SELMACH™ MACHINERY

Making Metal Work

Compact Smart Fibre CNC Laser

The RVD precision laser cutting machine include both compact models in small bed sizes as well as fully automated models with shuttle tables for production cutting.

The RVD laser is a heavy duty work horse manufactured using the world's leading mechanical and electrical components to maximise production but also to minimise downtime due to part failure. The RVD laser has a full enclosure design meeting CE standards resulting in radiation safe production. High precision servo motors and heavy duty ball screw driving systems ensure reliability, cutting accuracy and consistency.

The compact range have a simple and easy to use pull out drawer tray system which enables easy loading and unloading of material but also easy access to the collecting of cut parts. All RVD PR models are supplied with a fast automatic hydraulic shuttle table with dual pallet changer to increase cutting time. Class leading components have been carefully selected resulting in a fast and reliable machine for production cutting. CCTV is fitted as standard equipment allowing the operator to safely view the cutting action. The optional tube cutting attachment can process round, square and oval tube up to 160mm.

The nLight laser source is available in various power ratings from 500W and upwards. Additional features include a cutting head supplied by RayTools of Switzerland and high quality linear motion system with servo drives. Standard bedsizes range from 1500 x 1000 to 2000 x 6000mm.

PULL OUT PARTS / SCRAP DRAWERS

CNC CONTROLLER

Machine Features

- CCTV cameras to watch cutting progress from the control panel
- RayTools auto focusing cutting head
- Voltage stabiliser
- Starter consumable kit
- Full radiation protection enclosure
- Gantry system run on heavy duty linear rails with quality servo motor
- Removable draw system for small part removal and scrap clearing
- nLight laser source: A world leading brand manufactured in the USA
- Cypcut Cutting Software

Performance Pack Features (Highly Recommended)

- Increases cutting speed and axis acceleration by 25%
- Includes the Beckhoff Control (German - Beckhoff has a UK Service Centre)
- Includes Motor Power speed motors (Italian)

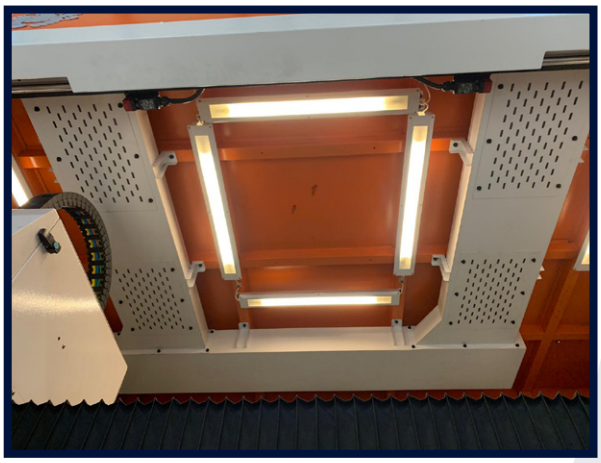
WATCH THE MACHINE IN ACTION

TECHNICAL SPECIFICATIONS

PART	Specification
Laser Power	700w – 1.2kw – 1.5kw
Laser Source	USA nLight
Processing Surface (L x W)	1500 x 1000mm – 1500 x 1500mm
CNC Control	Standard: Shanghai FISCUT CypCut
	Optional: Performance Pack: Beckhoff (German)
Laser Head	RayTools Switzerland
Servo Motor and Driver	Standard: Yaskav
	Optional: Italian Motor Power with Performance Pack
Liner Guide	Hiwin
Ball Screw	Abba
Gas Proportional Valve	SMC
Chiller	Tong Fei
Power Supply	415v (3 phase)
Position Accuracy X, Y and Z Axis	±0.03mm
Repeat Position Accuracy X, Y and Z Axis	±0.02mm
Maximum Position Speed of X and Y Axis	Standard: 100mm/min
	Standard Performance Pack: 120mm/min
Acceleration	Standard: 1g
	Performance Pack: 1.5g
Max Load of Shuttle Table	1000kg

RAYTOOLS CUTTING HEAD

HIWIN LINEAR GUIDES



CNC CONTROLLER

PULL OUT PARTS TABLE

CHILLER UNIT

RAYTOOLS CUTTING HEAD

RVD LASER CUTTING CAPACITY TABLE

FIBRE LASER POWER											
Material	Gas	Capacity (mm)	500W	700W	1000W	1200W	1500W	2000W	2500W	3000W	4000W	6000W
Carbon Steel	O2	Cutting limit	8	10	12	14	14	16	20	22	25	25
		Clean Cut	6	8	10	12	12	14	18	20	20	22
Stainless Steel	N2	Cutting limit	3	4	5	6	6	8	10	12	12	20
		Clean Cut	2	3	4	5	5	6	8	10	10	16
Aluminium	Air	Cutting limit	2	3	4	5	5	6	8	10	12	16
		Clean Cut	1	2	3	3	4	5	6	8	10	12
Brass	N2	Cutting limit	2	3	4	4	5	6	8	8	12	14
		Clean Cut	1	2	3	3	4	5	6	8	10	12
Copper	O2	Cutting limit	0.8	2	3	3	4	4	6	6	6	10
		Clean Cut	0.5	1	2	2	3	3	4	5	5	8
Galvanised	N2	Cutting limit	2	3	3	4	5	6	6	8	10	14
		Clean Cut	1	2	2	3	4	5	5	6	8	12

RVD LASER CUTTING SPEED CHART

Material	Gas	Thickness (mm)	FIBRE LASER (m/min)										CO2 LASER (m/min)
			500W	700W	1000W	1200W	1500W	2000W	2500W	3000W	4000W	6000W	4000W
MILD STEEL	AIR	1	10	13	14	18	25	31	33	34	43	49	18.3
	OXYGEN	1	7	8	10	9	11	12	13	14	15	16	7.1
		2	3.3	3.9	4.6	5.3	5.6	5.9	6.6	7.3	8	10	4.3
		3	1.9	1.9	2.6	4	4.5	4.6	4.9	5.6	6.2	7.4	3
		4	1.3	1.3	1.7	2.6	3.2	3.4	4	4.4	4.8	5.5	2.9
		5	1	1	1.3	2.1	2.8	3.1	3.4	3.8	4.5	5	2.7
		6	0.8	0.8	1.1	1.5	2.3	2.8	3.1	3.2	4.3	4.8	2.5
		8	0.5	0.7	0.8	1.2	1.3	2.1	2.2	2.3	2.7	3.1	2.2
		10	-	0.5	0.7	0.8	1.2	1.5	1.8	2	2.4	2.8	1.8
		12	-	-	-	0.7	0.8	1.1	1.3	1.6	1.9	2.2	1.4
		14	-	-	-	-	1.2	0.9	1.1	1.2	1.3	1.4	1.2
		16	-	-	-	-	-	0.7	0.9	1	1.1	1.2	1
		18	-	-	-	-	-	-	0.8	1	1.1	1.2	0.9
		20	-	-	-	-	-	-	0.7	0.9	1	1.1	0.8
		22	-	-	-	-	-	-	0.6	0.7	0.9	1	-
		25	-	-	-	-	-	-	-	0.6	0.7	0.8	-

RVD LASER CUTTING SPEED CHART

Material	Gas	Thickness (mm)	FIBRE LASER (m/min)										CO2 LASER (m/min)
			500W	700W	1000W	1200W	1500W	2000W	2500W	3000W	4000W	6000W	4000W
STAINLESS STEEL	NITROGEN	1	13	15	18	19	27	34	35	38	46	57	10.2
		2	3.3	3.7	5.9	6.7	10	13	17	18	21	28	5.8
		3	1.01	1.4	3.9	4.6	6	7.6	11	12	14	20	4.1
		4	-	1.1	1.2	1.8	3.7	4.6	5.3	6	6.6	12	3.1
		5	-	-	-	1	1.7	2.4	4.1	4.2	5.2	8	2.5
		6	-	-	-	-	1	1.1	2.7	3.1	3.4	5	1.9
		8	-	-	-	-	0.7	0.8	1.6	1.8	2	2.5	1.3
		10	-	-	-	-	-	-	0.7	0.8	0.9	1.2	0.6
		12	-	-	-	-	-	-	-	-	0.7	0.8	0.5
		14	-	-	-	-	-	-	-	-	-	0.8	0.4
		16	-	-	-	-	-	-	-	-	-	0.7	0.3
		18	-	-	-	-	-	-	-	-	-	0.6	-
		20	-	-	-	-	-	-	-	-	-	0.4	-

Material	Gas	Thickness (mm)	FIBRE LASER (m/min)										CO2 LASER (m/min)
			500W	700W	1000W	1200W	1500W	2000W	2500W	3000W	4000W	6000W	4000W
ALUMINIUM	AIR	1	7	10	13	15	17	21	38	46	50	64	11.7
		2	1.1	2	2.7	7	10	11	20	21	24	30	5.3
		3	-	1.1	1.3	3	4.1	4.5	9	10	11	15	-
		4	-	0.8	0.9	0.7	2.4	2.7	3.5	4.7	5	6	-
		5	-	-	-	0.6	0.8	1.3	1.7	2	2.2	2.6	-
		6	-	-	-	-	-	0.8	1	1.4	1.5	1.8	-
		8	-	-	-	-	-	-	0.8	0.9	1	1.2	-
		10	-	-	-	-	-	-	-	0.5	0.7	0.8	-
		12	-	-	-	-	-	-	-	-	0.5	0.7	-
		14	-	-	-	-	-	-	-	-	-	0.5	-
		16	-	-	-	-	-	-	-	-	-	0.4	-

Material	Gas	Thickness (mm)	FIBRE LASER (m/min)										CO2 LASER (m/min)
			500W	700W	1000W	1200W	1500W	2000W	2500W	3000W	4000W	6000W	4000W
BRASS	NITROGEN	1	3.6	4.1	6	7	10	13.5	20	26	30	39	-
		2	0.8	1.5	3.9	3.3	4.8	7	10	14	15	20	-
		3	-	0.7	1.4	2.3	3.2	4.4	6.2	7.3	8.3	11	-
		4	-	-	0.7	1.2	2	2.9	3.2	4.6	5.5	7	-
		5	-	-	-	-	0.8	1	2.4	3	3.5	4.1	-
		6	-	-	-	-	-	-	2.4	1.7	1.8	2.1	-
		8	-	-	-	-	-	-	0.5	0.7	0.8	0.9	-
		10	-	-	-	-	-	-	-	-	0.6	0.7	-
		12	-	-	-	-	-	-	-	-	-	0.6	-
		14	-	-	-	-	-	-	-	-	-	0.4	-