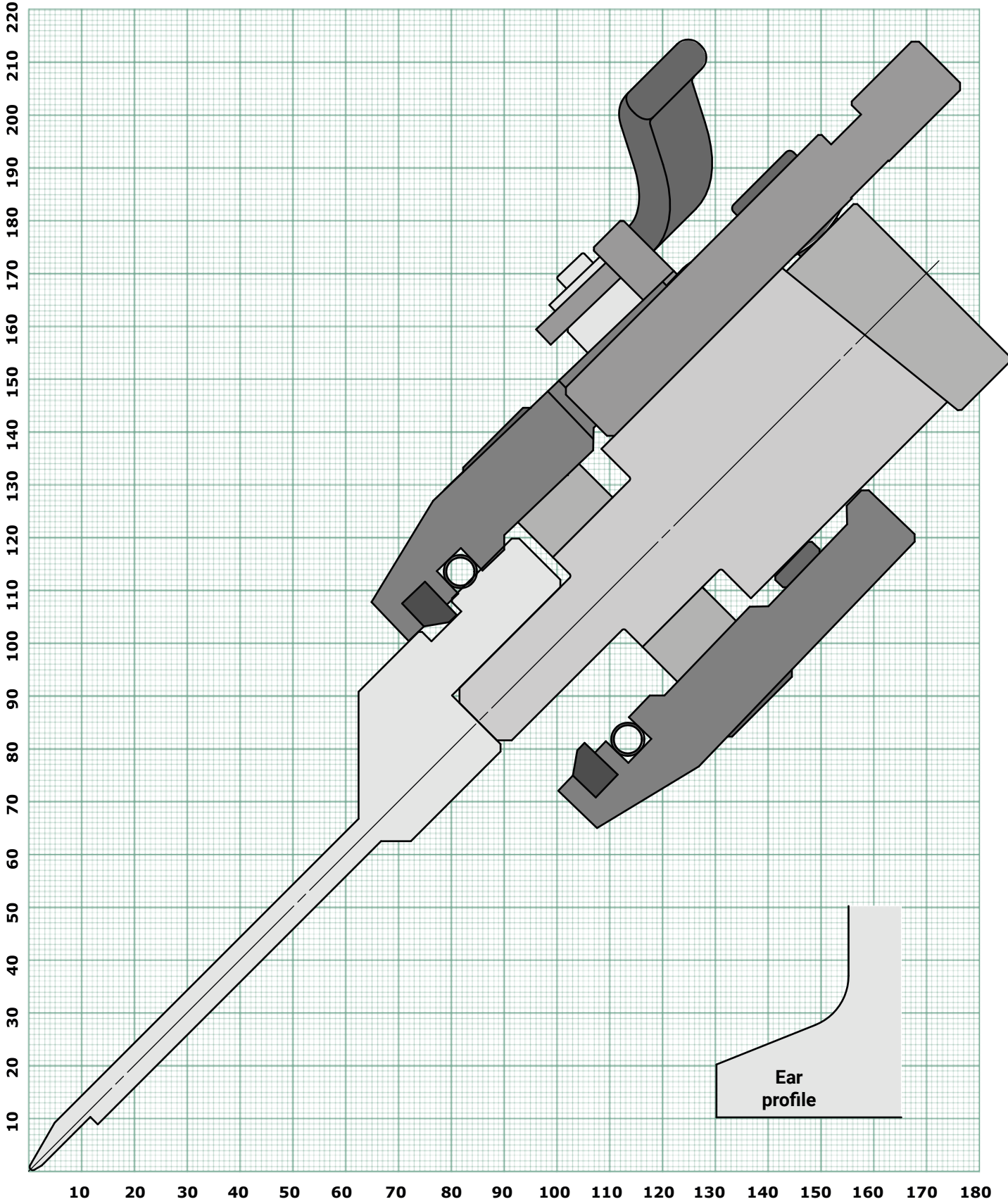


PUNCH 804

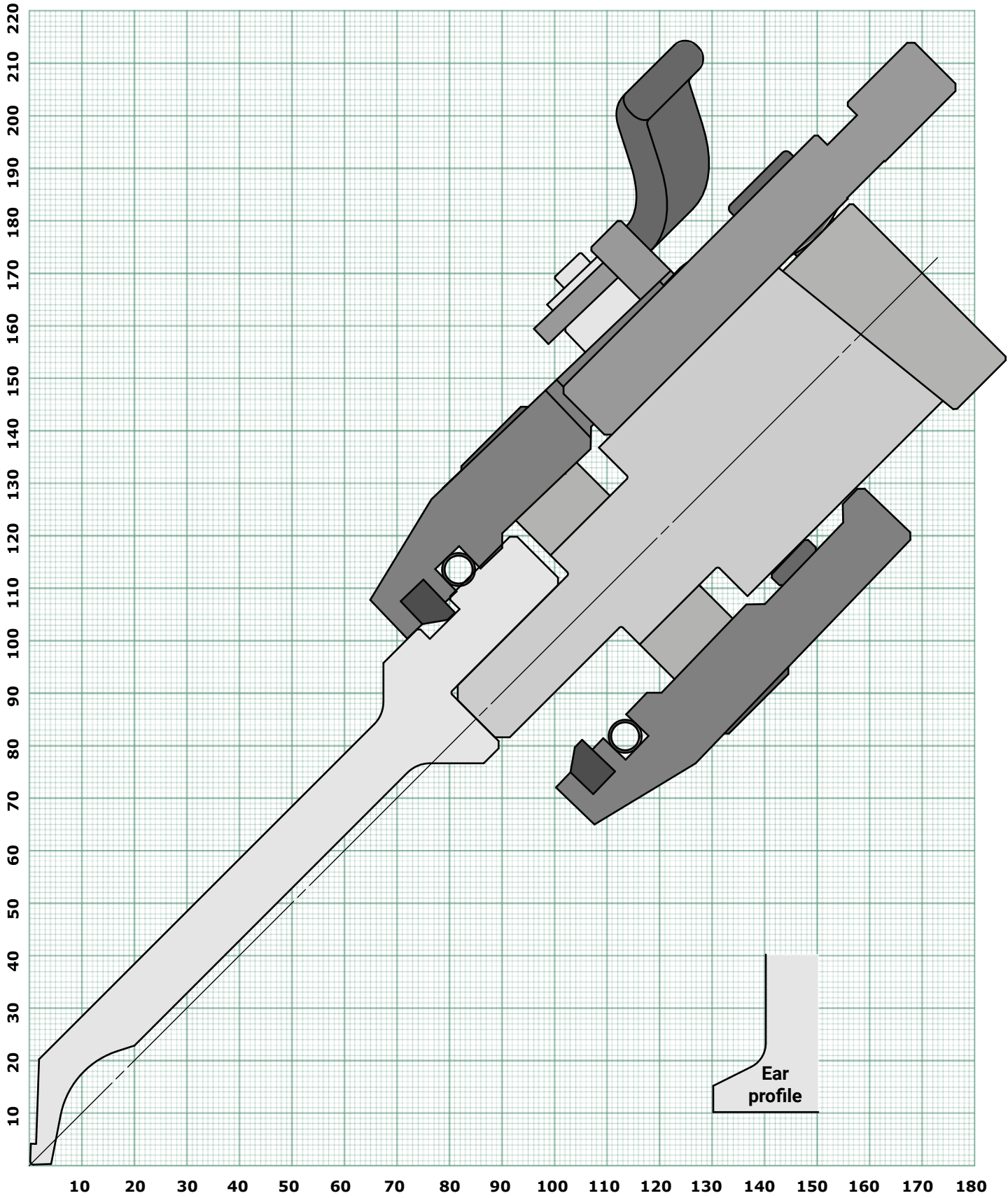




PUNCH 814

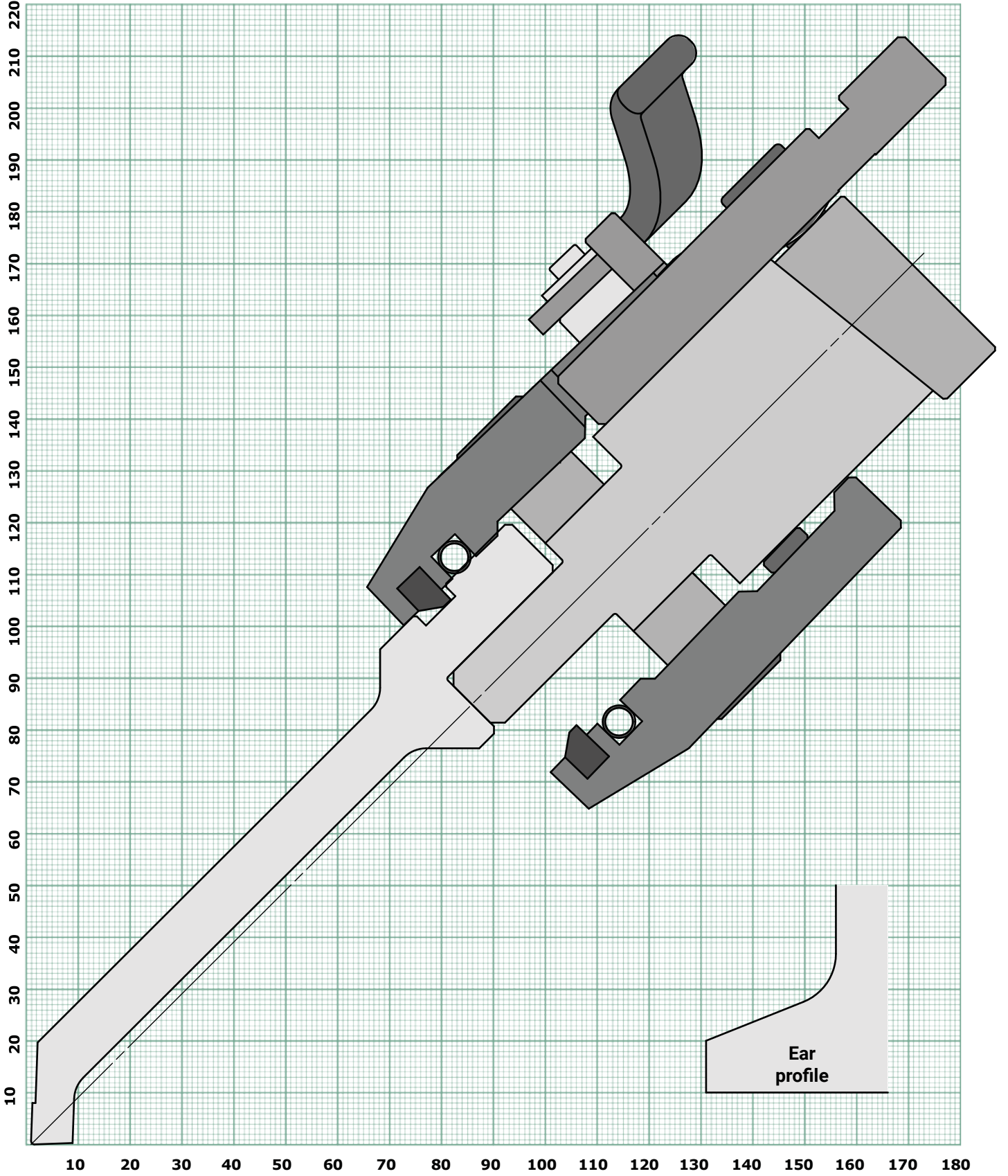


PUNCH 817

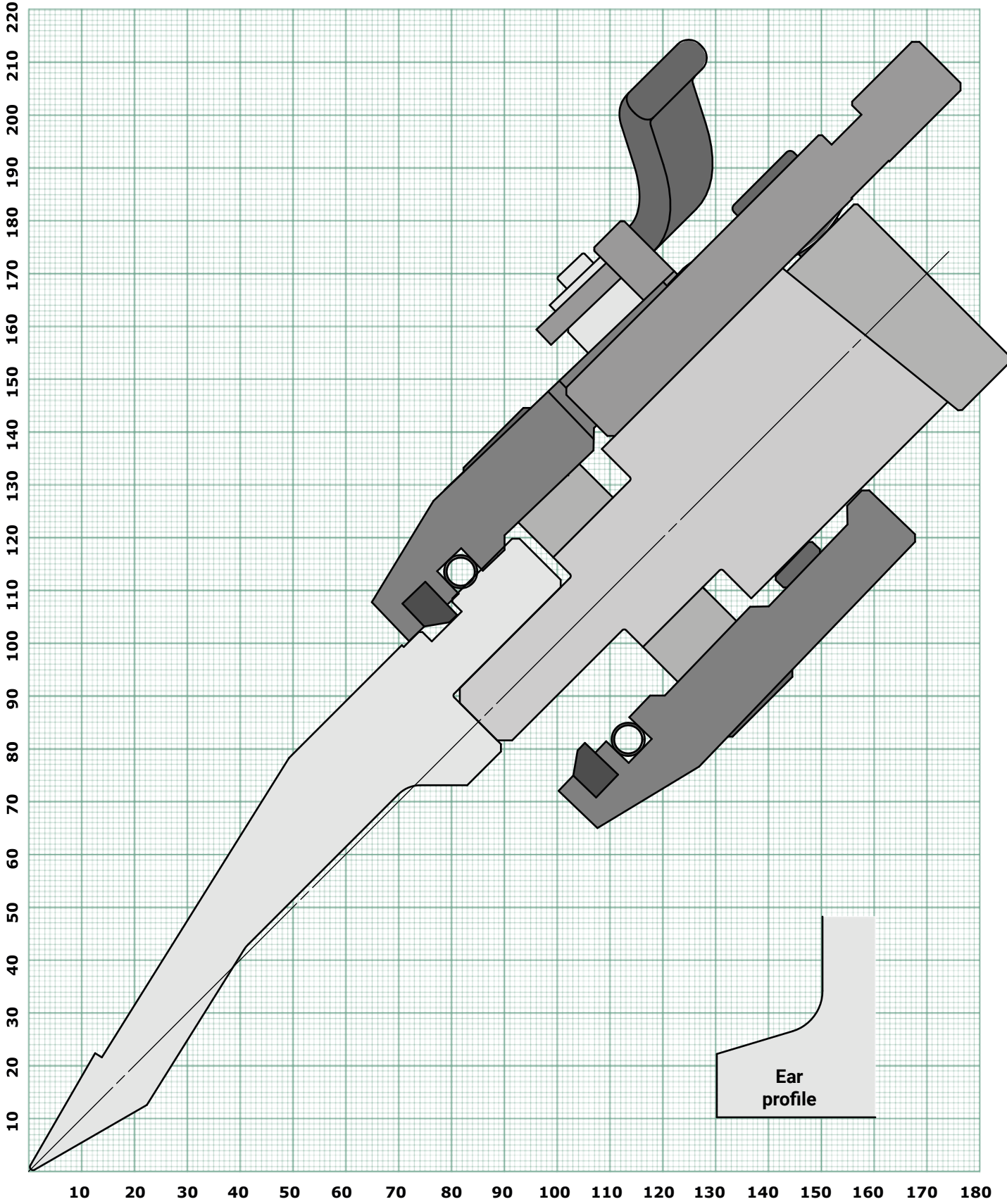




PUNCH 820

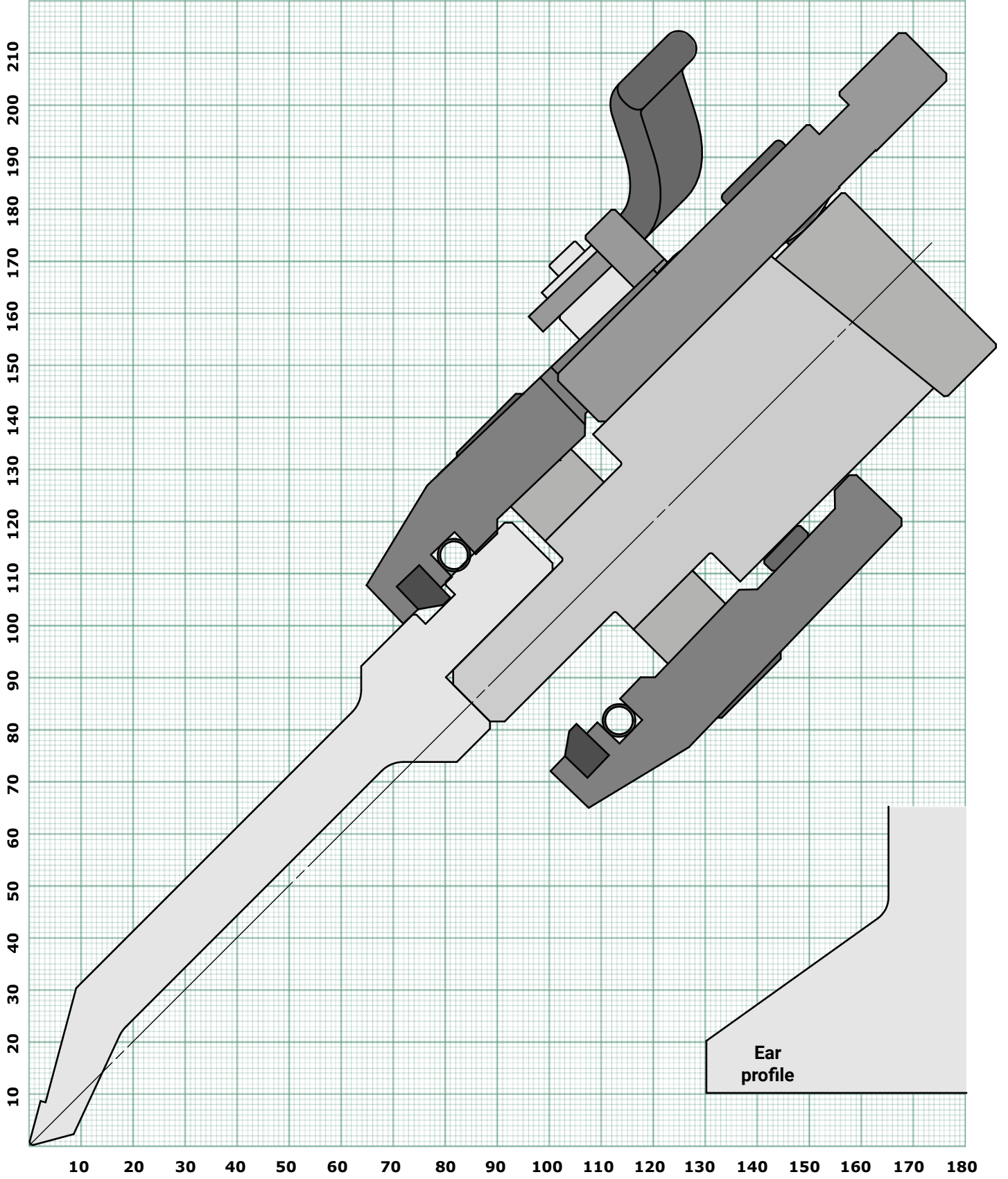


PUNCH 831

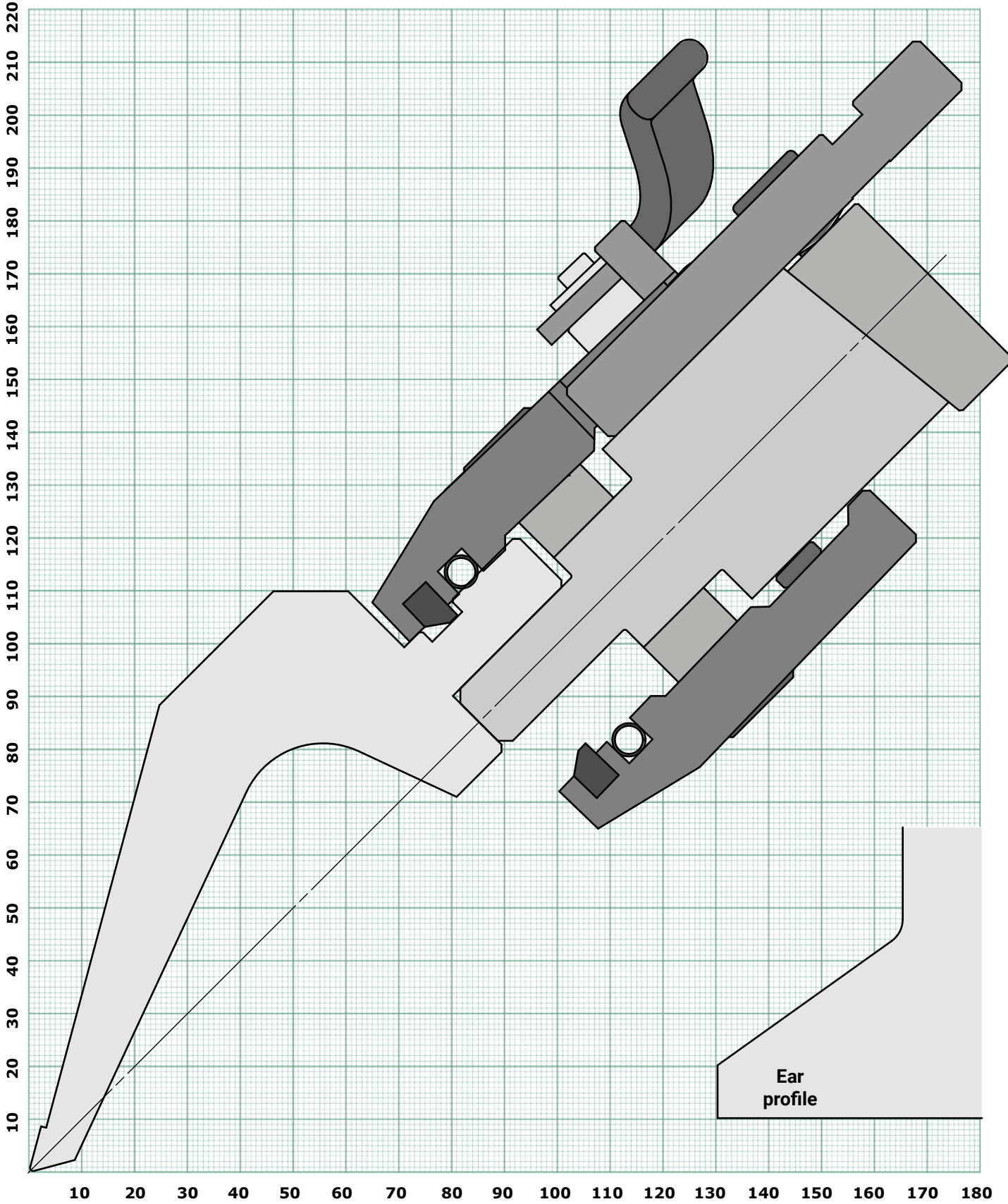




PUNCH 840

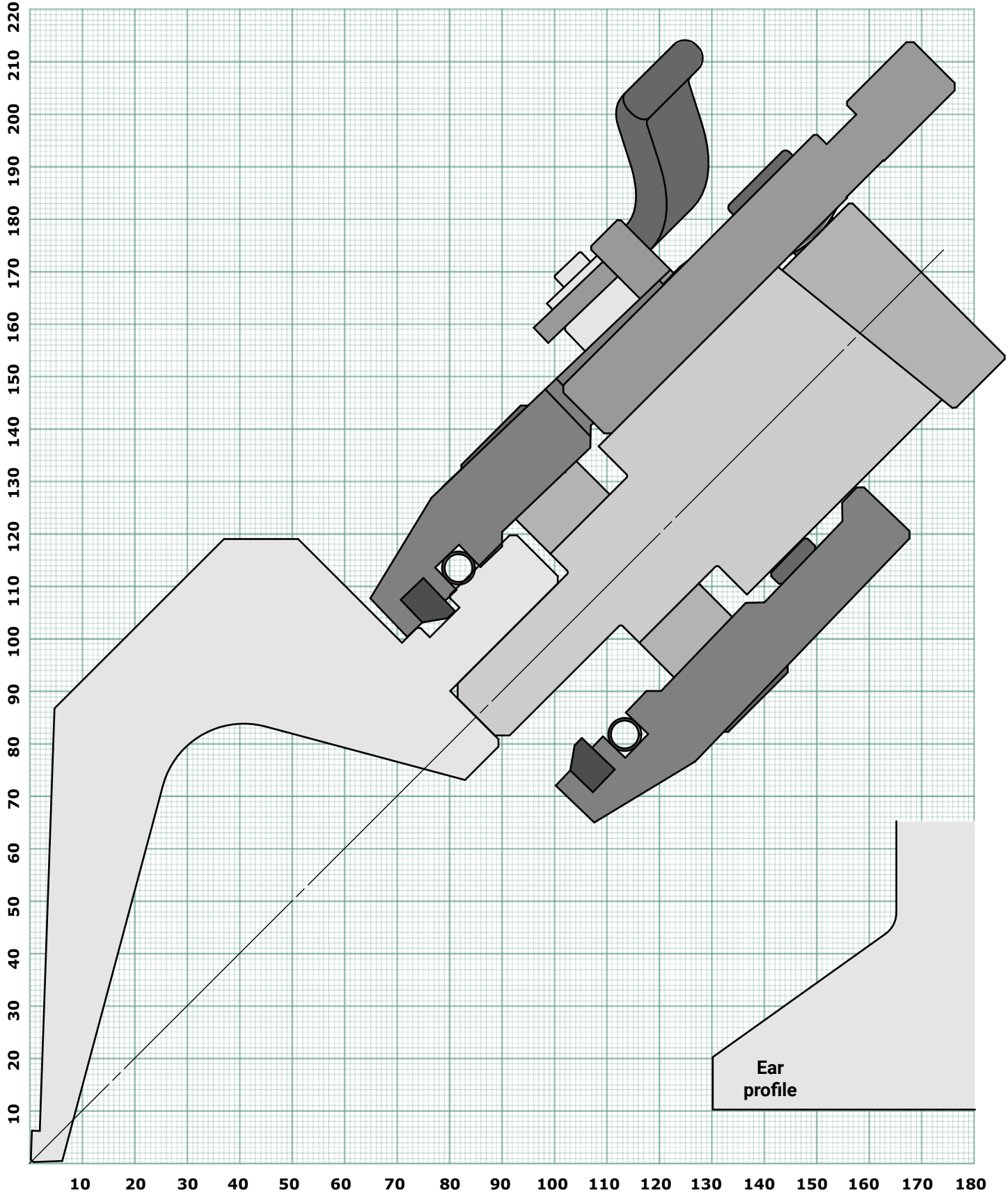


PUNCH 841

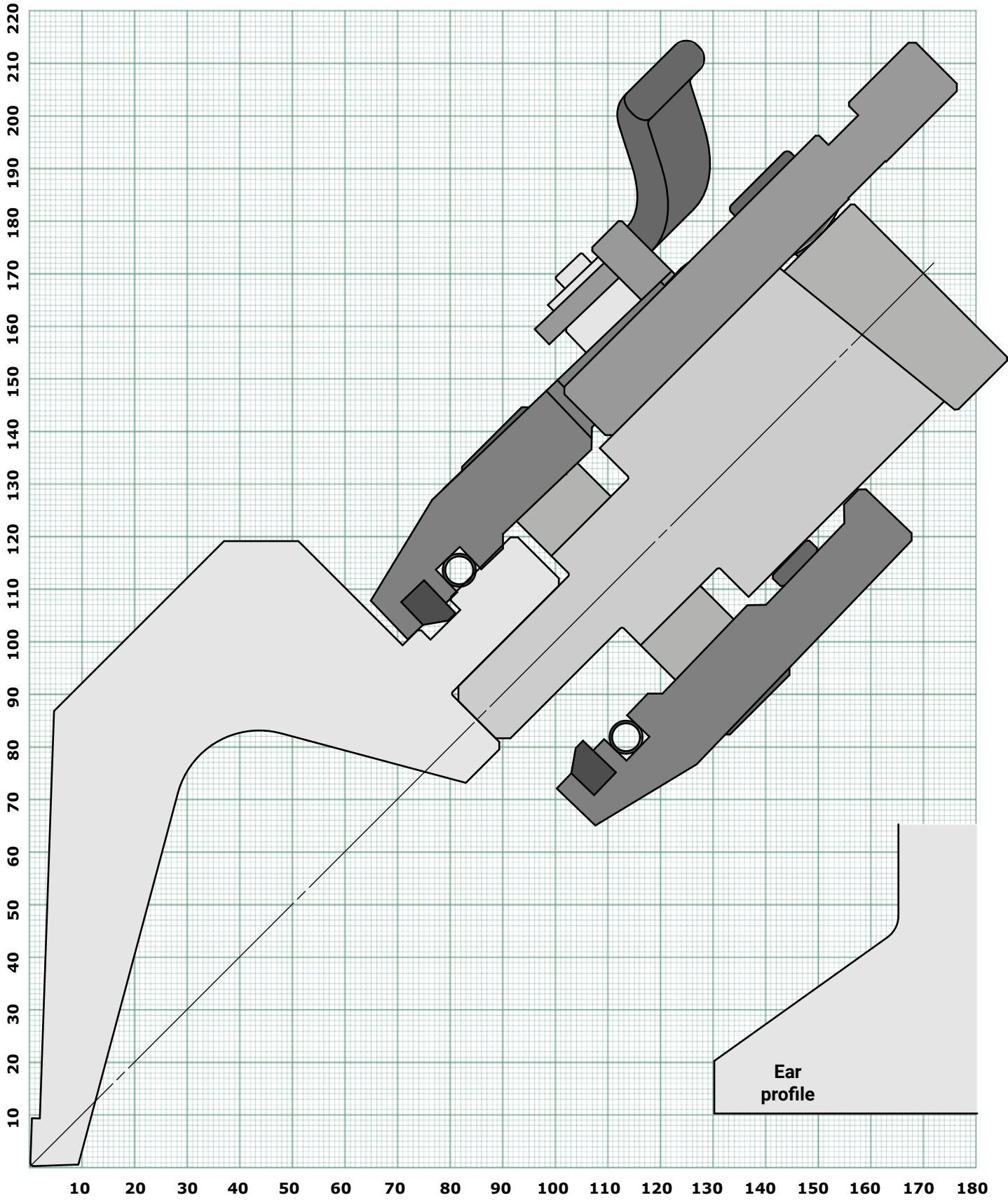




PUNCH 846

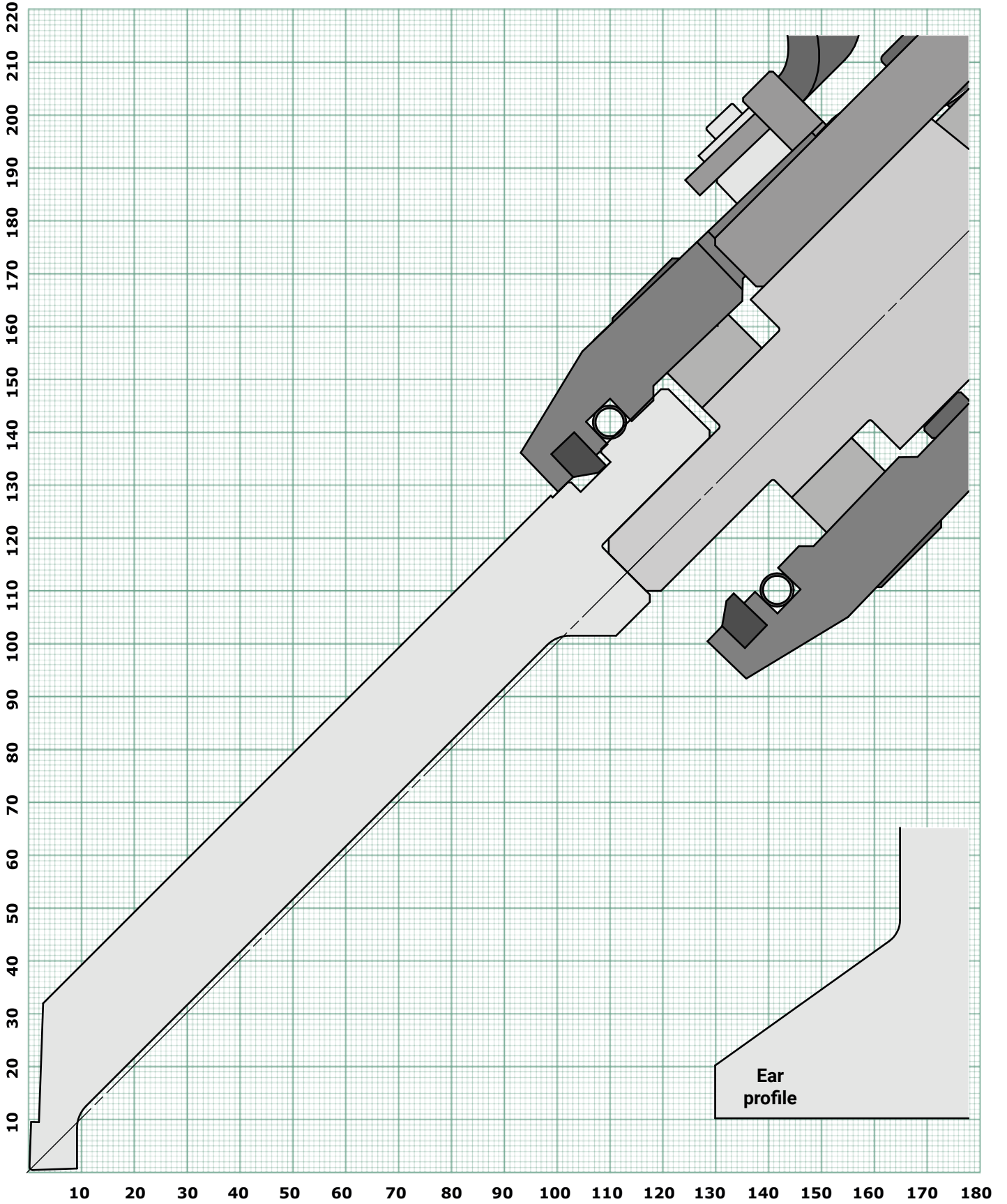


PUNCH 847

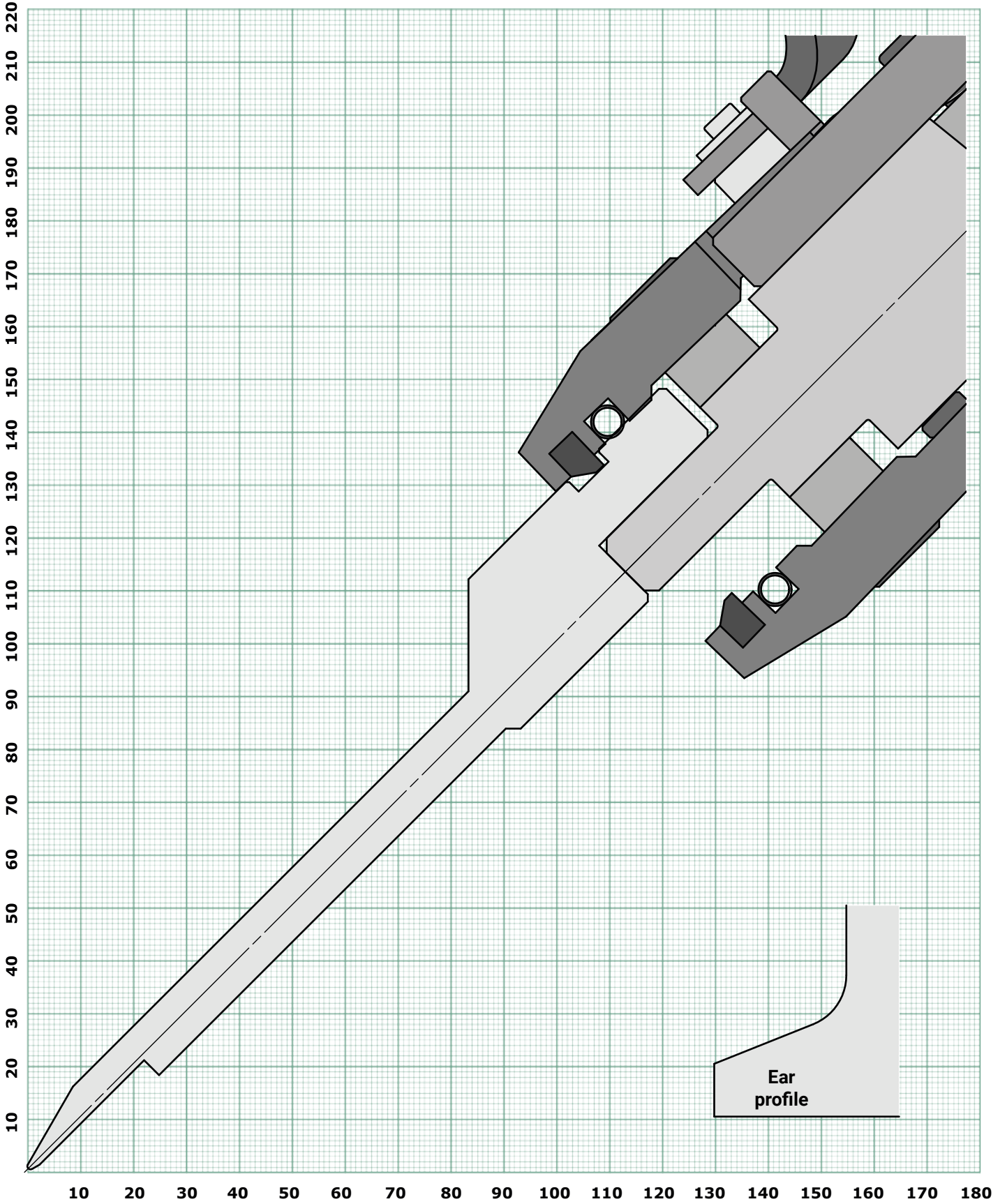




PUNCH 904

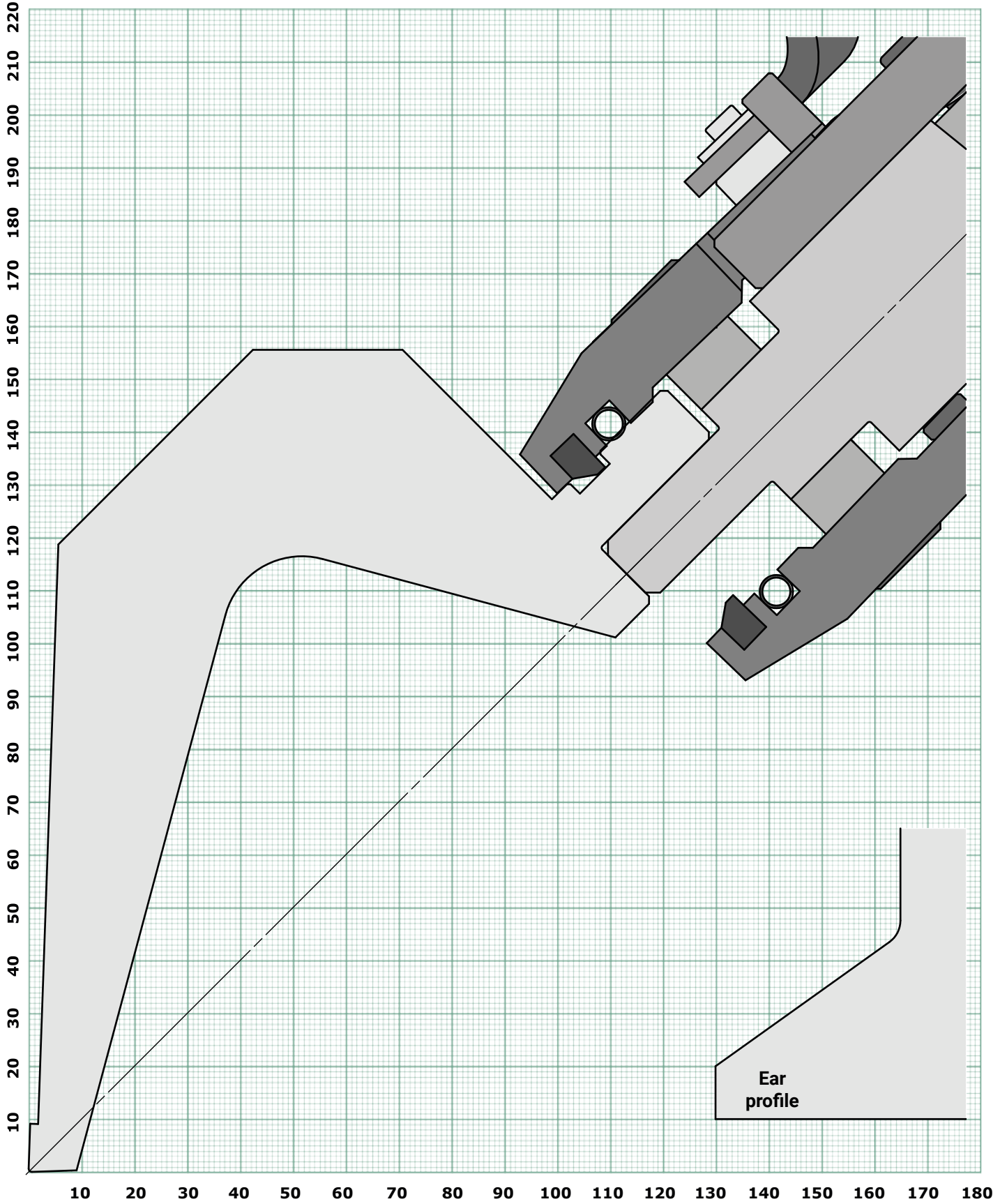


PUNCH 914





PUNCH 947



AMADA UK LTD.

Spennells Valley Road,
Kidderminster,
Worcestershire DY10 1XS
United Kingdom
Tel: +44 (0)1562 749500
Fax: +44 (0)1562 749510
www.amada.co.uk

AMADA SA

Paris Nord II
96, avenue de la Pyramide
93290 Tremblay en France
France
Tél: +33 (0)1 49 90 30 00
Fax: +33 (0)1 49 90 31 99
www.amada.fr

AMADA GmbH

AMADA Allee 1
42781 Haan
Germany
Tel: +49 (0)2104 2126-0
Fax: +49 (0)2104 2126-999
www.amada.de

AMADA ITALIA S.r.l.

Via AMADA I., 1/3
29010 Pontenure
(Piacenza)
Italia
Tel: +39 (0)523 872111
Fax: +39 (0)523 872101
www.amada.it

