

CNC Thermal Cutting Machines



CNC CUTTING MACHINES DEVELOPMENT  
AND MANUFACTURE SINCE 1994

# VANAD laser CNC cutting machines



## > Comprehensive solution

- **Design and delivery of a complete station** with the option of integration into the existing production line
- Online technical support free of charge, training, supplies of consumables and spare parts
- **Consulting and advisory services** – based on experience with the production of CNC laser machines since 2012
- **Applicability verification** of CNC machines using samples of materials used in your production

## > Optimising of parameters

- **Technical parameters** of the machines can be adjusted to your requirements
- **Laser and common metal sheets** as well as non-metal materials can be processed

## > Open control system

- **Accessory functions** as defined by your specific production requirements
- Option of **connecting** with storage rack systems or robots for a fully automated CNC station



DEVELOPMENT >>> PRODUCTION >>> ASSEMBLY >>> SERVICING >>> TRAINING



# Vanad KOMPAKT Laser

**Economical high-speed machine for 2D cutting with fiber laser of metal sheets up to 2,000 × 6,000 mm in size.** Primarily designed for efficient cutting of structural steel, stainless steel, copper, aluminium, and brass. It can also cut **non-metal materials**, for instance cardboard, or klingerit.

- ACCURACY
- HIGH EFFICIENCY
- VARIABLE EQUIPMENT
- MAXIMUM LEVELS OF MATERIAL USAGE
- ENERGY SAVING

## FEATURES

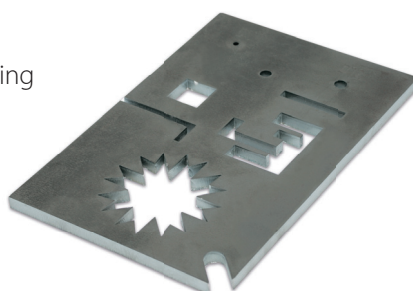
- Maximum precision of cut accuracy, minimum cutting kerf
- Rigid construction, excellent dynamic properties
- Allows for the option of cutting with compressed air reducing the costs
- Cutting of highly reflective materials
- Long laser source lifetime
- Fiber laser output up to 3 kW as a standard
- High precision optical measurement of the positioning
- Intuitive controls, minimum maintenance requirements
- Option of using residual material
- Remote servicing access to the machine control system – accelerated service response
- Function enabling return to an unfinished cutting program
- Extensive macro library
- Automatic suction of fumes via a system of independent sections
- High-performance operationally stable open B&R control system

## Standard equipment

- Autonomous cutting head collision avoidance system
- Controlled piercing for longer lifetime of consumables
- Precision capacity control of the height of the cutting head
- Linear guides in all movement axes
- Nozzle cleaning module
- Camera for the monitoring of cutting displaying images on a separate monitor
- Laser marking
- CAD/CAM software for the preparation of cutting data
- Manually extendable material grid

## Optional equipment

- Two hydraulically exchangeable grids enabling the minimisation of the preparation time
- Motor-powered extendable material grid
- Two manually extendable material grids
- Supplementary RotCUT device for processing of tubes and profiles



**RotCUT (optional equipment) 1**

- For cutting into tubes and square tubes

**Additional control 2**

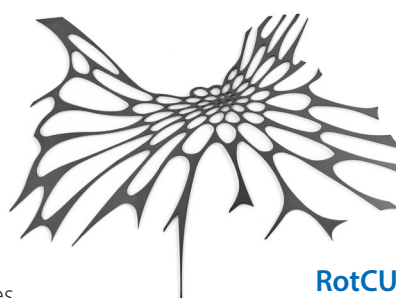
- Remote machine control
- Cutting into tubes and profiles
- Roller blinds control

**Automated gas console 3**

- N<sub>2</sub>, O<sub>2</sub>, air (automated switchovers)

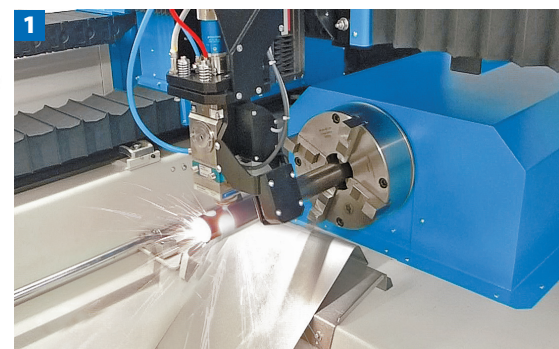
**Refuse containers 4**

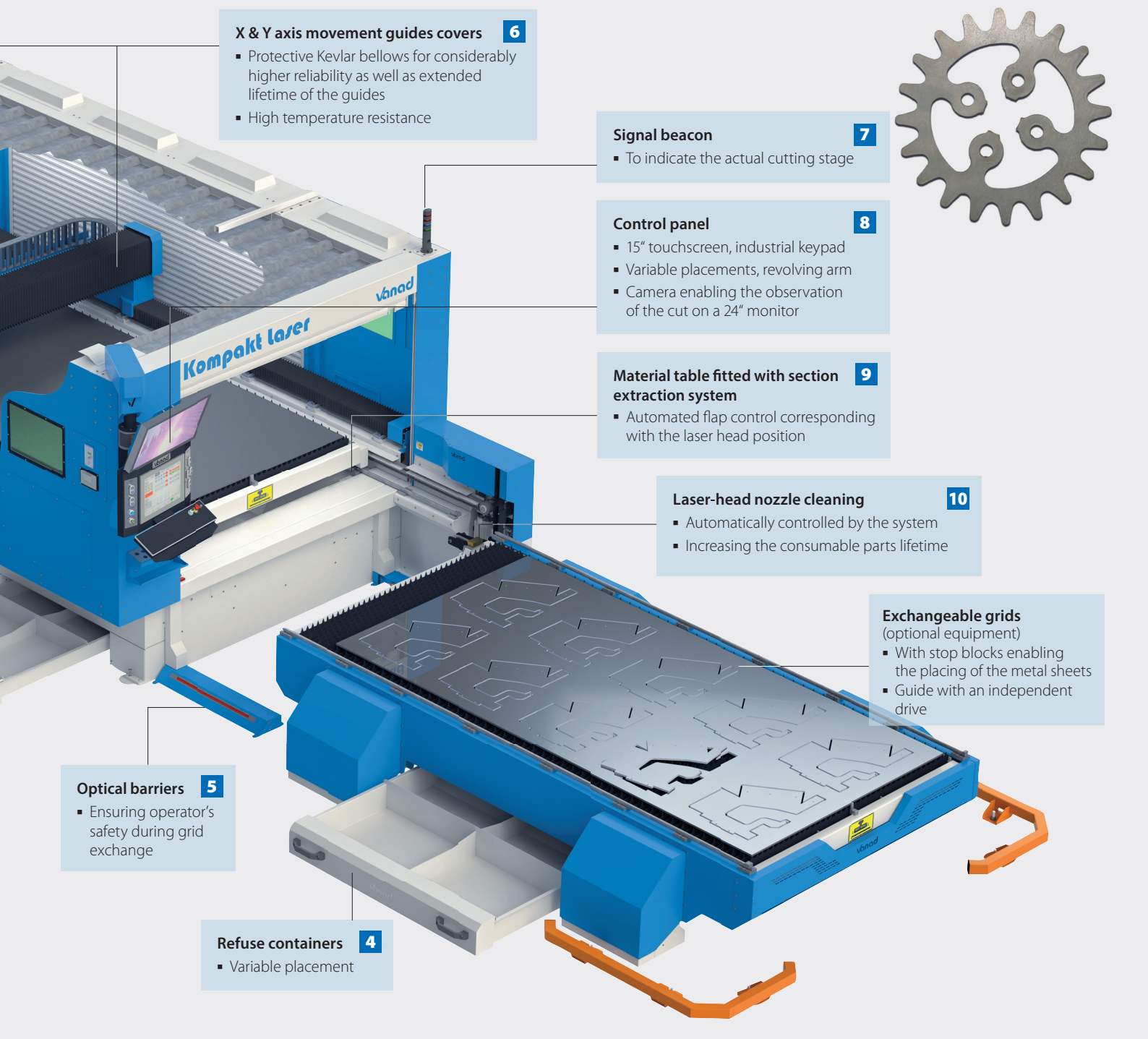
- Variable placement



## RotCUT 1

- Maximum diameter of a processed tube: 250 mm
- Optional equipment: through-hole chuck
- The length of the processed tube corresponding with the machine dimensions





**X & Y axis movement guides covers 6**

- Protective Kevlar bellows for considerably higher reliability as well as extended lifetime of the guides
- High temperature resistance

**Signal beacon 7**

- To indicate the actual cutting stage

**Control panel 8**

- 15" touchscreen, industrial keypad
- Variable placements, revolving arm
- Camera enabling the observation of the cut on a 24" monitor

**Material table fitted with section extraction system 9**

- Automated flap control corresponding with the laser head position

**Laser-head nozzle cleaning 10**

- Automatically controlled by the system
- Increasing the consumable parts lifetime

**Exchangeable grids (optional equipment)**

- With stop blocks enabling the placing of the metal sheets
- Guide with an independent drive

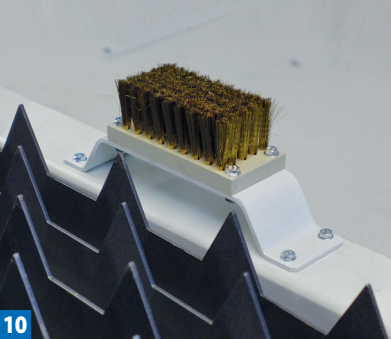
**Optical barriers 5**

- Ensuring operator's safety during grid exchange

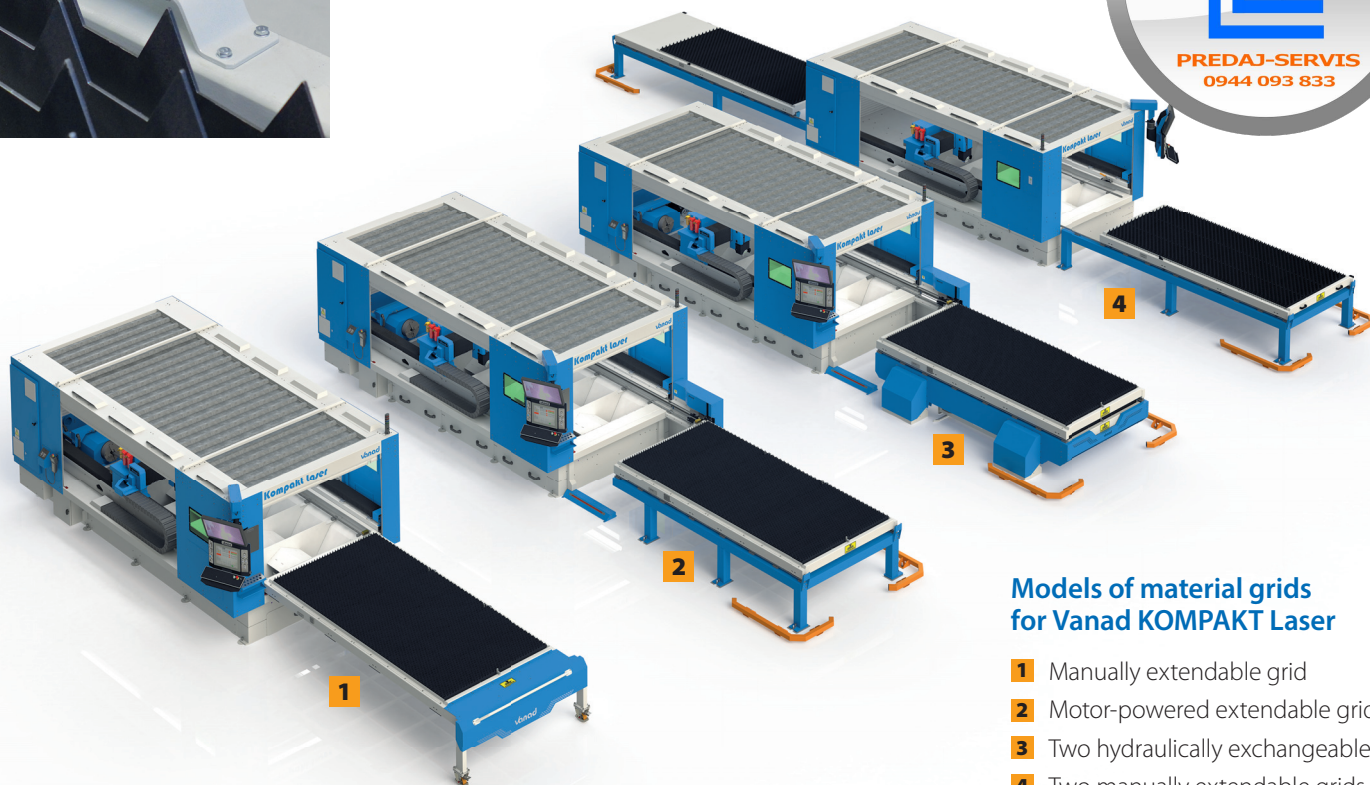
**Refuse containers 4**

- Variable placement





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### Models of material grids for Vanad KOMPACT Laser

- 1** Manually extendable grid
- 2** Motor-powered extendable grid
- 3** Two hydraulically exchangeable grids
- 4** Two manually extendable grids

Vanad KOMPACT Laser	12,5/25	15/30				20/40			20/60	
Machine model	Manually extendable grid	Manually extendable grid	Two manually extendable grids	Motor-powered extendable grid	Two hydraulically exchangeable grids	Manually extendable grid	Motor-powered extendable grid	Two hydraulically exchangeable grids	Motor-powered extendable grid	Two hydraulically exchangeable grids
Overall machine width [mm]	2850	3200	3200	3200	3200	3700	3700	3700	3700	3700
Overall machine length [mm]	7800*	8900*	9300	9300	9500	10900*	11500	11700	14900	15100
Overall machine height [mm]	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
Metal sheet format [mm]	1250 × 2500	1500 × 3000	1500 × 3000	1500 × 3000	1500 × 3000	2000 × 4000	2000 × 4000	2000 × 4000	2000 × 6000	2000 × 6000
Grid height [mm]	855	855	855	855	855	855	855	855	855	855
Maximum number of supports	1x support with a laser head									

\*) Dimensions with an extended grid



▲ Vanad KOMPACT Laser with two hydraulically exchangeable material grids and 2kW IPG laser source, installed in 2016



▲ Vanad KOMPACT Laser with a manually exchangeable material grid and 3kW IPG laser source, installed in 2017



▲ Vanad KOMPACT Laser with a motor-powered extendable material grid and 1kW IPG laser source, installed in 2017



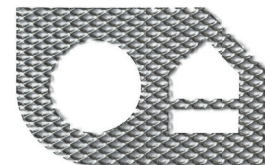
# Vanad MIRON Laser

Vanad MIRON Laser, a highly reliable industrial CNC machine for efficient 2D shape cutting of sheets, profiles and tubes up to 10 mm thickness with the maximum dimensions of processed sheets 1,500 × 3,000 mm.

- VERSATILITY
- AFFORDABLE EVEN FOR SMALL ENTERPRISES
- IDEAL PRICE-PERFORMANCE RATIO
- MAXIMUM MATERIAL UTILISATION
- SUITABLE ALSO FOR LARGE-DIAMETER TUBES

### Control panel

- 15" touchscreen, industrial keypad
- Camera enabling the observation of the cut on a 24" monitor



### Material grid

- with a lateral extension option

### RotCUT

- (optional equipment)
- For cutting into tubes and square tubes

A



## DESCRIPTION

- Machine with a solid material grid or its lateral manual extension
- May be fitted with a rotator up to the maximum diameter of a processed tube of 600 mm
- Maximum tube length: 1,000 mm
- Shorter assembly time thanks to laser technology placed inside the machine
- Broad application (industry, chimney firms, vocational schools, ...)

### Scissor steady rests

- automated positioning according to the tube diameter

### Protective stop

- preventing unwanted tube piercing as well as spattering of slag on the tube interior surface

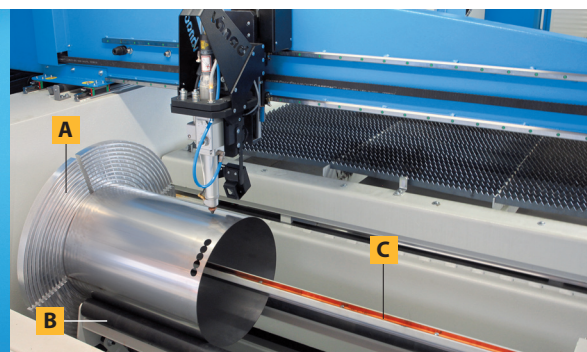
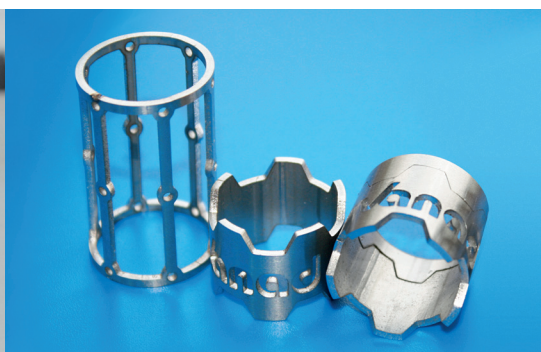
Vanad MIRON Laser		10/20	15/30
Machine model		Solid or manually extendable grid	Manually extendable grid
Overall machine width	[mm]	3 650*	4 650*
Overall machine length	[mm]	4 540	5 540
Overall machine height	[mm]	2 264	2 264
Metal sheet format	[mm]	1 000 × 2 000	1 500 × 3 000
Grid height	[mm]	821	821
Maximum number of supports		1x support with a laser head	

\*) Dimensions with an extended grid



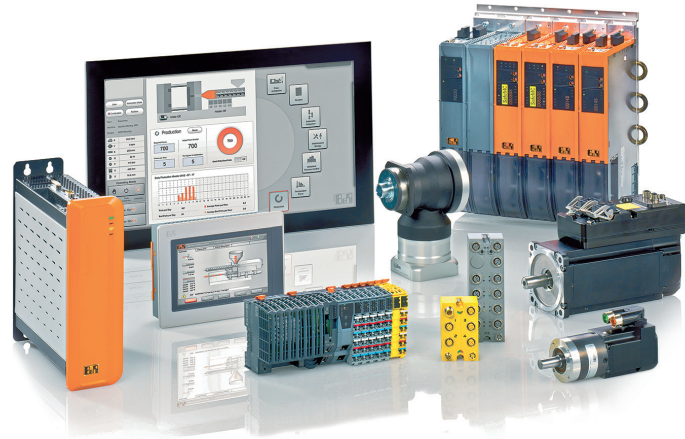
### RotCUT (variable design)

- Tube diameter: 15–80 mm
- Tube diameter: 60–600 mm
- The processed length corresponding with the machine dimensions



## IPG fiber laser sources

Fiber lasers represent the state-of-the-art trend in laser cutting. They are suitable especially for thin and medium thick sheets. The optimum price-cut quality ratio can be achieved up to 15 mm thickness of material. Oxygen, nitrogen, or compressed air are used as cutting gases. Vanad machines are fitted with laser sources from IPG Photonics. The selected output depends on the thickness of the material to be cut.



## B&R control system

Since 2006, Vanad has been cooperating with the Austrian manufacturer of automation technology, B&R Industrial Automation GmbH, on the industrial control system development and modifications. The innovative B&R control system offers solutions for all Vanad machine models.

## Servicing

- Reliable and fast warranty and post-warranty servicing
- Fast error detection thanks to the option of remote machine maintenance – prompt servicing on-line
- Supply of consumables and spare parts under tailor-made terms
- Regular maintenance of the laser cutting station

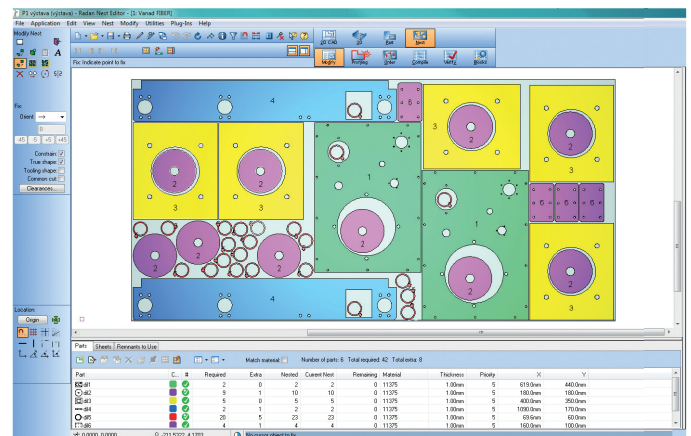
## Precitec processing head

Vanad laser machines are fitted with Precitec processing heads. You can choose from a variety of models from a simple design to the high-tech ProCutter optical head with the automatic focus and with advanced diagnostics. Practically maintenance-free Precitec cutting heads provide for high speed and excellent cutting quality. They are equipped with temperature control systems, constant distance sensors and shock absorbers. The processing heads are provided with comprehensive servicing and advisory services aimed at technology optimisation.



## Cutting plan software

Software for the preparation of cutting plans, which can reduce the preparation time and increase work efficiency, forms a part of the complete cutting station delivery. Thanks to many advanced features and a user-friendly graphical interface the provided software is a flexible software tool that allows for automatic nesting, common line cutting and management of residues for the highest possible utilisation of the metal sheet area.



## About us

Vanad 2000 a. s. is a leading Czech manufacturer of high-performance CNC machines for shape cutting of materials with oxy-fuel, plasma, and fiber laser. Since 1994, Vanad has supplied CNC production machinery to hundreds of clients in Europe, Asia and Africa. The

dimensions and configurations of VANAD machines are designed to meet individual user's needs, the machines are equipped with data collection and remote diagnostics systems. Vanad collaborates with B&R and the Czech Technical University in Prague on innovation projects and with vocational secondary schools and other technical universities on educational projects in the area of thermal cutting technologies.

