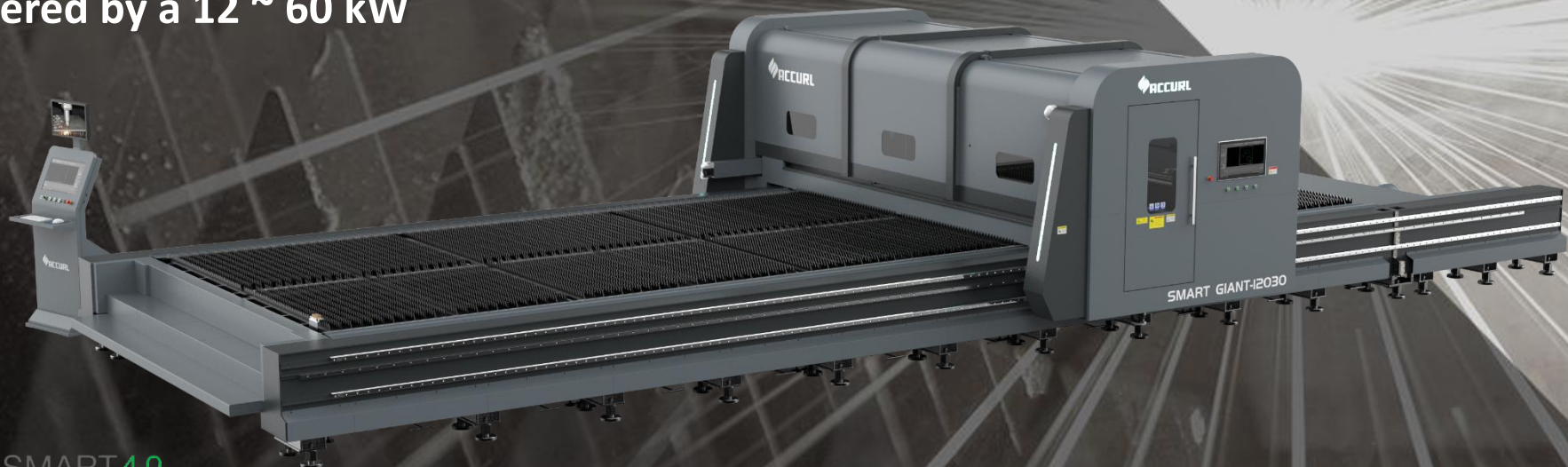




EFFICIENT AND FLEXIBLE **SMART GIANT**

FIBER LASER CUTTING OF Large-Format

Powered by a 12 ~ 60 kW



ACCURL[®] MODULAR DESIGN FOR LARGE-FORMAT LASER

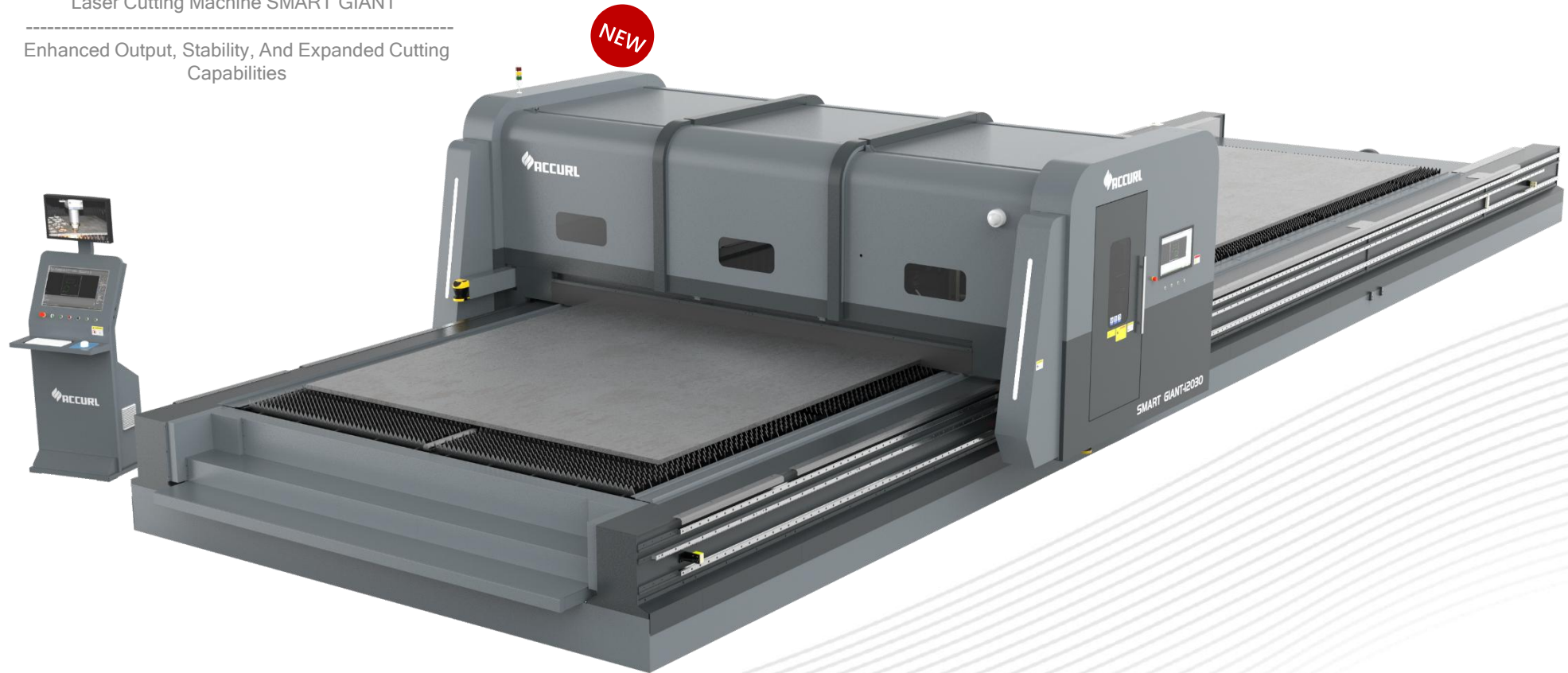
SMART GIANT LARGE-FORMAT From 12Kw ~ 60Kw

ENHANCED OUTPUT, STABILITY, AND EXPANDED CUTTING CAPABILITIES

ACCURL SMART GIANT (**SG-X SERIES**) Large Format Fiber Laser offers high-efficiency, autonomous plate processing. equipped with a 12~60 kW laser, it delivers precise cuts, including bevels up to 45°, with minimal operator input. its modular design supports a 36-meter processing area for seamless operation.

Large-format 12kW - 60 kW
Laser Cutting Machine SMART GIANT

Enhanced Output, Stability, And Expanded Cutting
Capabilities



Note: the data in this table are standard configuration technical parameters, and can also be customized according to the technical requirements.

ACCURL® MODULAR DESIGN FOR LARGE-FORMAT LASER

SMART GIANT LARGE-FORMAT From 12Kw ~ 60Kw

LARGE-FORMAT CUTTING:

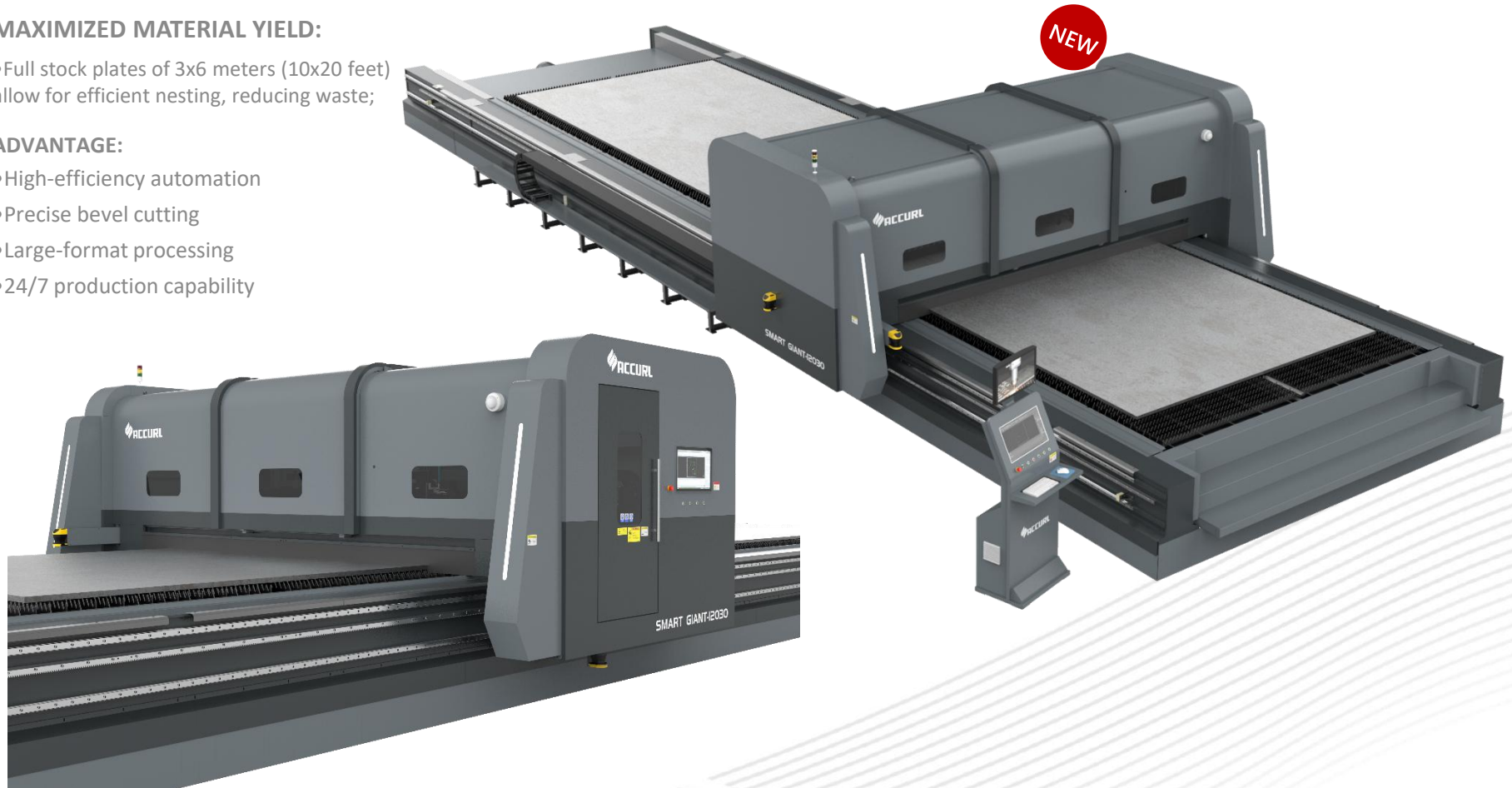
The modular design starts at 32 feet and expands up to 137 feet, allowing continuous, uninterrupted processing of extra-large or multiple parts without repositioning, while enabling simultaneous cutting and offloading on separate table sections to minimize downtime.;

MAXIMIZED MATERIAL YIELD:

- Full stock plates of 3x6 meters (10x20 feet) allow for efficient nesting, reducing waste;

ADVANTAGE:

- High-efficiency automation
- Precise bevel cutting
- Large-format processing
- 24/7 production capability



MODULAR DESIGN FOR LARGE-FORMAT LASER

SMART GIANT LARGE-FORMAT From 12Kw ~ 60Kw

SMART GIANT X SERIES-EXCEEDING LIMITS :

The SMART GIANT, ACCURL's large-format laser cutting machine, is designed for processing oversized sheets with precision. Its modular design ensures robust performance, delivering high-quality straight or bevel cuts across the entire cutting area at optimal speeds for industrial efficiency.

WITH SMART GIANT LASER MACHINE YOU CAN CUT PARTS ON ONE SECTION OF THE TABLE, WHILE LOADING OR OF AODING ON ANOTHER.

ADVANTAGE:

Dynamic Performance:

- Advanced mechanical design and drive system ensure high-speed, precise cutting.

Scalable Design:

- Modular setup (32–137 ft) supports oversized or multiple sheets.

Efficient Access:

- Full-area access simplifies maintenance & part removal.

Advanced Cutting Head:

- Auto-focus & zoom optics ensure superior cut quality.

Bevel Cutting:

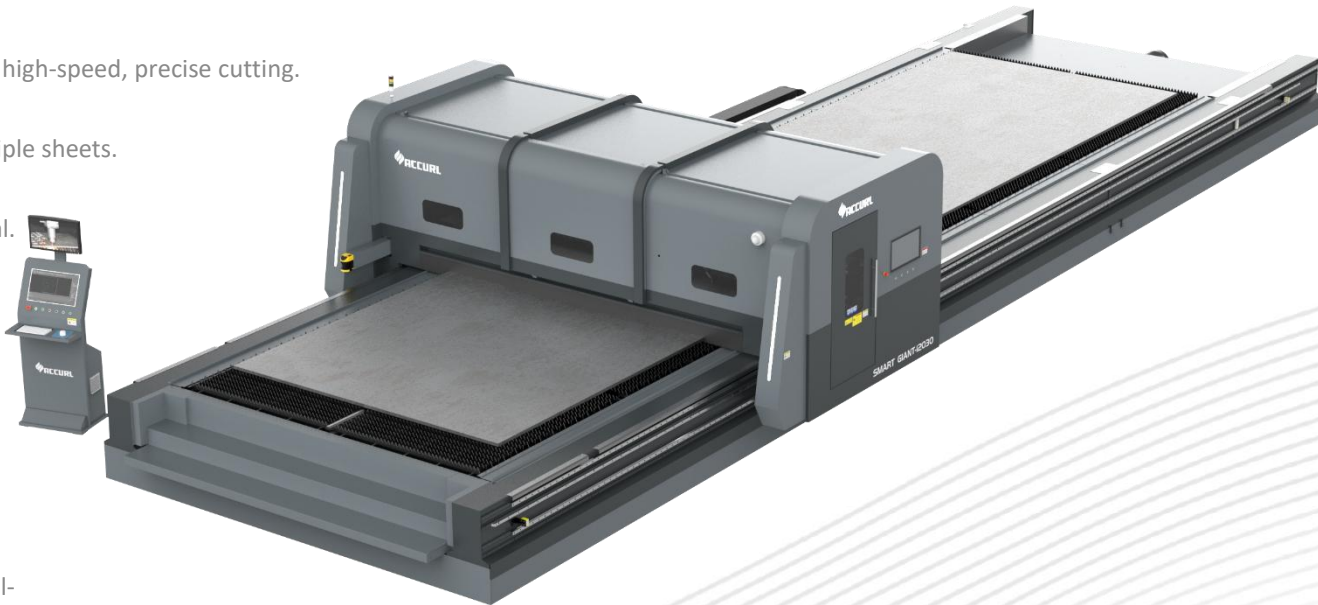
- Optional feature for complex angled cuts.

Continuous Workflow:

- Dual-table operation enables simultaneous cutting & loading/unloading.

ACCURL ICUT SOFTWARE:

- Optimizes performance with intuitive controls and real-time process monitoring. Smart Giant delivers precision, flexibility, and efficiency for demanding industrial cutting needs.

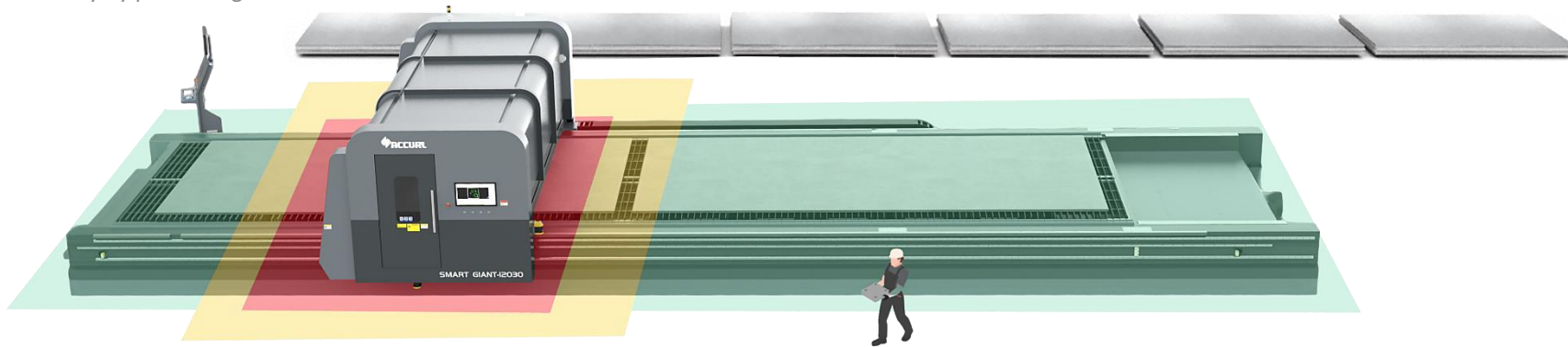


SAFETY SCANNERS CONSTANTLY MONITOR

SG-X SAFETY SYSTEM:PRECISION PROTECTION FOR HIGH-SPEED CUTTING

SSAFETY LASER SCANNERS CONSTANTLY MONITOR:

The SG-X operates at 1G gantry acceleration, handling multiple buffered jobs while loading and unloading sheets in a dynamic environment with personnel, pallets, and lifting equipment. Traditional safety measures fall short in such high-speed settings. The SG-X safety system delivers real-time monitoring, ensuring operator safety and operational efficiency by preventing collisions.



KEY FEATURES AND ADVANTAGES:

MULTI-ZONE SCANNING FOR COLLISION PREVENTION:

- Advanced scanners monitor front, rear, and above the cutting deck, detecting objects instantly to minimize accident risks.

SMART ZONED RESPONSE SYSTEM:

- Warning zones alert operators, while stop zones halt the machine and laser, balancing safety and productivity.

AUTOMATIC RECOVERY FOR MINIMAL DOWNTIME:

- Post-hazard clearance, the system auto-resets, ensuring seamless production continuity.



SPECIFICATIONS SMART GIANT(SG-X):

SMART SERIES	SMART GIANT-9032	SMART GIANT-12032	SMART GIANT-15032
Working range (L*W)	9000*3200mm	12000*3200mm	15000*3200mm
Y1 /X-axis travel	9200*3300mm	12200*3300mm	15200*3300mm
Y2-axis travel	900mm	900mm	900mm
Z-axis travel	200mm	200mm	200mm
Positioning accuracy*	±0.050mm	±0.050mm	±0.050mm
Repetitive accuracy	±0.025mm	±0.025mm	±0.025mm
Maximum positioning speed X-Y	100m/min	100m/min	100m/min
Maximum X / Y acceleration	1.0G	1.0G	1.0G
Maximum sheet weight on table	750kg/m ²	750kg/m ²	750kg/m ²
Internal Thermal Insulation Structure of the Frame	Graphene Plate Protection	Graphene Plate Protection	Graphene Plate Protection
Workbench structure	Modular and scalable	Modular and scalable	Modular and scalable
Laser Power	12KW-60KW	12KW-60KW	12KW-60KW
Gas proportioning valve	Air/Oxygen/Nitrogen	Air/Oxygen/Nitrogen	Air/Oxygen/Nitrogen
Overall dimensions without a three-color light	11850*4100*2550mm	14850*4100*2550mm	17850*4100*2550mm
Approximate weight	14250KG	18550KG	21550KG

Note:

Achievable workpiece accuracy depends on the type of workpiece, pre-treatment and sheet size as well as other variables. According to VDI/DGQ 3441..



ACCURL[®] MODULAR DESIGN FOR LARGE-FORMAT LASER

SMART GIANT LARGE-FORMAT From 12Kw ~ 60Kw

CONFIGURATION LIST FOR SMART GIANT:

No.	Item	Brand / Specification	Remarks
1	Laser cutting head	ACCURL BLT 6 Series	ACCURL
2	Fiber laser	Laser source RAYCUS CE	China
3	X and Y high-precision reducer	ALPHA Level 6 precision	Germany
4	X and Y high-precision helical rack	Germany, ALPHA	Germany
5	X, Y linear guide rail	ROUST/REXROTH	Germany
6	X and Y-axis servo motors	Yaskawa/INOVANCE	Japanese
7	CNC control system	TWINCUT [®] CNC 21" S80 EtherCAT Control System	ACCURL
8	Nesting software	CypNEST	ACCURL
9	Proportional valve	HOERBIGER (Air/Oxygen/Nitrogen)	Germany
10	Water chiller	TONGFEI -CE	China
11	Main low-voltage electrical components	SCHNEIDER	France
12	Laser protection	Laser cabinet + Laser cabinet air conditioner (TONGFEI)	ACCURL
13	Laser anti-radiation protective glass CE	LaserVision OD7 107nm	USA
14	Safety PLC	Pilz Security lock and Pilz PLC	Germany
15	Camera	TIANDY	China
16	Detection of gas supply pressure	AIR/N2/O2	China
17	Safety Scanners	KEYENCE	Germany

CUTTING PARAMETERS WITH CARBON STEEL(OXYGEN)

Material / Auxiliary Gas	Thickness (mm)	12000W	15000W	20000W	30000W	40000W	60000W
		Cutting Speed (m/min)	Cutting Speed (m/min)	Cutting Speed (m/min)	Cutting Speed (m/min)	Cutting Speed (m/min)	Cutting Speed (m/min)
Carbon steel (Positive focus oxygen cutting)	1	9-10.5	7-10	7-10.5	7-10.5		
	2	5.5-6.5	5-7.5	4-7.5	4-7.5		
	3	3.8-4.5	3.8-4.5	4-7.5	3.7-4.6		
	4	3.3-3.8	3.4-3.9	3.1-3.6	3.2-3.9		
	5	3.0-3.4	3.1-3.5	3-3.5	3-3.5		
	6	2.8-3.2	2.9-3.2	2.4-3.3	2.4-3.4	2.4-3.4	2.5-3.4
	8	2.4-2.8	2.5-2.8	2.2-3.1	2.2-3.2	2.2-3.2	2.4-3.2
	10	2.1-2.3	2.2-2.6	2-2.6	2-2.6	2.0-2.6	2.1-2.6
	12	1.8-2.0	1.8-2.1	1.8-2.1	1.8-2.2	1.8-2.2	1.9-2.2
	14	1.7-1.9	1.7-2.0	1.6-2	1.6-2	1.7-2.0	1.7-2.0
	16	1.5-1.8	1.6-1.8	1.4-1.8	1.5-1.8	1.5-1.8	1.6-1.8
	20	1.2-1.5	1.2-1.5	1.2-1.5	1.2-1.5	1.3-1.6	1.2-1.5
	25	0.8-1.2	1.0-1.2	1-1.3	1.0-1.4	1.2-1.4	1.1-1.4
	30	0.4-0.9	0.6-1.0	0.8-1.1	0.8-1.2	1.0-1.3	0.9-1.3
	35	0.3-0.8	0.4-1.0	0.5-1.0	0.7-1.1	0.8-1.2	0.8-1.3
	40	0.2-0.5	0.3-0.5	0.4-0.8	0.6-1	0.7-1.1	0.7-1.2
	50	0.1-0.3	0.1-0.4	0.2-0.55	0.4-0.8	0.5-1.0	0.6-1
	60			0.1-0.18	0.2-0.5	0.3-0.7	0.4-0.8
	70				0.15-0.2	0.2-0.6	0.3-0.7

CUTTING PARAMETERS WITH CARBON STEEL(OXYGEN)

Material / Auxiliary Gas	Thickness (mm)	12000W	15000W	20000W	30000W	40000W	60000W
		Cutting Speed (m/min)	Cutting Speed (m/min)	Cutting Speed (m/min)	Cutting Speed (m/min)	Cutting Speed (m/min)	Cutting Speed (m/min)
Carbon steel (Negative focus oxygen cutting)	10	3.1-3.5					
	12	3-3.2	3-3.4	3.0-3.8			
	14	2.8-3.2	2.8-3.4	2.8-3.5			
	16	2.5-3.1	2.5-3.1	2.5-3.2	2.5-3.0	2.8-3.5	2.6-3.4
	20	1.6-2.2	1.8-2.5	2.2-3.0	2.2-2.8	2.6-3.3	2.4-3.0
	25	0.9-1.4	1.2-1.8	1.9-2.3	2.0-2.4	2.5-3.2	2.2-2.6
	30		0.8-1.4	1.4-1.9	1.8-2.2	2.2-2.8	2.0-2.4
	35			1.3-1.6	1.5-1.9	1.8-2.5	1.5-2.2
	40			0.8-1.2	1.3-1.75	1.7-2.2	1.4-2.0
	50			0.6-0.8	1.0-1.3	1.3-1.7	1.1-1.6
	55				0.85-1.2	1.0-1.45	1.0-1.55
	60				0.85-1.1	0.9-1.3	1-1.5
	65				0.65-0.8	0.8-1.1	0.9-1.3
	70				0.4-0.6	0.65-0.9	0.8-1.2
	75					0.5-0.7	0.6-1.1
	80					0.3-0.5	0.3-0.9
	90						0.2-0.7
	100						0.1-0.65

CUTTING PARAMETERS WITH CARBON STEEL(MIXGAS)

Material / Auxiliary Gas	Thickness (mm)	12000W	15000W	20000W	30000W	40000W	60000W
		Cutting Speed (m/min)	Cutting Speed (m/min)	Cutting Speed (m/min)	Cutting Speed (m/min)	Cutting Speed (m/min)	Cutting Speed (m/min)
Carbon steel (Air and nitrogen cutting)	1	40-50	45-50	30-50	35-50		
	2	30-40	35-40	30-40	35-40		
	3	23-28	25-30	25-35	25-35		
	4	21-25	22-25	22-30	23-30		
	5	16-18	17-20	19-24	20-30		
	6	11-16	13-17	14-19	15-20	15-25	16-23
	8	8.0-10	9.5-12	10-14	12-17	13-18	14.6-21
	10	6.5-8	7-9.0	9-11	11-15	12-17	14-20
	12	4.2-5.5	6-7	8.5-10	10-13.0	10-13	13-18
	14	2.2-3.5	4.5-5.5	6-7	8.0-10	8.5-10	12-16
	16		2.7-3.5	4.5-5.7	7.0-8.5	7.5-9.5	10-13
	18			3.3-4.2	5.5-6.5	7.0-8.0	9.0-11
	20			2.5-3.7	4.5-5.5	6.0-7.5	8.0-10
	25				3.0-4.0	4.8-6.0	6.0-8.0
	30				2-2.8	3.0-4.0	4.1-6.5
	35					2.0-3.2	3.1-5
	40					1.5-2.5	2.6-3.5



ACCURL[®] MODULAR DESIGN FOR LARGE-FORMAT LASER

YOU CHOOSE THE POWER OF THE LASER

CUTTING PARAMETERS WITH STAINLESS STEEL(NITROGEN)

Material / Auxiliary Gas	Thickness (mm)	12000W	15000W	20000W	30000W	40000W	60000W
		Cutting Speed (m/min)	Cutting Speed (m/min)	Cutting Speed (m/min)	Cutting Speed (m/min)	Cutting Speed (m/min)	Cutting Speed (m/min)
Stainless steel (Nitrogen cutting)	1	40-50	40-50	30-50	30-50		
	2	30-40	35-40	30-40	30-40		
	3	23-28	25-32	25-35	28-35		
	4	19-23	22-25	22-30	25-30		
	5	17-19	20-23	21-25	22-28		
	6	10-14	14-19	15-22	18-22	20-25	18-24
	8	7.0-10	11-13	12-15	14-20	14-21	16-20
	10	4.5-7.0	8-10	9-13	13-17	12-18	15-19
	12	3.8-5.5	5.5-7.5	8.0-10.5	10-13.0	11-16	14-18
	14	3.0-4.5	3.8-5.0	6.5-8	8.5-11.0	9-12	12-17
	16	2-3.0	2.8-3.5	4.5-6	7-9.0	8.5-10.5	10-15
	18	1.5-2.3	2.2-2.6	2.8-4	7.0-8.0	7.5-10	9.0-12
	20	1-1.9	1.8-2.2	2.5-3.5	6-7.0	6.5-9.0	8.0-10
	25	0.6-1.0	1-1.3	1.3-2.0	3.5-4.5	4.5-5.5	6.0-7.5
	30	0.3-0.7	0.7-0.9	0.55-1.2	2.5-3.5	3.0-4.5	5.0-6.5
	40	0.15-0.3	0.2-0.35	0.25-0.6	0.6-1.8	1.5-2.5	2.8-3.4
	50	0.15-0.2	0.1-0.2	0.15-0.3	0.3-1.0	0.6-1.3	1.7-2.1
	60			0.1-0.25	0.2-0.35	0.4-0.8	1.0-1.6
	70				0.1-0.2	0.2-0.4	0.5-1.0
	80					0.2-0.25	0.3-0.7
	90						0.2-0.4



ACCURL[®] MODULAR DESIGN FOR LARGE-FORMAT LASER

YOU CHOOSE THE POWER OF THE LASER

CUTTING PARAMETERS WITH STAINLESS STEEL(AIR)

Material / Auxiliary Gas	Thickness (mm)	12000W	15000W	20000W	30000W	40000W	60000W
		Cutting Speed (m/min)	Cutting Speed (m/min)	Cutting Speed (m/min)	Cutting Speed (m/min)	Cutting Speed (m/min)	Cutting Speed (m/min)
Stainless steel (Air cutting)	1	40-50	40-50	30-50	30-50		
	2	27-40	30-40	30-40	30-40		
	3	22-28	27-32	28-35	28-35		
	4	19-23	22-25	25-30	25-30		
	5	16-20	20-24	22-25	22-25		
	6	12-15	16-19	17-23	18-23	20-25	18-25
	8	8-12	11-13	14-17	16-21	14-22	16-22
	10	5.0-7.0	8.5-10	10-13	14-17	13-16	15-20
	12	4.5-6.0	6-7.5	8.5-11	10-13.0	11-15	14.5-18
	14	3.5-4.5	4-5.2	7-8	8-11.0	10-13	13-16
	16	2.3-3.2	3.2-4.3	5.0-6	7-9.0	9.0-11.5	12-15
	18	1.6-2.3	2.8-3.5	3.5-4.0	6-8.0	8.0-10.0	10-13
	20	1.3-1.8	2-2.6	2.5-3.1	4-6.5	7.0-9.0	8-11
	25	0.7-1.2	1.5-1.8	1.6-2.5	3-4.0	5.0-6.0	6.5-8
	30	0.3-0.7	0.8-1.1	1.0-1.6	2-3.0	3.0-4.5	5.5-7.0
	40		0.45-0.6	0.5-0.7	1.5-2.0	1.7-2.5	3.2-4.5
	50			0.25-0.5	0.7-1.2	0.7-1.5	1.7-3.0
	60				0.3-0.6	0.5-0.8	1.2-2.2
	70					0.3-0.55	0.8-1.2
	80					0.2-0.3	0.5-0.8

CUTTING PARAMETERS WITH ALUMINUM(NITROGEN)

Material / Auxiliary Gas	Thickness (mm)	12000W	15000W	20000W	30000W	40000W	60000W
		Cutting Speed(m/min)	Cutting Speed (m/min)	Cutting Speed (m/min)	Cutting Speed (m/min)	Cutting Speed (m/min)	Cutting Speed (m/min)
Aluminum (Nitrogen cutting)	1	40-50	40-50	30-50	35-50		
	2	25-35	28-38	30-40	30-50		
	3	20-25	23-30	25-35	28-40		
	4	18-21	20-25	20-27	25-35		
	5	14-17	18-22	17-22	22-30		
	6	10-13	12-16	15-19	15-20	14-20	14-20
	8	7.5-8.5	10-12	10-13	13-18	12-16	12-18
	10	4-5.2	5-8	7-10	8-12	10-13	10-15
	12	2.3-3.5	3.8-4.5	6-8.0	5-8.0	5.5-8	8-12
	14	1.8-2.4	2.2-2.7	3.6-5.5	4-6.0	5.0-7.5	5.5-7.5
	16	1.6-2.0	1.7-2.2	2.5-4	2-3.0	3.0-5.0	3.8-5
	18	1.3-1.6	1.4-1.8	1.8-2.5	1.8-2.5	2.5-4.0	2.5-4
	20	0.8-1.2	0.8-1.5	1.2-1.8	1.5-2.0	1.8-3.4	2.2-3.5
	25	0.6-0.9	0.6-1	0.8-1.2	1-1.6	1.6-2.8	2-3.2
	30	0.5-0.7	0.5-0.7	0.4-0.8	0.6-1	1.0-2.0	1.3-1.8
	40	0.25-0.4	0.25-0.45	0.3-0.5	0.4-0.7	0.7-1.5	0.8-1.5
	50		0.1-0.2	0.25-0.4	0.3-0.6	0.5-1.0	0.5-1.2
	60				0.2-0.3	0.2-0.5	0.4-1.0
	70					0.15-0.3	0.2-0.6

CUTTING PARAMETERS WITH ALUMINUM(AIR)

Material / Auxiliary Gas	Thickness (mm)	12000W	15000W	20000W	30000W	40000W	60000W
		Cutting Speed (m/min)	Cutting Speed (m/min)	Cutting Speed (m/min)	Cutting Speed (m/min)	Cutting Speed (m/min)	Cutting Speed (m/min)
Aluminum (Air cutting)	1	40-50	40-50	30-50	35-50		
	2	25-33	28-38	30-40	30-50		
	3	20-25	23-30	25-32	28-40		
	4	18-20	20-25	22-28	25-30		
	5	14-16	16-20	17-23	22-25		
	6	9.0-10	12-15	15-19	14-20	14-28	14-20
	8	6.0-8.5	11-13	13-16	12-18	12-16	13-18
	10	4.5-6.5	8.0-10	8-13	7-12	10-13	10-15
	12	3.5-5.0	5.5-6.7	7.2-9.5	5-8.0	5.5-8.5	8-11
	14	1.5-2.8	3.0-4.0	3.2-4.5	3.5-4.7	4.5-7.0	5.5-7.5
	16	1.3-2.0	2.2-2.6	2.5-4	2.2-3.5	3.0-4.5	3.8-5
	18	1-1.6	1.6-2.0	1.8-2.8	1.8-2.8	2.5-3.7	2.5-4
	20	0.8-1.2	1.0-1.6	1.2-1.6	1.5-2.5	1.8-3.2	2.2-3.4
	25	0.5-0.75	0.6-1.1	0.7-1.2	0.9-1.3	1.6-3.0	2-3.2
	30	0.4-0.5	0.5-0.7	0.4-0.8	0.6-0.8	1.3-2.5	1.3-2.5
	40	0.25-0.3	0.3-0.35	0.3-0.5	0.3-0.45	0.85-1.2	0.8-1.5
	50			0.2-0.4	0.2-0.4	0.5-0.7	0.5-1.2
	60				0.15-0.4	0.2-0.5	0.2-0.6

CUTTING PARAMETERS WITH BRASS

Material / Auxiliary Gas	Thickness (mm)	12000W	15000W	20000W	30000W	40000W	60000W
		Cutting Speed (m/min)	Cutting Speed (m/min)	Cutting Speed (m/min)	Cutting Speed (m/min)	Cutting Speed (m/min)	Cutting Speed (m/min)
Brass (Nitrogen cutting)	1	40-50	45-50	30-45	30-45		
	2	20-30	30-35	25-35	26-35		
	3	15-20	25-30	20-30	20-30		
	4	12-15	20-25	17-25	18-25		
	5	9-11	14-17	14-23	17-24		
	6	8.5-9.5	9.5-11	10-15	12-18	14-25	15-20
	8	5.5-6.5	7.5-8.5	7.5-11	8-13	11-19	12-16
	10	4.0-5.0	4.5-6	6.5-8.5	7-10.0	9-14.0	9-14
	12	2.5-3.5	3-3.5	4.0-6.0	5-8.0	6-9.5	7-11
	14	1.8-2.7	2.2-3.0	2.5-4	3-5.0	5.5-8.0	6.5-9
	16	0.8-1.0	1.3-1.8	1.5-2.4	2-4.0	5.0-7.0	5-7.5
	18				1-2.0	4-5.0	3-5.5
	20				0.6-1.5	3-4.0	1.5-4.6
	25					2.5-3.0	1.0-3.2
	30					2-2.5	0.5-2.0



ACCURL[®] MODULAR DESIGN FOR LARGE-FORMAT LASER

YOU CHOOSE THE POWER OF THE LASER

CUTTING PARAMETERS WITH RED COPPER

Material / Auxiliary Gas	Thickness (mm)	12000W	15000W	20000W	30000W	40000W	60000W
		Cutting Speed (m/min)	Cutting Speed (m/min)	Cutting Speed (m/min)	Cutting Speed (m/min)	Cutting Speed (m/min)	Cutting Speed (m/min)
Red copper (Oxygen cutting)	1	30-40	35-40	28-30	25-30		
	2	20-25	25-28	18-28	22-28		
	3	15-18	20-25	16-25	20-25	20-25	
	4	10-14	16-18	15-18	16-20	16-20	
	5	7-9	13-15	12-15	12-15.0	12-15.0	15-18
	6	4-6	9.5-12	9.0-13	10-13.0	9-14.0	11-15
	8	3-4.0	5-5.5	7-9.0	6-9.0	5-9.0	5.5-10
	10	2.5-3.0	2.7-3.5	3-6.5	4-6.5	4.2-6.8	4.5-6.5
	12	1.0-2.0	2.0-2.5	2.0-4.0	2.6-4	3.4-5	4-6
	14		0.6-1.1	1.1-2.0	1.2-2.5	1.5-2.5	3-4
	16				0.8-2	1.2-2.2	2.5-3.5
	18					0.8-1.5	1.7-2.5

ACCURL® MODULAR DESIGN FOR LARGE-FORMAT LASER HIGH-STABILITY FYLL-PROCESS MACHINE FRAME

WHY CHOOSE ACCURL LASER CUTTING MACHINE ?

ACCURL machines use a stress-relieved, plate-welded bed with annealing to ensure stability. Secondary vibration aging and finite element analysis enhance rigidity. The process includes laser cutting, welding, tempering, precision machining, and rigorous inspection for exceptional quality.



WELDING



HIGH-TEMPERATURE ANNEALING



ROUGH MACHINING



VIBRATION AGING



NATURAL AGING



PRECISION MACHINING

ADVANTAGE:

STRESS-RELIEVED WELDED STRUCTURE:

- The machine bed adopts a plate-welded design, undergoing annealing to eliminate internal stresses, followed by rough machining. This process effectively mitigates stresses from welding and machining, significantly enhancing the machine's stability.

SECONDARY VIBRATION AGING TREATMENT:

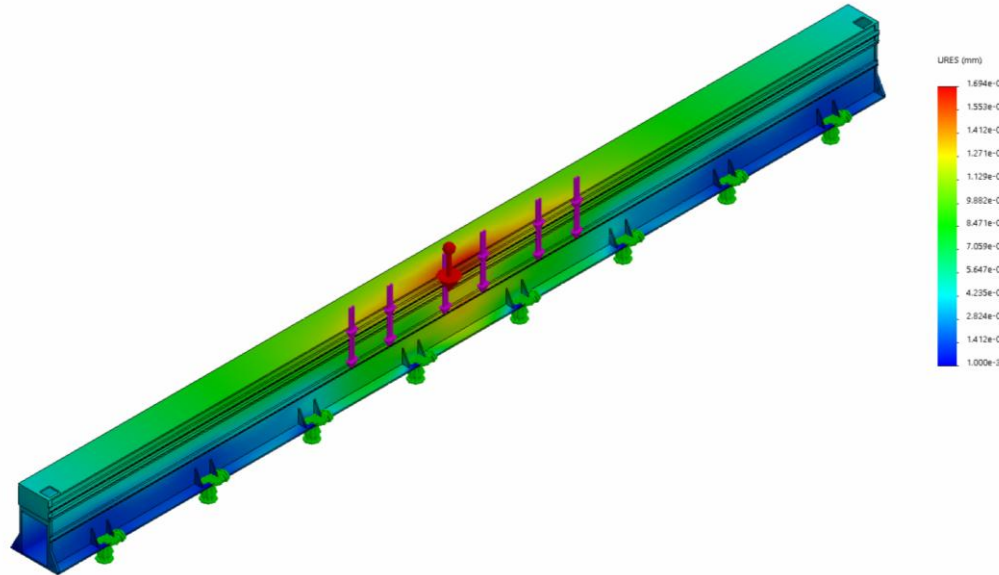
- Mechanical components are subjected to secondary vibration aging and professional finite element analysis, ensuring a rational and safe design with superior rigidity.

COMPREHENSIVE MANUFACTURING PROCESS:

- The full process includes structural design, professional analysis, laser cutting, welding, rough machining, tempering, sandblasting, precision machining, painting, and rigorous accuracy inspection, ensuring exceptional quality and reliability.

WHY CONDUCT DYNAMIC AND STATIC SIMULATIONS?

Ultra-high-speed machines deliver faster performance, but challenges such as insufficient rigidity, reduced precision, and vibrations during operation can arise. How can these issues be addressed?



ADVANTAGE:

DYNAMIC SIMULATION:

- Validates long-term operational stability by simulating design parameters, including vibration and rigidity, to ensure consistent performance under high-speed conditions.

STATIC SIMULATION:

- Verifies structural integrity during lifting and load-bearing scenarios, ensuring the machine meets design requirements for safety and stability.

0.01_{mm}

Max displacement under 1.0 G acceleration:

FRAME ANALYSIS RESULTS

ACCURL[®] MODULAR DESIGN FOR LARGE-FORMAT LASER

ACCURL SEFL-DEVELOPED STEEL CROSSBEAM

WHY CHOOSE A STEEL CROSSBEAM?

For large-span, high-load applications, how do you address concerns about insufficient strength, vibration, or sagging?

ADVANTAGE:

•Box-Type Cage Structure:

The steel crossbeam features a robust box-type cage design, ensuring superior structural integrity.

•Enhanced Mechanical Performance:

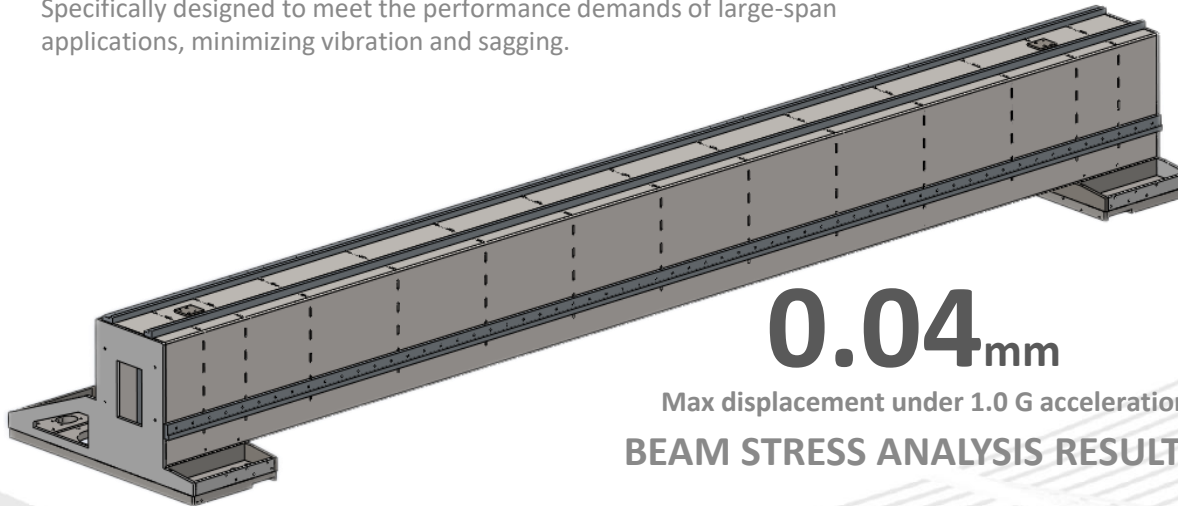
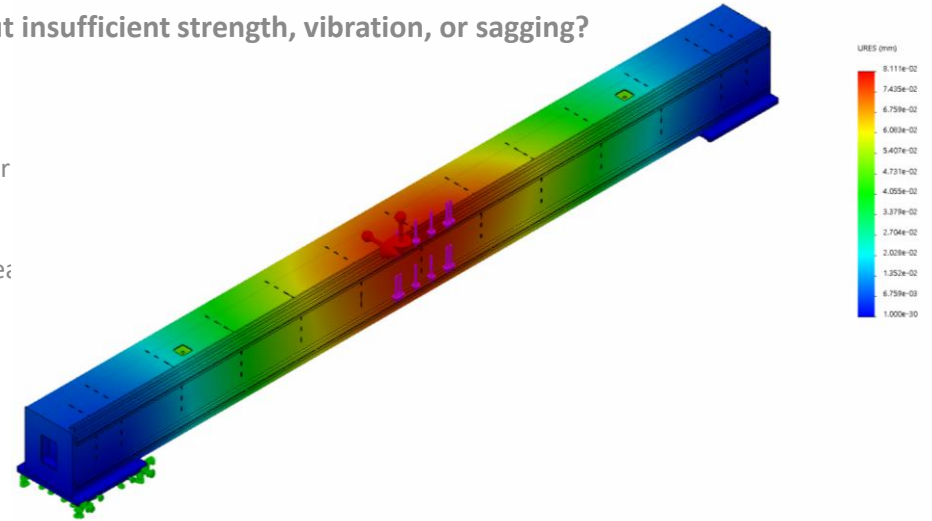
Offers better mechanical properties compared to aluminum crossbeams, providing greater strength and stability.

•Outstanding High-Load Capacity:

Engineered to excel under high-load conditions, ensuring reliable performance.

•Ideal for Large-Span Requirements:

Specifically designed to meet the performance demands of large-span applications, minimizing vibration and sagging.



35%
WEIGHT REDUCED BY

0.04_{mm}

Max displacement under 1.0 G acceleration

BEAM STRESS ANALYSIS RESULTS

ACCURL® MODULAR DESIGN FOR LARGE-FORMAT LASER

ACCURL SEGMENTED MODULAR MACHINE DESIGN

WHY CHOOSE A SEGMENTED MODULAR DESIGN?

Choose the Accurl Smart laser cutting machine for its innovative modular design, enabling flexible bed length adjustments and easy grid replacement for enhanced efficiency. Its segmented structure ensures superior stability, rigidity, and reduced resonance, while delivering faster operation and higher acceleration. This robust, German-engineered design extends machine lifespan and supports future scalability, making it ideal for high-performance laser cutting.

KEY FEATURES:

Innovative Segmented Structure:

- Modular splicing design enhances stability and minimizes deformation.

Enhanced Performance:

- Overcomes slow operation and low acceleration in large-format machines for superior efficiency.

Improved Rigidity:

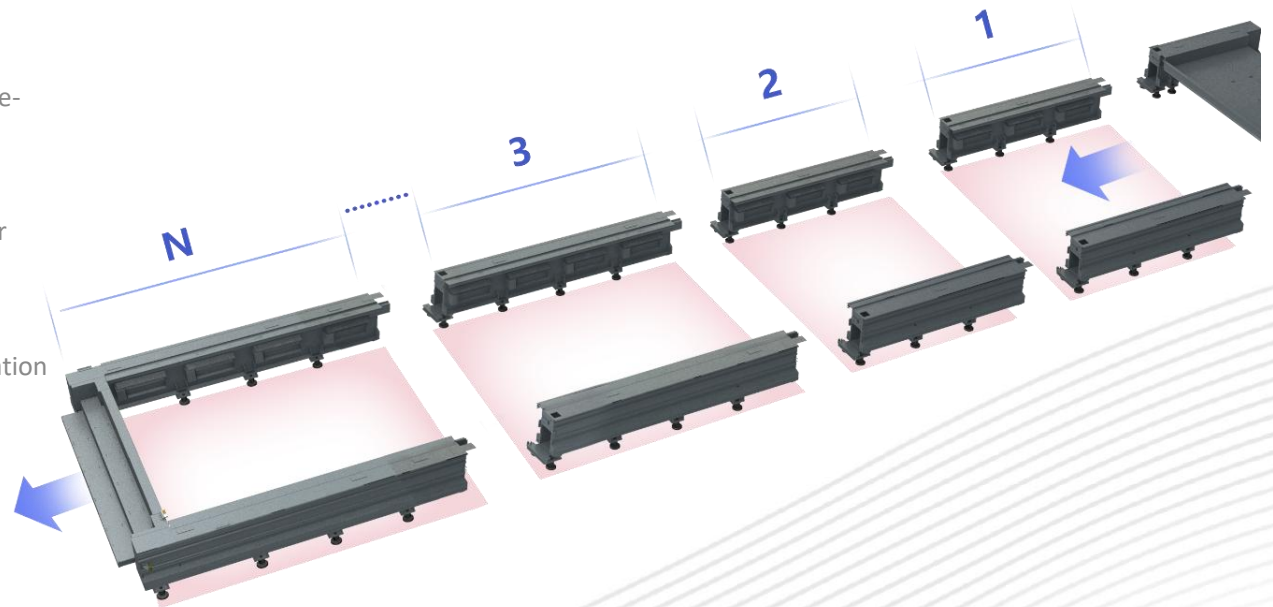
- Outperforms traditional floor-rail structures with better rigidity and lower resonance.

Smoother, Efficient Operation:

- Ensures seamless performance with enhanced acceleration for higher productivity.

ADVANTAGE:

- Modular, segmented design for scalability
- Enhanced stability and rigidity
- Easy grid replacement for efficiency
- Superior speed and acceleration
- Reduced resonance, extended lifespan





MODULAR DESIGN FOR LARGE-FORMAT LASER

ACCURL CUTTING MACHINE BASE FEET

WHY CHOOSE ADAPTIVE BASE FEET?

In long-distance, high-speed operations, how do you address changes in bed levelness that affect cutting accuracy?

ADAPTIVE DESIGN:

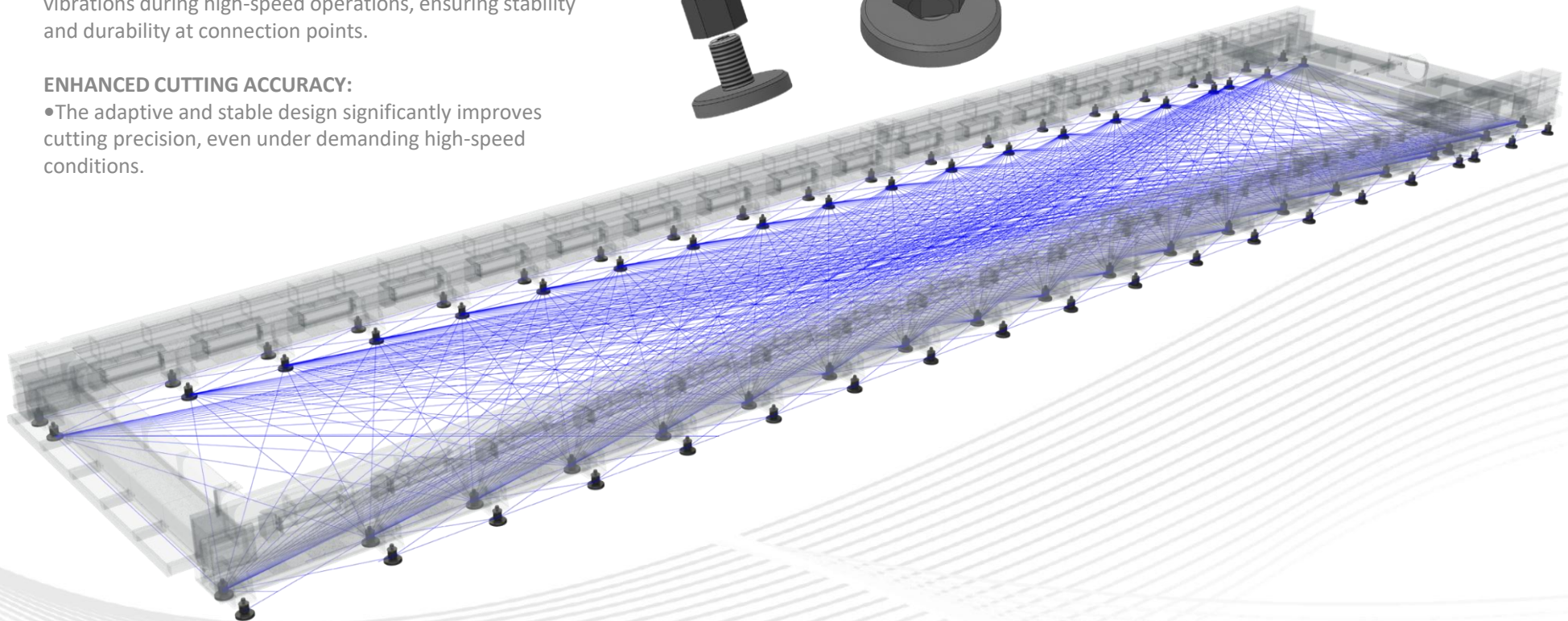
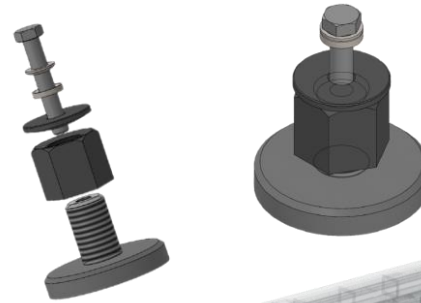
- Features a self-developed adaptive structure that seamlessly adjusts to variations in the customer's foundation, ensuring consistent contact between the base feet and the foundation plate.

HIGH STABILITY:

- Utilizes a 4+4 structural configuration, where the base feet and foundation plate (connecting the machine bed to the ground) maintain surface-to-surface contact. This minimizes vibrations during high-speed operations, ensuring stability and durability at connection points.

ENHANCED CUTTING ACCURACY:

- The adaptive and stable design significantly improves cutting precision, even under demanding high-speed conditions.



ACCURL® MODULAR DESIGN FOR LARGE-FORMAT LASER ACCURL LARGE-FORMAT ADVANTAGE

WHY CHOOSE ACCURL LARGE-FORMAT MACHINES?

- **Mitigation of Thermal Deformation:**

Advanced design minimizes thermal deformation of the machine bed, effectively addressing challenges related to high-temperature protection within the machine.

- **Enhanced Load Capacity for Oversized Workpieces:**

Capable of handling largescale workpiece cutting with a robust bed design that ensures superior load-bearing capacity.

- **Simplified Worktable Maintenance:**

Engineered for easier maintenance, reducing downtime and lowering replacement costs.

- **Expanded Processing Widths:**

Offers versatile cutting widths, including 3m, 3.5m, 4m, and more, to meet diverse project requirements.

- **Extended Processing Lengths:**

Supports longer cutting lengths, such as 15m, 18m, 21m, 27m, and beyond, for large-scale applications.

- **CostEffective Transportation:**

Innovative design reduces the high transportation costs typically associated with traditional large-format machine beds.

- **High-Precision Performance:**

Unlike heavy-rail models, Accurl machines deliver high speed and precision, overcoming the limitations of low-speed, low-accuracy alternatives.



MODULAR DESIGN FOR LARGE-FORMAT LASER GRAPHITE PLATES FOR THERMAL PROTECTION

WHY DO GRAPHITE PLATES PROTECT SG-X SERIES LASER MACHINES?

Graphite plates protect the ultra-high-speed laser cutting machine's internals from high-power laser heat. Their superior thermal conductivity and non-absorptive nature prevent thermal deformation and damage, ensuring stable, long-term component performance.

KEY FEATURES AND BENEFITS:

HEAT MANAGEMENT:

- Efficiently dissipates heat, minimizing thermal impact and preventing deformation.

LOW MAINTENANCE:

- Cost-effective, fire-resistant materials simplify upkeep.

EASY SLAG REMOVAL:

- Partitioned bed with heat-resistant materials aids cleanup.

KEY ADVANTAGES:

Component Longevity:

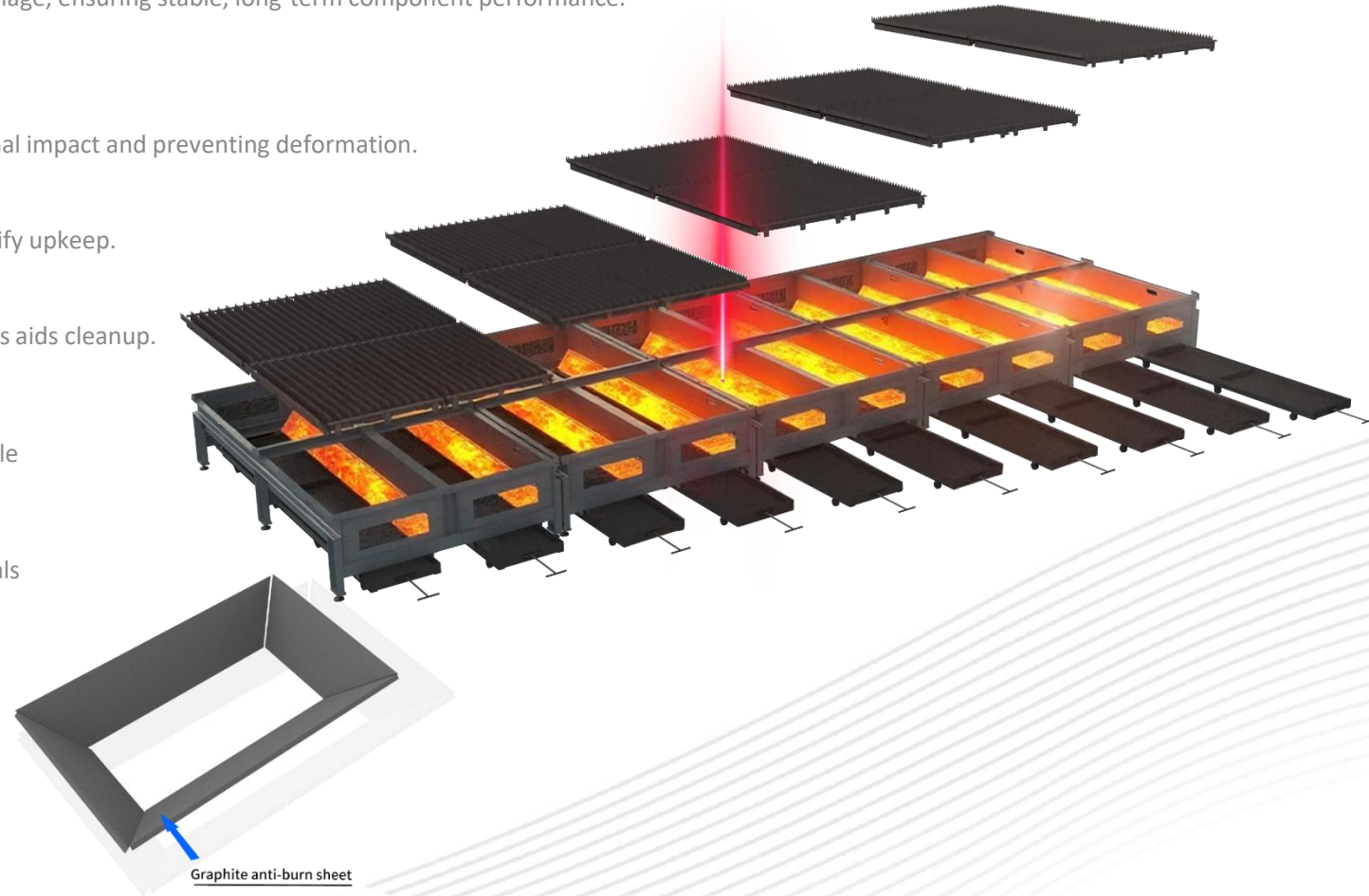
- Protects parts from thermal stress for reliable operation.

Efficient Maintenance:

- Partitioned design and fire-resistant materials reduce maintenance costs.

Full Protection:

- Graphite/manganese anti-burning materials shield laser-exposed areas.



ACCURL® MODULAR DESIGN FOR LARGE-FORMAT LASER ACCURL MODULAR CUTTING TABLE SYSTEM

WHY CHOOSE A MODULAR + SEGMENTED WORKTABLE DESIGN?

The ACCURL modular cutting system revolutionizes material processing with precision and efficiency. Its high-capacity workbench, flexible grid design, and automated unmanned operation optimize thick plate cutting while minimizing downtime. The efficient scrap collection system ensures a safe, clean workspace, ideal for high-performance industrial applications.

KEY FEATURES AND BENEFITS:

INNOVATIVE MODULAR DESIGN:

- Segmented structure allows flexible grid replacement, boosting efficiency, stability, and rigidity while reducing resonance for faster, precise cutting.

HIGH-CAPACITY THICK PLATE PROCESSING:

- Supports up to 750 kg/m², ensuring excellent cutting quality for heavy materials while managing thermal effects and wear.

EXTENDED UNMANNED OPERATION:

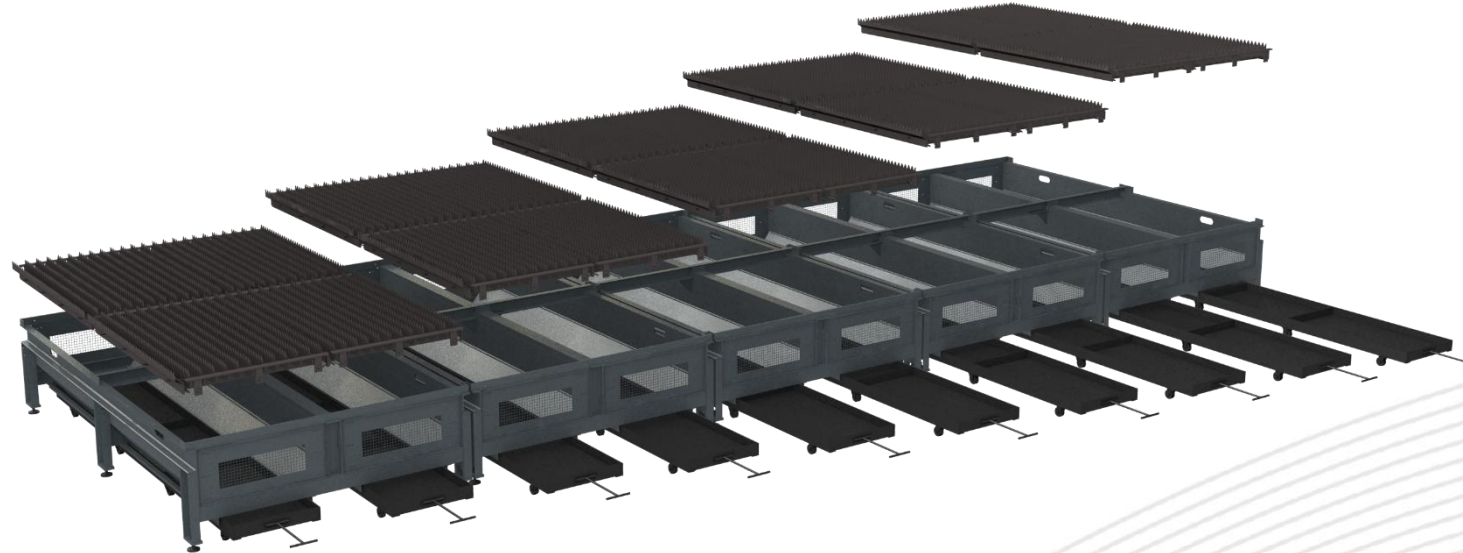
- Features a 36-meter modular bed for long, unsupervised runs, auto-switching thicknesses to optimize material use.

EFFICIENT SCRAP COLLECTION:

- Drawer-type cart with independent zones ensures uninterrupted production, with insulation and panels for a safer workspace.

REDUCED DOWNTIME AND MAINTENANCE:

- Modular grid design simplifies maintenance, enhancing durability and minimizing operational interruptions.



ACCURL[®] MODULAR DESIGN FOR LARGE-FORMAT LASER

DYNAMIC LINKAGE DUST REMOVAL TECHNOLOGY

WHY INTELLIGENT FOLLOW-ALONG DUST EXTRACTION?

The SG-X Series Laser enhances large-format, large-span cutting efficiency by 30%, but increases smoke and dust by a similar margin, risking cutting head contamination and environmental impact. Advanced dust collection with HEPA filtration, integrated cooling systems, and real-time airflow monitoring efficiently capture particulates and dissipate heat.

ADVANTAGE:

Intelligent Dust Extraction:

- A real-time, zoned system tracks the cutting head, directing airflow precisely to prevent contamination, improving dust removal by over 40% compared to standard systems.

Benefits:

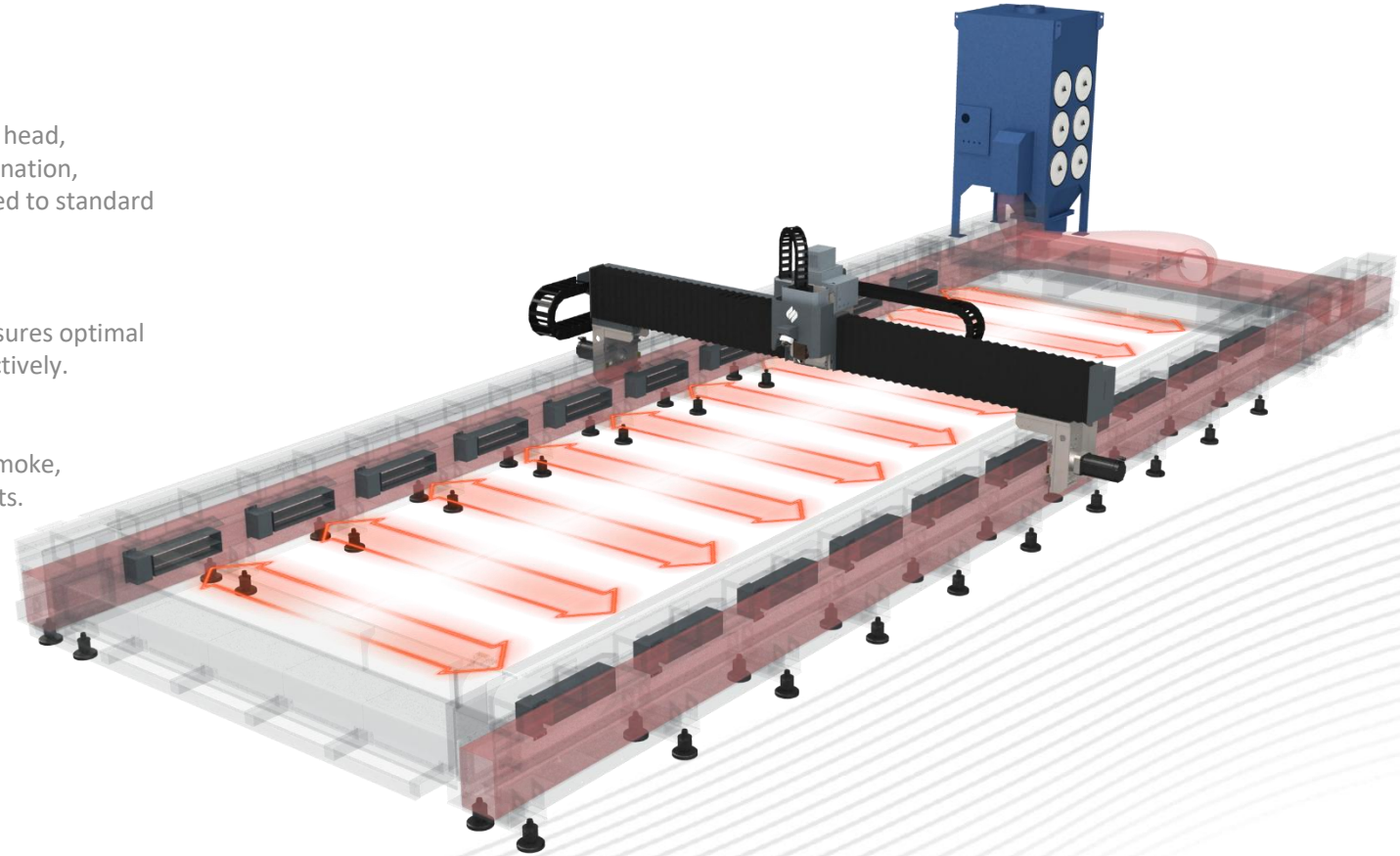
- Segmented, zoned, and timed extraction ensures optimal airflow, resolving smoke and dust issues effectively.

Heat Extraction:

- Simultaneously removes cutting heat with smoke, enhancing stability and protecting components.

Key Features:

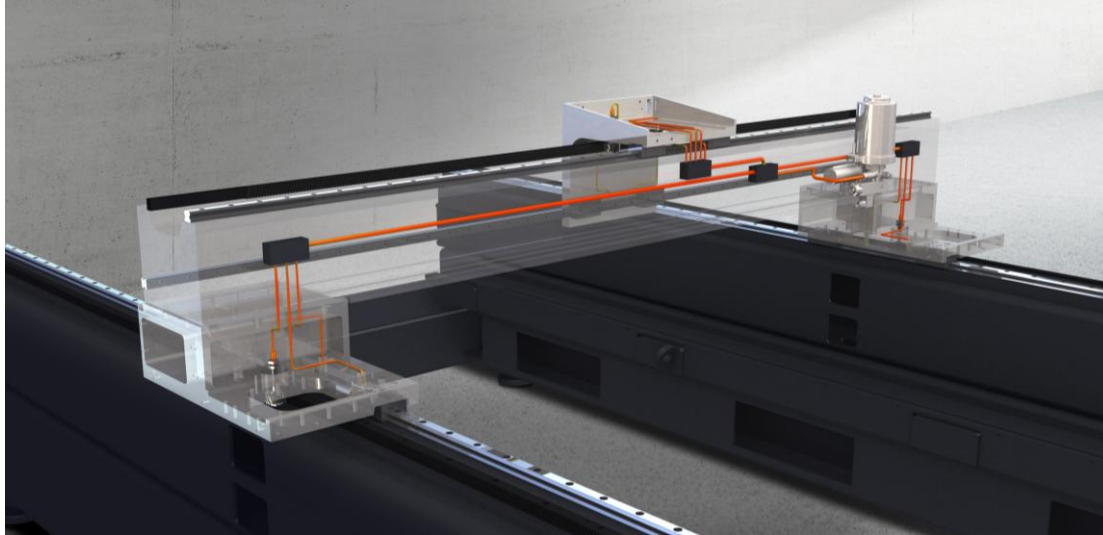
- Segmented, zoned follow-along extraction.
- Low-smoke, eco-friendly cutting process.
- High-flow dust extraction channels.



ACCURL® MODULAR DESIGN FOR LARGE-FORMAT LASER ACCURL AUTOMATED MACHINE LUBRICATION

WHY CHOOSE AN INTELLIGENT LUBRICATION SYSTEM?

In complex working environments with long-distance, high-speed motion, how do you address issues like friction in guide rails and sliders, or heat-induced precision changes in high-speed gear and rack systems that lead to poor cutting accuracy?



ADVANTAGE:

“Intelligent” Lubrication:

- Unaffected by slider distance, the system delivers “timed and quantified” lubrication, precisely compensating for consumption to ensure all lubrication points receive adequate and appropriate lubricant at all times.

Centralized Control:

- Allows for software-based configuration of lubrication timing and intervals, streamlining operation and ensuring consistency.

“Maintenance-Free” Automation:

- Features automatic lubrication with low-level alerts and no-oil shutdown protection. Unlike competitors’ manual lubrication systems, which rely on periodic reminders that workers may forget, this system prevents untimely lubrication, avoiding cutting inaccuracies and operational issues during ultra-high-speed performance.

POWER RUN LINK SENSOR

TwinCut S80

Simpler Operation System

The system has the features of high reliability, intelligence and networking, excellent performance, simple operation and convenient use.

Intelligent Cutting Control

The corresponding process database can be set according to different materials and thicknesses, and it has real-time display function of cutting state and current position, comprehensive diagnosis function and quick fault finding.

Powerful Function Module

Plate surface height tracking control (follow-up function), retreat function, breakpoint return function, edge finding function, seam cutting compensation function, frog leaping function, common edge cutting, automatic type setting function of introducing various parts, automatic optimization of cutting path, and support for marking and small hole marking.

ACCURL[®] MODULAR DESIGN FOR LARGE-FORMAT LASER

READY FOR INDUSTRY 4.0

ACCURL Puts Industry 4.0 within the reach of companies™

ACCURL machines and software form a productive ecosystem with a constant exchange of digital information. The key to all this is the availability of information with which you can constantly monitor your work and streamline the work flow from design to production.



ADVANTAGE:

PIONEERING DIGITAL ECOSYSTEMS IN INDUSTRY 4.0

- Real-time digital information access.
- Automatic traceability codes.
- Active Job technology for process adaptation.
- IIoT for enhanced efficiency.



ACCURL® MODULAR DESIGN FOR LARGE-FORMAT LASER ACCURL BLT SERIES INTELLIGENT CUTTING HEAD

WHY CHOOSE THE ACCURL BLT CUTTING HEAD?

The ACCURL offers high-performance laser cutting heads for diverse metal processing, from precision to ultra-high-power tasks. With advanced technologies like intelligent common-edge detection, real-time focus adjustment, and coaxial vision monitoring, they ensure efficient cutting and consistent seam quality. Accurl's solutions deliver reliable, efficient production.

ADVANTAGE:

Function \ Model	BLT6X2H Series	BLT8X0H Series	BLT6X2M Series	BLT9X0MA Series	BLTA140M Series
	≤60kW	≤20kW	≤40kW	≤40kW	≤80kW
Collision Protection	✓	✓	✓	✓	✓
Protective Window Monitoring	✓	✓	✓	✓	✓
Bottom Stray Light Monitoring	✓	✓	✓	✓	✓
Closed-Loop Monitoring	✓	✓	✓	✓	✓
Fast Focusing	✓	✓	✓	✓	✓
Built-In Amplifier	✓	✓	✓	✓	✓
Nozzle Cooling	✓	✓	✓	✓	✓
Amplifier Water Cooling	✓	✓	✓	✓	✓
Cutting Gas Pressure Monitoring	✓	✓	✓	✓	✓
Smart Laser Off	✓	✓	✓	✓	✓
Plane/Bevel Cutting					
Focusing Lens Temperature Monitoring	✓	✓	✓	✓	✓
Stray Light Monitoring	✓	✓	✓	✓	✓
Smart Piercing	✓	✓	✓	✓	✓
O2/N2 Process Monitoring	✓	✓	✓	✓	✓
Protective Window Anti-Explosion	✓	✓	✓	✓	✓
Co-edge Piercing Monitoring	✓	✓	✓	✓	✓
Variable Beam Shape		✓		✓	
Cutting Path Monitoring			✓	✓	✓
Coaxial Monitoring			✓	✓	✓
Nozzle Quality Monitoring			✓	✓	✓
Nozzle Misalignment Monitoring			✓	✓	✓
Auto Centering			✓	✓	



ACCURL® MODULAR DESIGN FOR LARGE-FORMAT LASER

ACCURL BLT SERIES INTELLIGENT CUTTING HEAD

WHY CHOOSE THE ACCURL BLT CUTTING HEAD?

The ACCURL BLT Cutting Head designed for ultra-high-power laser cutting up to 60 kW, it offers advanced optics, smart monitoring, precise piercing, and anti-collision features for superior precision and efficiency in industries like steel structure and shipbuilding.

ADVANTAGE:

Advanced Optical Design:

- Optimized lenses and new beam path ensure stable, high-precision cutting with dual dust-proof protection and easy installation.

Intelligent Monitoring & Automation:

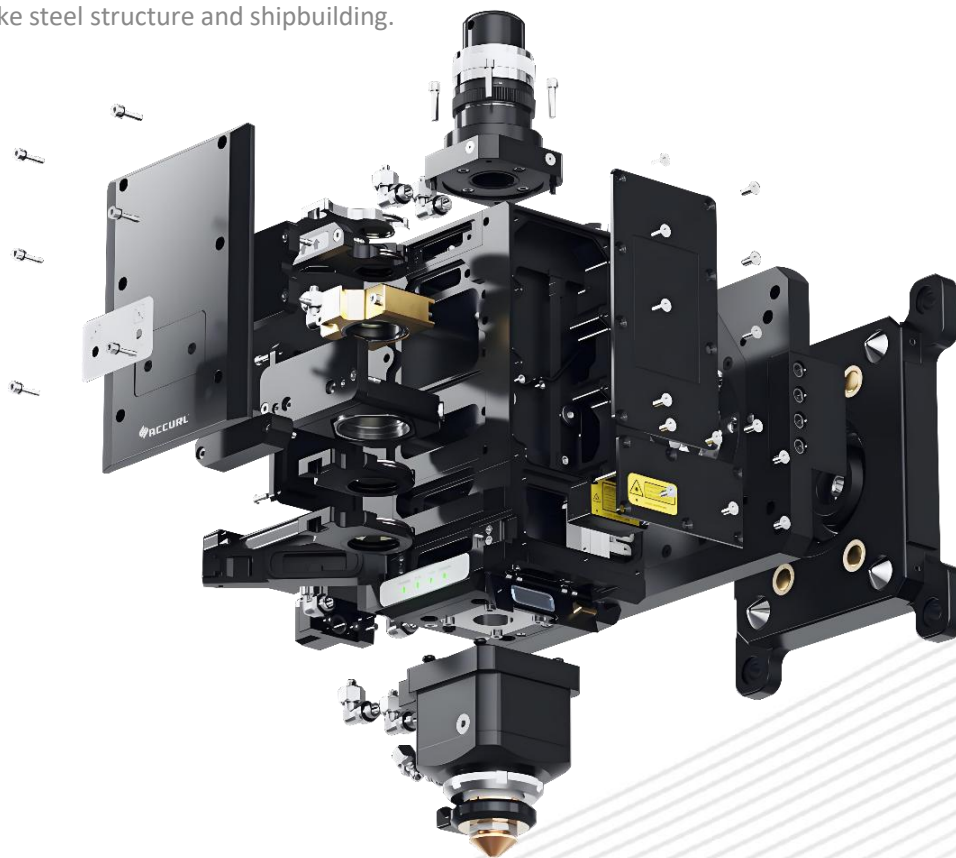
- Real-time sensors for smart piercing, auto-recut, gas pressure, lens temperature, and astigmatism enhance efficiency and yield.

Smart Piercing Technology:

- Advanced sensors monitor and optimize the piercing process, enabling immediate cutting post-piercing with precise control, reducing material waste and improving speed for thick materials up to 50 mm.

Anti-Collision & Easy Maintenance:

- Protective screws, explosion-prevention detection, and drawer-type lens design minimize damage and downtime, ensuring cost-effective operation.



WHY HOERBIGER LASGAR NEEDED ?

The HOERBIGER LasGAR Compact is a robust, compact valve engineered for precise switching and control of cutting gases—air, nitrogen, and oxygen—in laser cutting machines. Featuring an integrated filter block, it protects the control unit from particles, ensuring reliable performance.

Why Choose a HOERBIGER LasGAR Compact valve ?

ADVANTAGE:

- Precise three-in-one gas control (air, nitrogen, oxygen)
- Integrated particle filter block
- Analog (0-10V) or digital (EtherCAT) interface
- Compact, robust German engineering
- Reliable for demanding laser cutting

Precision and Reliability:

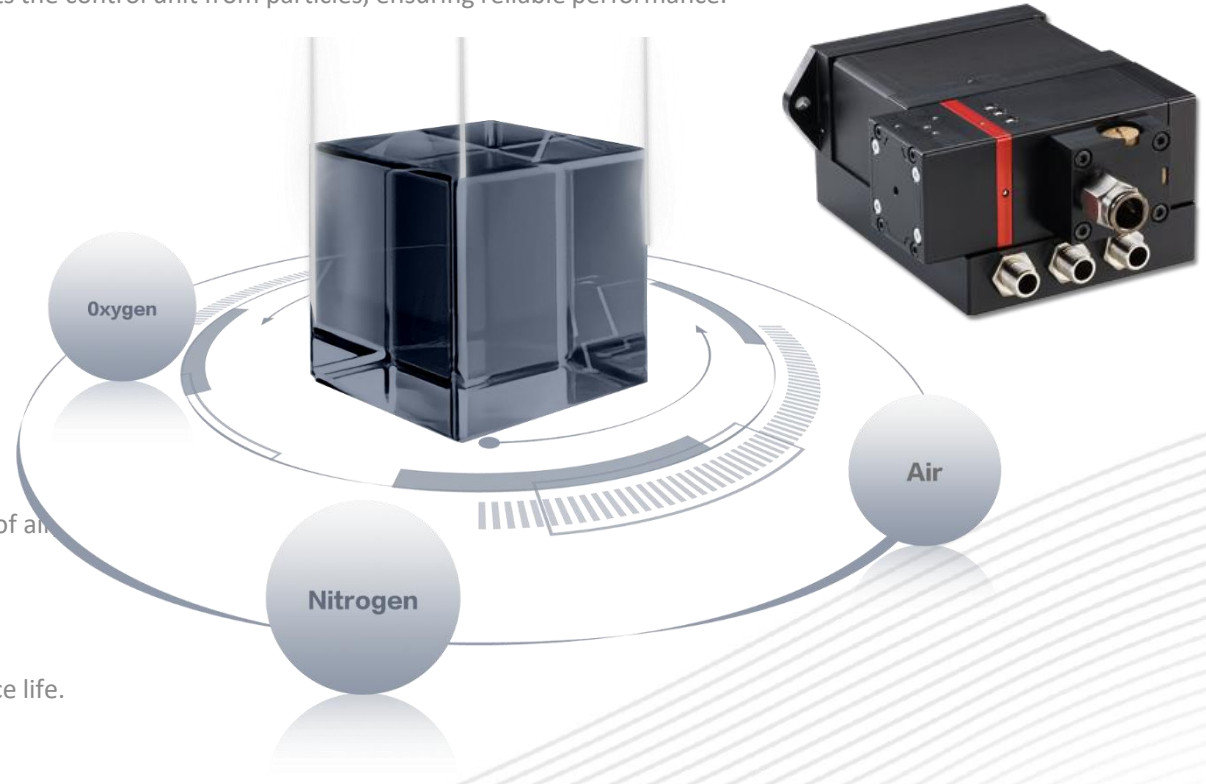
- Highly Sensitive Gas Switching: Enables precise, rapid control of air, nitrogen, and oxygen for optimal cutting quality.

Particle Protection:

Built-in filter block safeguards the control unit, extending service life.

HOERBIGER

because performance counts



ACCURL[®] MODULAR DESIGN FOR LARGE-FORMAT LASER

ACCURL LASGAM GAS MIXING SYSTEM(OPTIONAL)

ACCURL LASGAM GAS MIXING SYSTEM

The ACCURL LasGAM system enhances laser cutting efficiency, precision, and cost-effectiveness. It uses a controlled gas mix to clear molten metal, enabling fast, clean cuts on sheet metal up to 120 mm thick with 50 kW power. Minimizing burrs reduces rework, saving time and costs. It boosts productivity by 50% and cuts gas use by 55%, ideal for sustainable cutting.

Flip design
applicable in every
installation

Touch screen in IP65 design
and local language

Service connection

EtherCAT in/out

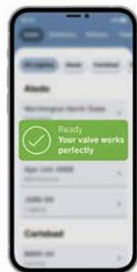
Power supply

Nitrogen input

Oxygen input

Pilot pressure

 **Bluetooth[®]**



With bluetooth
connection to
function monitoring

- ADVANTAGE:**
- Rapid Mixing Adjustment:**
- Achieves a 0-20% O₂ gas ratio in under 1 second.
- Increased Productivity:**
- Boosts output by up to 50% compared to standard laser cutting.
- Lower Gas Usage:**
- Reduces consumption by up to 55%, cutting costs and environmental impact..

+50%

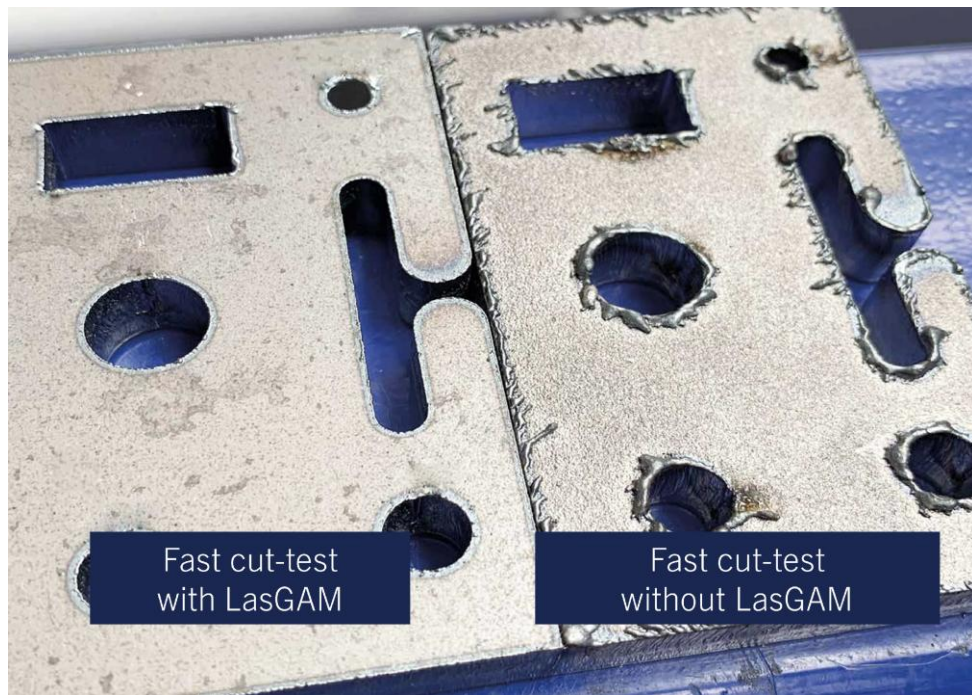
Productivity compared
to cutting without gas
mixing system

HOERBIGER

because performance counts

YOUR GAMECHANGER FOR LASER MACHINES

Faster, more precise with low energy consumption – Be part of the evolution and secure the leading edge!



Fast cut-test
with LasGAM

Fast cut-test
without LasGAM

HOERBIGER

because performance counts

Boost your
innovativeness
and order the
product of
tomorrow now!

ADVANTAGE:

Fast Mixing:

- You can achieve a mixing ratio between 0 - 20% O₂ in less than 1 sec.

Higher Productivity:

- You increase your productivity by up to 50%

Reduced Gas Use:

- You reduce your cutting gas consumption by up to 55%

Reliable Cuts:

- You get reliable cut quality through uninterrupted status monitoring.

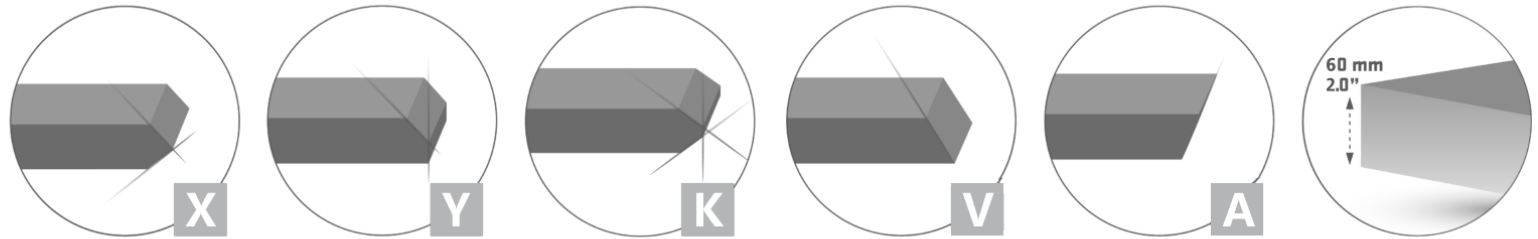
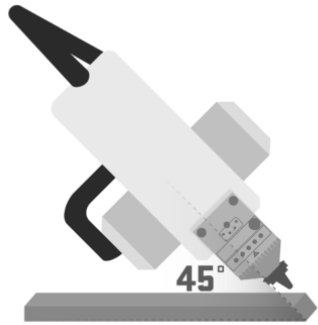
-55%

Cutting gas consumption
compared to cutting without gas
mixing system

ACCURL® ADVANCED BEVEL CUTTING FROM 0 - 45 DEGREES

OPTIONAL WITH ADVANCED BEVEL CUTTING HEAD

ACCURL SMART GIANT produces weld-ready parts, optimizing further processing. It crafts precise A-, V-, X-, K-, and Y-bevels up to 45° for welding. Its sturdy aluminum frame and direct drive motors ensure fast, stable, accurate cuts, including intricate countersunk holes.



Weld-ready products straight off the machine, creating bevels up to 45 degrees.

ADVANTAGES OF BEVEL CUTTING HEAD:

High Cutting Precision:

- Ensures accurate cuts, facilitating seamless welding and assembly.

Minimal Thermal Deformation:

- Reduces heat-affected zones, lowering the need for costly straightening processes.

Narrow Kerf Width:

- Produces fine cut seams, optimizing material usage and reducing waste.

Professional Nesting:

- Supports engraving, marking, straight cutting, and various bevel forms, enabling one-step forming for diverse cutting requirements.



EFFORTLESS PRECISION HOLE CUTTING

ACCURL Fiber Laser: Precision Small-Hole Cutting

REDUCED LOGISTICS:

ACCURL's laser technology delivers drill-quality small-hole cutting, meeting EN1090-2 standards up to Execution Class 4. It cuts holes as small as 0.15 times the plate thickness, often eliminating drilling. Automated nozzle changers and vision technology ensure precise, consistent results with minimal operator input, even in thick plates.;

KEY FEATURES AND BENEFITS:

HIGH PRECISION

- Cuts holes down to 0.15 times plate thickness with drill-like accuracy.

STANDARDS COMPLIANCE

- Meets EN1090-2 up to Execution Class 4 for reliable quality.

AUTOMATED PRECISION

- Nozzle changers and vision tech enable repeatable cuts with less oversight.

THICK-PLATE CAPABILITY

- Excels in small-hole cutting in thick materials, reducing secondary processes.

Thickness (mm)	Min Hole Diameter (mm)
12	1.5
16	2
20	3
25	3
30	4
40	5
45	5
50	5

☆20mm SS with Hole 4mm



☆35mm CS with Hole 3mm



☆20mm CS with Hole 4mm



☆50mm CS with Hole 5mm



PRECISION LASER CUTTING FOR OPTIMAL EFFICIENCY

Smooth, precise edges with uniform quality across all materials. Adaptive laser power optimizes complex geometries, eliminating burns. Water-assisted cooling enhances efficiency in thicker materials, enabling tighter nesting and maximizing material use, lowering costs per part.



☆30mm MS with O2



☆20mm SS with N2



☆30mm SS with MixGas



☆45mm MS with O2



☆50mm MS with O2



☆80mm SS with N2



☆30mm BRASS with N2



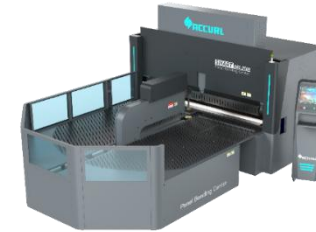
Press Brake SMART MODEL



Press Brake EUROMASTER MODEL



Press Brake EB ULTRA MODEL



Panel Bender SMART BEC MODEL

**Bending
machines**



Laser Cutting SMART CUBE MODEL



Laser Cutting SMARTLINE MODEL



Laser Cutting SMART GIANT MODEL



TUBE Laser Cutting TUBELINE MODEL

**Laser
cutting**



Combi Punch & Laser Genius MODEL



Deburring Machine EM MODEL

**COMBI
DEBURRING**

A light gray map of Europe is positioned on the left side of the image, showing the outlines of the continents and the borders of various countries.

**STRONG PARTNERS
ALL OVER EUROPE**