

PRODUCT

DATA SHEET



Bending
Cutting
Welding
Marking

2025-2026

HIGHTECH INDUSTRY GROUP

BUILD . TO LEAD .

HT R3

CNC ROUTER ENGRAVING MACHINE

Q-SERIES



Sturdy Structure
Industrial-grade welded steel base for high stability; precision-machined XY-axis guide rails for durability and accuracy.

High-Speed Drive System, High-Torque Spindle, 3.2 kW water-cooled spindle ensures precision even at high speeds.

Grid-Flow Vacuum Bed with dual 2×2.2 kW pumps for strong holding, aluminum T-slot design, maintenance-free, compatible with all materials.



MDRCNC SOFTWARE

CNC MDR SOFTWARE IS USER-FRIENDLY, FEATURING A STRAIGHTFORWARD INTERFACE AND CLEARLY VISIBLE FUNCTION BUTTONS FOR IMMEDIATE PRODUCTIVITY.

IT SEAMLESSLY HANDLES MULTI-LAYER 3D PROCESSING, DELIVERING RAPID AND PRECISE ENGRAVING AND CUTTING, WHILE SUPPORTING VARIOUS FILE FORMATS.

NV100 CONTROL BOARD

ENGINEERED FOR PROFESSIONALS, OUR SYSTEM ENSURES STABILITY WITH ITS INDUSTRIAL-GRADE HARDWARE AND CARD-BASED CONTROLLER.

THE MULTI-WINDOW INTERFACE AND EXCEPTIONAL COMPATIBILITY WITH POPULAR CAD/CAM TOOLS STREAMLINE YOUR ENTIRE DESIGN-TO-PRODUCTION PROCESS.



PARTS



450A DRIVER SYSTEM

EXPERIENCE EXCEPTIONAL PERFORMANCE POWERED BY THE SYNERGY OF A LEADSHINE HIGH-SPEED XYZ-AXIS DRIVE SYSTEM AND A 450A DRIVER.

THIS ROBUST SETUP PROVIDES THE HIGH TORQUE AND STABILITY NEEDED FOR OUTSTANDING PRECISION, FASTER SPEEDS, AND A SIGNIFICANTLY EXTENDED MACHINE SERVICE LIFE.



SAFETY PROTECTION

DUAL-SIDE SAFETY RADAR PROTECTION SYSTEM

YOUR SAFETY COMES FIRST. OUR DUAL-SIDED RADAR SYSTEM CONSTANTLY MONITORS THE MACHINE'S SURROUNDINGS.

IT WILL INSTANTLY AND AUTOMATICALLY STOP IF SOMEONE OR SOMETHING GETS TOO CLOSE, GIVING YOU PEACE OF MIND AND PREVENTING POTENTIAL INJURIES.

PARTS

3.2 KW WATER-COOLED SPINDLE

FOR UNMATCHED PRECISION, THE MACHINE FEATURES A 3.2 KW WATER-COOLED SPINDLE DESIGNED FOR HIGH TORQUE.

THIS ROBUST SYSTEM GUARANTEES ACCURATE CUTTING PERFORMANCE AND MAINTAINS PART INTEGRITY EVEN AT TOP SPEEDS.



Z AXIS CALIBRATION

SAVE TIME ON EVERY JOB! FOR ANY MATERIAL THICKNESS, YOU SET THE WORKPIECE ORIGIN JUST ONCE.

THEN, WHEN CHANGING BITS, A RAPID Z-AXIS AUTO-CALIBRATION IS ALL THAT'S NEEDED TO RESUME PRECISION WORK, WITHOUT RESETTING YOUR ORIGIN.





2×2.2 KW VACUUM PUMP

High-capacity side-channel vacuum pump for CNC tables. Provides strong, stable suction to securely hold sheets during cutting and routing. Oil-free, low maintenance, aluminum housing with efficient cooling. Ideal for acrylic, PVC, aluminum, and MDF applications. Supports continuous operation with reliable performance for industrial workshops.

PARTS

VACUUM GRID CNC BED

The Vacuum Grid CNC Bed delivers strong, evenly distributed suction to securely hold sheets during cutting and routing. Its grid design improves airflow efficiency and material stability. Ideal for acrylic, PVC, aluminum, and MDF, it enhances machining accuracy, reduces vibration, and increases overall CNC productivity.



4-8 ZONE VACUUM CONTROL SYSTEM

This multi-zone vacuum control system allows independent operation of 4 to 8 vacuum areas through dedicated control valves. Each zone can be turned on or off individually, optimizing suction efficiency, reducing energy loss, and improving material holding performance.





FREQUENCY SYSTEM

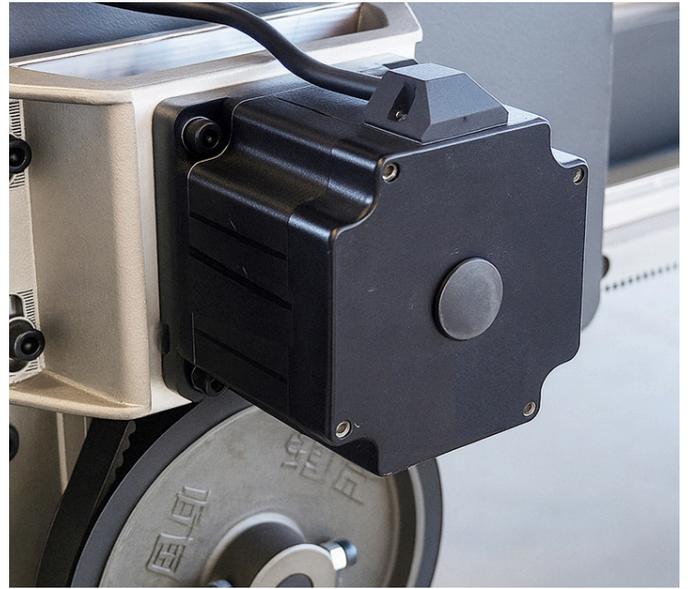
EXPERIENCE UNWAVERING STABILITY. A MILITARY-GRADE FILTERING SYSTEM SHIELDS OUR 3.0 KW FREQUENCY CONVERTER.

GUARANTEEING SMOOTH, UNINTERRUPTED OPERATION AND PROTECTING YOUR MACHINE'S PERFORMANCE AND PRECISION.

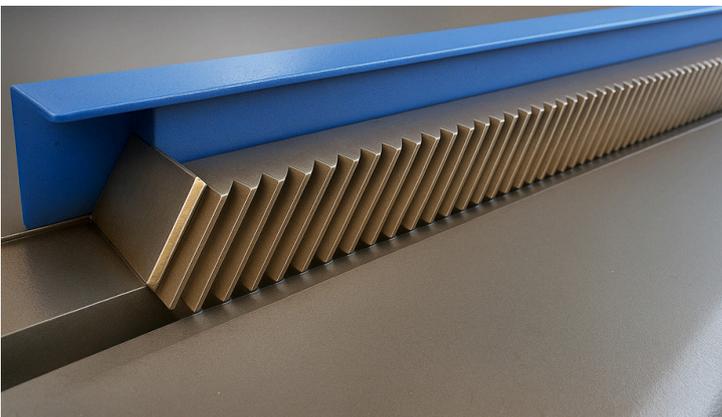
MOTOR SYSTEM

THE HIGH-PERFORMANCE MOTORS ON THE XYZ AXES ARE CENTRAL TO THIS CAPABILITY.

THESE MOTORS DELIVER HIGH TORQUE, EXCEPTIONAL SPEED, AND REMARKABLE STABILITY, ENSURING LONG-TERM ACCURACY AND ENHANCING THE MACHINE'S OPERATIONAL LIFESPAN.



PARTS



PRECISION GEAR RACKS

EXPERIENCE REMARKABLY SMOOTH HIGH-SPEED PERFORMANCE.

THIS IS ACHIEVED BY PRECISION GEAR RACKS (MODULE 1.25, GROUND ON THREE SIDES) DRIVING ALL THREE AXES, WHICH ELIMINATE VIBRATION FOR STABLE OPERATION.



AUTOMATIC LUBRICATION

SAY GOODBYE TO MANUAL GREASING.

THE PROGRAMMABLE AUTOMATIC LUBRICATION SYSTEM OILS THE RAILS AT SET TIMES, ENSURING BUTTERY-SMOOTH MOTION AND PROTECTING YOUR MACHINE, ALL WHILE SAVING YOU VALUABLE TIME AND RESOURCES.

PARTS

SQUARE LINEAR GUIDES

FOR PRECISE MOVEMENT, THE X AND Y AXES USE 2.0 SQUARE LINEAR GUIDES.

WHILE THE Z-AXIS IS EQUIPPED WITH A TBI BALL SCREW FROM TAIWAN, ENSURING HIGHLY ACCURATE CUTTING.



LEVELING FOOT

ENSURE STABLE OPERATION AND PROTECT YOUR MACHINE.

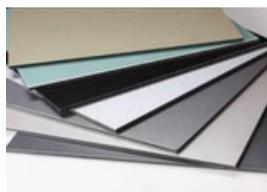
THE ADJUSTABLE BASES ON ALL SUPPORT LEGS ALLOW FOR PERFECT LEVELING ON ANY FLOOR, WHILE THE BUILT-IN RUBBER PADS PROVIDE RELIABLE PROTECTION AGAINST STATIC ELECTRICITY.

Technical Parameters

Model	HT-R3 Q
Working Bed Size	1300*2500/1500*3000
Feeding Height	200mm
Packing Size	3530*2210*1720mm/3650*2250*1860
Packing Weight	780KG/1200KG
Working Voltage	Single Phase AC 220V 50Hz / 110V 60Hz
Control System	MDR CNC Router Control Software
Input G Code Format	.nc, .tap, .gcode, .cnc, .txt
Driver	Lead Shine
Cabinet	Inside Electrical Control Cabinet
Safety (Available Options)	Dual-Side Safety Radar Protection System
Spindle	3.2 kW Water-Cooled Spindle
Guide	2.0 Square Linear Guides
Control System	NV 100xdw controlsystem+Wireless handle dsp
Z Axis Fixed TS (Available Options)	Automatic Tool Setter
Frequency System	3.0 kW Frequency Converter
Motor System	Stepper Motor
Gear Racks	Precision (Module 1.25, Ground on three sides)
Lubrication System	Automatic Lubrication System Oils
Working Table	2x2.2 KW Vacuum table
Applicable Material	PVC, Wood, MDF, Acrylic, Polycarbonate, ACP Aluminum



PVC



ACP



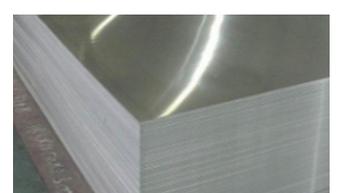
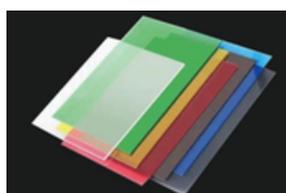
MDF

ACRYLIC

POLYCARBONATE

WOOD

ALUMINUM



ABOUT US

BUILD . TO LEAD .



Based in Weifang, Shandong, our modern manufacturing base covers over 12,000 m² and integrates research, development, production, and testing in one facility — ensuring stability, efficiency, and quality at every stage.

Hightech provides professional installation, training, and lifetime technical support. Our responsive service team and spare-parts centers ensure fast solutions and long-term reliability for every customer.



Equipped with advanced CNC machining centers, laser cutting systems, precision welding equipment, and intelligent assembly lines, Hightech continuously upgrades its technology to meet global industrial standards.

Driven by passion and professionalism, our international team of engineers, designers, and sales specialists works together to deliver innovative machines and trusted partnerships worldwide under the Hightech brand.





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