



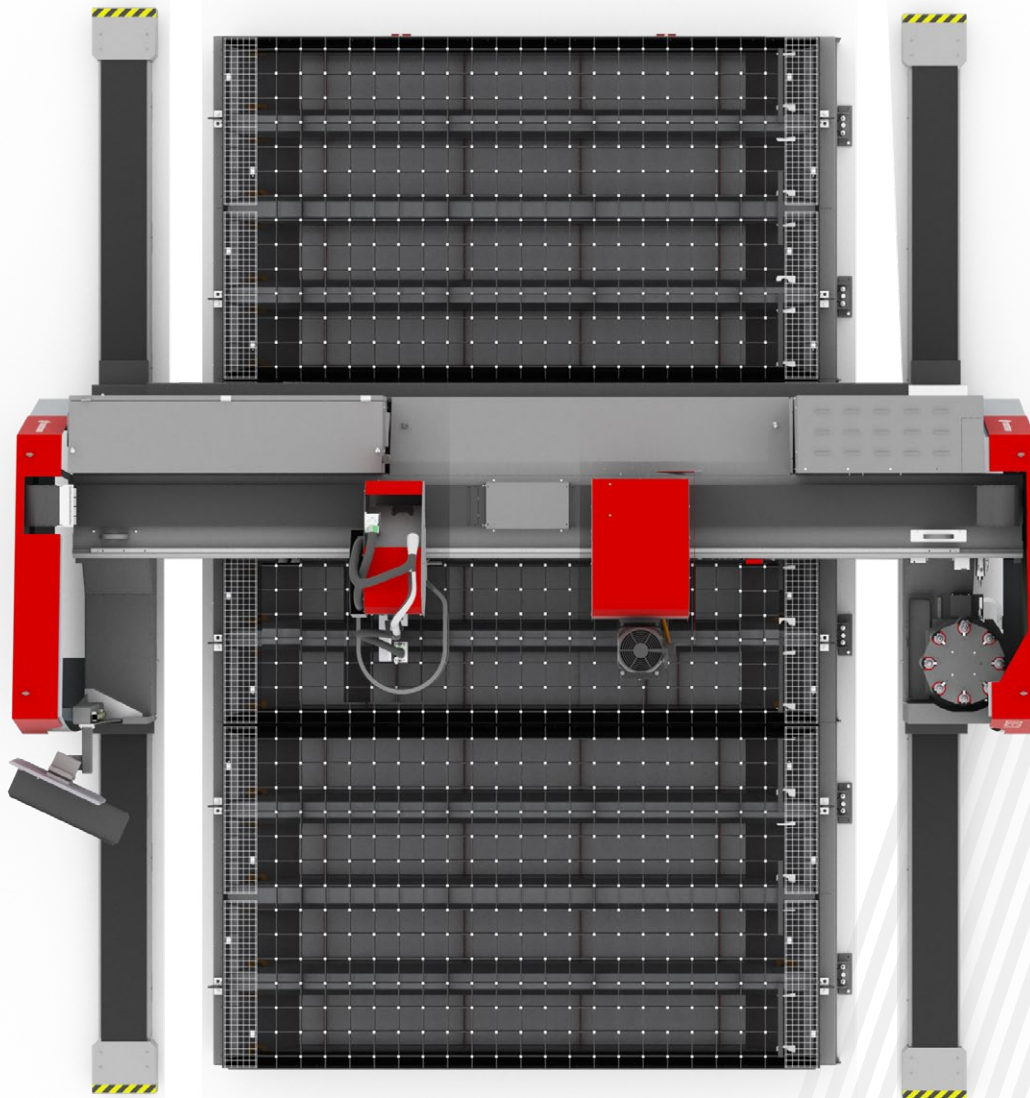
VOORTMAN V310

**THE ULTIMATE AND MOST COMPLETE
PLATE PROCESSING MACHINE**

DRILLING, MILLING AND CUTTING ON A SMALL FLOOR SPACE



DRILLING, MILLING AND CUTTING ON A SMALL FLOOR SPACE



The Voortman V310 can fully automate carbide drilling, 3D bevel cutting and full contour milling. The machine maximizes productivity and uptime, with a dashboard providing valuable information on the progress of operations. VACAM Scheduling and VACAM Buffering allow you to run all processes unmanned. Every complete product that comes from the Voortman V310 satisfies our three main objectives:

- High quality with minimal rework.
- High degree of automation and process intelligence.
- Significant reduction of production costs and manual errors.

VACAM SCHEDULING OVERVIEW PROVIDES YOU WITH AN OVERVIEW AT A GLANCE:

- Scheduling and insight into production times.
- Which jobs need to be cut and when.
- Insight into production times, amperes, material thicknesses and tools per nesting



TAKE ADVANTAGE OF THE FLEXIBILITY OF THIS WORKHORSE

Create complete workpieces:

- Maximum process flexibility.
- Production process performed at one station:
 - Simplify production process.
 - Save on logistics costs.
- Hardly any machine downtime.

TAKE ADVANTAGE OF THE FLEXIBILITY OF THIS WORKHORSE



TAKES DRILLING TO THE NEXT LEVEL

Equipped with one of the larger drill spindles on the market, the Voortman V310 enables carbide drilling up to 40 mm and thread tapping up to M30 with perfectly matched feed rates. To ensure high drilling quality and lower consumable costs, the Voortman V310 is designed with a very heavy and robust bridge. This bridge ensures a controlled and constant feed rate without variations in chip thickness and cutting speed. Additionally, consumables last longer and the risk of a broken drill head is reduced, which avoids additional costs and downtime of the machine.

HYBRID MILLING

With the Hybrid Milling functionality, VACAM knows exactly which process can best be used to save time and costs. Choice of cutting part of the contour first and then milling out the remaining part. No process knowledge or programming required; the machine makes these smart choices for you.

MILLING WITHOUT LIMITS

With the Voortman V310, you can process any desired product without limitations. Whether it's small or large slotted holes where cutting is not an option or a variety of shapes with varying milling depths. Local clamping with automatically calculated milling paths offers ultimate flexibility in milling size, depth and shapes. Processing complete workpieces at one station reduces costs and complex routing through your plant.

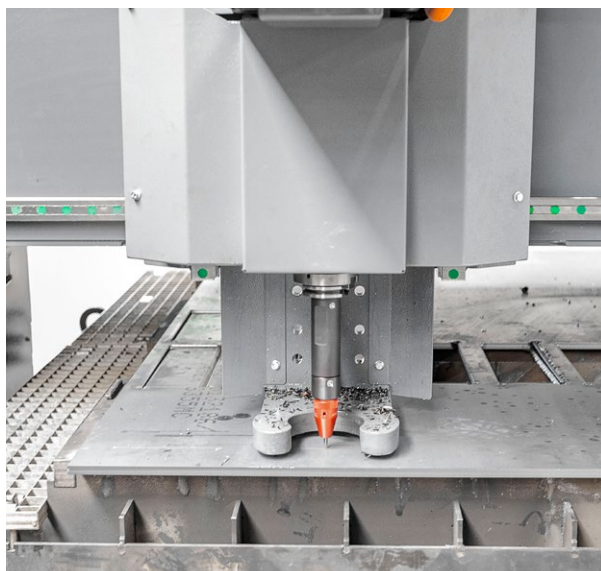


TAKE ADVANTAGE OF THE FLEXIBILITY OF THIS WORKHORSE

CHOOSE YOUR MARKING TOOL

The Voortman V310 supports multiple marking methods, giving you full control over the use of the right tool for the operation.

- Marking by milling and marking with plasma or Argon are the most common methods. These types of markings provide full depth flexibility and remain visible after further surface treatment.
- Dot peen marking if you need to meet stringent quality standards. This tool marks your plate in such a way that the plate surface remains intact.



PRODUCTS THAT ARE READY FOR ASSEMBLY

It is likely that more than 30% of your parts will require a weld preparation to make them suitable for the welding process. With nine simultaneously controlled axes and pre-programmed bevel geometries with corresponding corrections, you can produce high-quality bevel cuts and weld preparations at the touch of a button. As a result, the workpieces are ready for assembly.

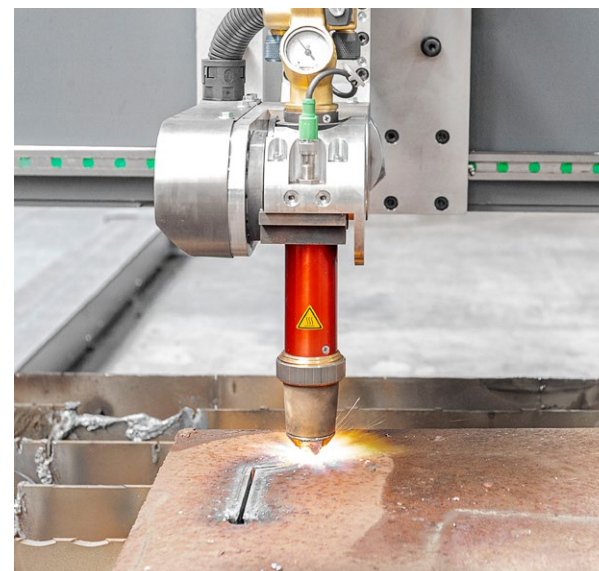


CUTTING WITH OXY-FUEL

Advantages of oxy-fuel cutting are:

- Low operational costs.
- Low investment costs.
- Ability to process a wide range of thicknesses.

A simple switch between the plasma torch and the oxy-fuel torch reduces downtime and ensures a fast cutting cycle.



UNMANNED PRODUCTION WITH NEXT-LEVEL FUNCTIONS

OPTIMUM EFFICIENCY – EVEN AT NIGHT

To give you as much feedback and information as possible about the machine and to keep your plate processing machine running as efficiently as possible, groundbreaking functionalities have been added to our VACAM control software. This means you can consider your operators as managers, as their main task shifts from operating the machine to loading and unloading and managing the entire workshop.

VACAM CONTROL SOFTWARE CONTROLS THE MACHINE:

- Instructing the machine to produce a workpiece.
- Scheduling nestings.
- Clustering nestings.
- Starting automatic production.
- Providing information and getting feedback.
- No additional licence fees.
- All machine functionalities are included.

UNMANNED PRODUCTION WITH NEXT-LEVEL FUNCTIONS



EFFICIENT JOB CLUSTERING

If an operator sees any space or flexibility in the jobs scheduled by work preparation, he can decide to use the VACAM Scheduler on the machine.

- Scheduler shows tool overlap between nestings, amperages and material thicknesses per nesting.
- Scheduler information helps to cluster and plan nestings more efficiently.
- Configure the best possible order sequence for a period of unmanned production.

ONLY BE THERE WHEN NEEDED

The dashboard shows:

- Process times.
- Number of operations still to be performed.
- Remaining production time.

Most important! The dashboard shows when the operator must be present at the machine for a manual action. At times when no operators are needed at the machine, they can work in other areas of the workshop.

UNMANNED PROCESSING OF MULTIPLE PLATES

Process multiple jobs without manual intervention with VACAM Buffer feature and VACAM Buffer overview:

VACAM Buffer feature:

- Scheduling and loading the buffer list for plates.
- Performing production tasks sequentially.

VACAM Buffer overview:

- View scheduled orders at a glance.
- Simple zero point determination.
- Overview of required tools.
- Simple plate zone selection.

UNMANNED PRODUCTION WITH NEXT-LEVEL FUNCTIONS

PROVIDED WITH 27 TOOLS

In addition to the 8 tools that are already present in the main tool changer that moves with the bridge, the Voortman V310 can be expanded with a further 19 tools. During processing and changing of the main changer, other tools can be changed simultaneously in the additional tool changer. With this total of 27 tools, you can perfectly anticipate all planned jobs, enabling longer periods of unmanned production with maximum uptime.

LET VACAM DECIDE

It is not necessary to have full process knowledge or make manual adjustments when tapping full or blind holes. VACAM knows which type of hole to tap and automatically selects the correct tool. This prevents manual errors and downtime and allows operators to concentrate fully on other activities around the machine or in the workshop.



PAPERLESS JOB PLANNING

VACAM Scheduling Overview makes scheduling jobs for work preparation easier and more reliable. It takes away all uncertainty about scheduling and process times. Expected production times of each job enables work preparation to plan the jobs within the scheduled time. Operators can see which jobs can be processed and which jobs require additional tools.

EXTEND UNMANNED PRODUCTION

Even if your production process is unmanned, there are still some manual actions that need to be taken. Unmanned Mode bypasses these manual interventions in a fully automatic way with the available set of tools. With Unmanned Mode, production can be performed continuously for a longer period of time. For example, you can perform fully automated drilling at night, which basically saves you a full shift.

INCREASE INTERACTION AND MAKE IT EASY FOR YOUR OPERATOR

With built-in process knowledge and automation in our software, it is no longer imperative for your operator to have specific process knowledge. A 24" touch panel provides valuable information and suggestions to make the production process as smooth as possible. Your operator's work improves continuity in production quality and overall uptime.

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Unmanned mode

Config

Add

Edit

Delete

Scheduling

Material	Dimensions	Thickness	Cutting tool	Processes
MS	1000.00 x 1000.00	12.00 mm	170-MS	⚡
MS	1000.00 x 1000.00	15.00 mm	170-MS	⚡
MS	500.00 x 500.00	20.00 mm	170-MS	⚡

MS-12-3101.VOO

MS-15-3111.VOO

MS-20-3131.VOO

Production
Machine
Nesting
Product

Assistant



INCREASE INTERACTION AND MAKE IT EASY FOR YOUR OPERATOR

RESTART WITH PRESERVATION OF QUALITY

Several factors can interrupt the cutting process, with limited possibilities for manual intervention. However, the method of restart can be influenced. Limit costs caused by lost parts due to damaging restarts or time-consuming manual corrections. Using the extended restart functionality in our VACAM Software, the torch can easily return to the point of failure. It creates an automatic arc lead, allowing the plasma arc to continue its path with minimal product damage. After a short interruption, you will be back in production quickly, at no extra cost and with maintained product quality.

AVOID UNNECESSARY COSTS

Sometimes tools are placed incorrectly during manual changes. Collision Detection checks that the pneumatic cylinder reaches the correct position so that the tool changer is not damaged by collisions. Maintenance is reduced by collecting oil in the tool changer rather than contaminating the work floor.



BENEFITS OF MAGNETIC MOUNTING

Both the plasma and oxy-fuel torch use the same mounting and benefit from all the advantages of the built-in technologies:

- Fast level control and True Volt:
 - This is a magnetic mounting with only two perfectly attuned drives, independent of any form of tolerances and without the need for calibrations.
- The magnetic mounting influences the speed of the entire production process:
 - In case of a collision, your operator can remount the torch with a magnetic system and get the machine up and running again in no time. With the same ease, you can quickly switch between different cutting thicknesses with a simple torch change.



AUTOMATE QUALITY WITHOUT DEPENDENCIES

Voortman

BENEFIT FROM BUILT-IN INTELLIGENCE

We want complex products to be made at the touch of a button. Meet our new 'Xtensive Bevel Cutting Technology', where even cutting complex bevel cuts is fully automated without manual correction or the need for a pre-cut example product. How about automatic calculations of the milling paths and required tools by VACAM? In combination with our Dross Inhibitor, for minimising slag during material piercing, TrueVolt technology and Xtensive Hole Technology, the Voortman V310 is able to process the most complex products fully automatically.

AUTOMATE QUALITY WITHOUT DEPENDENCIES

THE NEXT STEP IN HOLE QUALITY

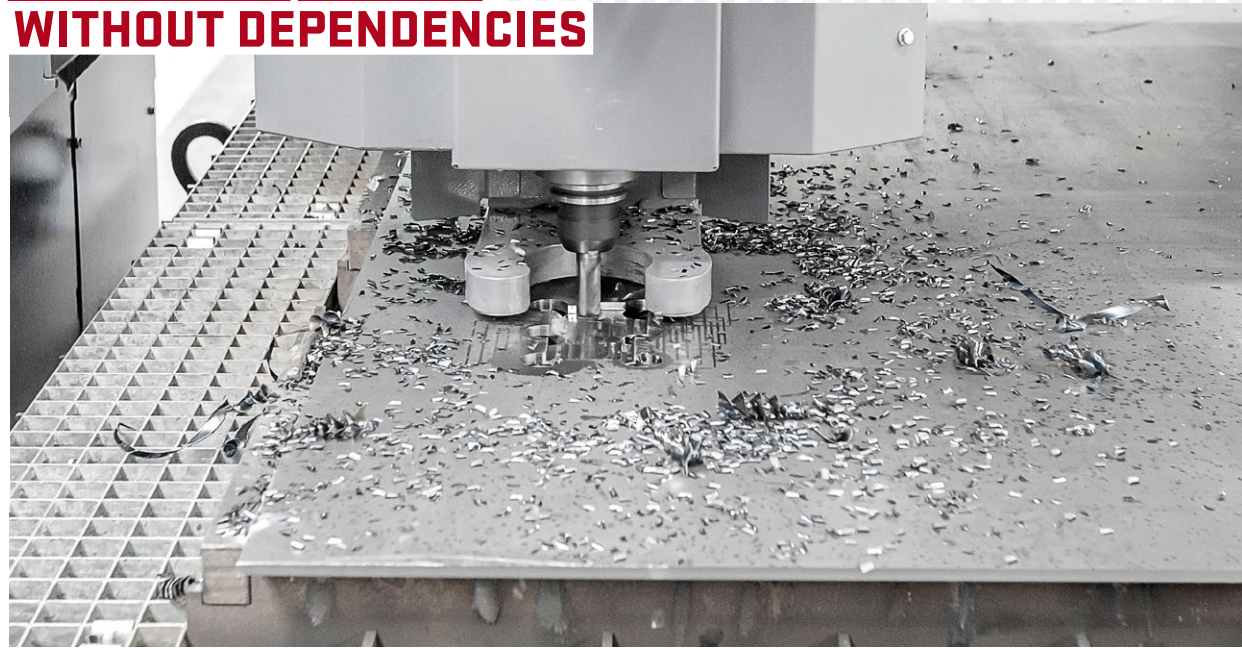
Xtended Hole Technology optimizes the quality of various contours, based on the dynamics of our machine. Hypertherm's well-known True-Hole Technology has been taken to the next level to create high-quality narrow contours such as slotted holes and rectangular holes.

- All included in our VACAM control software
 - No additional licence fees or purchases required

LEAVE BEVEL CORRECTIONS TO US

With the new Xtensive Bevel Technology, you can take care of bevel cutting without pre-cut sample products or calibrations.

- VACAM control software has all the full command geometries and associated corrections, based on torch dimension, angles and asymmetry.
- Using Hypertherm Bevel Charts, we have added a number of extensions and refinements to make them perfectly compatible with Voortman machines.
- Unique feature: if plate dimensions are incorrect, the values can be adjusted and corrected, even after the programming phase. The same nesting can be resumed without requiring reprogramming.



MILLING AT THE TOUCH OF A BUTTON

The milling functionalities allow you to process a wide variety of contours.

- Own automatic milling path calculations.
- No need for extensive preparation or process knowledge.
- Automatically calculated start-up cycles, required tools and milling paths give you complete freedom when creating the most complex products.

HEAVY-DUTY BRIDGE FOR HIGH QUALITY

The V310 is equipped with a very heavy bridge, which has many advantages:

- The heavy-duty bridge can withstand heavy loads.

- Feeding rates are not influenced by environmental factors.
- Consistent quality.
- Wear and tear on consumables is minimized.
- Reduces vibrations, thereby minimising their impact on processes.
- Tool life and overall quality are improved.

You need full control, because a feed rate that is too low generates heat that affects the hardness of the material. A weaker bridge bends back to its original position after it has fully pierced a plate. Due to the operating speeds, the drilling tip (or even the entire drilling unit) may need to be replaced.

AUTOMATE QUALITY WITHOUT DEPENDENCIES

PERFECT FEED RATES THANKS TO DOUBLE MEASUREMENT

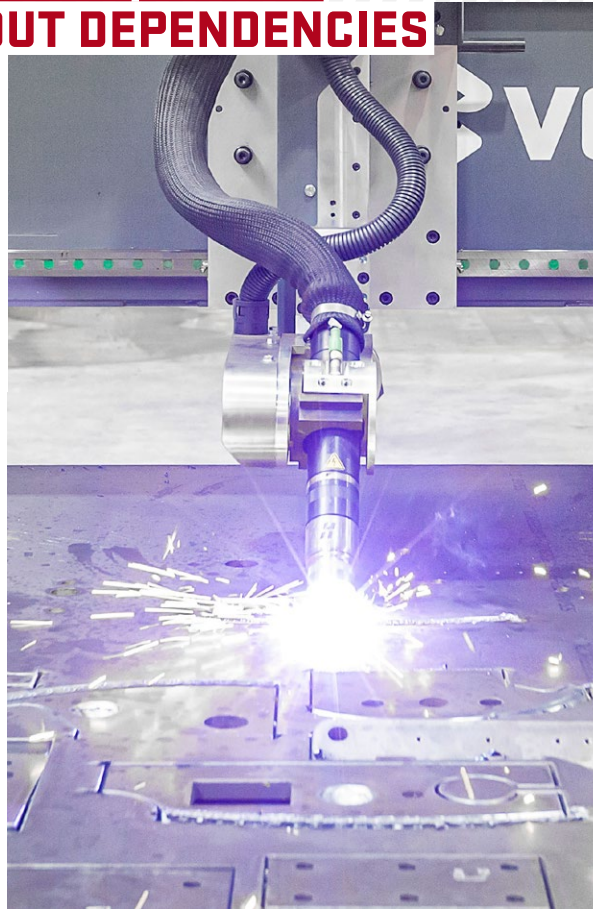
The Voortman V310 switches between different feed rates to ensure the quality of production despite high feed rates. A double measuring system determines when speeds should be adjusted.

- The clamp determines the first measuring point at which the drill can move towards the material at maximum speed.
- The drill's contact with the material determines the second measurement point, where the feed rate is adjusted to the material and size of the hole.

In this way, the effects of accumulated chips on the plate are eliminated and both the drilling quality and a longer service life of the consumables are guaranteed. Depending on the processes, VACAM can determine whether or not a second measurement should be performed.

SUPERIOR PRECISION

The load on the helical gears is distributed over multiple teeth, resulting in less wear on the guideway and drive. To minimize this wear and to give you maximum accuracy, the guides are protected against dust and dirt by a flexible rubber belt.



- High flexibility and optimal control of cutting heights and cutting positions.
- Helical rack and pinion transmission for both X and Y movements.
- Positioning accuracy of less than 0.1 mm, even heavy parts can be processed with high precision.

CONSISTENT QUALITY WITH TRUEVOLT

So as to guarantee optimum cutting quality and the highest service life of wear parts, the nozzle is at a fixed height in relation to the plate. TrueVolt technology measures arc voltage and corrects for wear parts based on real-time wear. The distance to the plate remains intact. The cutting process is not affected by wear and tear on consumables. Cutting results are optimized and consumables last longer.

FASTEST HEIGHT CONTROL ON THE MARKET

To correct deviations in plate heights, the torch will touch and measure the plate with each new cut. Depending on the desired quality, this can be reduced or increased. It is inevitable with a large number of holes that a relatively large number of plate measurements are performed on a daily basis. Measurements on a small product with four holes even show that more than 30% of the time is taken by height measurements. The fastest height control on the Voortman V310 allows you to achieve maximum productivity. The oxy-fuel torch benefits from the same fast height control thanks to the unique magnetic fastening.

MAXIMIZE UPTIME AND CAPACITY

With the Voortman V310, you can support and streamline manual operations.

- Minimal downtime, with little or no impact on cutting process and product quality.
- Our customer service experts are at your disposal 24 hours a day and we offer many options to avoid potential downtime.
- All moving gantries use the same X-rail. Different processes can be combined or performed simultaneously.

MAXIMIZE UPTIME AND CAPACITY

A GOOD STEP

With an average nesting of 400 products, a machine operator must step onto and over the rails at least 200 times. That's why we've made sure that the step height of our X-rail is almost equal to a step, which makes loading and unloading easier.

REDUCE CUT-TO-CUT TIME

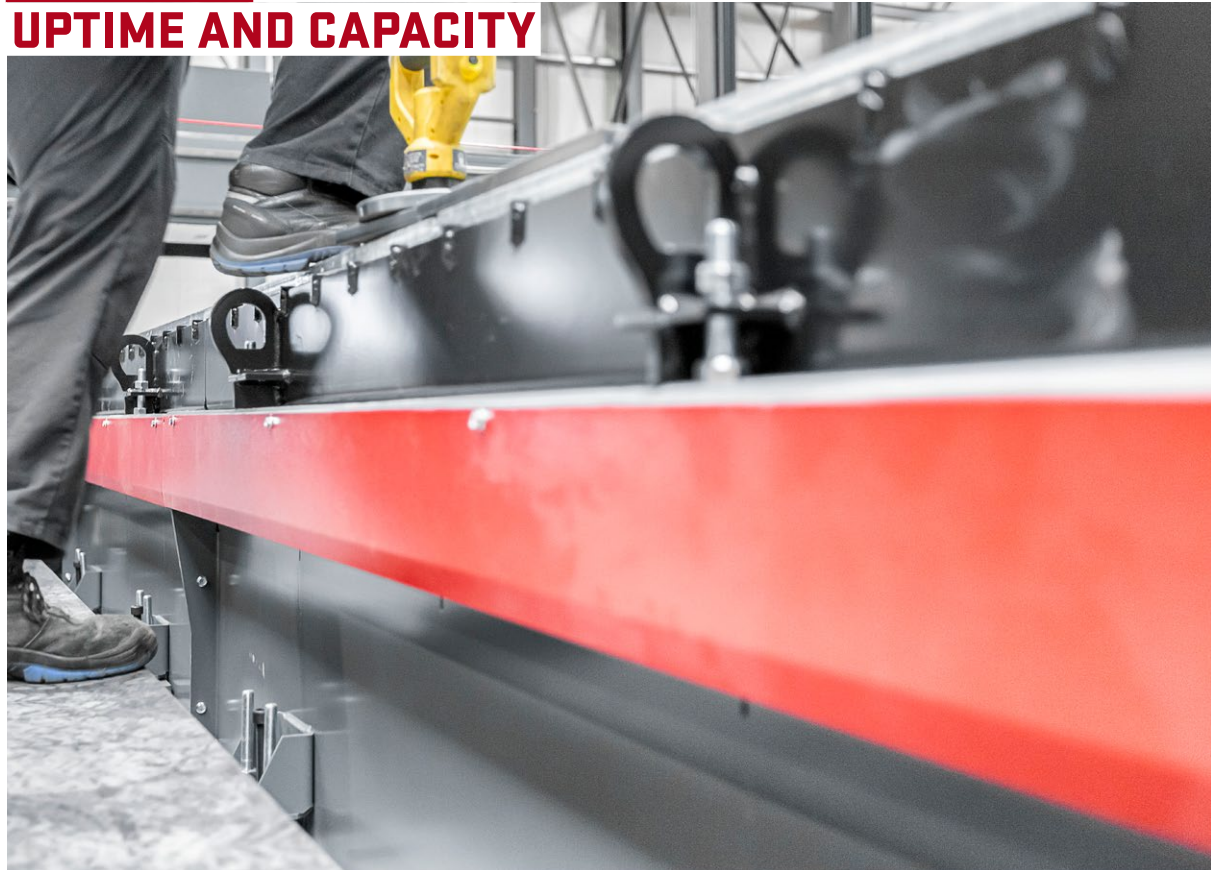
Voortman's Instant Cut Technology reduces the cut-to-cut time. Especially when production is made up of small products and holes, considerable time savings are achieved.

- The technique ensures optimal movement at all times when the torch moves from one cut to another.

DEPENDS ON YOUR CAPACITY

The modular construction of both the machine and the cutting table ensures maximum output.

- Prepare your X-Rail and balance your plate to be processed between 2 bridges. All Voortman plate processing machines share the same rails and add flexibility to your processes with drilling or cutting functionalities.
- A 50-metre cutting bed provides you with 4 different sections where you can simultaneously process and load/unload plates.



This length also acts as a buffer for your most common thicknesses, minimising manual loading and unloading.

- A double bridge with 4 processing sections, including all Voortman plate processing functionalities, is the perfect way to achieve the highest possible capacity and quality.



INCREASE FLEXIBILITY WITH OUR VOORTMAN PIPE CUTTING UNIT

Unparalleled cutting with our NEW Voortman Pipe Cutting Unit. Easy to integrate and add to your existing or new V303, V310 or V304 plate processing machine. The unit fits into the working environment of the plate processing machine. You operate the pipe cutting machine from your familiar operator panel. The Voortman Pipe Cutting Unit is the only one in the industry that allows you to cut tubes of the same quality you are used to from our plate processing machines. Our TrueVolt technology is combined with a predictive model based on the complete cut. This makes it the best cutting quality currently available and reduces your costs and consumables at the same time! A small investment for a significant reduction in welding and grinding.

SPECIFICATIONS

VOORTMAN V310

Working width	1,5 - 3*	meter	6 - 10*	feet
Working length	3 - 30*	meter	13 - 100*	feet
Cutting speed	0 - 7.000	mm/min	0 - 23	f/min
Rapid traverse speed	20.000	mm/min	65	f/min
Maximum cutting thickness (if oxy-fuel is attached)	200	mm	8	inch
Maximum drilling thickness (depending on available tool lengths)	200	mm	8	inch
Marking				
Maximum torque	405	Nm		
Drilling speed	0 - 3,500	rpm (stepless)		
Main toolchanger	8	tools		
Additional toolchanger	20	tools		
Drill holder	SK40			
Drill diameter	5 - 40	mm	13/64 - 1-37/64	inch
Thread tapping	M6 - M30			
Max. number of plasma (bevel) torches	1			
Other optional units	1 oxy-fuel torch			

**Wider width and longer lengths available on request*

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