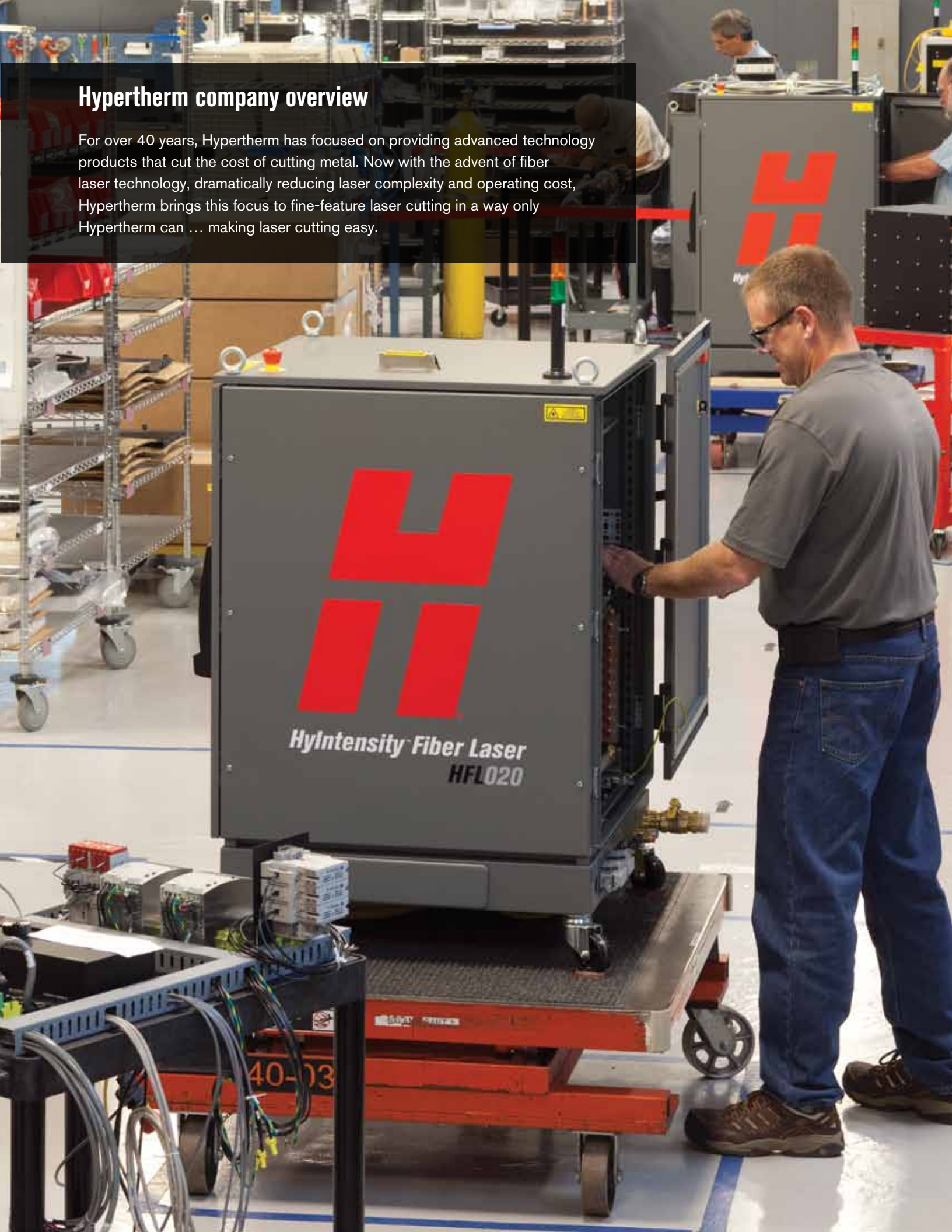
Hypertherm®

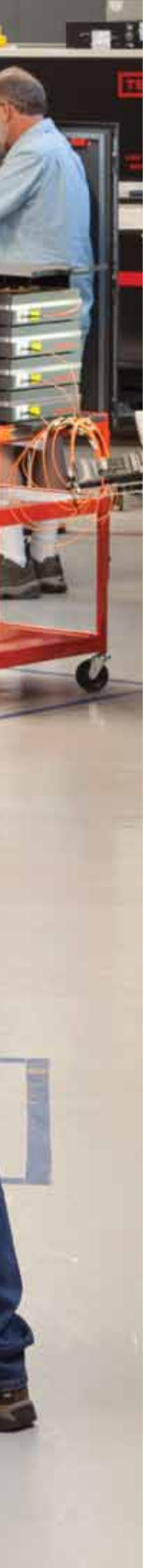
HyIntensity™ Fiber Laser selection guide

LASER CUTTING MADE EASY



Hypertherm company overview

For over 40 years, Hypertherm has focused on providing advanced technology products that cut the cost of cutting metal. Now with the advent of fiber laser technology, dramatically reducing laser complexity and operating cost, Hypertherm brings this focus to fine-feature laser cutting in a way only Hypertherm can … making laser cutting easy.



Fiber Laser technology: solid state simplicity, efficiency, and reliability

HyIntensity Fiber Laser systems use a low-maintenance solid-state laser source to generate a laser beam that is delivered through a fiber optic cable to the laser head. The glass fiber transfers the beam with a beam quality tailored for cutting metal.

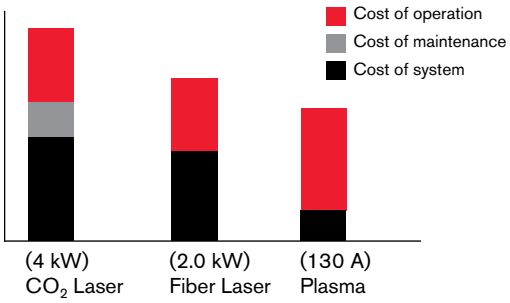
The fiber optic technology enables more flexible table integration without the table size restrictions associated with CO_2 lasers. Three times more energy efficient than CO_2, HyIntensity Fiber Laser systems are a cost-effective solution for fine-featured cutting with no mirrors to maintain and calibrate and no lasing gas.

Higher cut speeds, lower operating costs, higher productivity than CO_2 or plasma on material thicknesses below 6 mm (1/4").

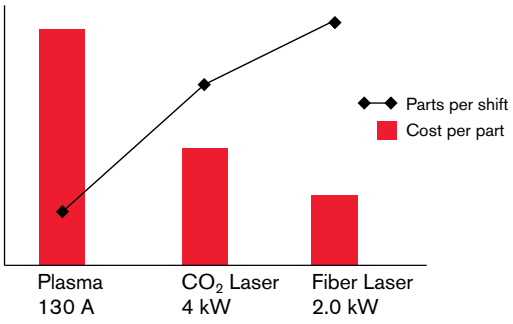
Thin materials advantages

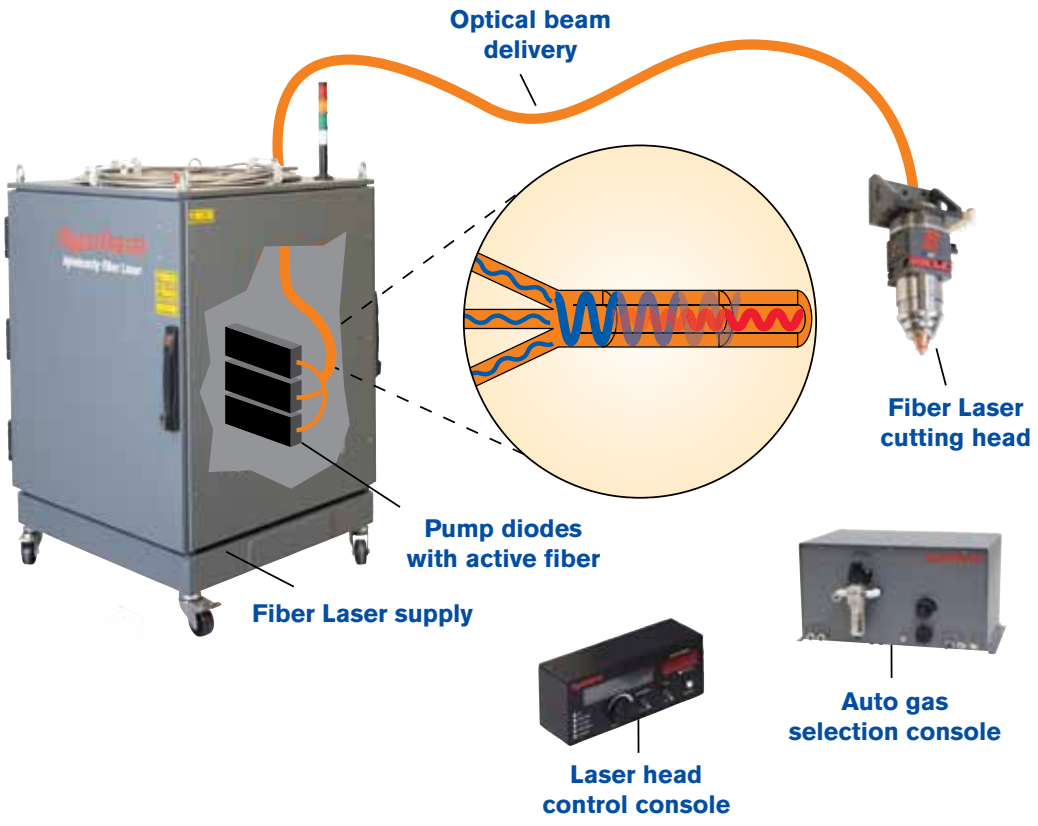
- Fiber laser enables cutting more reflective material including copper and brass.
- Fiber laser cutting is faster.
- Fiber laser cutting produces a high quality edge.
- Fiber laser cutting provides the lowest cost per part.

Total cost of ownership
5 year outlook



Cost per part and parts per shift
3.5 mm (.135") mild steel





Multiple solid state pump diodes are combined to generate the laser beam which is then transmitted through a flexible delivery fiber to the laser cutting head.

A fully optimized cutting system

HyIntensity Fiber Laser, the industry's first complete fiber laser system specifically optimized for cutting applications, makes it easy to produce consistent laser quality across a full range of materials and thicknesses.

- Tightly integrated system design for ease of operation, and reliable, consistent process optimization.
- Pre-set optimized cutting parameters for a full range of materials (mild steel, stainless steel, aluminum) and thicknesses.
- Ability to cut and mark with the same consumables for easy process changeover and efficient operation.
- Fiber laser cutting head (LF150): integrated capacitive height control (patented).
- Laser head control console: point of use process and diagnostic information.
- Auto gas selection console: enables consistent cut quality and rapid process change over.
- Fiber beam delivery, cables and hoses.
- Common control platform using Hypertherm controls, nesting and process optimization software and Hypernet® communication protocol.
- 2-year warranty.

Applications: expanding customer access to high-precision fine-feature cutting

More easily integrated into a wider range of cutting machine types (compared with CO_2) and significantly more affordable to operate, Hypertherm's HyIntensity Fiber Laser enables more steel fabricators to add high-precision cutting capability to their operations.

- Superior cut quality and tolerances for fine-feature cutting on materials from gauge to plate thicknesses.
- Easily integrated onto a broad variety of high-quality cutting machines.
- Laser cutting technology that can be effectively combined with plasma to deliver the highest productivity and exceed tolerance and quality requirements for most plate applications.

2 mm titanium

2 mm brass

6 mm mild steel

20 mm mild steel

2.5 mm copper

Fiber Laser product line

Customers can choose the system power level that best suits their application requirements. System components are designed to work interchangeably providing the flexibility of an easy upgrade path, allowing you to add new capabilities should your needs change in the future.

Technical data

	HyIntensity HFL010	HyIntensity HFL015	HyIntensity HFL020	HyIntensity HFL030
Max power	1000 W	1500 W	2000 W	3000 W
Emisions wavelength	1070 ± 10 nm	1070 ± 10 nm	1070 ± 10 nm	1070 ± 10 nm
Emision bandwidth	3 nm typical; 6 nm maximum	3 nm typical; 6 nm maximum	3 nm typical; 6 nm maximum	3 nm typical; 6 nm maximum

Max cutting capacity

Mild steel	10 mm (3/8")	12 mm (1/2")	16 mm (5/8")	20 mm (3/4")
Stainless steel	6 mm (1/4")	10 mm (3/8")	10 mm (3/8")	12 mm (1/2")
Aluminum	3 mm (1/8")	5 mm (3/16")	6 mm (1/4")	10 mm (3/8")
Brass		1 mm (.036")	4 mm (5/32")	6 mm (1/4")
Copper		1 mm (.036")	4 mm (5/32")	6 mm (1/4")

Specifications

Auto voltage input	400 – 480 VAC (50/60 Hz)	400 – 480 VAC (50/60 Hz)	400 – 480 VAC (50/60 Hz)	380 – 400 VAC (50/60 Hz) 440 – 480 VAC (50/60 Hz)
Weight	196 kg (430 lbs)	211 kg (465 lbs)	226 kg (500 lbs)	284 kg (625 lbs)
Dimensions	147 cm H, 82 cm W, 93 cm L 58" H, 32" W, 37" L	147 cm H, 82 cm W, 93 cm L 58" H, 32" W, 37" L	147 cm H, 82 cm W, 93 cm L 58" H, 32" W, 37" L	155 cm H, 82 cm W, 93 cm L 61" H, 32" W, 37" L
Gas supply	Air: 9 bar (130 psi) O_2: 8 bar (115 psi) N_2: 27 bar (400 psi)	Air: 9 bar (130 psi) O_2: 8 bar (115 psi) N_2: 27 bar (400 psi)	Air: 9 bar (130 psi) O_2: 8 bar (115 psi) N_2: 27 bar (400 psi)	Air: 9 bar (130 psi) O_2: 8 bar (115 psi) N_2: 27 bar (400 psi)

Operating data

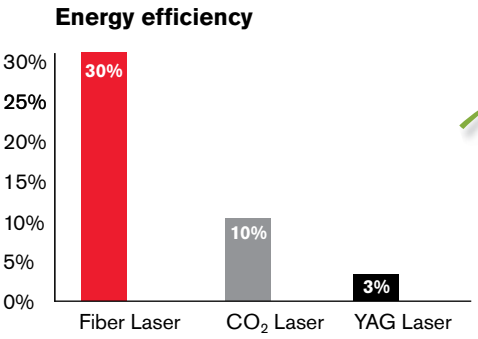
Material	Thickness (mm)	HyIntensity HFL010	HyIntensity HFL015	HyIntensity HFL020	HyIntensity HFL030	Thickness (inches)	HyIntensity HFL010	HyIntensity HFL015	HyIntensity HFL020	HyIntensity HFL030
		Approximate cutting speed (mm/min.)					Approximate cutting speed (ipm)			
Mild steel	1 mm	8800	8800	8800	8800	20GA	375	375	375	375
	2 mm	4445	4445	4445	4445	14GA	175	175	175	175
	6 mm	1150	1500	1800	2700	1/4	45	60	72	100
	10 mm	750	1000	1150	1450	3/8	30	40	46	55
	12 mm		760	890	1100	1/2		30	35	40
	16 mm			575	750	5/8			25	30
	20 mm				600	3/4				25
Stainless steel	1 mm	6600	9000	12500	15000	20GA	280	375	500	600
	2 mm	3500	5000	7000	9000	14GA	140	200	275	360
	6 mm	500	700	1150	2200	1/4	20	27	45	75
	10 mm		300	560	800	3/8		13	22	35
	12 mm			250	500	1/2			10	20
Aluminum	1 mm	5600	8500	12500	25400	20GA	220	350	500	1000
	2 mm	2300	4500	6900	10800	14GA	90	180	275	425
	3 mm	1400	2300	3800	7500	1/8	50	90	150	275
	6 mm		500	750	2000	1/4		20	30	75
	10 mm				550	3/8				25

Cutting results will vary with material composition, gas purity, and machine motion.

Fiber laser supply is EN ISO 13849-1 Performance Level (PL) E+ standard safety rated.

Fiber laser supply is NEMA 12 rated (sealed to dust for reliable functionality).

HyIntensity Fiber Laser supply for 3 times greater energy efficiency than CO_2.



Greener Cuts™

- Hypertherm is ISO 9001:2000 certified.
- Hypertherm full-system warranty – complete coverage for two years on all system components and one year on the laser head and beam delivery optics.

Built upon more than 40 years of thermal cutting knowledge, Hypertherm's fully integrated HyIntensity Fiber Laser simplifies the laser cutting process.

Through a solutions approach, Hypertherm makes it easier for partners and their customers to apply laser cutting technology for fine feature cutting requirements.

Hypertherm®

Cut with confidence®

www.hypertherm.com
www.fiberlasercutting.com