

October 15, 2018

Vanad cutting machines with the B&R control system accomplish parameters of Industry 4.0

From the 12-year partnership of Vanad and B&R mainly benefit the customers.

Vanad 2000 a.s. is a leading Czech manufacturer of machines for oxy-fuel, plasma and fiber laser cutting. B&R is the leader in the field of industrial automation and gives the machines primarily their soul.

The first Vanad machines were mainly assembled from components designed and manufactured directly by Vanad. With increased market demands and the gradual upgrading of machines, the new control system came in 2006 as well. At that time when Vanad 2000 a.s. started cooperation with the Czech branch of the Austrian B&R company. In addition to using a control system, including control panels, keyboards, industrial computers, data busses, or engines, Vanad and B&R also cooperate on the development of the control software.

From 1994 to date, Vanad has delivered 1,400 CNC machines to satisfied customers in Europe, Africa, Asia and America. Vanad machines are not produced in series, each machine could be customized, choosing the optimal technology, size, and equipment.

The company's production program includes machines for large industrial enterprises (cutting material thickness up to 400 mm, the longest delivered machine had 54m working length), as well as simpler machines for medium and small companies equipped with oxy-fuel, plasma or laser technology.

In 2012 Vanad started developing fiber laser technology and these machines are today used in more than 30 manufacturing companies in the Czech Republic and abroad. They are used to cut materials up to a **thickness of 20 mm and a sheet metal size from 1,000 × 2,000 mm to 2,000 × 6,000 mm.**

Benefits of Vanad machines with the B&R control system

Thanks to the open B&R control system Vanad can offer customers a machine for the shape cutting of materials complemented with functions according to their individual production requirements. The B&R system allows you to design automation solutions with maximum flexibility and economy so that the entire cutting station will best suit your needs. Cutting tables could be easily updated in the machine system without the intervention of service technicians. The machine system makes it easy to integrate new devices, e.g. newly tested latest XPR Hypertherm plasma source and more powerful laser sources from IPG.

Thanks to the open control system, the Vanad machine can be connected to the racking systems or robots and create a fully automated CNC workplace. Also, thanks to the

VANAD 2000 a.s.
Marketing Dpt.
Riegrova 824
58282 Golčův Jeníkov
Czech Republic
www.vanad.com

Contact
Hana Volencová
Phone:
+420 731 437 347
E-mail:
volencova@vanad.com

support of a wide range of industrial busses, the machine can be connected to other systems to meet the current requirements in industrial production. Data collected from the machine could be used to optimize production and achieve higher profits. The machine with B&R control system can be connected to MES systems or directly to cloud applications to draw on the benefits of Industry 4.0.

The application can also be equipped with a system for monitoring the energy consumption of the entire machine and thanks to this its consumption can be optimized.

Hardware components B&R in Vanad machines

The control system of the Vanad cutting machines is based on the powerful APC910 B&R industrial computer. This special design computer ensures high performance even in the most demanding operations with minimal demands on power consumption. The robust industrial design of the PC does not contain any movable parts that could be damaged by the vibration from the operation.

Instead of a rotary fan, a liquid cooling system with "heat pipes" is used for cooling. All data is securely stored on a memory card type CFast. Reliable run of the control software is provided by a real-time operating system designed specifically for the industrial environment.

The 10.4", 15.0" and 21.5" (optional 24.0") B&R touchscreens with IP65 protection are also available for control and visualization. Technological keyboards were developed by B&R especially for Vanad cutting machines, are dust-proof, have a high service life and enjoyable control.

Another option for controlling the Vanad machines is the 6.5" touchscreen LCD MP50 B&R touch panel with an integrated USB port for transmitting cutting plans. With mobile panel the operator can control the machine from any place needed. The machine can be also controlled via remote visualization using VNC transmission, ie, from an office PC, tablet, or mobile phone.

Remote administration system

Another extremely valuable aspect for the Vanad customers is a so-called secure remote administration system of the machine over the internet. A service technician can connect to a customer's cutting machine from anywhere in the world. Remote administration significantly reduces service time and simplifies service activities. Thanks to the VPN module, you can remotely perform a quick diagnosis of the machine, remove incorrect settings or upgrade software. One of the new B&R system functions is sending e-mail messages with information about the workload, the state of the machine and the work of the operator.

Advantages of Vanad CNC cutting machines with B&R control system as follows

- Modern and intuitive machine control
- Sophisticated diagnostics and displaying fault messages
- Higher cutting productivity
- Low power consumption components
- Functions according to individual production user requirements
- Secure remote administration
- High system reliability
- Increasing the lifetime of consumables

- Automatic setting of all technological values
- Easy to connect to production systems (MES, cloud)
- Multiple cutting kerf correction values

Customer references

"On Vanad laser we cut all kinds of carrying parts of our mowers. The operator managed an attendant of the machine in a very short period of production time, the control system guides the user, it is simple, anyone can handle it. As far as maintenance costs are concerned, the machine is almost maintenance-free and it works for more than 16 hours a day. Operators have a lot of fun doing creative work with modern technology, they are constantly learning to move on every day," said Bohumír Kuboušek, production manager of DVOŘÁK - s.r.o., which has been using the laser machine Vanad KOMPAKT Laser since 2015 in two-shift operation.

"Vanad KOMPAKT Light has convinced me and completely fulfils my requirements, and I have even discovered through it the possibilities we did not know before. Cutting precision makes it possible to create fine lines, which was not possible with our old machine. Thanks to the database on my computer, I can reuse old cutting plans at any time and customize them. I often work with rusty materials and it is important that the machine is easy to keep clean. Other benefits include simple and functional controls. The control system is flexible, we have been able to add extra equipment to our needs, which also allows us to work with phosphorous colours. The Vanad KOMPAKT Light machine has been in operation for almost two years, and I know it was the right decision," commented Ulrike Mühlehner from the *Grenzenlos Hofladen* company in Bavaria, where original decorations are produced.

About B&R

B&R is an innovative automation company is based in Austria and has its branch offices all over the world. As a global leader in industrial automation, B&R offers state-of-the-art technology to provide customers with a virtually every industry-specific solution for machine and process automation, motion control, HMI and integrated functional safety. B&R continually defines trends in industrial automation through the use of communication standards such as POWERLINK and openSAFETY, as well as the powerful Automation Studio development environment. The innovative spirit that maintains B&R at the forefront of industrial automation is driven by a commitment to streamlining processes and overcoming customer expectations.

About Vanad 2000, a.s.

Vanad 2000, a.s. based in Golcův Jeníkov is a traditional Czech manufacturer of high-performance CNC machines with a modern design for precise oxy-fuel cutting, the most advanced plasma technologies and fiber laser. Founder of the company MSc. Luboš Miřátský developed the first machine in 1987 for Chotěbořské strojírny. After the company's dividing, Mr Miřátský and his companion founded Vanad s.r.o. and thanks to continuous research and development added the production of a new line of machines and the service of original machinery from Chotěbořské strojírny was also agreed. Vanad brings comprehensive cutting-edge solutions to the domestic and foreign markets. The largest permanent demonstration centre for thermal cutting in the Czech Republic is located in the premises of the company. Those interested can take a look at Vanad CNC

cutting machines, get to know to its technological possibilities and choose the most suitable machine for their production.

Photographs in high resolution and additional photos are available on vanad.com/media-service. They may only be used for editorial purposes.



Vanad KOMPAKT Laser with two exchangeable material grids.



Vanad BLUESTER two-gantry cutting machine with a 3D head.



Vanad PROXIMA with 8 oxy-fuel cutting units.



Vanad KOMPAKT Light.



Group of products B&R.

Forward-looking statements

This news release may contain forward-looking statements based on current assumptions made by VANAD 2000 a.s. The company assumes no liability whatsoever to update these forward-looking statements or to conform them to future events or developments.