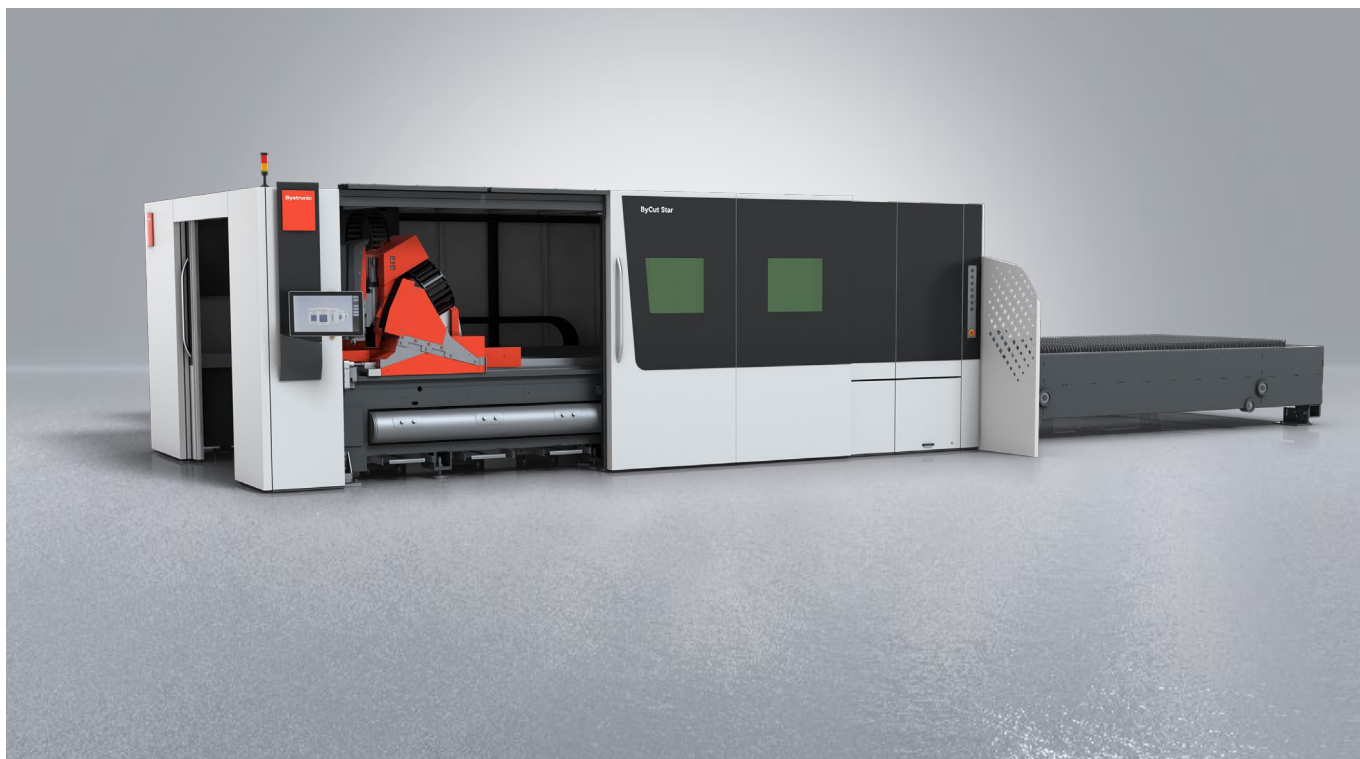


**Best choice.**  
Cutting. Bending. Automation.

**Bystronic**



[bystronic.com](http://bystronic.com)



# ByCut Star

Highly efficient laser cutting thanks to high power and smart functions – now with a new design

## Customer benefits

- High-power ready: From 3 to 30 kilowatts – the ByCut Star accommodates the full laser-power range, perfectly tailored to your needs.
- High speed: Cuts mild steel twice as fast compared to 15 kW and MixGas with sheet thicknesses between 6 mm and 15 mm, and more than twice as fast with thicknesses starting at 20 mm. Piercing times are shorter for sheet thicknesses of 15 mm and above.
- Intelligent cutting process: Smart functions such as the Intelligent Cutting Process (ICP), Fast Piercing, and the Parameter Wizard optimize your entire cutting process.
- Fast configuration: In just a few minutes, the Parameter Wizard option determines the perfect parameters with N<sub>2</sub> and MixGas for steel from 4 to 15 mm in thickness.
- New design: Modern, sharp contours give a striking appearance and match the performance of your machine.
- Broad spectrum: Be it mild steel, stainless steel, aluminum, or non-ferrous metals – with a broad production range, you can process sheet thicknesses of up to 50 mm (excluding non-ferrous metals).
- High process reliability: Bystronic's automation solutions guarantee optimum utilization and maximum reliability in unmanned operation.
- Simple operation: Via a 21.5-inch touchscreen, operate the BySoft Cell Control Cut software as easily as your smartphone.



- 1 Unlimited accessibility
- 2 Cutting head
- 3 Nozzle changer
- 4 Powerful 30 kW output

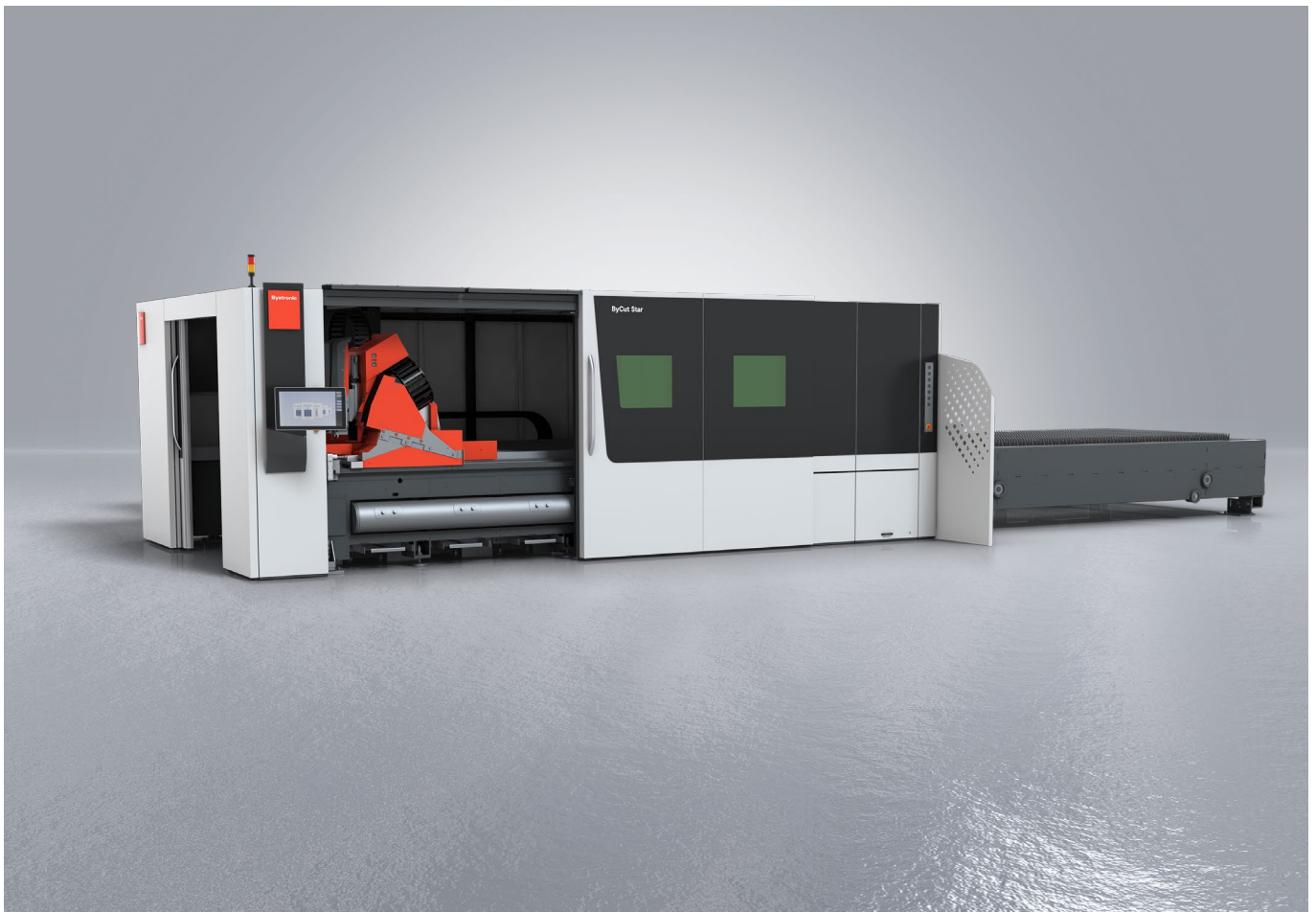


**ByCut Star 4020**

Nominal sheet size	160 × 80 in
Max. simultaneous positioning speed	6,681 in/min
BySoft Cell Control Cut operation and manual control unit	■



# ByCut Star Technical Data





	<b>ByCut Star 4020</b>
Length	551 in
Width	224 in
Height	102 in
Nominal sheet size (X)	160 in
Nominal sheet size (Y)	80 in
Cutting area (X)	162 in
Cutting area (Y)	83 in
Cutting area (Z)	5.9 in
Max. positioning speed parallel axis X/Y	4,724 in/min
Max. simultaneous positioning speed	6,681 in/min
Bilateral repeatability of positioning of one axis R (following ISO 230-2:2014(E))	0.001 in
Averaged, bilateral position deviation of one axis M (following ISO 230-2:2014(E))	0.002 in
Edge detection accuracy ( $\pm$ )	0.02 in
Max. workpiece weight	4,189 lbs
Maximum allowed workpiece weight on both shuttle tables	7,055 lbs
Machine weight (without exhaust, chiller and conveyor)	28,219 lbs
Table changeover time	28 s
Operation	BySoft Cell Control Cut Touchscreen and manual control unit



Laser source	Fiber 3000	Fiber 4000	Fiber 6000	Fiber 8000	Fiber 10000
Power	3,000 W	4,000 W	6,000 W	8,000 W	10,000 W
Range of adjustment	300–3,000 W	400–4,000 W	600–6,000 W	800–8,000 W	1,000–10,000 W
Wavelength	Fiber	Fiber	Fiber	Fiber	Fiber
Steel (max. cutting material thickness)	0.75 in	0.75 in	1 in	1 in	1 in
Steel (with option BeamShaper) *	0.75 in	1 in	1.18 in	1.18 in	1.18 in
Steel (Option «Advanced Applications») *					
Stainless steel (max. cutting material thickness)	0.47 in	0.6 in	1.18 in	1.18 in	1.18 in
Stainless steel (Option «Advanced Applications») *					
Aluminum (max. cutting material thickness)	0.47 in	0.6 in	1.18 in	1.18 in	1.18 in
Aluminum (Option «Advanced Applications») *					
Brass (max. cutting material thickness)	0.25 in	0.31 in	0.59 in	0.59 in	0.59 in
Copper (max. cutting material thickness)	0.25 in	0.31 in	0.47 in	0.47 in	0.59 in
Total electric consumption of system (with exhaust, chiller) **	20 kW	21 kW	22 kW	23 kW	24 kW

Laser source	Fiber 12000	Fiber 15000	Fiber 20000	Fiber 30000
Power	12,000 W	15,000 W	20,000 W	30,000 kW
Range of adjustment	1,200–12,000 W	400–15,000 W	400–20,000 W	400–30,000 W
Wavelength	Fiber	Fiber	Fiber	Fiber
Steel (max. cutting material thickness)	1 in	1 in	1 in	1 in
Steel (with option BeamShaper) *	1.18 in	1.18 in	1.18 in	
Steel (Option «Advanced Applications») *		1.96 in	1.96 in	1.96 in
Stainless steel (max. cutting material thickness)	1.18 in	1.57 in	1.57 in	1.57 in
Stainless steel (Option «Advanced Applications») *		1.96 in	1.96 in	1.96 in
Aluminum (max. cutting material thickness)	1.18 in	1.57 in	1.57 in	1.57 in
Aluminum (Option «Advanced Applications») *		1.96 in	1.96 in	1.96 in
Brass (max. cutting material thickness)	0.59 in	0.75 in	0.75 in	0.75 in
Copper (max. cutting material thickness)	0.59 in	0.75 in	0.75 in	0.75 in
Total electric consumption of system (with exhaust, chiller) **	25 kW	27 kW	30 kW	52 kW

\* In order to cut the maximum thicknesses, the following conditions must be met:  
 - optimally maintained and adjusted laser cutting systems  
 - the materials must be of the quality specified by Bystronic (laser materials)

\*\* Entire system with exhaust and chiller: Electrical consumption data shows an average value based on 4 reference cutting plans of mild steel between 1–10 mm thickness

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

The technical data can vary in the different countries, according to local security rules and configuration of the machine.

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