



DOUBLE COLUMN GRINDERS

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Highlights

Casting Iron

The Casting irons (FC30) used to build the machine are high strength with tempering treatment, and treatment to eliminate intrinsic tensile stress. These treatments will ensure the rigidity, stability, and durability of our grinders.

Fixed Beam Structure

Main machine utilizes fixed cross beam structure, combining the bridge and two columns into one sturdy door type shape. It ensures the solidity of the machine as a whole.



Twin V Worktable Guideways

Large (110 degree) twin V structure is adopted on the machine base and the worktable railways. This design allows rock-steady table movements, as well as maintains best alignment and equilibrium of the movements.



Lubrication System

Machine base railways use force coverage lubrication design (pumping from lower to machine base to upper worktable railways). This design can avoid the impacts from lubrication oil pulsation pressure, and enable smooth movement. The detecting senor of the system will disable table movement to protect the railways when lubrication oil is low.



Grinding Head Movements

The vertical movement of the grinding head is guided by high precision grade ball-screw, and driven by "Baldor" servo motors. These features enable accurate positioning and micro precise feeding.

Moving on high precision SP grade "THKor INA" rail and guided by ball-screw, the grinding head has firm and smooth cross-feed travel with exceptional accurate cutting ability.



Single Head Double Column Type

Spindle & Motor Set

High precision cartridge type spindle set that use 6 super precision CP4 grade angular ball bearings with sealed permanent lubrication. This structural superiority empowers the spindle to grind with low noise, low heat rise, and high precision.

V3 grade high torque spindle motors are utilized on all double column models. They are thoroughly tested with kinetic balance inspections, capable of low noise, low vibration, and high stability movements even after long periods of operation.

To obtain maximum torque and reduce vibration, a V3 grade motor is integrated with spindle via couplings for direct transmission.





Structure

High strength casting iron (FC30) with tempering treatment is utilized to ensure rigidity, stability, and durability.

Fixed cross beam structure combine the main machine, beam, and columns into one sturdy box shape.



Profile Dimensions



Model	SGS-2012AHD	SGS-2512AHD	SGS-3012AHD
А	165"	205"	244"
В	263"	311"	362"
С	79"	98"	120"
D	37"	37"	37"
Е	134"	134"	134"
F	133"	149"	133"
G	47"	47"	47"
н	47"	47"	47"
1	47"	59"	47"
J	63"	75"	63"

Control System (AHD Type)

The Numerical Control System utilizes a AC servo motor on Vertical Feed.

A Numerical display on panel enables simple & accurate Wheel Positioning.

The Automatic Cross Feed Travel Limits can be set on the control panel.

Multiple vertical feed modes: A. Automatic B. Manual C. Micron pulse generator



Twin Head Double Column Type

Movements

Large twin V is adopted on the machine base and work-table railways. Allowing steady table movements as well as maintaining the best alignment with equilibrium.

Moving on THK Ultra Precision Grade Linear Guideway, the grinding head has firm and smooth cross travel with exceptionally accurate grinding results.

Hydraulic System

Employs a precise electrical circuit to control the proportional hydraulic valve.

The operator can adjust the work table speed directly on control panel.

The Hydraulic tank temperature is maintained by Habor Coolant system. The coolant stabilizes oil temperature even after long hours of operation. This guarantee grinding precision and helps protect hydraulic system parts.



Profile Dimensions



Model	SGS-T2012AHD	SGS-T3012AHD	SGS-T4012AHD	SGS-T5012AHD	SGS-T6012AHD
А	165"	245"	325"	400"	480"
В	262"/302"	362"/390"	450"/475"	532"/562"	618"/650"
С	79"	118"	157"	196"	236"
D	45"	45"	45"	45"	45"
Е	156"	156"	156"	156"	156"
F	168"/224"	168"/224"	168"/224"	168"/224"	168"/224"
G	55"	55"	55"	55"	55"
н	55"	55"	55"	55"	55"
	47"	47"	47"	47"	47"
J	62"	62"	62"	62"	62"

Control System (PNC Type)

The DSC based NC control system integrates all functions & movements of a large machine into one panel.

A Numerical Control system utilizes AC servo motors on both Vertical Feed and Cross Feed.

The LCD screen display with digital inputs on panel allows easy operation on various grinding applications. Easy maneuver and user-friendly design make the machine operations simple without having to learn complex programming.



Grinding Head Examples

Horizontal Grinding Head Examples



Rapid Wheel Head Displacement

Automatic

Automatic Stepping Cross Feed

Operation of horizontal axle grinding wheel can cooperate with special wheel dressers to make slots and different kinds of forming grinding easiler.









Universal Grinding Head Examples



Rapid Wheel Head Displacemnet



Automatic Stepping Cross Feed

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Automatic Pulse Feed









90°.



Angle swivel of Universal Axle Wheel Head is

driven through a lead screw and worm gear. It can swiftly turn the wheel head within ±

Vertical Feeding cooperates with cross movement of wheel head to achieve the

surface and forming grinding.



Specifications

Model	SGS-2012 AHD/PNC	SGS-2512 AHD/PNC	SGS-3012 AHD/PNC
Working Capacity	47.2" x 78.7"	63" x 98"	47.2" × 118"
Grinding Surface	51.2" x 82.7"	59" x 98"	51.2" × 122"
Horizontal Travel	86.6"	106"	126"
Distance Between Two Columns	63" ~ 75"	63" ~ 75"	63" ~ 75"
Distance Between Table Surface and Spindle Center	37.4"	37.4"	37.4
Distance Between Table Surface and Wheel Top	33.5"	33.5"	33.5"
Inclination of Universal Head	±90°	±90°	±90°
Table Speed	16 ~ 80 ft/m	16 ~ 80 ft/m	16 ~ 80 ft/m
Automatic Crossfeed of Spindle Seat (60 Hz)	0 ~ 1"	0 ~ 1"	0 ~ 1"
Downfeed Handwheel Min Scale	0.0002"	0.0002"	0.0002"
Crossfeed Handwheel (1 gra)	0.001"	0.001"	0.001"
Crossfeed Handwhee (1 rev)	0.2"	0.2"	0.2"
Longitudinal Travel	7.9" × 90.6"	7.9" × 110"	7.9" × 129.9"
Crossfeed Travel	O" ~ 55.1"	0" ~ 55.1"	0" ~ 55.1"
Spindle Motor (H. Axle)	20HP x 4P (Opt. 30P x 4P)	20HP x 4P (Opt. 30P x 4P)	20HP x 4P (Opt. 30P x 4P)
Spindle Motor (V. Axle)	10HP x 4P (Opt. 15HP x 4P)	10HP x 4P (Opt. 15HP x 4P)	10HP x 4P (Opt. 15HP x 4P)
Hydraulic Pump Motor	15 HP x 6P	15 HP x 6P	20 HP x 6P
Crossfeed Motor	AHD: 1/4HPx6P PNC: AC Servo	AHD: 1/4HPx6P PNC: AC Servo	AHD: 1/4HPx6P PNC: AC Servo
Downfeed Motor	AHD:Servo Motor PNC: AC Servo	AHD:Servo Motor PNC: AC Servo	AHD:Servo Motor PNC: AC Servo
Grinding Wheel (OD x T x ID) (H. Axle)	1250 RPM / 1050 RPM	1250 RPM / 1050 RPM	1250 RPM / 1050 RPM
Grinding Wheel (OD x T x ID) (V. Axle)	1750 RPM / 1450 RPM	1750 RPM / 1450 RPM	1750 RPM / 1450 RPM
Flow Rate of Coolant Pump	90 L/min	90 L/min	90 L/min
Max Load Capacity	8360 lbs	9460 lbs	10560 lbs
New Weight	30800 lbs	34500 lbs	39600 lbs

The above specifications are for reference only, we reverse the right to alter them without further notice.

Horizontal Grinding Head Examples



Rapid Wheel Head Displacement



Automatic Stepping Cross Feed

Operation of horizontal axle grinding wheel can cooperate with special wheel dressers to make slots and different kinds of forming grinding easiler.









Universal Grinding Head Examples



Rapid Wheel Head Displacemnet

Automatic Stepping Cross Feed

Automatic Pulse Feed









90°.



Angle swivel of Universal Axle Wheel Head is

driven through a lead screw and worm gear. It can swiftly turn the wheel head within ±

Vertical Feeding cooperates with cross movement of wheel head to achieve the

surface and forming grinding.



Specifications

Model	SGS-T4012 AHD/PNC	SGS-T5012 AHD/PNC	SGS-T6012 AHD/PNC
Working Capacity	47.2" x 157.5"	47.2" × 196.9"	47.2" x 236.2"
Grinding Surface	51.2" x 161.4"	63" × 197"	63" x 236"
Horizontal Travel	165.4"	204.7"	244.1"
Distance Between Two Columns	63" ~ 75"	74.8"	74.8"
Distance Between Table Surface and Spindle Center	45.3"	45.3"	45.3"
Distance Between Table Surface and Wheel Top	37.4"	33.5"	33.5"
Inclination of Universal Head	±90°	±90°	±90°
Table Speed	16 ~ 80 ft/m	16 ~ 80 ft/m	16 ~ 80 ft/m
Automatic Crossfeed of Spindle Seat (60 Hz)	0 ~ 1"	0 ~ 1"	0 ~ 1"
Downfeed Handwheel Min Scale	0.0002"	0.0002"	0.0002"
Crossfeed Handwheel (1 gra)	0.001"	0.002	0.002"
Crossfeed Handwhee (1 rev)	0.2"	0.2"	0.2"
Longitudinal Travel	7.9" x 165.4"	7.9" × 208.7"	7.9" x 248"
Crossfeed Travel	0" ~ 55.1"	O" ~ 55.1"	0" ~ 55.1"
Spindle Motor (H. Axle)	20HP x 4P (Opt. 30P x 4P)	20HP x 4P (Opt. 30P x 4P)	20HP x 4P (Opt. 30P x 4P)
Spindle Motor (V. Axle)	10HP x 4P (Opt. 15HP x 4P)	10HP x 4P (Opt. 15HP x 4P)	10HP x 4P (Opt. 15HP x 4P)
Hydraulic Pump Motor	15 HP x 6P	30 HP x 6P	30 HP x 6P
Crossfeed Motor	AHD: 1/4HPx6P PNC: AC Servo	AHD: 1/4HPx6P PNC: AC Servo	AHD: 1/4HPx6P PNC: AC Servo
Downfeed Motor	AHD:Servo Motor PNC: AC Servo	AHD:Servo Motor PNC: AC Servo	AHD:Servo Motor PNC: AC Servo
Grinding Wheel (OD x T x ID) (H. Axle)	1250 RPM / 1050 RPM	1250 RPM / 1050 RPM	1250 RPM / 1050 RPM
Grinding Wheel (OD x T x ID) (V. Axle)	1750 RPM / 1450 RPM	1750 RPM / 1450 RPM	1750 RPM / 1450 RPM
Flow Rate of Coolant Pump	90 L/min	200 L/min	200 L/min
Max Load Capacity	17600 lbs	15400 lbs	18480 lbs
New Weight	77000 lbs	78100 lbs	88700 lbs

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