KNUTH MACHINE TOOLS

Conventional Surface Grinders
HFS 60160 F NC

SKU : 124936

This series of surface grinders processes large and heavy workpieces with tolerances as required for precision surface grinding or for the preparatory processing step of lapping or polishing. The machine frame is designed in a cross-bed design with a movable column. This construction enables a long table guidance and thus the optimal introduction of weight force over the entire work area. The ability to switch between automatic or manual operation extends the scope for sample production, repair and training.

- Moving column design for maximum stability
- Magnetic clamping plate with built-in demagnetizing function
- Siemens Smart Line PLC control with grinding cycles
- NC-controlled Y/Z axes driven by servo motors
- User-friendly HMI with touchscreen
- Electronic handwheel for Y/Z axes

TECHNICAL SPECS

WORKING AREA

Table dimensions	24 in x 63 in
Spindle center-to-table distance	24 in
Table load capacity (max.)	2860 lbs
Magnetic chuck height	4 in
Dimensions magnetic clamping plate	24 in x 31 in
Number of magnetic chucks	2 positions

TRAVELS

Travel X-axis	63 in
Travel Y-axis	25 in

FEED

Hydr. feed X-axis	16.35 fpm - 81.75 fpm
Feed Y-axis	2 in/min - 20 in/min
Feed depth, Y-axis	0.000197 in - 0.001969 in
Feed Z-axis	2 in/min - 59 in/min
Automatic Z-axis feed	0 in/min - 1 in/min

GRINDING WHEEL

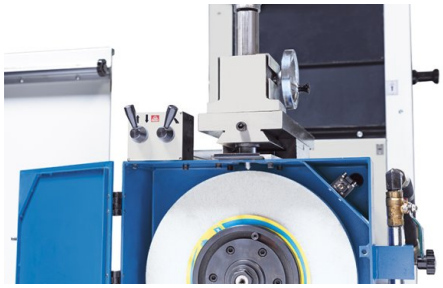
Grinding wheels dimensions	14 in x 2 in x 5 in
Speed	1450 rpm

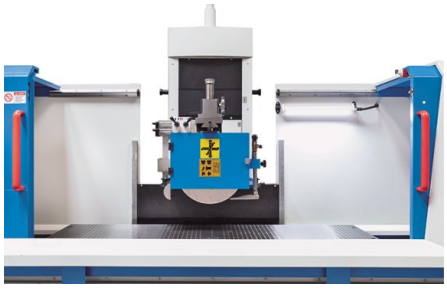
DRIVE CAPACITY

Motor rating main drive	10.1 Hp
Hydraulic motor rating	7.4 Hp
Y-axis servo motor	3 Hp
Z-axis servo motor	1 Hp

MEASURES AND WEIGHTS

Overall dimensions (length x width x height)	217 in x 109 in x 107 in
Weight	15400 lbs





PRODUCT DETAILS

Surface Grinding Machine

- The massive, heavily ribbed cross-bed machine frame with traversing column and horizontal spindle is extremely rigid even under heaviest workpiece loads
- The large work area allows machining of single workpieces with large surface areas or machining of several workpieces in one setup
- The workspace is protected by an easily accessible enclosure
- A high-performance cooling system is included in the standard equipment of this series

Control

- Grinding cycles for automatic face and groove grinding are accessible and editable via touchscreen
- Preloaded ball screws and powerful servo-motors on Y and X ensure high precision and repeatability during grinding wheel feeds
- An electronic hand-wheel for Y- and Z-axis simplifies setup and manual positioning of the grinding spindle
- If set to Auto mode, the user-defined roughing and finishing parameters, number of spark-out strokes, and return to zero are automatically processed

Grinding spindle

- Large grinding spindle, dynamically balanced, completely sealed with permanent lubrication
- Preloaded precision-bearings ensure maximum grinding performance and high reliability over many production hours

Hydraulics

- Superior quiet operation and low heat build-up ensure optimum work results in continuous operations
- The hydraulic linear table feed is infinitely variable, maintains a constant speed with smooth travel direction reversals
- The external hydraulics unit with oil cooler ensures perfect temperature stability

Magnetic clamping plate

- Large magnetic chucks for torsion-free clamping across the entire work surface are included in the standard equipment
- The modern control also ensures reliable operation with firm holding forces and high-grade degaussing

STANDARD EQUIPMENT

2-axis position indicator X.Pos 3.2
Electronic hand-wheel Y/Z axis
Grinding wheel flange
Workspace enclosure
Coolant system
Grinding wheel dresser (without dressing diamond)
Balancing station
Balancing shaft
LED work lamp
Magnetic clamping plate
Adjustment screws
Operating tools
Operator manual
Siemens PLC with touchscreen
Grinding wheel
Automatic central lubrication