



X head. No compromises.

No material is a match for a powerful 5.8 kW of peak power paired with speeds of up to 40,000 rpm. The X reliably mills a wide range of materials, including plates made of aluminum, plastic, wood, and stainless steel sheets. An optional built-in **XtraUnit** with lance oscillation that can be activated as needed cuts soft materials. It can also easily be used for V cutting, kiss cutting, and creasing. All without retooling!

X measure. Camera for more precision.

The integrated camera makes it possible to move to the workpiece's zero point easily and accurately. Optionally, you can equip your X with automatic register mark recognition for printed workpieces, so that the contour is milled or cut exactly along the print.

X tool. Unrivalled flexibility and convenience.

Up to 24 tools can be swapped in and out as desired. Change all of the HSK-25 milling tools as well as all available cutting and creasing tools fast and with flexibility – it's extremely convenient, saves time, and doesn't require manual operator intervention.

Triple **X** drive. Concentrated power.

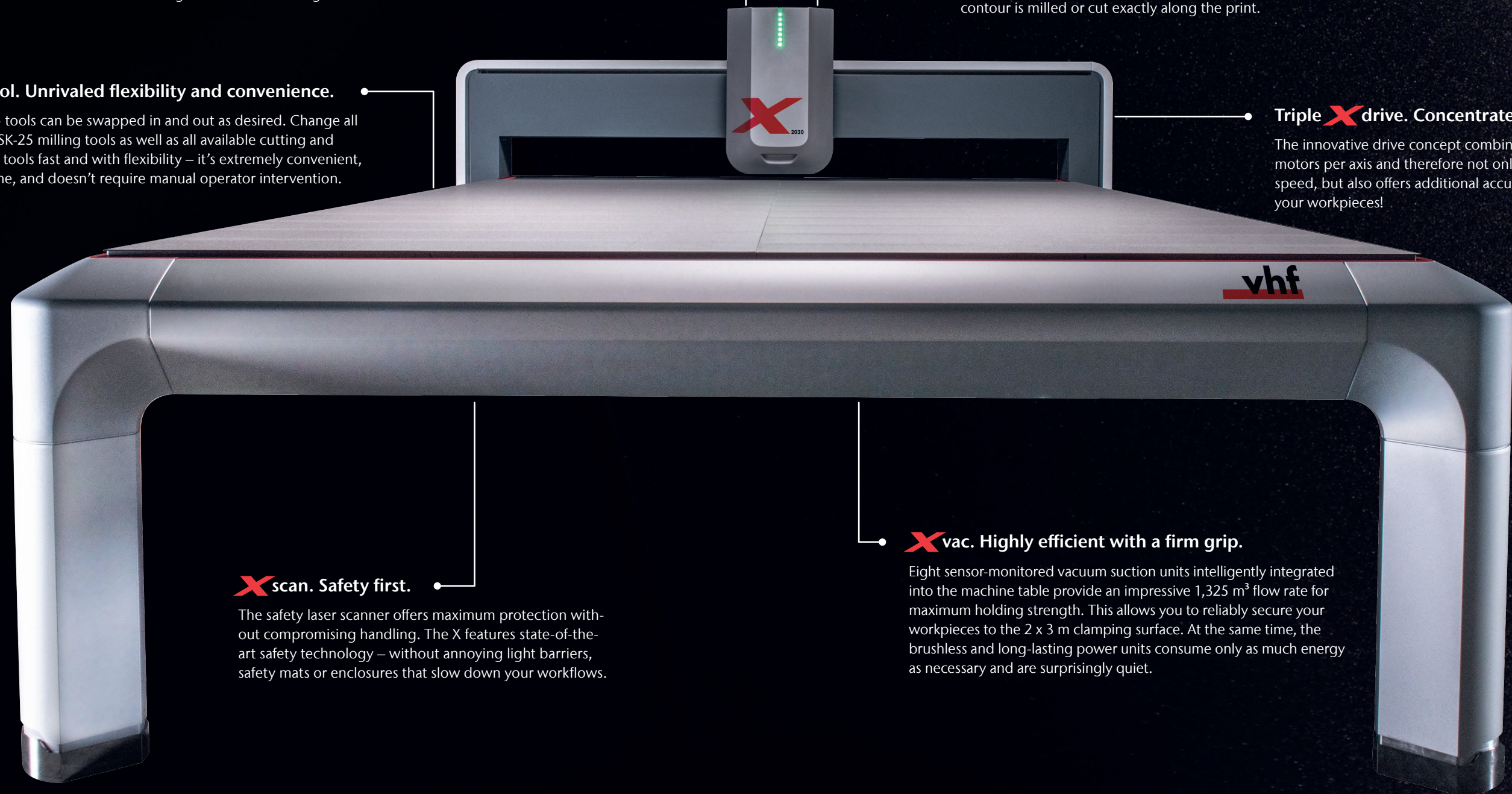
The innovative drive concept combines the power of three motors per axis and therefore not only increases travel speed, but also offers additional accuracy. You will see it on your workpieces!

X scan. Safety first.

The safety laser scanner offers maximum protection without compromising handling. The X features state-of-the-art safety technology – without annoying light barriers, safety mats or enclosures that slow down your workflows.

X vac. Highly efficient with a firm grip.

Eight sensor-monitored vacuum suction units intelligently integrated into the machine table provide an impressive 1,325 m³ flow rate for maximum holding strength. This allows you to reliably secure your workpieces to the 2 x 3 m clamping surface. At the same time, the brushless and long-lasting power units consume only as much energy as necessary and are surprisingly quiet.



X = NEW. DIFFERENT. INNOVATIVE.

The X is the beginning of a new era and the culmination of more than 30 years of the German art of engineering by vhf. With our experience and passion for perfection, vhf has created a new generation of machines that literally has it all. This is because the X is full of cutting-edge technology in the smallest of spaces – and as an absolute all-rounder, is capable of much more than just milling. Thanks to the optional **Xtra-Unit** that can be integrated into the X, it is also perfectly equipped for cutting and creasing.

We call it the **Xstructure** – specially developed, high-strength aluminum profiles achieve an unparalleled degree of stiffness with the most state-of-the-art technology inside. Compared to steel designs, the internal X-shaped “honeycomb structure” offers maximum resilience at a significantly lower weight. In combination with its low-vibration cast machine parts, the X runs extremely smoothly.

The result is a machine that perfectly combines precision, strength, and stability in one. Carefully designed down to the last detail, with uncompromising standards of quality – this is X.



X = VERSATILE. POWERFUL. INTELLIGENT.

Including the following **Xtras**:

- With the **fully integrated dust extraction system**, the X always delivers clean results. It also adapts itself perfectly to workpieces of different heights – completely automatically.
- The **minimum quantity lubrication** makes trouble-free metal processing possible. Thanks to intelligent integration, you can even vent and cool at the same time.
- For easy and exact alignment of your workpieces, the X is equipped with several **pneumatic stops** that can be set individually.
- The **electronic workpiece leveling** allows you to perfectly engrave and chamfer over the entire surface, even with material thickness tolerances.
- The simple operation via **tablet** with a clear user interface allows you to control your machine quickly and intuitively. Take full advantage of the X's technological capabilities – it's quite easy.



**X = THE NUMBERS
SPEAK FOR
THEMSELVES.**

TECHNICAL DATA

BASIC SYSTEM	
measurements	2,416 x 3,980 x 1,500 mm
construction	high-tensile aluminium profiles in combination with low-vibration machine cast elements
drive units	rack-and-pinion drive with 3 motors per X/Y axis, ball screw spindles in Z axis
repetition accuracy	± 0,02 mm X/Y axis, ± 0,01 mm Z axis
feed rates	max. 566 mm/s X/Y axis, max. 110 mm/s Z axis
weight	approx. 1,200 kg
VACUUM TABLE	
features	table size of 2,050 x 3,050 mm; 8 controlled suction units; maximum volume flow of 1,325 m³/h
SPINDLE	
features	water cooled rotary current spindle, up to 40,000 rpm, S1 = 2,500 W, P _{max} = 5.8 kW, HSK-25 connection, clamping range up to 10 mm shank diameter, sealing air
STANDARD EQUIPMENT	
tool changer	automatic 12-fold tool changer for all milling, cutting and creasing tools; including measuring, expandable to 24 stations
tool cooling	electronically controlled minimum quantity lubrication system
dust extraction	integrated dust extraction unit with automatic adjustment to material height
stopper system	five individually pneumatically activated workpiece stoppers
Z zero point	fully automated due to integrated precision measuring key
XY zero point	visual via integrated camera system
material height tolerances	matrix measurement by integrated measuring key, compensation by control electronics
safety	barrier-free safety area due to laser scanner and separately operated safety cover on the machining unit with fully automatic adjustment to the material height
operation	wireless touch-pad control, including all respective machine components
ADDITIONAL EQUIPMENT	
cutting unit	oscillated cutting, creasing, V-cut, straight-cut and kiss-cut; tools are automatically changed and measured
tool changer	extension to 24-fold tool changer
register mark recognition	recognition of register marks and automatic correction of milling and cutting paths

S1 mechanical output power under continuous load of the spindle (100 % machining time)
P_{max} maximum mechanical output power of the spindle

as of: 09/2021



VHF.DE/X

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CREATING PERFECTION