

Features

- All heads move automatically (X axis)
- Open-close using a servo drive system for speed and accuracy
- Heads move on linear bearing
- Y-axis manually adjusted
- Main touch screen with 12 preset buttons (up to 99 sizes by scrolling up/down)
- Ability to download work orders from office (to be discussed with customer).
- Linear bearing on boring heads
- Max door length 72"
- Quick change hopper magazine with capacity of 35 hinges
- No tools require for precision deep adjustments
- Dust extraction hoods with 4" diameters for each head
- Double safety controls
- Hinge detector to prevent drilling on previously installed hinge
- PLC controls and proximity sensors, emergency cord switch
- 2 HP motors 3600 RPM 3-phase 220V
- Machine cycle time approx. 5 sec. (auto starting devise for faster cycle time)
- ½" hoses 100 PSI compress Air

Specifications

- 2 HP motors, 3600 RPM, 220-440, 600V 3-phase
- Minimum distance between hinges is 6.5"
- Minimum closing distance between heads is 7"
- Insertion slide with UHMW non-wearing plastic
- Boring heads with hard gears and spindles
- Linear bearings on slides for up and down movement
- Manual Y adjustment
- Max door thickness 1 ¼" thick
- Compressed air 90 PSI
- Weighs approximately 600kg
- Dimensions: 80" long, 32" wide, 50" high

Unique Machinery Shape & Sand Machine 4522 Shape & Sand CNC / HSK



Picture is for reference only. Machine options & accessories may change the look of the final product.

Machine Overview

The Unique Model 4522 can be configured as a Manual or CNC controlled single side shape & sand machine. These machines are extremely versatile; they may be used as a dedicated machine for simple jobs like drawer fronts or be used for a variety of jobs including passage door parts, cabinet door parts, table tops, and composite materials such as Phenolic and Corian. The machines can be configured with 3, 4, 5, or 6 spindles in different combinations of shapers and sanders, utilizing jump-coping to eliminate tear out with two counter-rotating spindles when machining end-grain.

The construction is similar to that of heavy-duty milling machines used in the metalworking industry. The frame is a one-piece weldment that is precision machined in one setup. Unique engineers chose a one-piece design as opposed to a multi-piece design to increase strength and rigidity. Any time that multiple frame members are bolted together, machining tolerances stack up, leading to a less accurate cut produced by the All of the spindle axes slide on linear bearings. The CNC versions use precision ball screws with zero back-lash to maintain accurate repetitive setups year after year. A single grease fitting lubricates each shaper, or sander station, centrally. The single grease fitting distributes grease through a manifold to all the lubrication points on that station.

"TrueSet" New Mitsubishi based HMI touch-screen (No Windows Software) Industrial HMI stores feed rates, positions, cutter rotation, profile pictures & rpm settings. Operator is forced to verify that all spindles have been manually moved to the correct location before the machine is allowed to start.

Machine Overview (continued)

The machine is controlled by an industrial PLC and HMI touch screen operator interface. The all Mitsubishi industrial control system is an extremely stable platform that gives the operator control of each motor on the machine. Note that the manual version of the 4500 series also uses this for fast changeover & superior repeatability for all your setups. Unique's custom software allows end user a programming platform with an intuitive operator interface. Spindle speeds and conveyor feed rates are specified for each Profile. Additionally, programs may be created and arranged by material species "families" providing fine control over finish quality when changing materials being processed in the same profile.

This machine is intended for mid to larger sized shops that require a machine to run a high amount of volume in a short amount of time. The additional shaper motor allows the machine to be equipped with our PLC controlled jump cope that will allow for edge details to be run at greater speed without worrying about costly cross grain tear out when the rest of the door is already completed. On raised panels the additional motor can be used to rough out the tooling profile allowing for increased tool life on expensive inserts.

Technical Specifications

Shaper stations	Two (2) HSD-ES988, 10HP+ spindles
Sanders stations	Two (2) HSD-ES988, 10HP+ spindles
Feed rate	0 – 35 feet per minute
Voltage Requirements	440V / 3 @ 147 amps
Compressed air requirements	90 PSI – 1.5 CFM
Dust collection	Shapers = 5" dust ports, 1000 CFM each, Sanders = 4" dust ports, 600 CFM each
Work height	41"
Maximum material thickness	2.5"
Minimum material width	1 3/4" plus the depth of cut being performed
Cutter diameter	6"
Maximum sander diameter	8"

Included Options

- CNC "Set"
 - CNC control for positioning of all axis upgrade from std. TrueSet software. CNC control for positioning of 7 axis (3 Y axis and 4 Z axis). Software will automatically move all spindles to saved positions. Once all spindles are set to desired position machine will automatically start. Typical profile setup is done in under 15 seconds once correct tooling is loaded. Price includes a 2 day installation by factory technician.
- 2-axis CNC upgrade to include Y-axis adjustment on shaper 1 and fence.
- HSK Upgrade
 - (10 H.P. +) Quick Change HSD-ES988 Spindles on all 4 stations.
 - HSK comes wired as 440V standard and Includes two HSD arbors
 - 220V/ 3P available for \$2,500 upgrade
- Upgraded heavier conveyor with four-point conveyor guide system and auto-oiler.

Machine Layout

