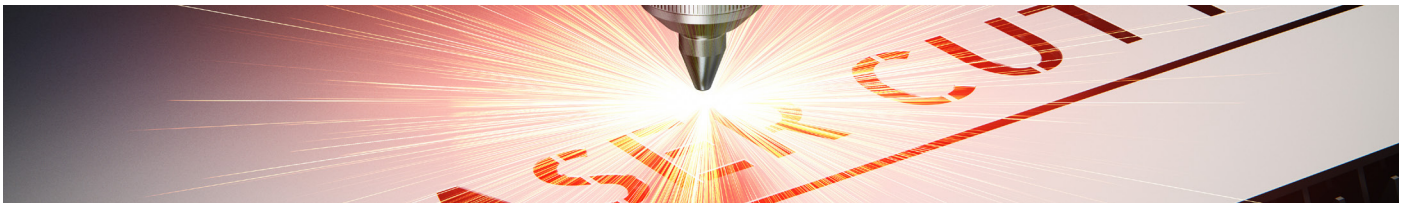
SICODAN

LaserCut HVAC



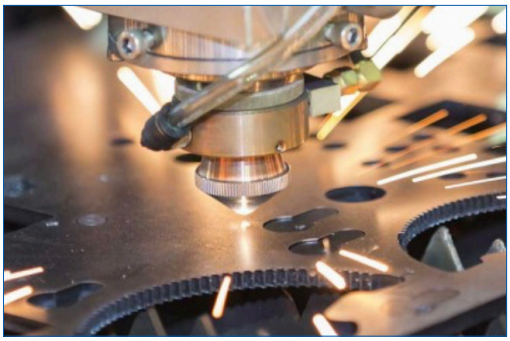
LOW RUNNING COSTS / DESIGNED TO FIT HVAC INDUSTRY REQUESTS / NO GAS NEEDED / PLUG AND PRODUCE SOLUTION

- ✔ Sicodan HVAC LaserCut covering from 0,5 to 2 kW
- ✔ You have the possibility to choose between a stand-alone or automatic changing table
- ✔ Standard plate size 3000 mm x 1500 mm (other sizes are availble upon request)
- ✔ Prepared for integration of automatic coil-feeder
- ✔ Constructed to cut thin plates without any use of N_2. The air supply is dimensioned and constructed with cooling, filter and buffer tank, to obtain a saving of typically >95% of the normal use of N_2

SAVE 85-90% IN DAILY OPERATING COSTS BY USING THE SICODAN HVAC CutAir™ SYSTEM

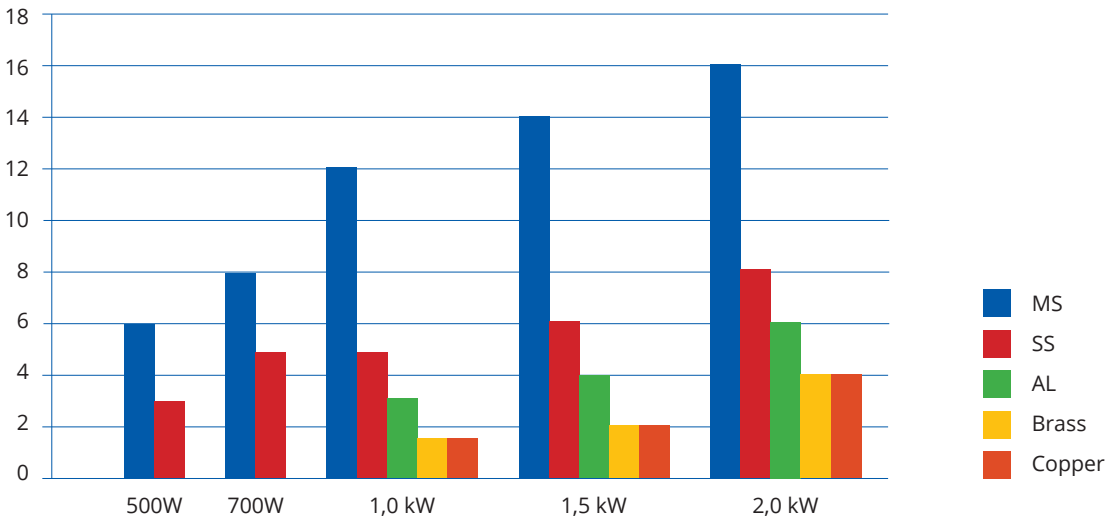
Sicodan LaserCut HVAC	
Items	**Specification**
Machine model	SICODAN LaserCut HVAC (Fiberlaser)
Effective cutting width	1500 mm
Machine width	2385 mm
Effective cutting length	3000 mm
Machine length	4465 mm
Installation space	7520 x 7520 mm
Sliding rail type	Linear rail, HIWIN
Pinion and track	Helical type, YCC
Exchanger and cover	With or without (by choice)
Rollers for feeding	Included
Mechanical 0 point	Included
Setting 0 point from CNC	Included
Extraction channels	Included
Max positioning speed	Up to 100 m/min
Recommended positioning speed	80 m/min
Acceleration speed	Max. 1G
Positioning accuracy	0.05 mm
Repeating accuracy	0.03 mm
Controller brand	Friendess with Cypcut
Controller interface	Windows
Monitor camera and monitor	Optional
Linear rail	HIWIN
Motor	Yaskawa
Display	24''
Chiller	S&A
Cutting head	BM109 auto focal length, Raytool
Focal adjustment type	Auto focal length
Air for cutting Mild steel	SICODAN CutAir™ & N_2 & O_2
Gas for cutting stainless steel	SICODAN CutAir™ & N_2 & O_2
Capacity of laser generator	IPG
Cutting thickness range	Due to laser unit power
Cutting power	0,5 - 2,0 kW

With changing table



			YRL500	YRL1000	YRL2000		YRL1000	YRL1500
Material	**Cut Gas**	**Thickness mm**	**Speed m/min**	**Speed m/min**	**Speed m/min**	**Cut Gas**	**Speed m/min**	**Speed m/min**
Mild steel	N_2	0,8 mm	10	15	30	SICODAN CutAir™ → *(12 bar)	15	
		1,5 mm	7,7	12	19,8		10	14
		1,0 mm	5	8	15		5	
		2,0 mm	3,3	5	5,5		5	9
		3,0 mm	2,1	3,1	3,6		2,8	3
		4,0 mm	1,5	2,3	3		2	2,7
		5,0 mm	0,8	1,6	2,5		0,6	
		6,0 mm	0,5	1,3	1,9		0,6	0,6
		8,0mm	NA	1	1,5			
		10,0 mm	NA	0,6	1			
		12,0 mm	NA	0,5	0,9		NA	NA
		14,0 mm	NA	NA	0,8		NA	NA
		16,0 mm	NA	NA	0,5		NA	NA
Stainless steel	N_2	0,8 mm	10	15	30	SICODAN CutAir™ → *(12 bar)	15	22
		1,0 mm	7,5	14	24		10	
		1,5 mm	3	5	20		5	
		2,0 mm	1,2	4,8	13		5	10
		3,0 mm	0,5	2,4	4,5		2,8	5
		4,0 mm	NA	1,4	3		5	2,7
		5,0 mm	NA	0,5	1,6		0,6	1,6
		6,0 mm	NA	NA	0,8		0,6	0,7
		8,0mm	NA	NA	0,8		NA	NA
		10, 0 mm	NA	NA	0,6		NA	NA
AL	N_2	0,8 mm	NA	15	30	SICODAN CutAir™ → *(12 bar)	NA	NA
		1,0 mm	NA	10	20		12	18
		1,5 mm	NA	5	13		NA	NA
		2,0 mm	NA	5	13		4	5,5
		3,0 mm	NA	2,8	5		NA	NA
		4,0 mm	NA	2	3,8		NA	NA
		5,0 mm	NA	0,6	1,3		NA	NA
		6,0 mm	NA	0,6	1,3		NA	NA
		8,0mm	NA	NA	0,8		NA	NA
		10,0 mm	NA	NA	0,6		NA	NA

* The figures in the chart, is showing the results of using low pressure SICODAN CutAir™.



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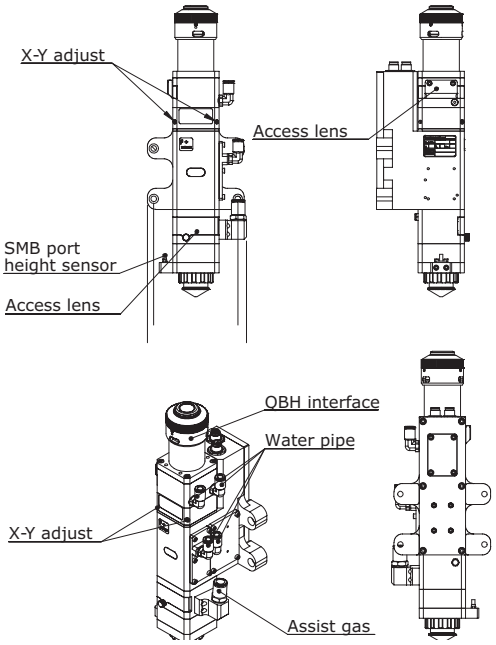
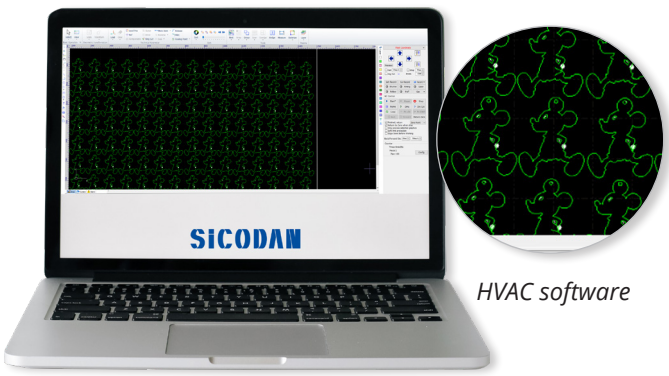
Cutting head	
Power rating	
Nominal focusing lens (Single/doublet, fused silica, wavelenght 1025-1080nm)	100 mm, 125 mm, 200 mm (2D)
Clear aperture	25 mm
Nozzle orifices	1,0 mm - 3 mm
Nozzle styles	Single orfice, double, multi hole, custom
Assist gas pressure	Up to 18 bar
Weight	~ 2,5 kg
Collimating lens	
Nominal focusing lens (Single/doublet, fused silica, wavelenght 1025-1080 nm)	60 mm, 75 mm, 100 mm
Clear aperture	28 mm
Fiber interface (Other available on request)	QBH, LLK-B, QD
Height sensor	
Standoff distance range (1 mm recommended)	0,5 mm - 10 mm
Calibration	Auto calibrating/Manual calibrating
Response time	<1ms
Temperature stability	± 5% of standoff setting, 0°C to 45°C
Power requirement	24V
Output (Optimal curve for flat metal or liner signal	± 10V or 0~10V analog



Raytool cutting head

- ✔ 99% of all HVAC cutting can be cut with special treated air - SICODAN CutAir™ - No N_2 needed!
- ✔ Our subsupplier has 58 years experience in making tables and automation technology
- ✔ Driving system consists of servo motor and gear box
- ✔ Yaskawa servo motor for X and Y
- ✔ Linden linear rails for X and Y
- ✔ Windows operation system, with mouse and keyboard
- ✔ Support DXF/DWG file input
- ✔ With USB port for inputting and outputting files
- ✔ WiFi or Lan connection
- ✔ Includes software to make drawings quickly
- ✔ 16 layers for cutting and marking is defined in controller software
- ✔ Parameters can be adjusted easily, such as cutting speed, cutting capacity, pierce, air pressure, torch height etc.
- ✔ Real time capacity adjustment

- ✔ **Raytool cutting head**
  - Type BM109
  - Type BM109 is Auto focal length
  - Specially for improving cutting quality and speed on thin plate
- ✔ **Red Spot Pointer**
  - Locate cutting points
  - Easy to evaluate plate size.
  - Easy to check plate position on cutting table
- ✔ **IPG Photonics laser generator**
  - Best known brand world wide
  - Option for budget laser generator on demand



HVAC software

SICODAN

LaserCut HVAC

Savings				
	Price	**Uses (eg.)**	**Costs**	**You Save**
Nitrogen	0,00106 €/liter	100 l/min	6,36 €/hour	
Air	0,000124 €/liter	100 l/min	0,744 €/hour	
				5,616 €/hour

- ✔ *Typically you will save between 10.000-40.000 €/year just by using SICODAN CutAir™ system*
- ✔ *Short Return Of Investment (ROI)*

- ✔ SICODAN CutAir™ **system is especially constructed for the airsystem needed for cutting thin plates**
  - By using SICODAN CutAir™ System you save 85-90% costs in the daily operating cost
  - No N_2 Needed for >95% of all cutting jobs. The last <5% cutting the system is designed to switch over to 1 Nitrogen or Oxygen, just by choice in the display
- ✔ **Standard software on SICODAN HVAC LaserCut**
  - Automatic nesting and manual nesting
  - With functions to improve cutting quality and speed
  - Functions of 16 lead-in types, sharp point, surround, repair, common line, bridge, etc.
  - With project management module for each thickness
- ✔ **Open platform, all brands**
  - CAMduct, Vulcan, Comeid…. SICODAN HVAC LaserCut works with all software following DXF standard
  - Supports DXF/DWG file input
- ✔ **PC software**
  - Windows
- ✔ **Air conditioner**
  - To cool electronic components

Auxiliary devices included:

- ✔ **Voltage stabilizer**
  - For table power supply
  - To protect machine from power supply fluctuation
- ✔ **Proportional valve**
  - To control gas or air pressure from controller automatically
- ✔ **Chiller**
  - To cool torch head, optical cable terminal and laser generator
- ✔ **Centralized lubricator**
  - To pump lubricant to slider lock, rail and tracks automatically
  - Control from software controller
- ✔ **Air supply**
  - We have developed a solution, so that we do not need Nitrogen (N_2) for thin plate cutting; SICODAN CutAir™
- ✔ **Auxiliary Devices Options**
  - Coil feeder (prepared for integration)
  - Power upgrade up to 2 KW without large mechanical changes
  - Filter unit: We offer a complete solution with fan and filters