

Tool catalog

TruBend Center 7020



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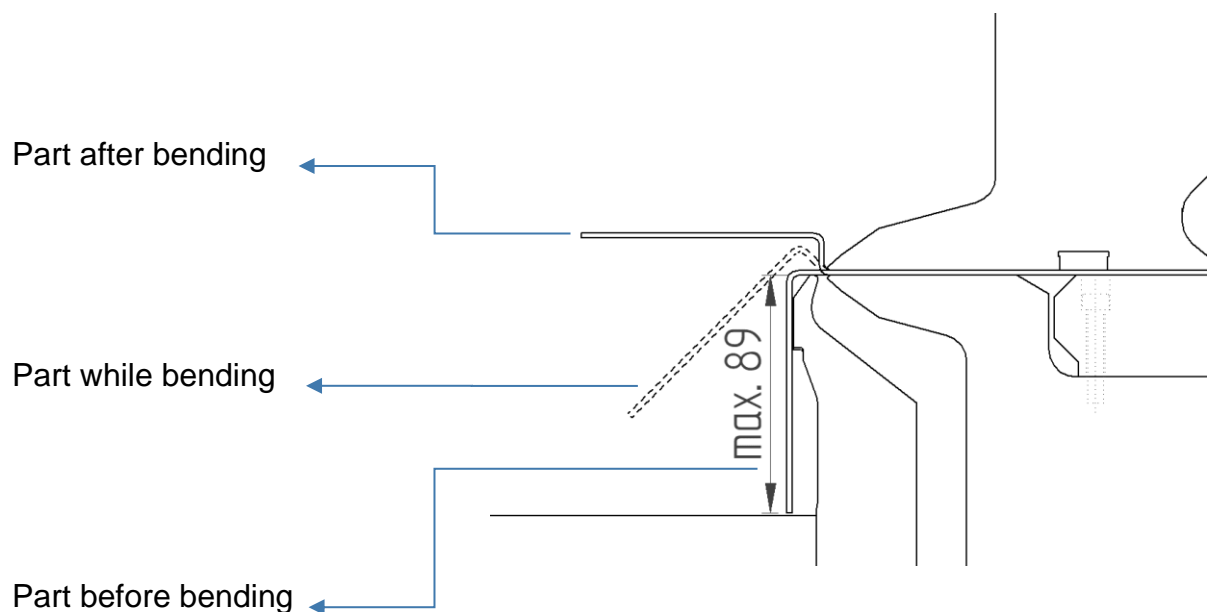
1 Introduction

The following tool catalog should provide you an overview of the tool types of the TruBend Center 7020.

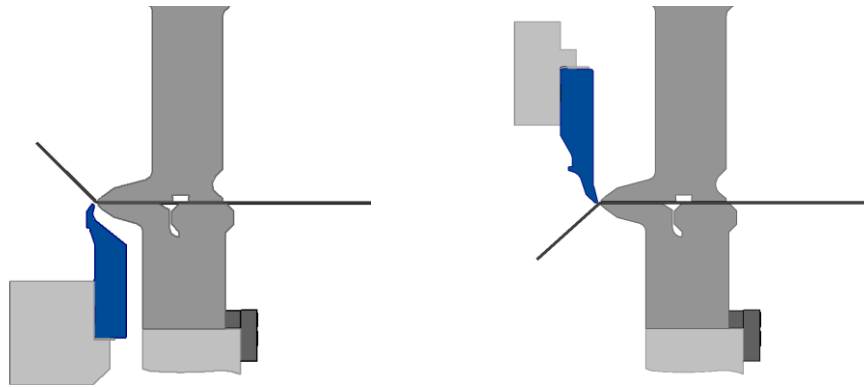
For each tool type you get the tool geometry dimensions and an overview of all the possible side lengths, depending on the application.

Explanation:

In the following sketches, the parts are shown before, while and after bending. The maximum length is indicated. See the following example:



2 Panel bending methods

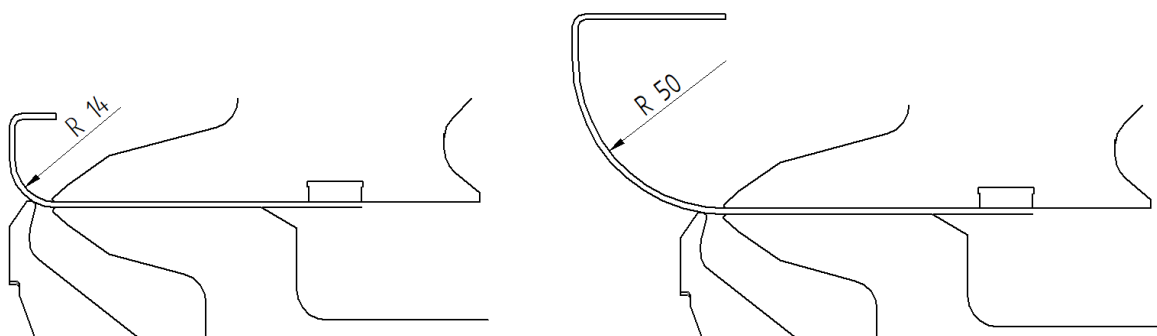


Bending method: positive and negative bends

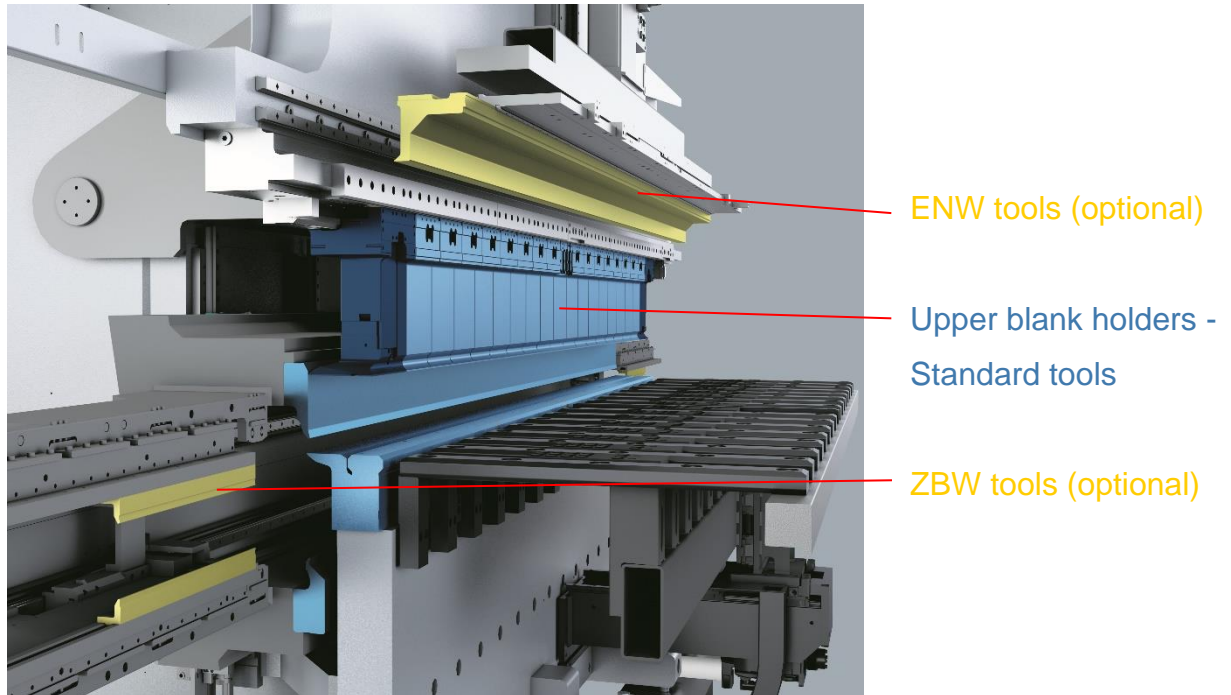


Bending method: radius bending and folding

Another panel bending advantage is that different radius can be made in one tool setup without loading other tools, or, put in another way, using the same tools. It is only the number of bending steps that is increased.



3 Tool overview



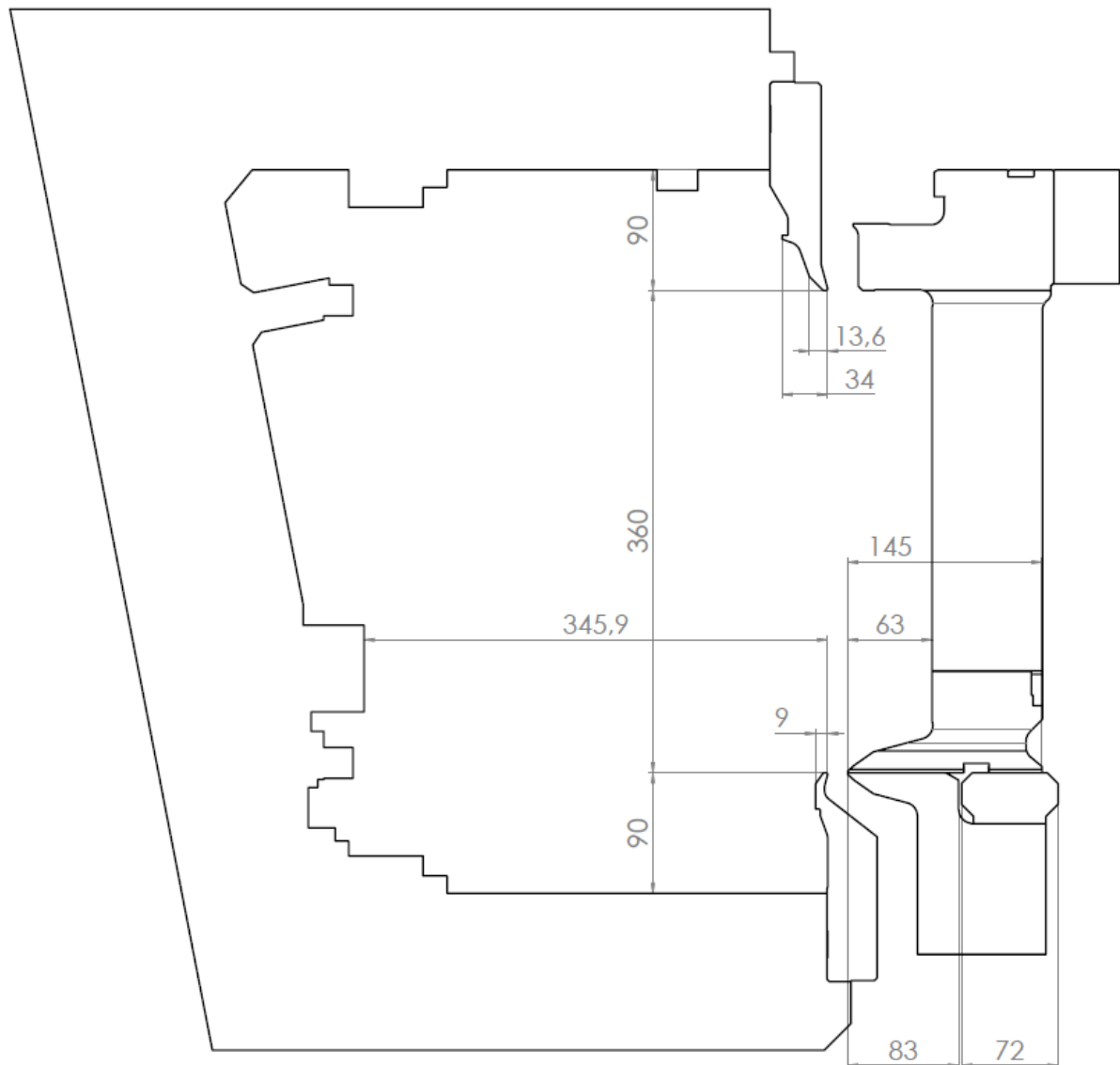
Overview of the tools for the TruBend Center 7020

Depending on the application, extra blank holder tools (ENW) or extra bending tools (ZBW) can be loaded automatically on the machine. These functions are available as options depending on the machine type.

4 Bending space and blank holders

Overview of blank holders

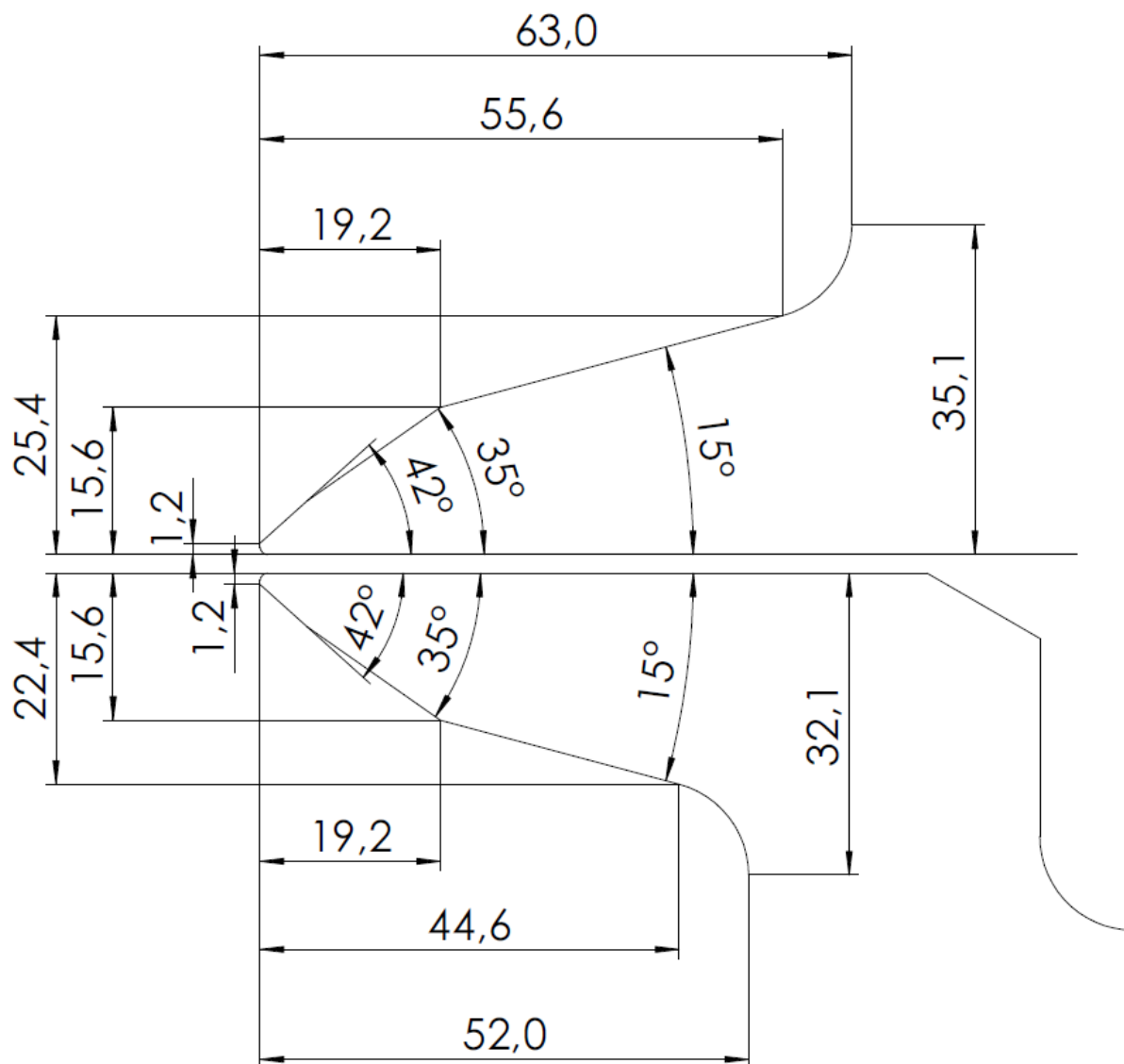
The following figure shows the overview of the bending space of the TruBend Center 7020 with the bending frame, the bending tools and the blank holders.





Detail view of the blank holders

The following figure shows the exact dimensions of the blank holders

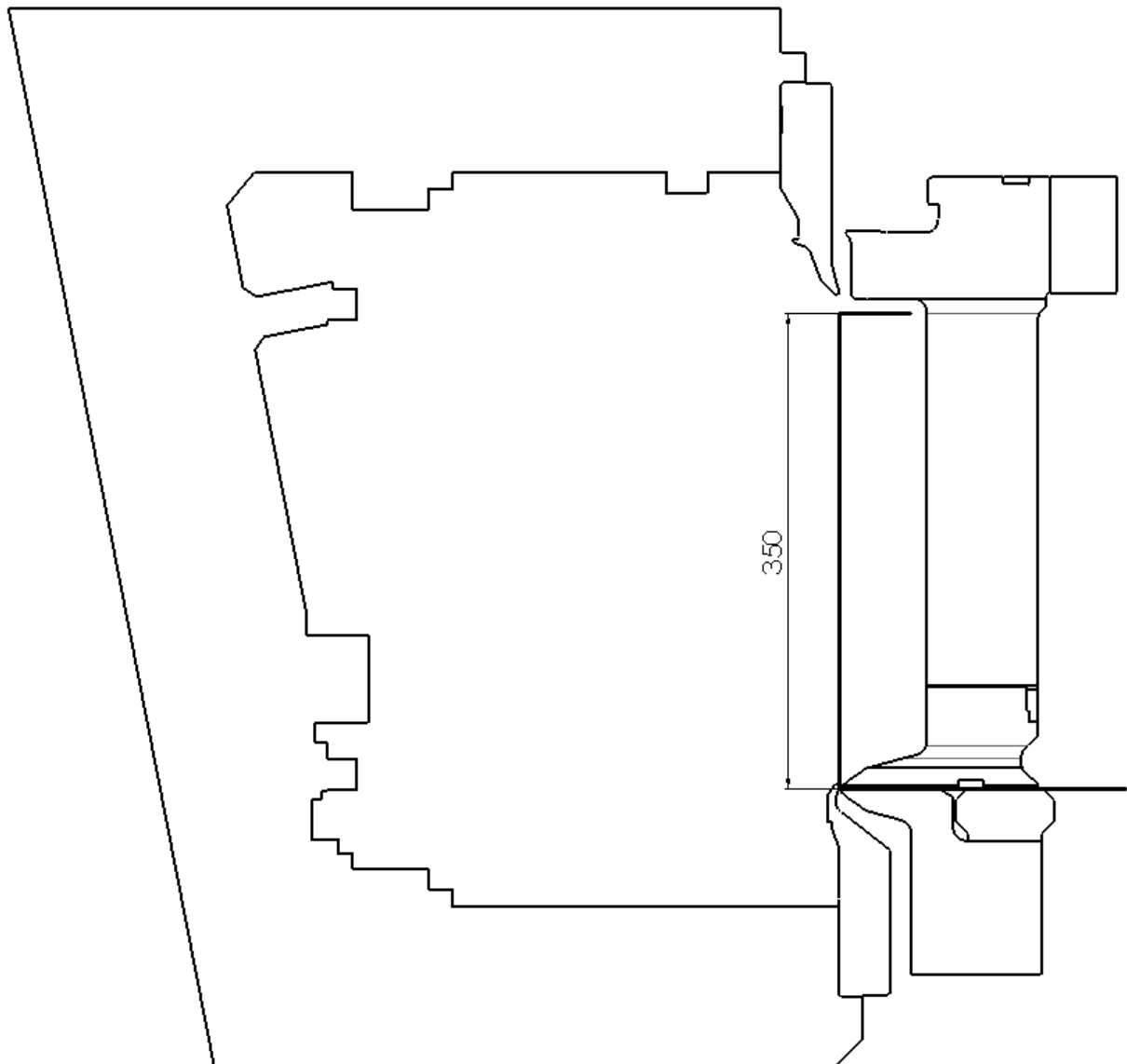




TruBend Center 7020

Box height

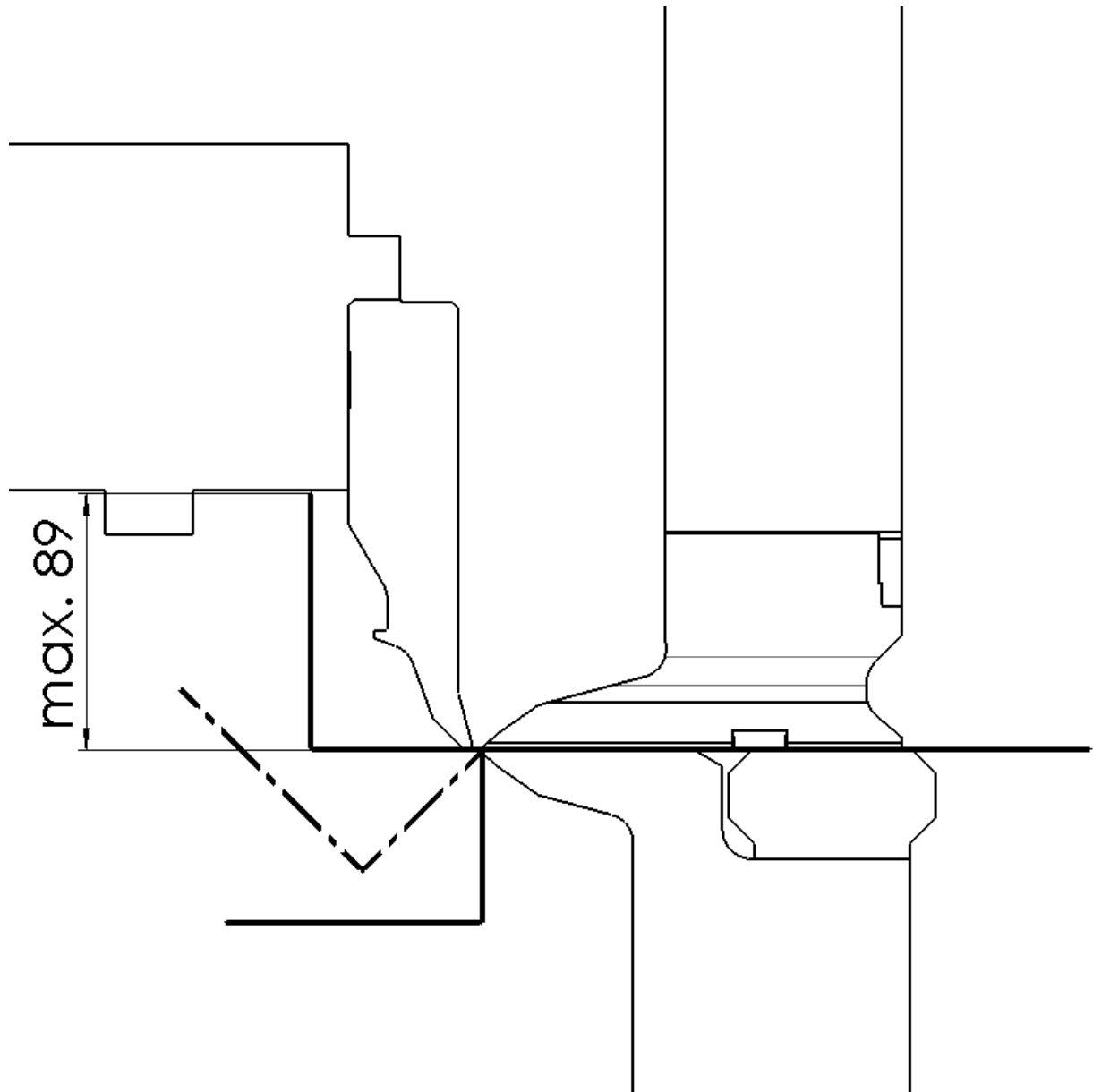
The maximum box height of the TruBend Center is 350 mm. This corresponds to the maximum length of the flange.



TruBend Center 7020

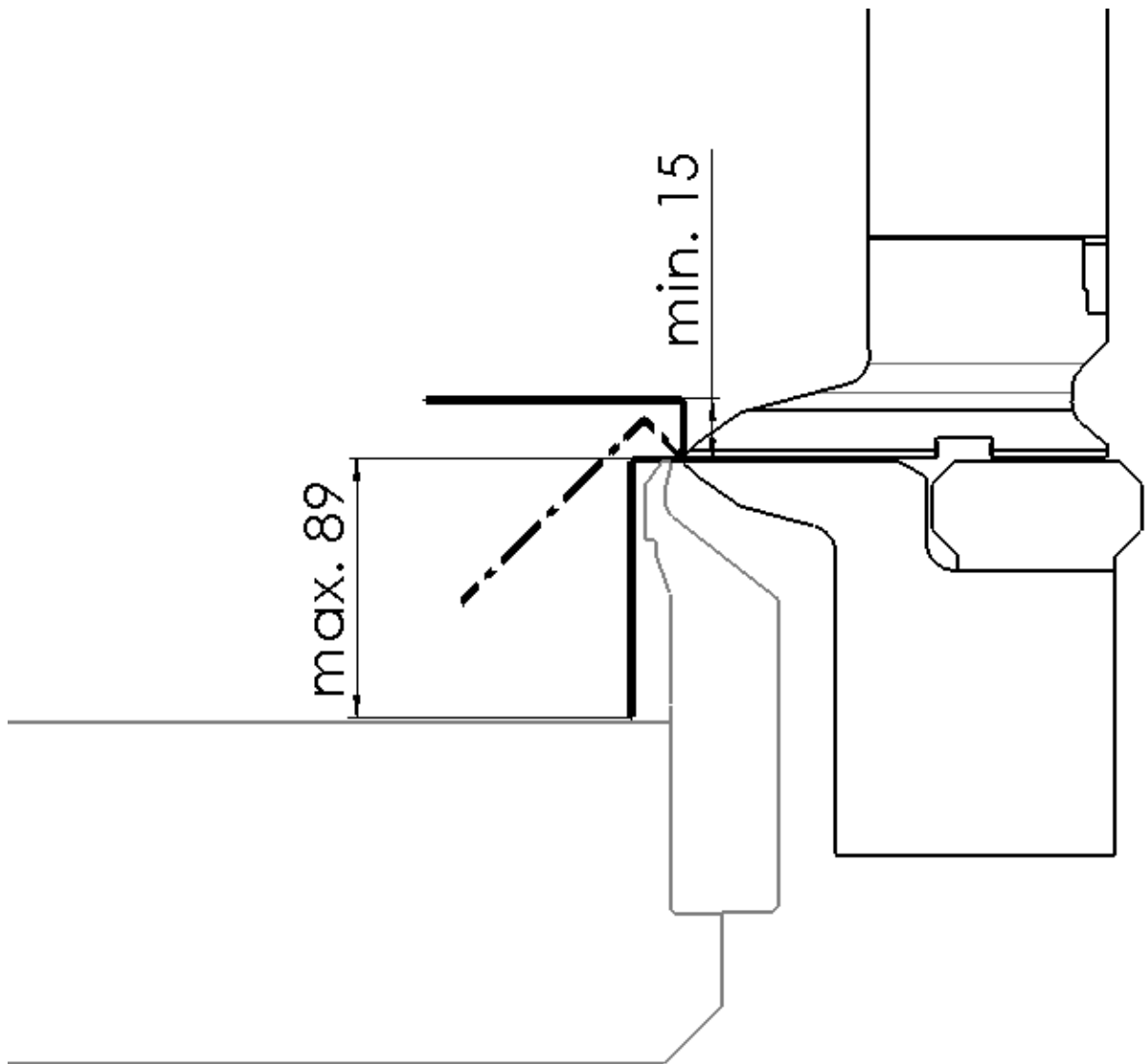
Negative bend with Z bends at 90°

The following figure shows the maximum side length of the first bend in a Z bend. If the 89 mm of first bend is reduced, then shorter side lengths of the 2nd bend is possible.



Positive bend with a Z bend at 90°

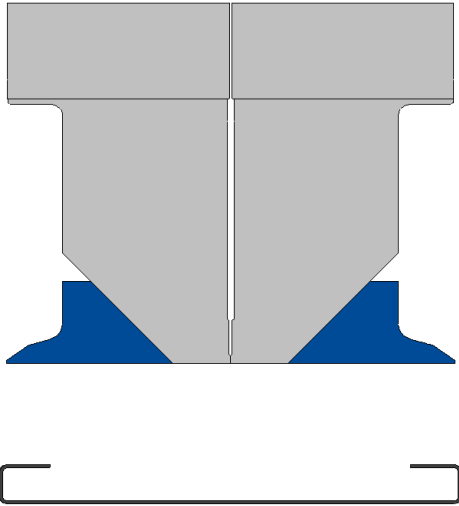
The following figure shows the maximum side length of the first bend in a Z bend, when a bend with a 89 mm flange is made.



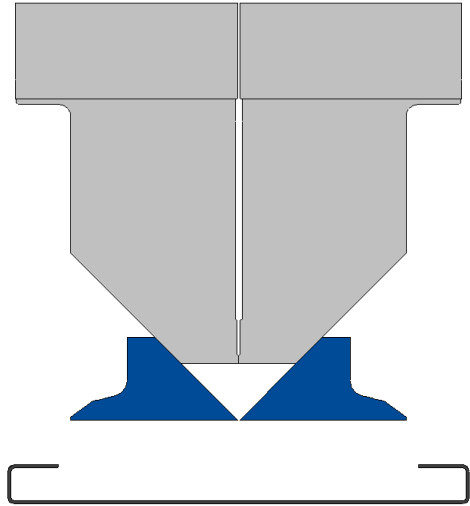
TruBend Center 7020

Horn tool

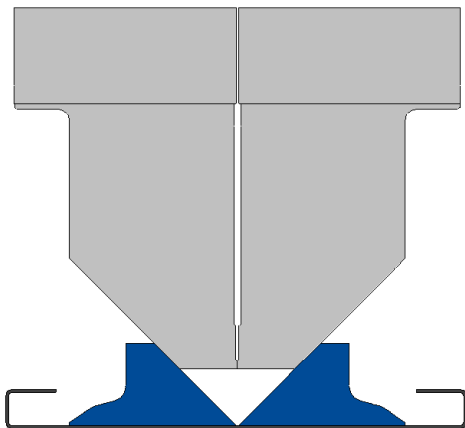
The TruBend Center 7020 are equipped with movable horn tools. The following figures show the schematic sequence.



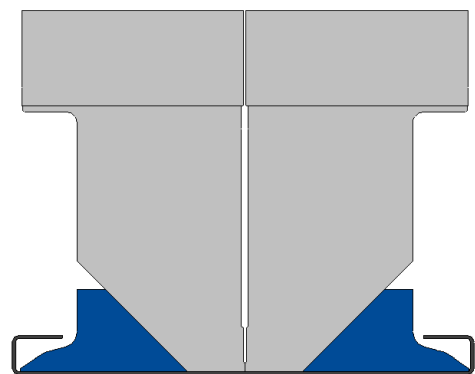
Home position



Retracted horn tools



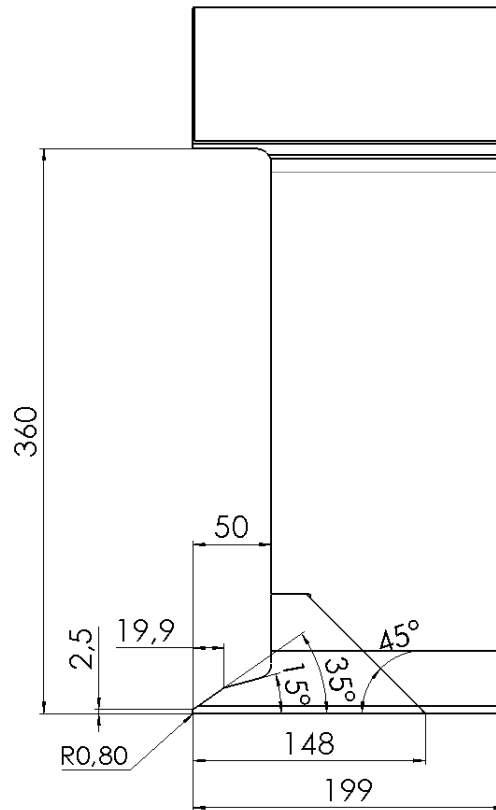
Inserting the horn tools



The horn tools in position



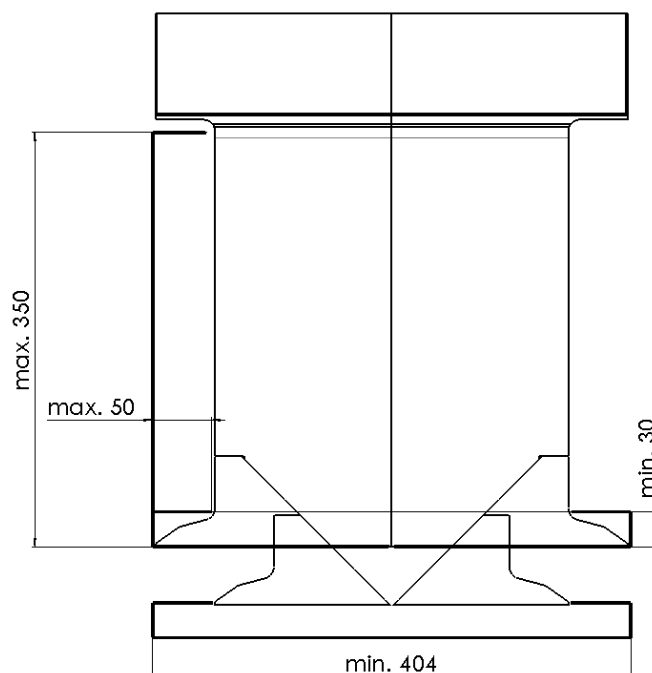
Dimensions:



Side lengths:

With max. 50 mm, a min. height of 30 mm is possible.

If this is reduced to < 50 mm, smaller side lengths are also possible.

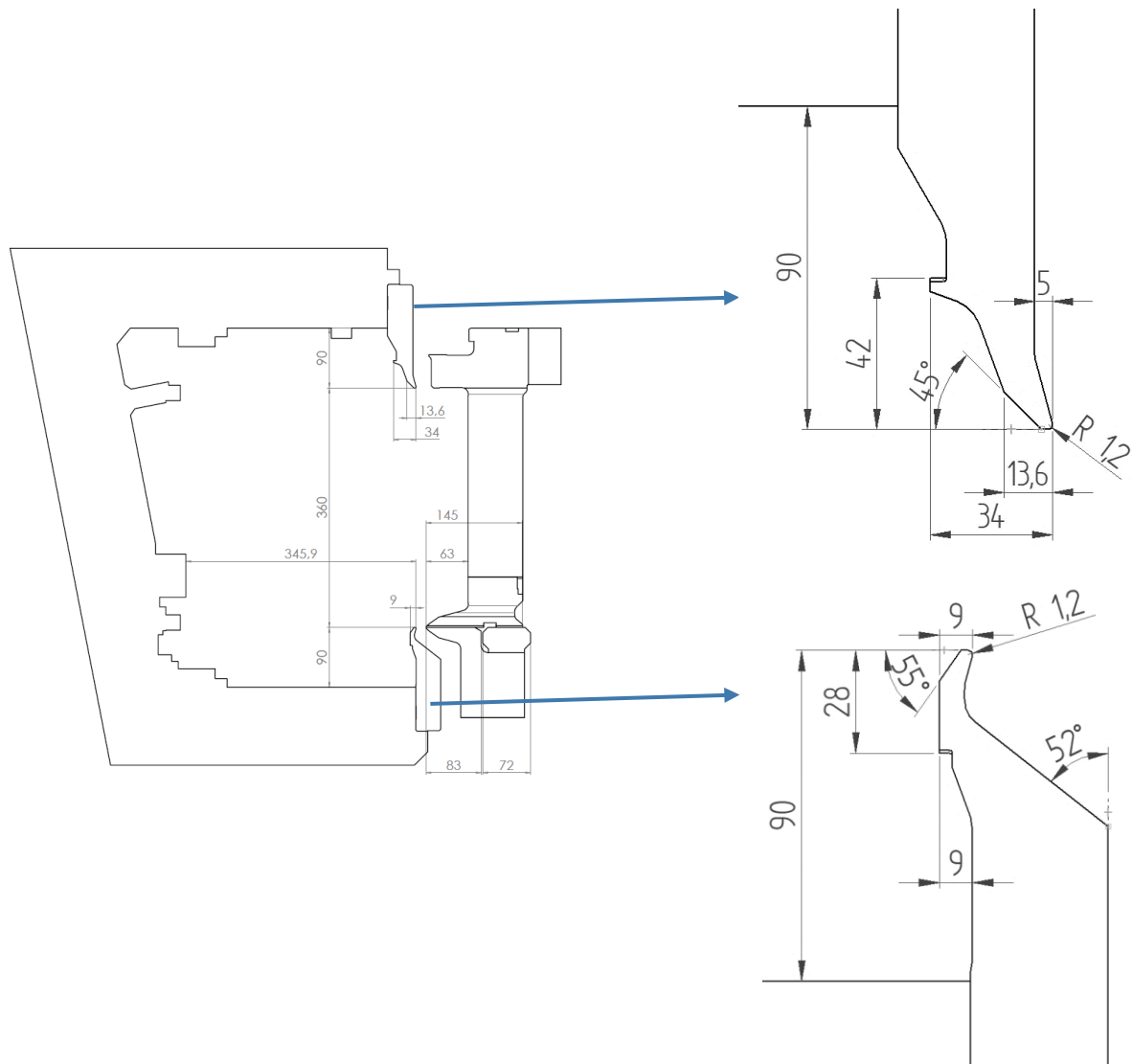


TruBend Center 7020

5 Bending tools

90° Standard bending tools

The TruBend Center 7020 are equipped with upper and lower standard bending tools which permit to obtain 90° bends. These are mounted on the bending frame.



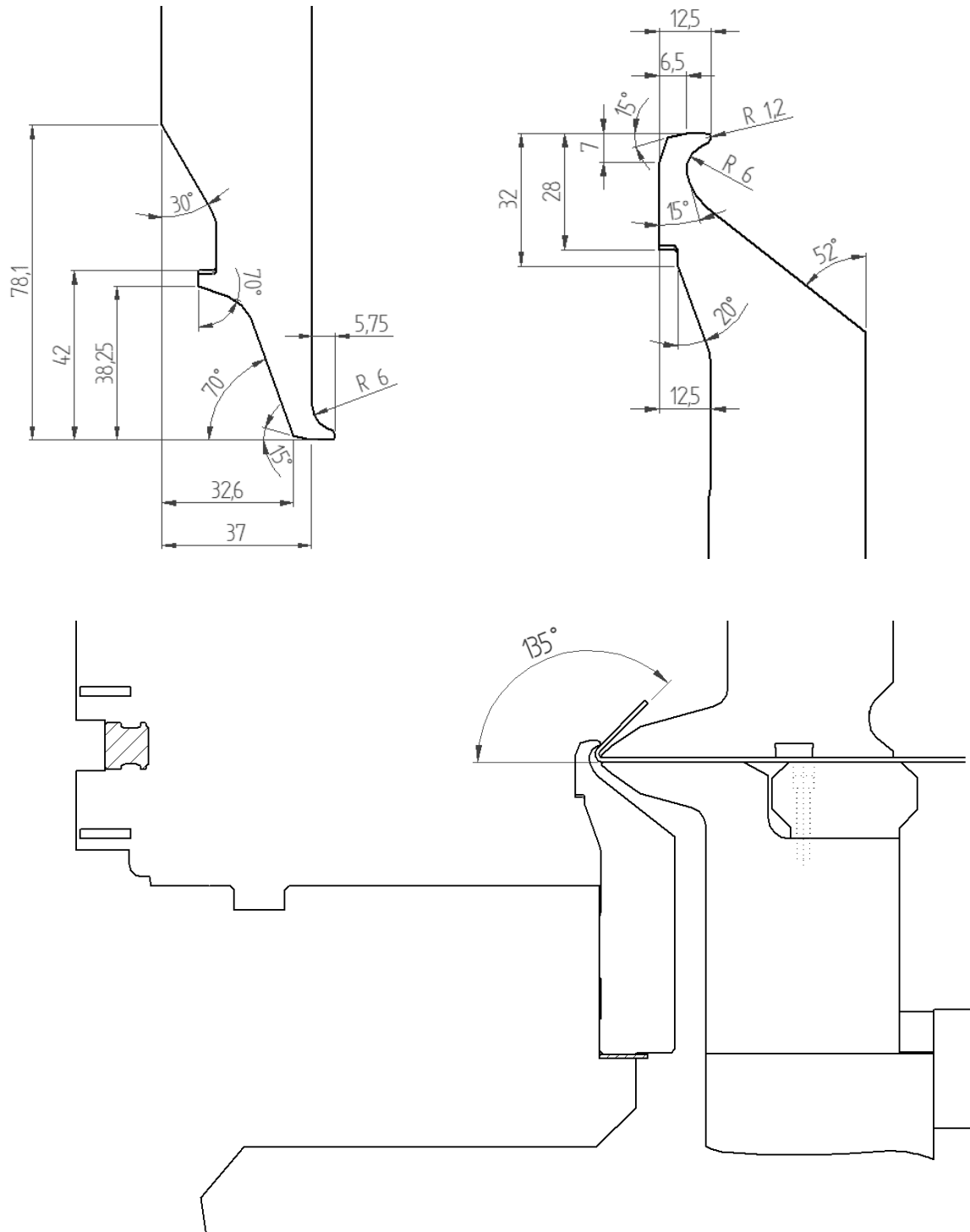
Dimensions of the upper and lower bending tools

TruBend Center 7020

135° Optional bending tools

The 135° upper and lower bending tools are available as option.

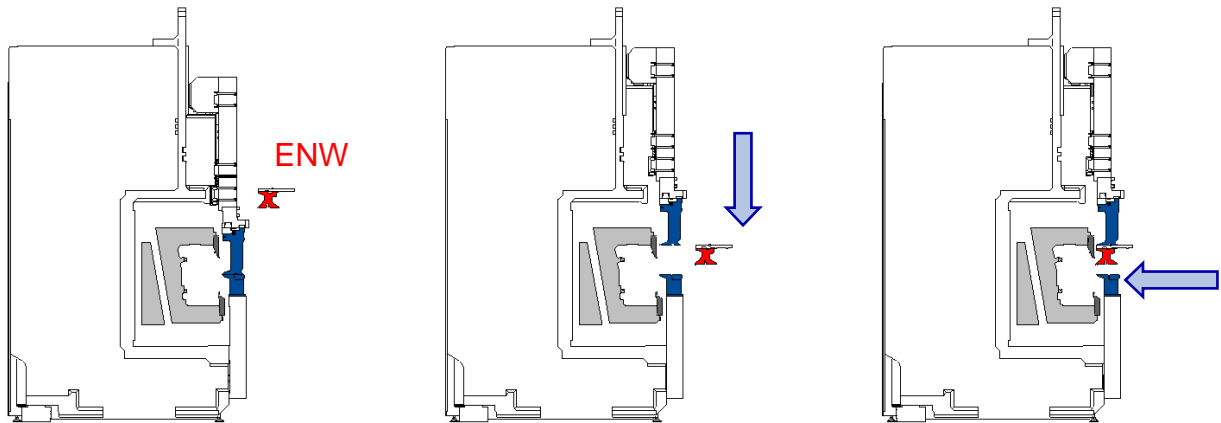
These bending tools permit to obtain a 135° bends in a single operation.



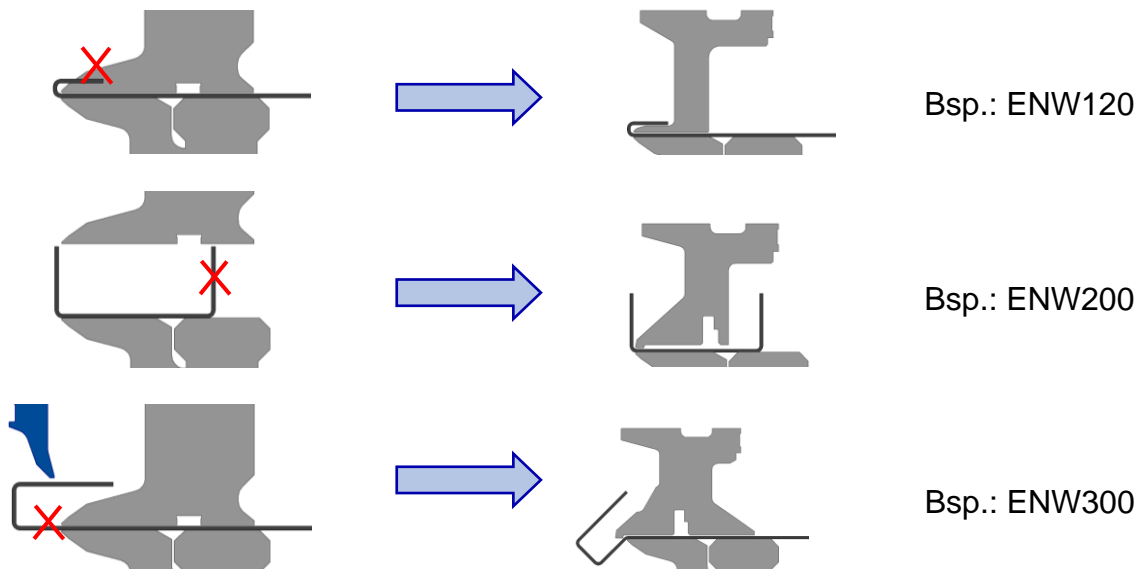


6 Extra blank holder tools - ENW

The extra blank holder tools are needed to provide the machine with enough additional blank holder tools. If necessary, these are automatically placed under the standard blank holders.



The typical applications are seen in the following figure:



Not possible with standard blank holders

Possible with an extra blank holder tool

There are 4 types of ENW tools available:

- ENW110-30, ENW 110-40, ENW110-50
- ENW120
- ENW200
- ENW300



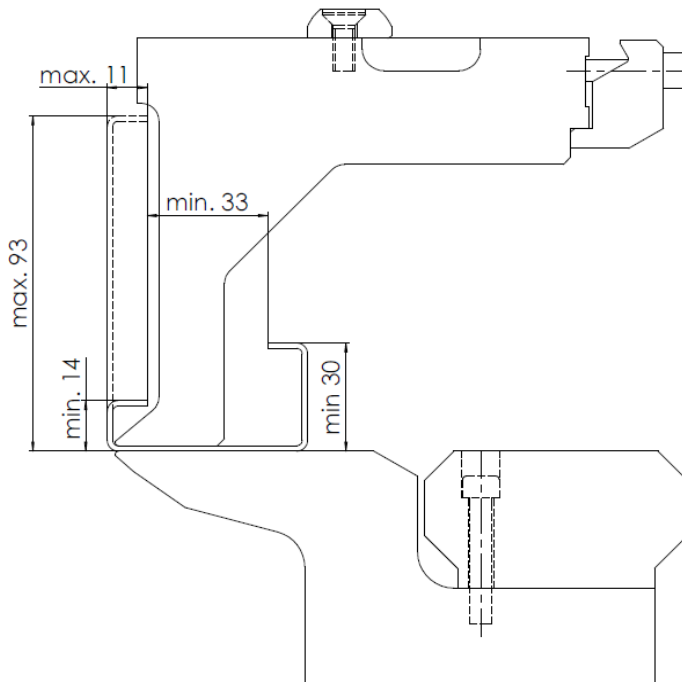
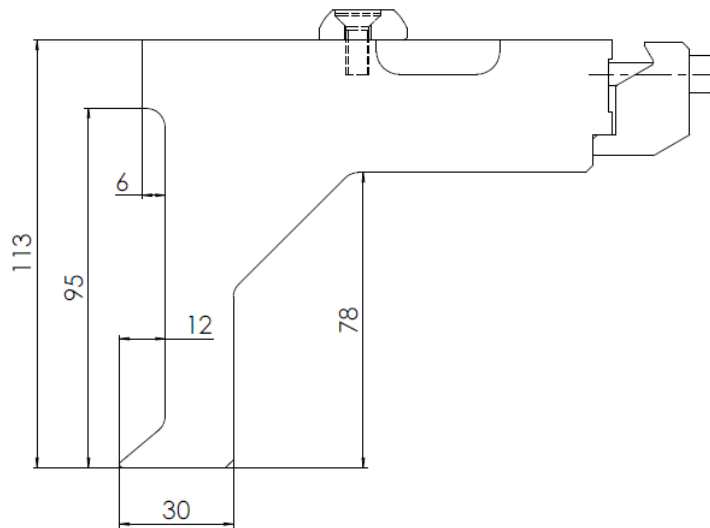
TruBend Center 7020

Extra blank holder tools: ENW 110-30

Maximale Dicke:

Maximum thickness:

R= 220 N/mm ²	1,5mm
R= 400 N/mm ²	1,5mm
R= 700 N/mm ²	1,2mm

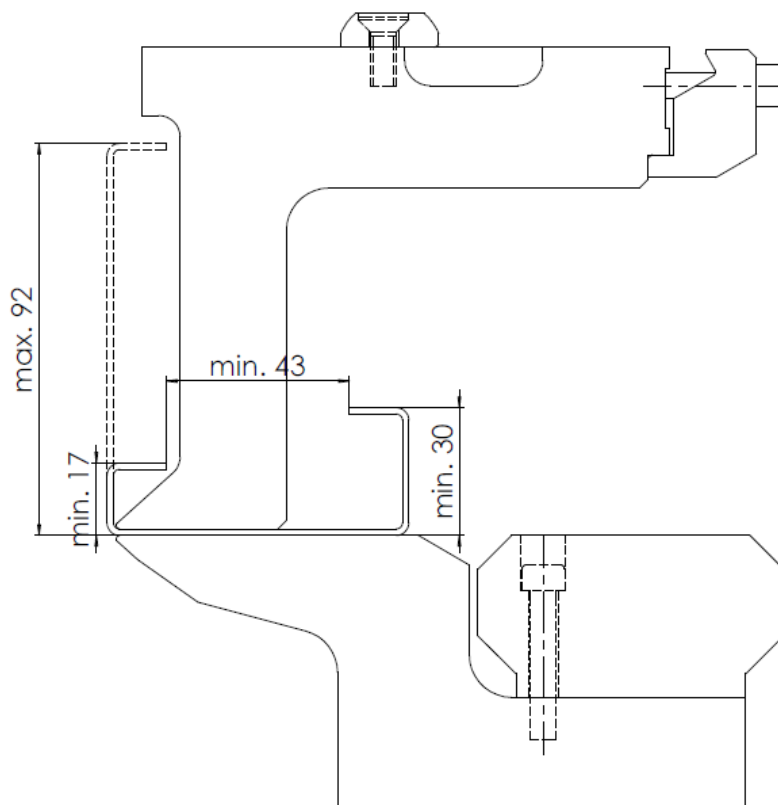
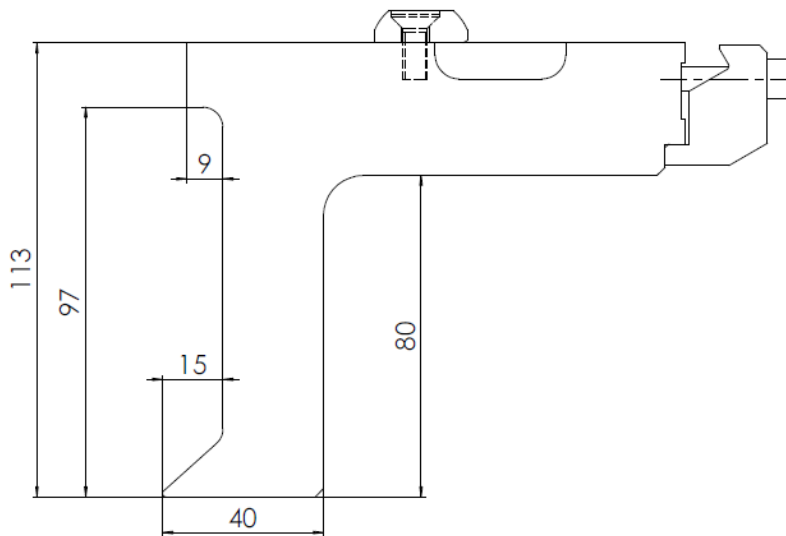




TruBend Center 7020

Extra blank holder tools: ENW 110-40

MAX THICKNESS	
MAXIMAL DICKE	
R= 400 N/mm ²	2,0 mm
R= 700 N/mm ²	1,5 mm
R= 220 N/mm ²	2,0 mm

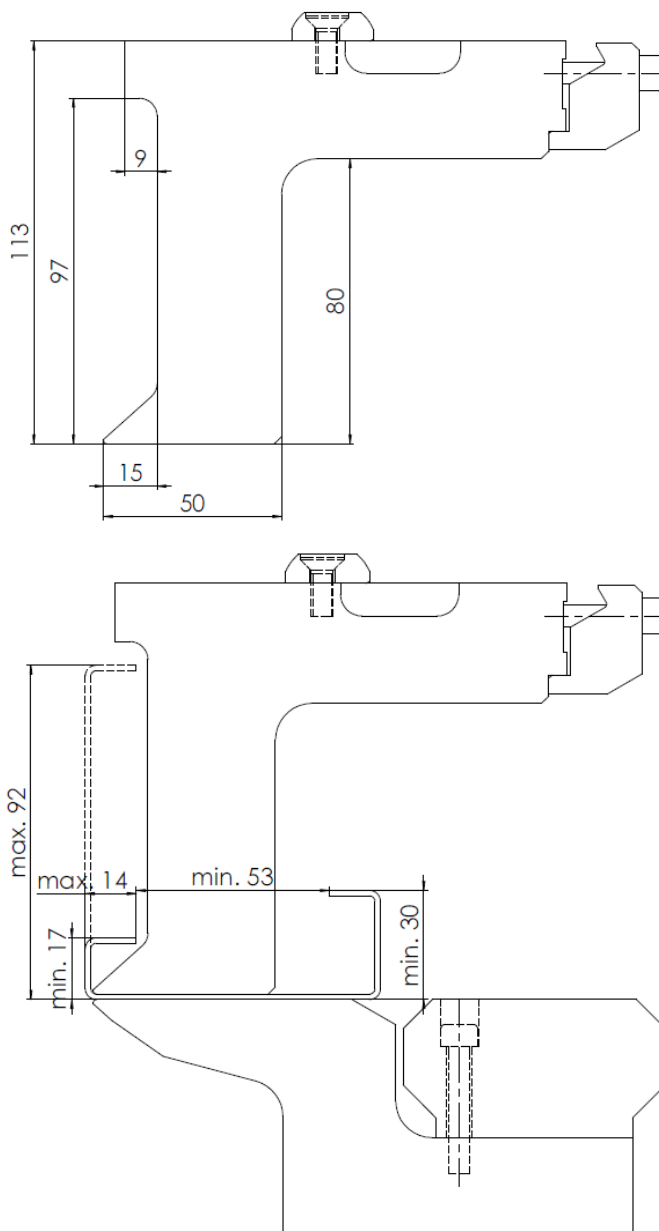




TruBend Center 7020

Extra blank holder tools: ENW 110-50

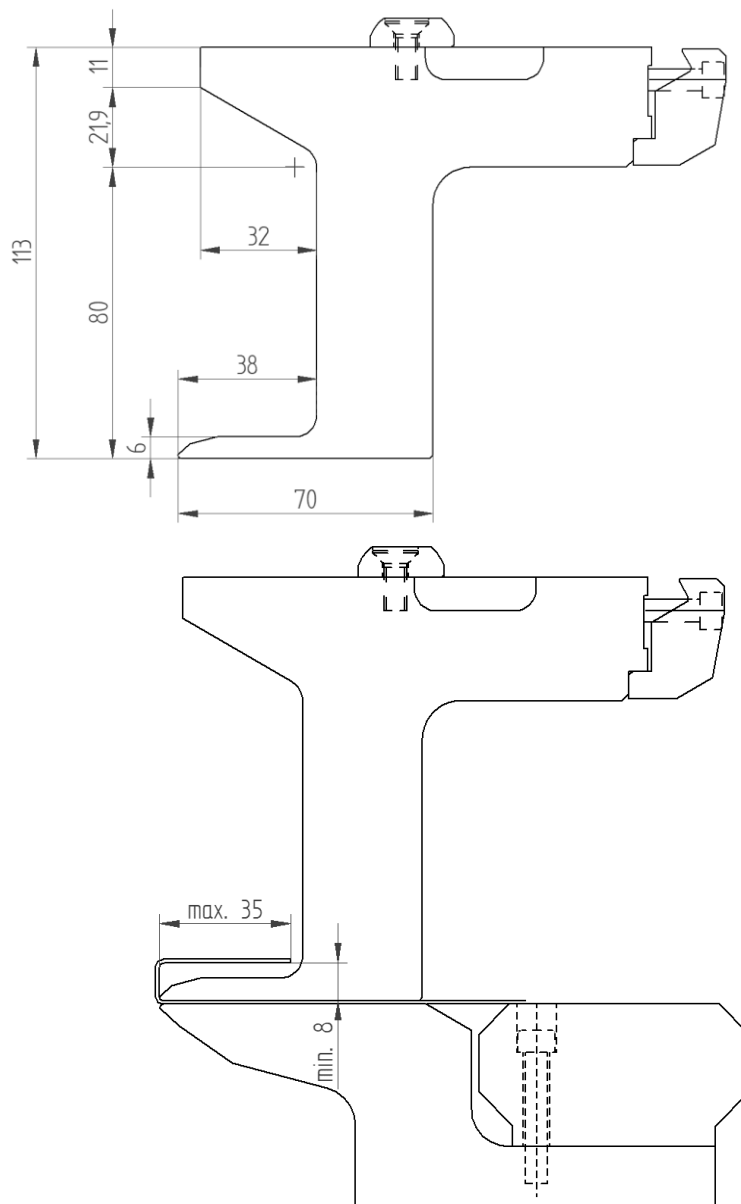
MAX THICKNESS	
MAXIMAL DICKE	
R= 400 N/mm ²	3,0 mm
R= 700 N/mm ²	2,0 mm
R= 220 N/mm ²	3,0 mm



TruBend Center 7020

Extra blank holder tools: ENW 120

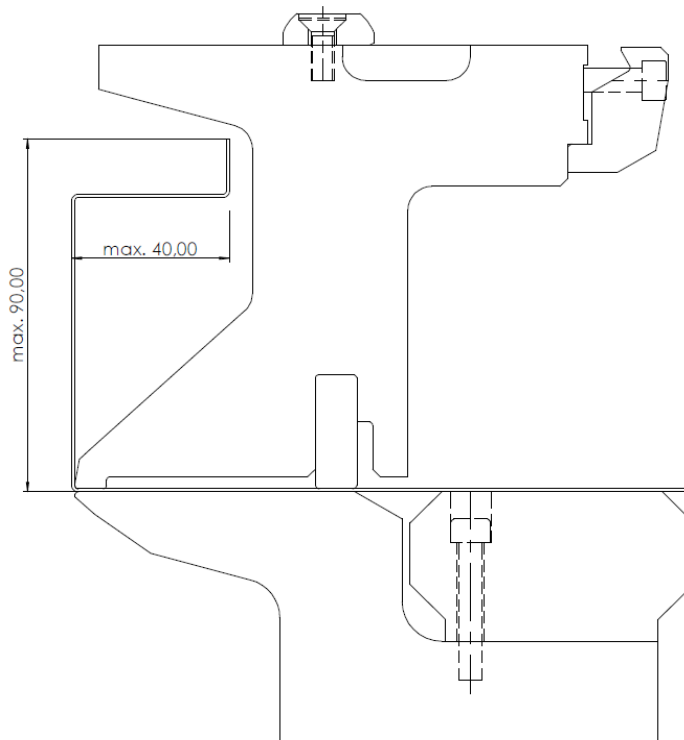
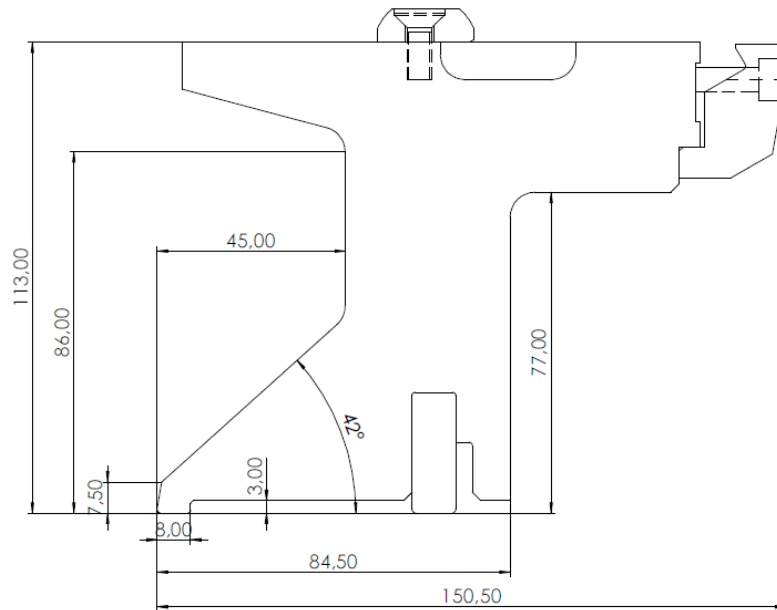
MAX THICKNESS	
MAXIMAL DICKE	
R= 400 N/mm ²	1,2 mm
R= 700 N/mm ²	1,0 mm
R= 220 N/mm ²	1,2 mm

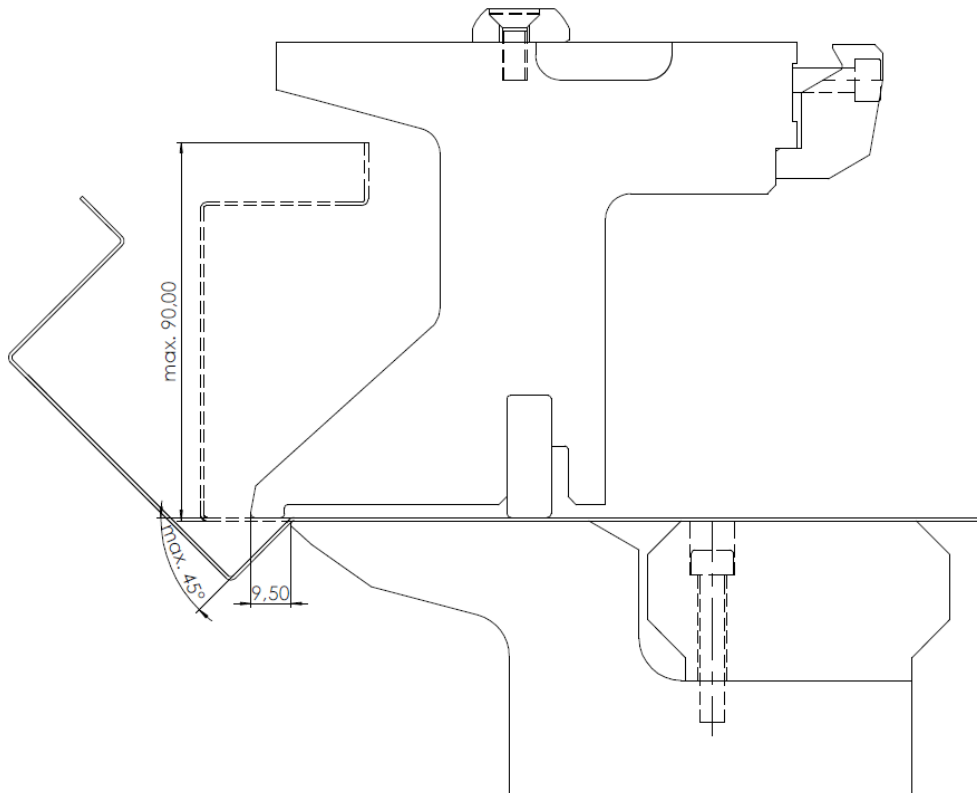


TruBend Center 7020

Extra blank holder tools: ENW 200

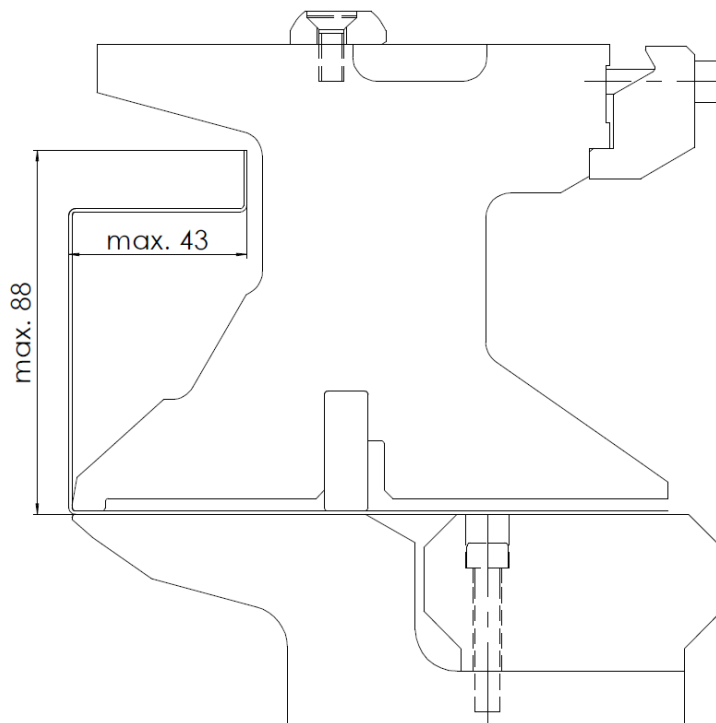
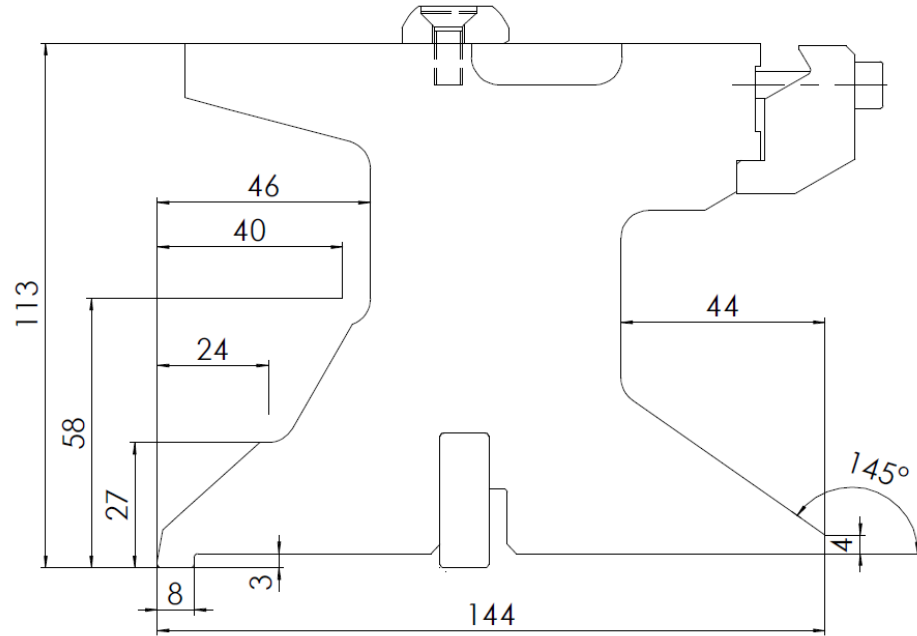
MAX THICKNESS	
MAXIMAL DICKE	
R= 400 N/mm ²	1,5 mm
R= 700 N/mm ²	1,2 mm
R= 220 N/mm ²	1,5 mm







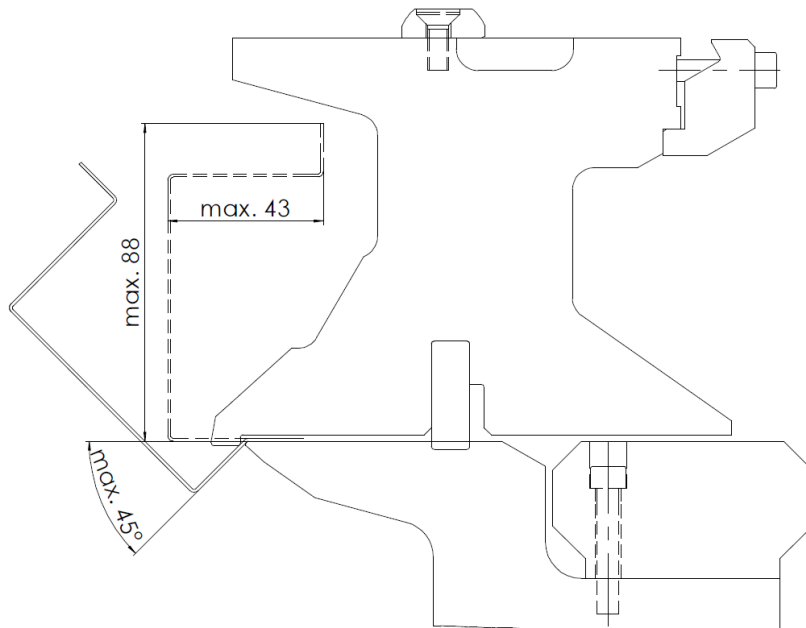
Extra blank holder tools: ENW 300



ENW 300

Maximale Dicke:
Maximum thickness:

R= 220 N/mm ²	2mm
R= 400 N/mm ²	2mm
R= 700 N/mm ²	1,5mm

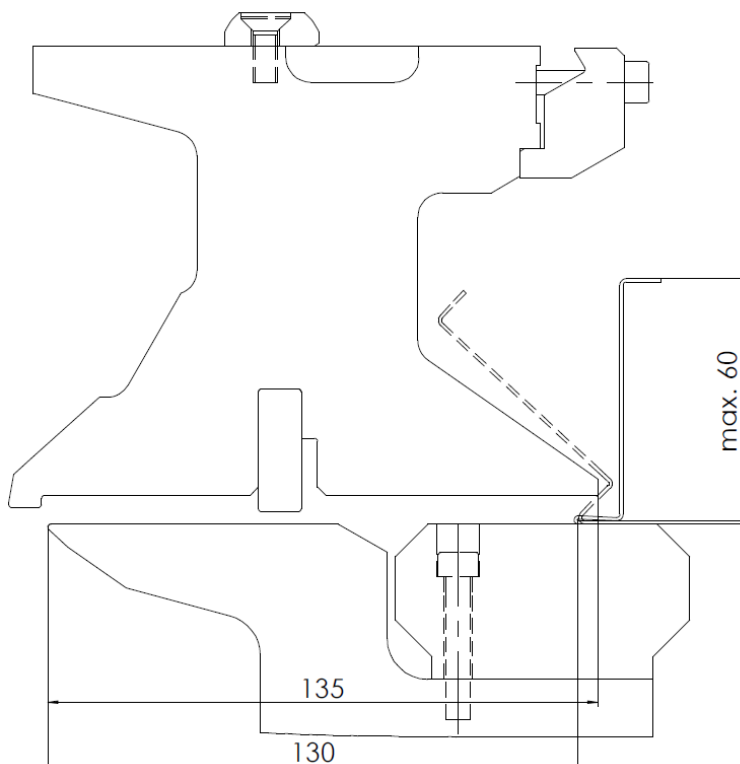


ENW 300

Maximale Dicke:

Maximum thickness:

R= 220 N/mm ²	2mm
R= 400 N/mm ²	2mm
R= 700 N/mm ²	1,5mm



ENW 300

Maximale Dicke:

Maximum thickness:

R= 220 N/mm ²	2mm
R= 400 N/mm ²	2mm
R= 700 N/mm ²	1,5mm



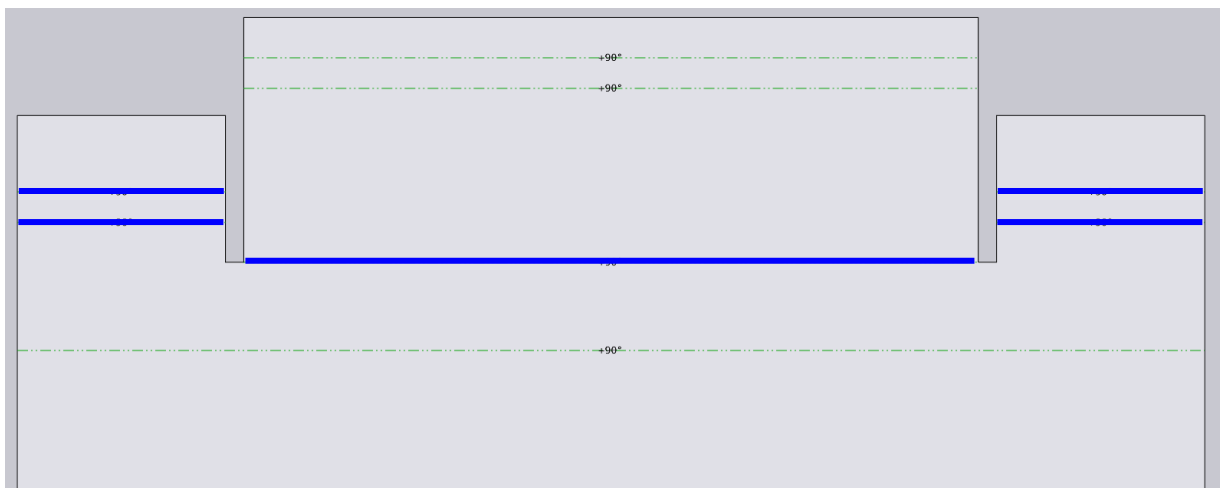
TruBend Center 7020

7 The extra bending tool - ZBW

The extra bending tool function is necessary to be able to bend interrupted bends or flanges on the TruBend Center 5030 and 7030. If needed the ZBWs go to the parking position in the bending area to perform the bend.

An example of a part bent with ZBW tools:

The bends marked in blue are only possible with ZBWs



There are 5 types of ZBW tools available:

- ZWB100
- ZBW200
- ZBW300
- ZBW400
- ZBW 500



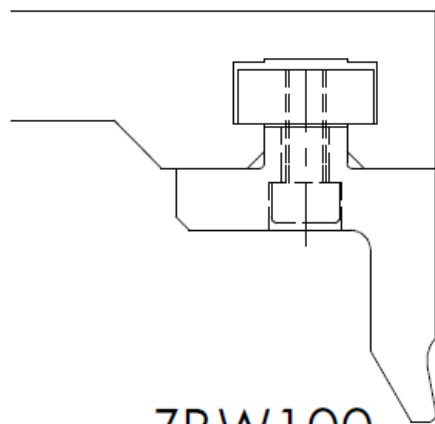
TruBend Center 7020

Extra bending tool: ZBW 100

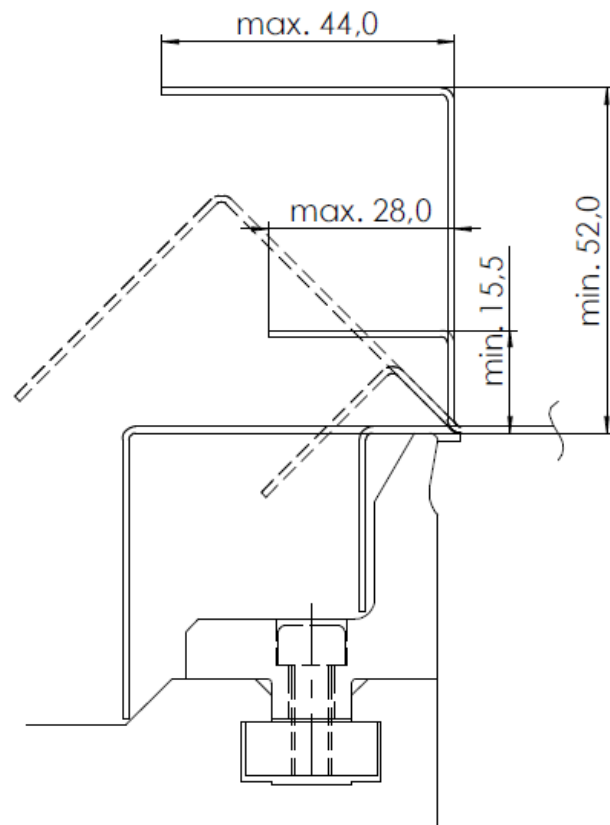
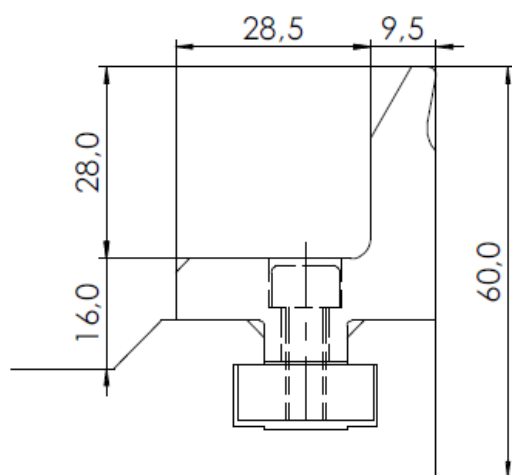
Maximale Dicke:

Maximum thickness:

R= 220 N/mm ²	1,5mm
R= 400 N/mm ²	1,5mm
R= 700 N/mm ²	1,2mm



ZBW 100





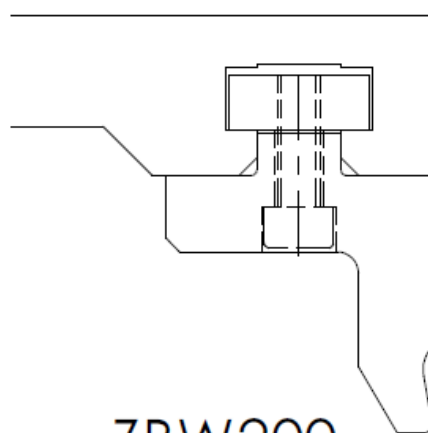
TruBend Center 7020

Extra bending tool: ZBW 200

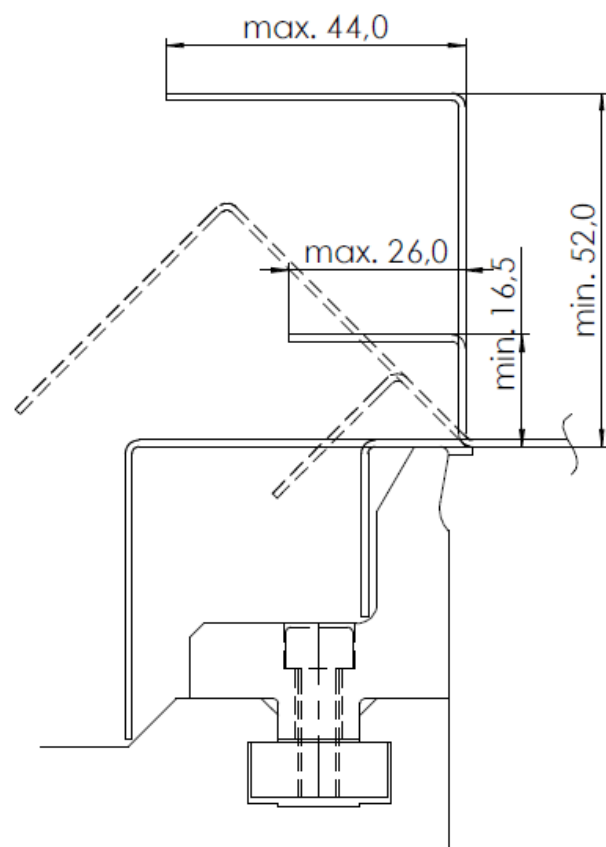
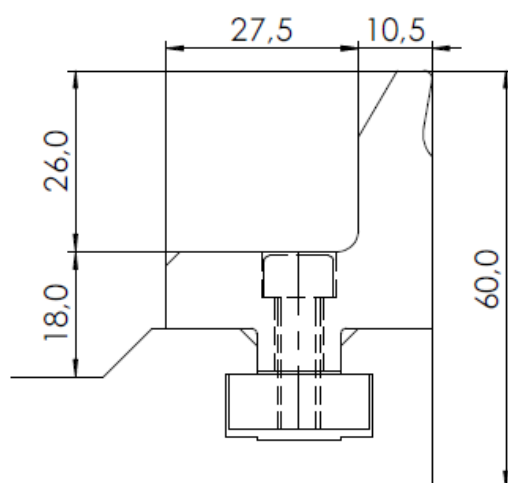
Maximale Dicke:

Maximum thickness:

R= 220 N/mm ²	2mm
R= 400 N/mm ²	2mm
R= 700 N/mm ²	1,5mm



ZBW200





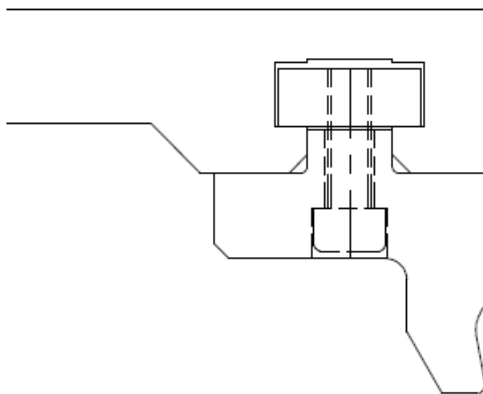
TruBend Center 7020

Extra bending tool: ZBW 300

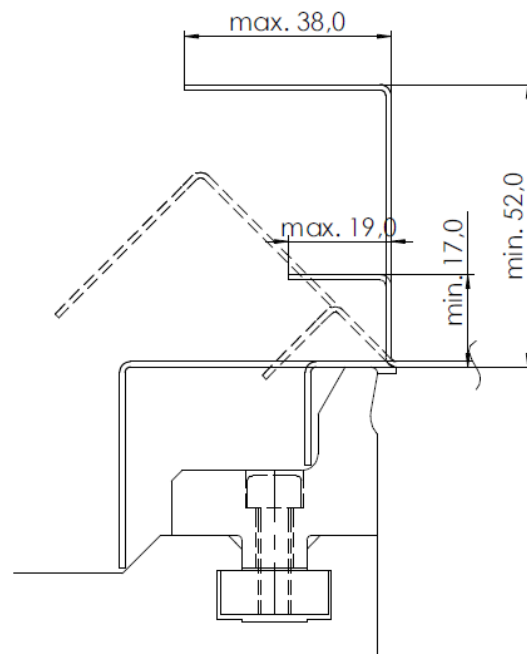
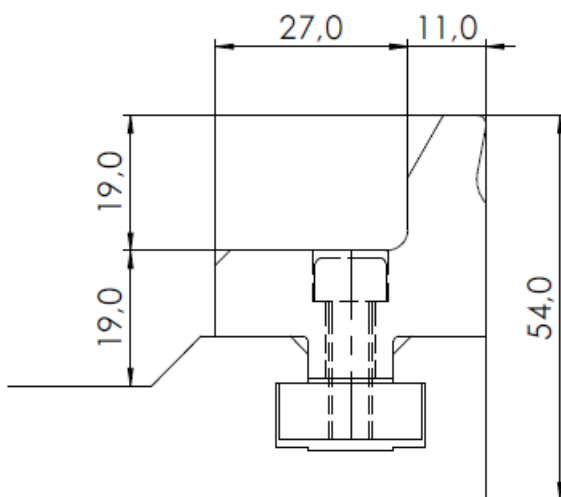
Maximale Dicke:

Maximum thickness:

R= 220 N/mm ²	2,5mm
R= 400 N/mm ²	2,5mm
R= 700 N/mm ²	1,8mm



ZBW300





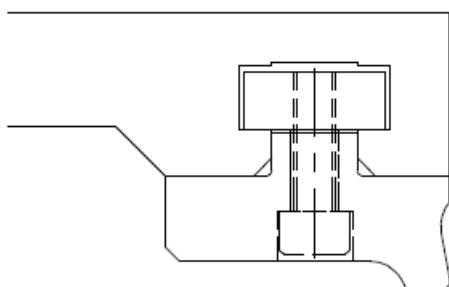
TruBend Center 7020

Extra bending tool: ZBW 400

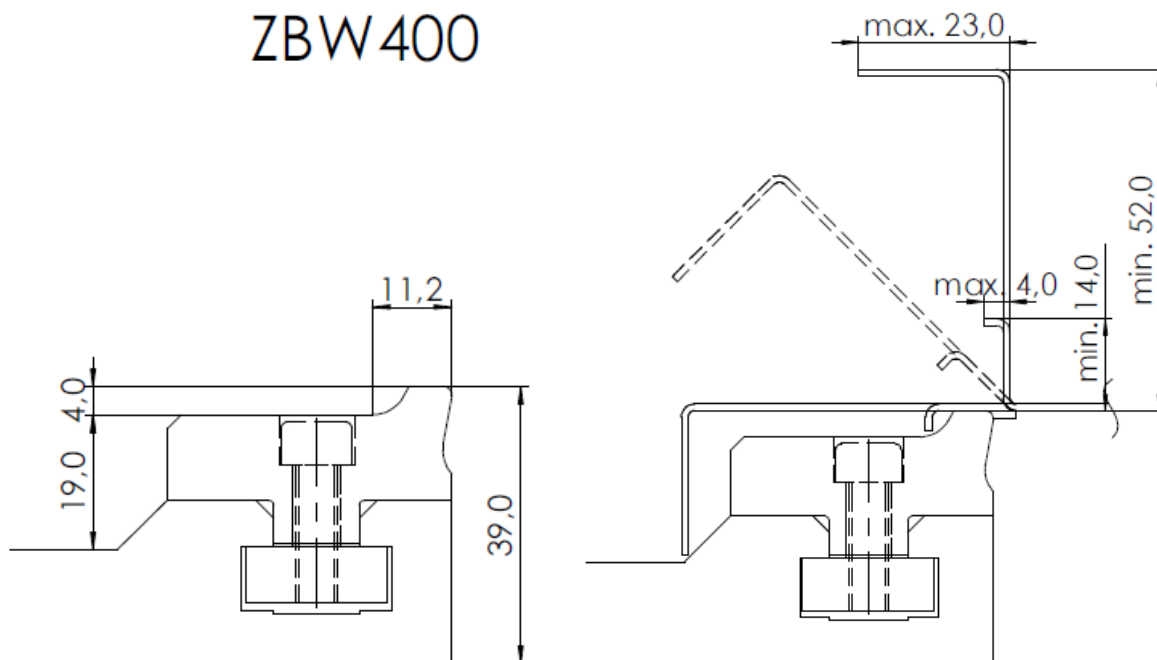
Maximale Dicke:

Maximum thickness:

R= 220 N/mm ²	3mm
R= 400 N/mm ²	3mm
R= 700 N/mm ²	2.2mm



ZBW 400



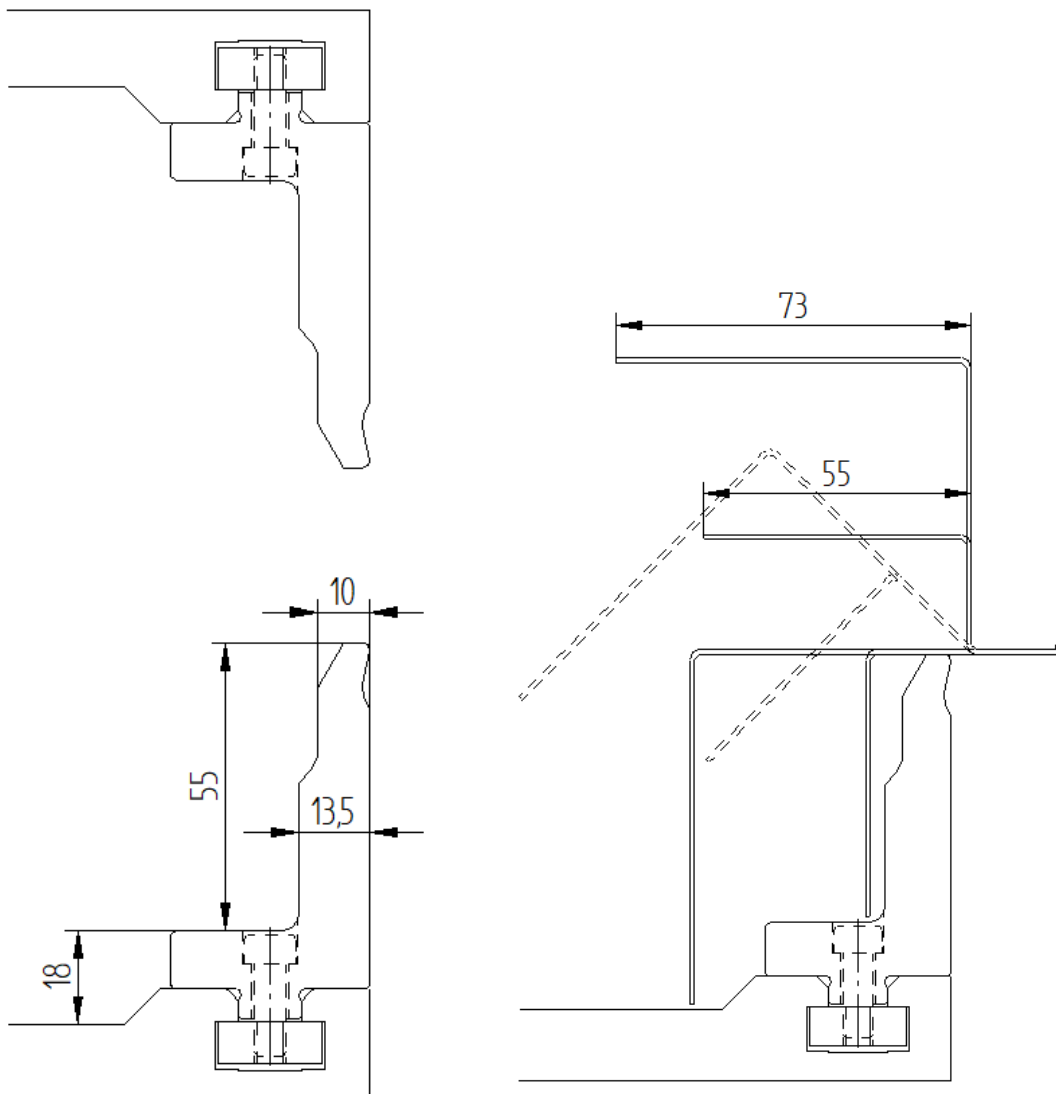


TruBend Center 7020

Extra bending tool: ZBW 500

Maximum thickness

Materiale Material	Spessore [mm] Thickness [mm]
R=700 Mpa	0,8
R=400 Mpa	1
R=220 Mpa	1,5



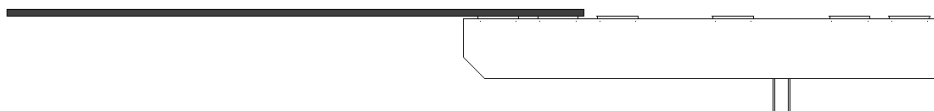
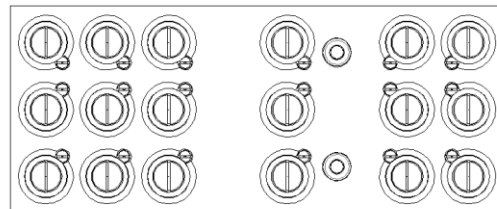
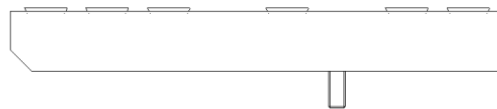


TruBend Center 7020

8 Manipulator modules

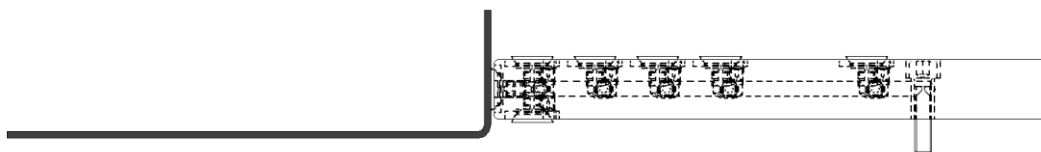
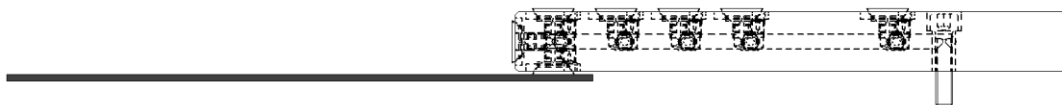
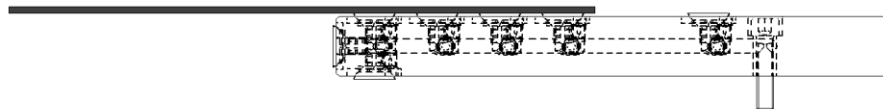
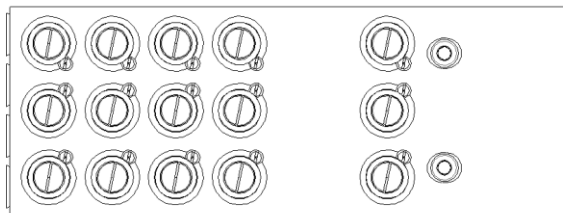
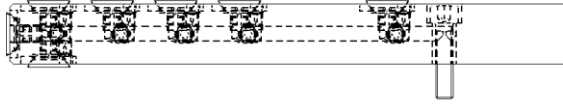
The TruBendCenter 7020 is equipped with “Surface vacuum” modules. These modules are used to grip and move the metal sheet on the working table. As shown below, magnetic modules or pliers are also available as option.

Surface vacuum

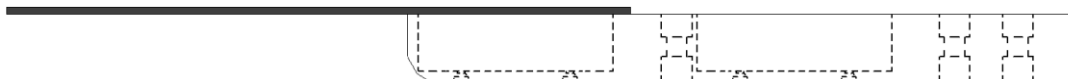
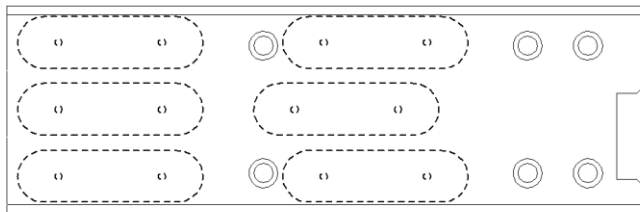
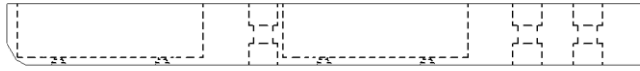




3-Surface vacuum

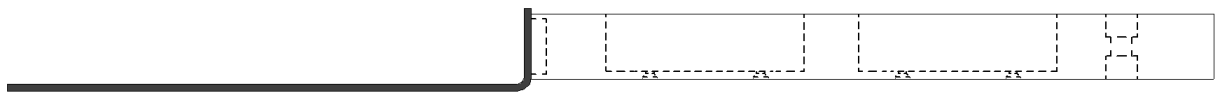
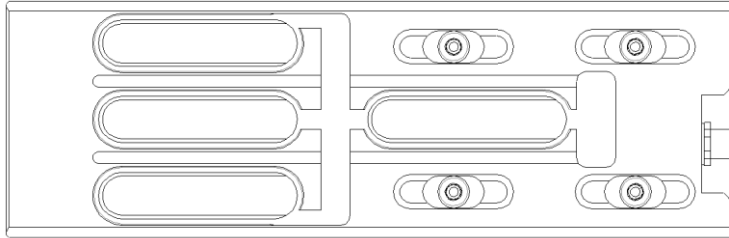


Standard magnet modules

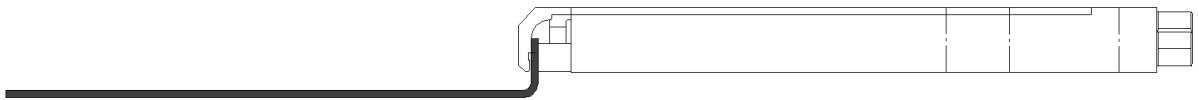




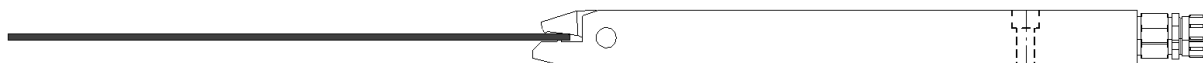
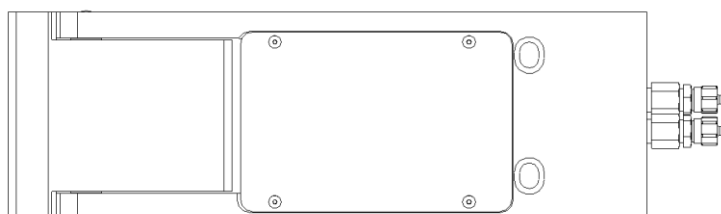
2-Surface magnet modules



Vertical pliers

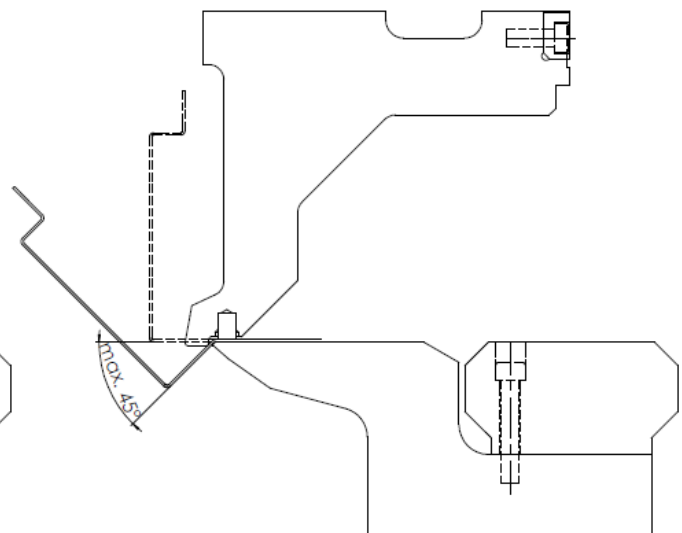
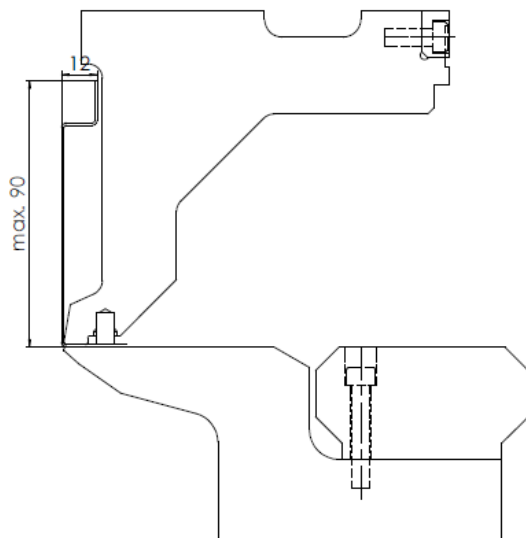
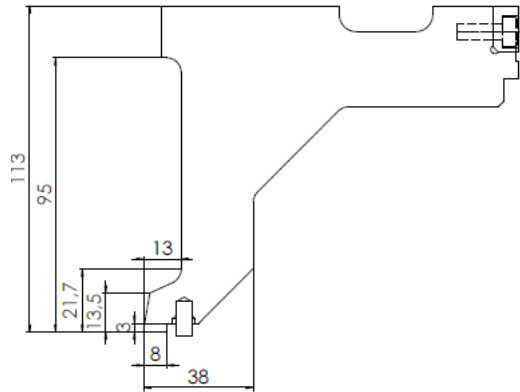


Horizontal pliers



9 Special tools

On request, we can also produce special designs of the upper blank holder, ENW or ZBW tools, for example:



10 Material numbers

Tool type	Spare part number*	Material number*
ENW110-30 - Length 1125mm	2365011	2365011
ENW110-40 - Length 1125mm	2364979	2364979
ENW110-50 - Length 1125mm	2364350	2364350
ENW120 - Length 1125mm	2365012	2367505
ENW200 - Length 1125mm	2364521	2364521
ENW300 - Length 1125mm	2365014	2367511
ENW110-30 - Length 2163mm	2366553	2366553
ENW110-40 - Length 2163mm	2366552	2366552
ENW110-50 - Length 2163mm	2366551	2366551
ENW120 - Length 2163mm	2366554	2366554
ENW200 - Length 2163mm	2366555	2366555
ENW300 - Length 2163mm	2366556	2366556
ZBW100 - Length 640mm (1 set)	2660137	2660137
ZBW200 - Length 640mm (1 set)	2660152	2660152
ZBW300 - Length 640mm (1 set)	2660154	2660154
ZBW400 - Length 640mm (1 set)	2660189	2660189
ZBW500 - Length 640mm (1 set)	2661256	2661256
ZBW100 - Length 940mm (1 set)	2005522	1949288
ZBW200 - Length 940mm (1 set)	1973896	1949289
ZBW300 - Length 940mm (1 set)	2005523	1949290
ZBW400 - Length 940mm (1 set)	2005524	1949302
ZBW500 - Length 940mm (1 set)	2046081	2046081

*Material number for delivery with the machine order

*Spare part number for reorder via retrofit.tws@de.trumpf.com

Legend for tables – Maximale Dicke/Maximum thickness

R= 220 N/mm² → Aluminium

R= 400 N/mm² → Steel

R= 700 N/mm² → Stainless steel