Bystronic

Technical Data
ByVention 3015

Height
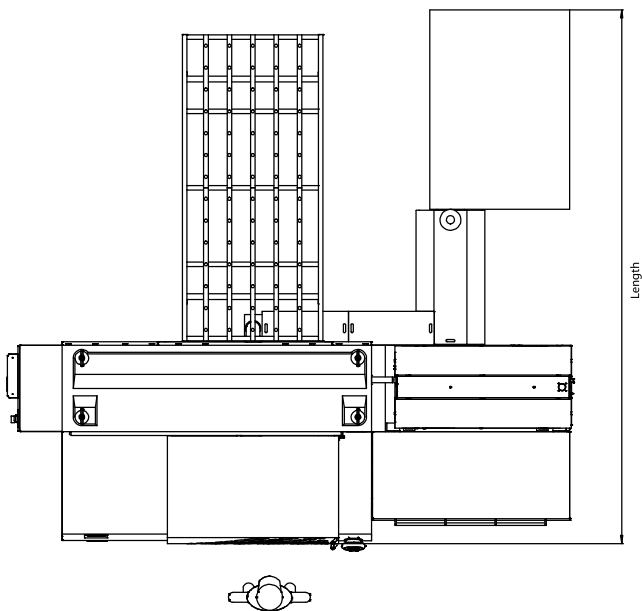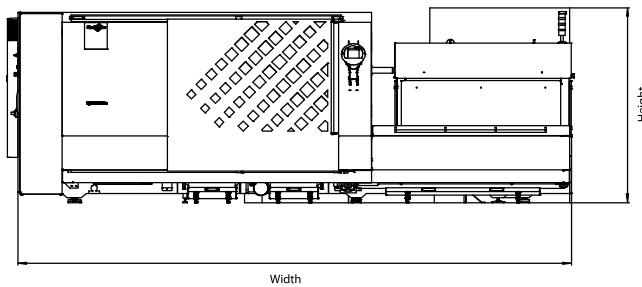
Width

Length

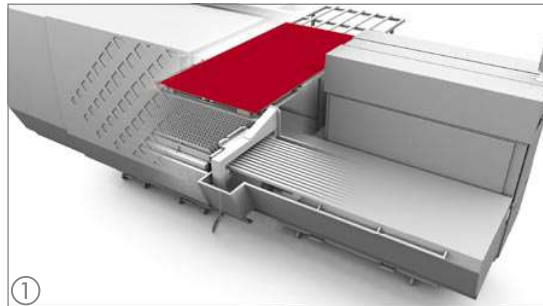|	ByVention 3015	
	✓	
Laser power	2200 W	4400 W
Length	6000 mm	6000 mm
Width	6000 mm	6400 mm
Height	2150 mm	2150 mm

# Innovative material flow concept

ByVention is the smallest laser cutting machine for standard-sized metal sheets. Thanks to its innovative and clever material flow concept, the finished parts are conveyed continuously and automatically out of the cutting area. They are available to the user even during the cutting process. Removal of the parts is easy and convenient. The removal area is freely accessible.

① The metal sheet is placed on the loading table manually and pushed up to the table stop.
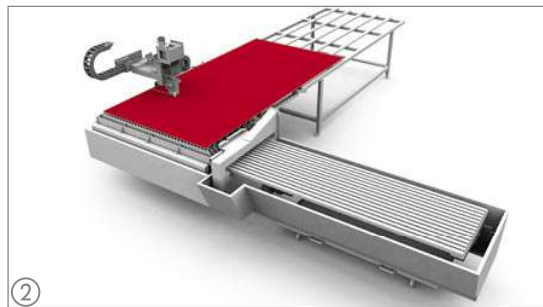
② The table is fed into the cutting area automatically. The parts in the first segment are cut.


a)   b)   c)
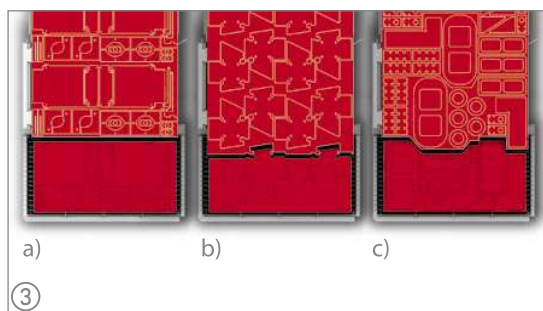
③ With the ByVention, the sheet is divided up into segments that are processed one after another. This accounts for the **three** different strategies that can be used to nest parts on the sheet.

a) **Strategy without overlap**
This strategy is suitable for parts that can be nested optimally within a rectangle. Before the parts are cut, the segment is cut off with a straight cut. The maximum depth of the segment corresponds to the length of the cutting area (772 millimeters).

b) **Strategy with overlap and partial separation cut**
This strategy maximizes sheet usage if the parts cannot be nested optimally within a rectangle. The separation cut sometimes corresponds to the exterior contours of the parts and thus is no longer straight. The segments are interlocked with one another. The parts of a segment are all within the segment area of 772 by 1562 millimeters.
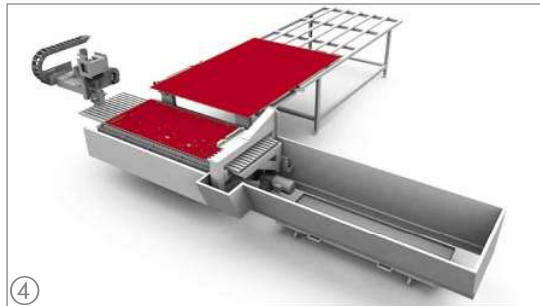
④

The finished table segment is placed on the removal table automatically.

⑤
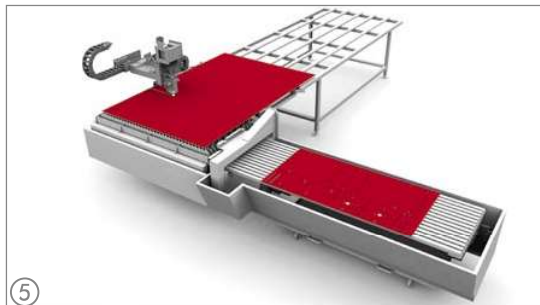
The removal table carries the finished table segment automatically from the cutting area to the removal area. At the same time, the sheet is fed into the cutting area so that the next segment can be cut. The cut parts as well as the partly cut sheet are now taken manually from the removal area.

⑥
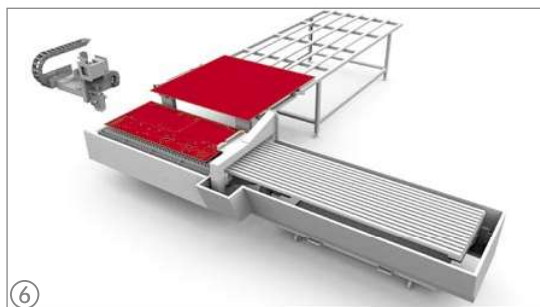
The finished table segment is placed on the removal table automatically. This procedure repeats until the entire sheet has been processed. As soon as the last segment of the table is in the cutting area, a new sheet can be placed on the loading table.

The Bystronic cutting and bending software Bysoft supports the ByVention's processes optimally and, if desired, selects the optimal strategy for segmenting the sheet automatically during programming.

c) Strategy with overlap and complete separation cut
This strategy can be used as an alternative to strategy b), especially with sheet thicknesses starting at 3 millimeters, complex part geometries or if there are many parts in the overlap zone. In contrast to strategy b), there is a complete separation cut here, which runs along the part contours at a defined distance. The advantages of this are:

1. Only one piercing is required, which saves time, especially with thick sheets, and
2. Maximum process reliability is guaranteed even with complex parts and nestings as well as thicker sheets.

	Bylaser 2200 ✓	Bylaser 4400 ✗
Laser power	2200 W	4400 W
Nominal sheet size (length x width)	3000 x 1500 mm	3000 x 1500 mm
	2500 x 1250 mm	2500 x 1250 mm
	2000 x 1000 mm	2000 x 1000 mm
Working range	x = 1562 mm	x = 1562 mm
	y = 772 mm	y = 772 mm
	z = 100 mm	z = 100 mm
Maximum positioning speed parallel axis x, y	100 m/min	100 m/min
Maximum positioning speed simultaneous	140 m/min	140 m/min
Positioning accuracy Pa *	± 0.1 mm	± 0.1 mm
Repeatability Ps *	± 0.05 mm	± 0.05 mm
Machine weight **	13 500 kg	14 600 kg
Base	normal, reinforced industrial floor according to assembly plan	
Cutting head 5"	inclusive	inclusive
Cutting head 7.5"	optional	inclusive
Cutting gas consumption	depends on material	
Operation via panel	control panel with touch screen	
Drives	USB 1.1 interface on manual control unit	
Network connection	RJ45 connector 10/100 MBit/s	
ByVision (see separate datasheet for specifications)	optional	optional

CO_2 **laser source**	Bylaser 2200 ✓	ByLaser 4400 ✗
Power	2200 W	4400 W
Wavelength	10.6 µm	10.6 µm
Polarization	circular	circular
Pulse frequency	1–2500 Hz	1–2500 Hz
Maximum sheet thicknesses ***		
Mild steel	8 mm	8 mm
Stainless steel	6 mm	8 mm
Aluminum	4 mm	8 mm
Maximum electric consumption of the total system ****	35 kW	54 kW

*   According to VDI/DGQ 3441 measuring length 1 m. The precision of the sheet metal part depends on the material
     in question and its previous handling as well as the table size and its warming.

**   Complete laser cutting system without combined cooling and filtration unit and automation

*** In order to cut the maximum thicknesses, the following conditions must be met:
     – Optimally suspended and set laser cutting system
     – The materials must be of the quality demanded by Bystronic (laser materials)

**** Entire system with suction and cooling equipment

The right to make changes to dimensions, construction, and equipment is reserved. ISO-9001-certified.

Your contact

www.bystronic.com