

UNIAXLE

CNC machine for machining rear axles



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 **unisign**
machine tools

Accurate and fast machining without compromise

UNIAXLE is a revolutionary new machine design for the truck industry. A dedicated CNC machine where welded and cast rear axles can be machined in a single setup. Designed and developed by Unisign, world leader in CNC machines for machining truck front axles. Discover the UNIAXLE's unique qualities. Find out why this machine is revolutionizing the rear axle machining process for good.

A single machine for everything

You gain state-of-the-art technology and boost your machining efficiency in a single investment with our UNIAXLE machine. Pre-machining welded rear axles in parts or post-machining cast rear axles on an array of CNC machines is a thing of the past. You can machine the complete axle in just one setup on a single machine. It's faster, more accurate and saves you money. You won't need so many different machines and you'll save space on the shop floor. And you'll need fewer employees because the UNIAXLE can run completely unmanned.

Ideal balance achieved

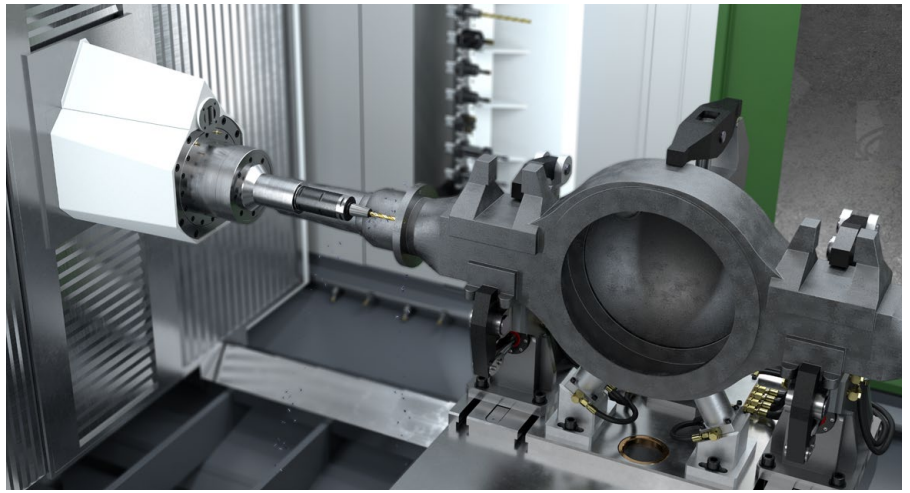
When developing the UNIAXLE, we found the ideal balance between accuracy, speed and stability. A rear axle contains a great deal of functionality and is far from symmetrical around its axis. When machining parts such as rear axle ends, there is considerable imbalance. Normally, this would mean working at low speed. But, as you know, machining at a low rotation has an adverse effect on the processing time and machining conditions. With the UNIAXLE, you no longer have to compromise between accuracy and speed.

Turning head

Thanks to the new technology we have applied, speed and accuracy are no longer interdependent. The UNIAXLE is unique because it's not the rear axle in the machine that rotates, but the cutting tool that rotates around the rear axle. The turning head we use here is an innovation from our own R&D department. With this well-thought-out structural design, our engineers have eliminated the imbalance in the rotating tools. You won't find anything like it anywhere else. The UNIAXLE is the first machine to use this new head which rotates around the axle.



Turning head:
optimal cutting
speed and
accuracy



Simultaneous milling and turning

We have designed the UNIAXLE so you get the best possible performance. In addition to the unique head, this machine also has a milling spindle. All turning and milling operations on the rear axle are carried out at the same time. For example, while an axle end is being created at the left, a flange is being milled at the right. Another advantage is the rotation unit which turns the rear axle

through 90 degrees so the milling spindle can also machine the rear axle banjo.

Single clamping

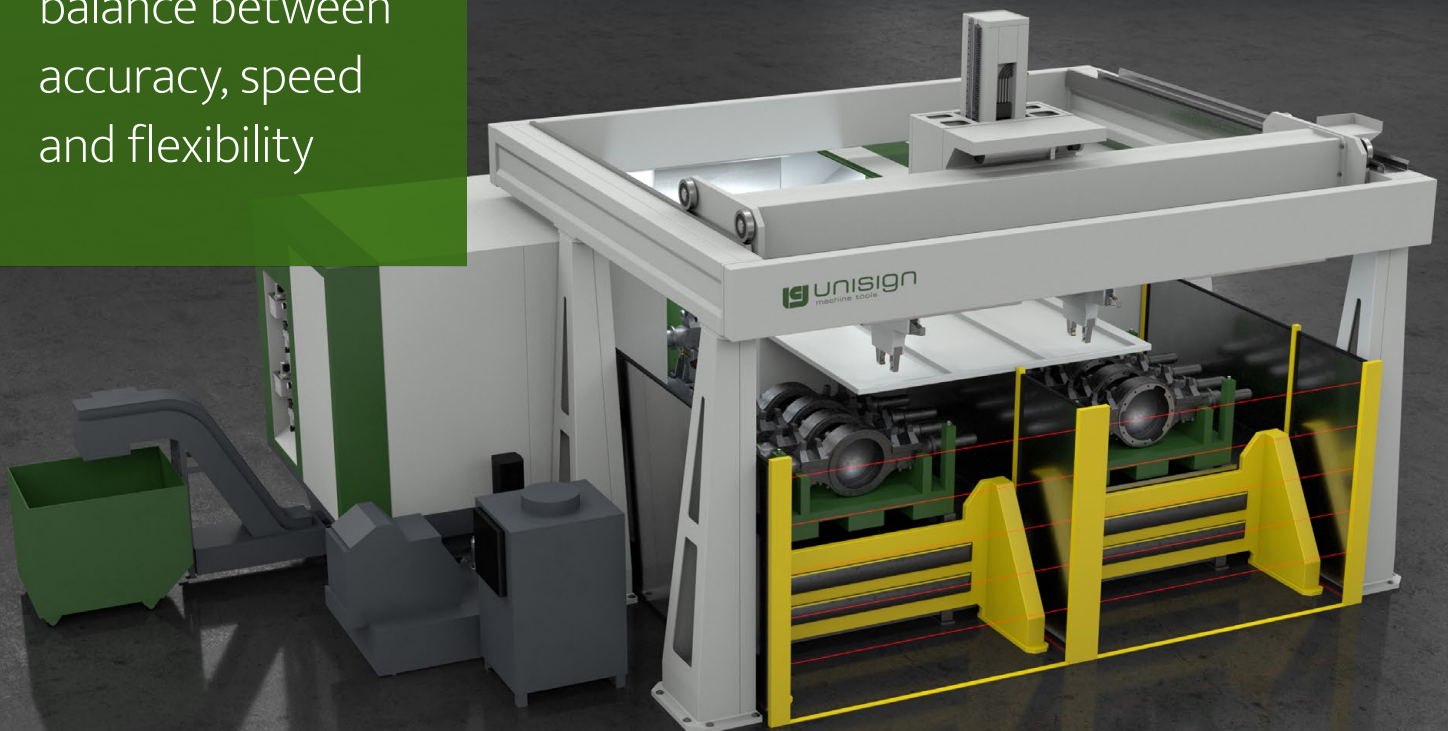
A production line with multiple machines requires many different operations. The frequent lifting, moving and setup operations influence the lead time as well as the accuracy of the machining. Single clamping means greater process

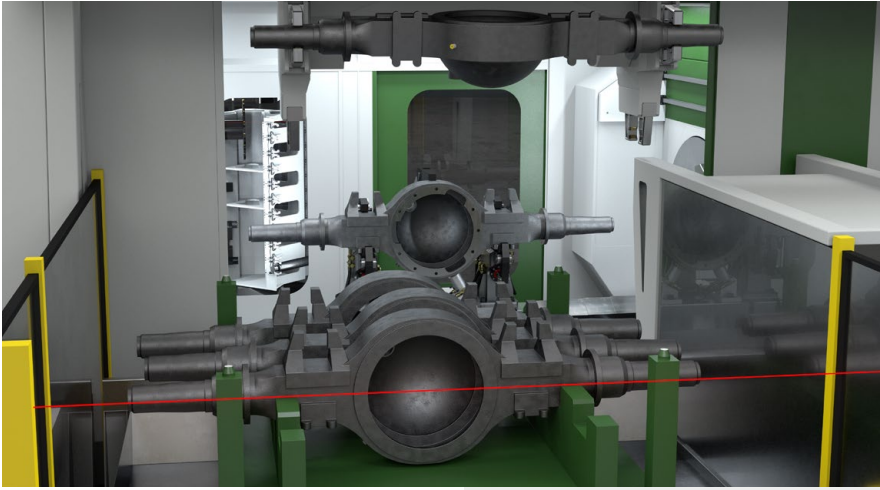
reliability and a significant reduction in changeover times. These are also important advantages of having all-in-one machining on our UNIAXLE.

High efficiency

An automatic loading crane is a standard feature of our UNIAXLE. When machining is complete, the double gripper on the crane

UNIAXLE: Ideal balance between accuracy, speed and flexibility





automatically unloads the finished product and loads the next product into the fixture. This guarantees fast loading. All you have to do is ensure a constant supply of workpieces so the machining centre can run continually.

The UNIAXLE is universal and can machine a wide variety of rear axles. This keeps setup times for various axle types to a minimum. In addition, the automatic loading crane significantly improves your production efficiency.

Agricultural and road construction vehicles

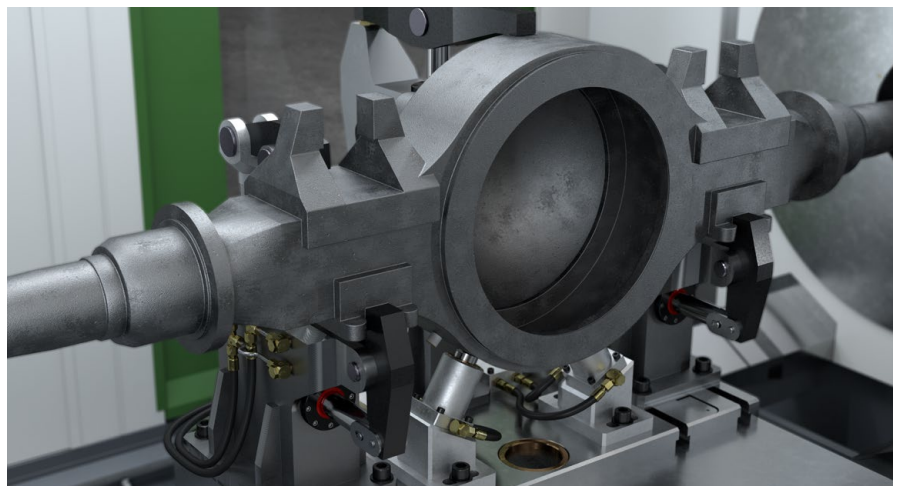
The UNIAXLE has considerable added value for truck manufacturers and suppliers who want to go to the next level for machining rear axles. This revolutionary machine will also be of interest to suppliers and manufacturers of agricultural and road construction vehicles. Rear axles in these vehicles have similar characteristics to truck rear axles.

UNIAXLE in your factory?

Devising the most effective and efficient process for machining rear axles together with you is important to us. Our engineers would like to hear about your production challenges and help come up with innovative solutions for you. If you have a specific question or would like to know more about what our UNIAXLE machine can do for you, please do not hesitate to contact us: sales@unisign.com

UNIAXLE: The benefits

- All machining in one setup on a single machine
- Cycle time 30 min/axle (13,000 rear axles/year)
- Wide range of rear axles
- High machining speed
- High accuracy
- No imbalance
- Unmanned machine
- Maximum machining reliability thanks to fewer operations
- Takes up less space
- High efficiency with automatic loading crane



Technical specifications

Turning head

Z-axis	mm	750
Radial axis (X-axis)	mm	100
Spindle power	kW (S1-100%)	29.3
	kW (S6-40%)	37.5
Spindle torque	Nm (S1-100%)	1000
	Nm (S6-40%)	1280
Spindle speed	min ⁻¹	630
Tool taper	Capto	C6
Number of tool pockets	#	12
Tool change time	sec	9

Milling/drilling spindle

X-axis	mm	700
Y-axis	mm	700
Z-axis	mm	1250
Spindle power	kW (S1-100%)	52.4
	kW (S6-40%)	56
Spindle torque	Nm (S1-100%)	1000
	Nm (S6-40%)	1375
Spindle speed	min ⁻¹	4000
Tool taper	Capto	C6
Number of tool pockets	#	24
Tool change time	sec	9

Axis drive and feed system

Rapid / Feed rate	X,-Y-, Z-axis	mm/min	40.000
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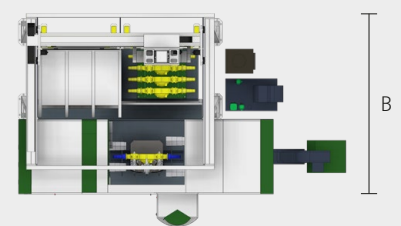
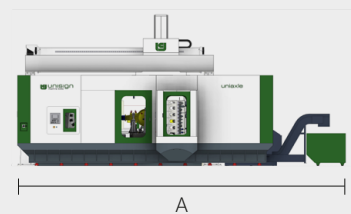
Automatic loading

Unloading/loading in 60 sec
Overhead loading crane with double gripper
Input and discharge station

Various

- Fully enclosed working environment
- Vacuum extraction with filter unit
- Measuring probe
- Integrated chip conveyor
- Siemens 840D-sl control
- Touch screen
- Remote access

Views



Sizes

Length (A):	10.500 mm
Width (B):	6.500 mm
Height (C):	4.650 mm

Industries



your partner in productivity






UNISIGN is an engineering company producing innovative and proven machine tool technology for customers in all market segments.

Through years of experience, UNISIGN has evolved into an international operating company with an impressive installed base. The basis of our success is the clear company philosophy to design all the machines in such a way that they can be tailor-made to create the ideal machine for our customers. The large number of machine tools supplied by UNISIGN reflects our strength and versatility.

10-2021



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-  aerospace
-  general machining
-  oil and gas
-  energy
-  truck & train

UNISIGN adds value to our customer production processes.

This makes UNISIGN your partner in productivity.

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