ASG SERIES

Precision Surface Grinding Machine

HIGH PRECISION SURFACE GRINDING MACHINE
A DISTINCTION IN PRECISION TECHNOLOGY
UNIQUE PRECISION TECHNOLOGY

OVER 30 YEARS EXPERIENCE
ASG-618AH
UNIQUE PRECISION TECHNOLOGY

FEATURES

- RIGID CONSTRUCTION:
  All main elements are made of "Meehanite GC275" castings which had been annealed stress released for long lasting accuracy and stability. Rib reinforced box type construction of main parts ensure high rigidity.

- HIGH PRECISION:
  Vee and flat ways for longitudinal movement and double vee ways for cross movement. Both longitudinal and cross mating channels are lined with "Turcite B" and precision hand scraped to provide high accuracy and eliminate stick slip.

- AUTOMATIC LUBRICATION SYSTEM:
  The valves pump works as soon as the power is switched on. Lubrication system continuously lubricates ways, vertical lead screw and its bearings and gears.

- ADVANCED HYDRAULIC CIRCUIT DESIGN:
  Improved hydraulic circuit set vibration-free reversing motion of table, easier to move table by handwheel when table hydraulic feed is switched off. External, independent hydraulic tank provided with no heat transferred to the base.

- SLOT GRINDING CAPABILITY:
  The saddle lock feature and precision cross feed ball screw (AH) allow for grinding of slots with highest performance without vibration.

- ANTI-DUST AND WATER-PROOF DESIGN:
  All ways and electric cabinet are well protected free from dust and water to ensure consistent accuracy life.

- TABLE HYDRAULIC FEED:
  Speed range from 1m / min to 25m / min (3 pm-831 pm) provides easy operation of the machine. Stroke is adjustable by a pair of dogs in front of table Non-contact proximity switches are used.

- AUTOMATIC CROSS FEED: (AH)
  A combination of precision ball screw and a electric motor driving system provides quick, smooth automatic cross feed.

- SUPER PRECISION:
  Consistent temperature control unit (room temperature ± 1.2 °C) for hydraulic / system is provided as an option for preventing thermal distortion of the machine when super precision is required.

- Higher productivity
- Easier to operate
- Heavy duty grinding
- Greater accuracy
- Longer accuracy life
- Advanced surface roughness

1. Big volumen drain device installed externally for easy accessing and cleaning.
2. Rib reinforced box type base, with enlarged double Vee ways to ensure the best fundation of accuracy.
3. Delicate saddle clamping device is provided for shoulder and slot grinding.
4. Non-contact proximity switches and dogs for cross feed stroke adjustment.
5. Cartridge type spindle unit with precision bearings class ABEC7(P4) and direct drive motor (V3 vibration class)
6. Precision hand scraped wheel head unit and its ways with continuous lubrication.
ASG-1020 / 1224AHD

A DISTINCTION IN PRECISION TECHNOLOGY
HIGH PRECISION SURFACE GRINDING MACHINE

IS BUILT TO FULFILL THE IDEAL OF
- High accuracy
- Long accuracy life
- Superior surface roughness
- High productivity
- Easy operation
- Heavy duty grinding

WE’VE CAREFULLY CONSIDERED FOLLOWING:
- Fully-support of each slide way.
- Rigidity and damping effect of each main parts such as base, column, saddle, spindle & grinding head…etc.
- Dust-free protection of all slide ways as well as spindle unit.
- Human-engineering of each handwheel and control lever.

FEATURES

- RIGID CONSTRUCTION
  Heavy, extra rigid castings are used for the main parts to assure accuracy at full capacity of grinder.

- BUILT FOR PRECISION
  Extra-wide table support provides superior rigidity and accuracy for long work pieces. X & Z slide ways are coated with “Turcite B” and precision head scraped. Wheel spindle is supported at each end by duplex ball bearings which are sealed for long life. Entire spindle unit is replaceable as a cartridge.

- ADVANCED HYDRAULIC CIRCUIT DESIGN
  Improved hydraulic circuit provides vibration-free reversing motion of table. Easy to handle the table by handwheel when table speed is switched off.

- AUTOMATIC LUBRICATION
  The lubrication oil pumped to every slide way all the time whenever the machine is power on. A flash light will be actuated when the lubricating function is not working.

- PRECISION CROSS FEED
  A precision ball screw is adopted to provide accurate positioning and easy operation of cross movement.

- PRECISION DOWN FEED
  A precision ground vertical lead screw and transmission gears unit provide accurate down feed.

- COMPLETED DUST PROTECTION
  All slideways and electrical cabinet are well protected free from dust and water to assure longer accuracy and for easy maintenance.

- TABLE HYDRAULIC FEED
  Speed range from 1 m/min to 25 m/min (3 fpm-83 fpm) provides easy operation of machine.

- AUTOMATIC CROSS FEED
  A combination of precision ball screw and a timing belt drive motor provides quick and smooth cross feed.

1. Proximity switches are installed inside. Stroke is adjustable by push button.
2. Box-type column provides excellent damping effect.
3. Lubrication oil tank be taken out easily for cleaning.
4. Rigid grinding head and cartridge spindle with 2 pairs of super precision angular contact ball bearing (Class ABEC 7)
5. Automatic downfeed device for vertical movement.
6. Enlarged double feed way on base.
7. Extra-strong saddle and slide way for fully support.
8. Hardened & ground vertical lead screw and transmission gear.
9. Precision cross feed ball screw.
10. High efficient variable pump is used for saving energy and lower the temperature. Separated from machine body for vibration-free and easy maintenance.
ASG-1632TS
HIGH EFFICIENCY EASY TO OPERATE
ACRA SURFACE GRINDER IS YOUR ASSURANCE OF QUALITY
For over years, SEEDTEC surface grinders have been internationally recognized for quality and accuracy. Today
SEEDTEC launches a new generation of YSG-TS series grinder. Built with SEEDTEC tradition of advanced design
and outstanding performance, this new series will help you upgrade machining efficiency and create profits.

THE BIGGER MODEL IN TS SERIES.
- Grinding area 600x300~1000x400 mm.
- Table to spindle center 700 mm.
- Vertical feed is driven by servo motor.
- High precision linear guide ways on vertical slide ways.
- Longitudinal feed is hydraulic drive.
- Cross feed is driven by AC motor.
- Conversational NC computer control.

Standard Accessories
- Precision Spindle
  The spindle is directly driven by motor (class V-3), and is supported by 5 super-high precision bearings. The high
  precision spindle assures superior rigidity and quality of grinding.
- Easy To Adjust Cross Travel
  Automatic cross travel is controlled by non-contact proximity sensors, allowing for easy adjustment and featuring
  long service life. (For model : YSG-618/52 TS)
- Ball Screws on Cross Feed
  The cross feed employs precision ball screw for transmission. The ball screw is protected by bellow cover to ensure its service life.
  Sealed grease lubrication does not require further lubrication.
- Table Longitudinal Feed
  Variable table feed speed range from 1 to 25 M/min (3~83 ft/min). Table reversed movement is controlled by the advanced
  proximity sensor with built-in design for safety. Dogs controlling the table longitudinal travel are easy and fast to adjust.
- Advanced Hydraulic Circuit Design
  The machine is designed with the advanced hydraulic circuit that reduces shock to a minimum when table reversals at
  the end of travel. The hydraulic power unit is separated from the machine to avoid the machine vibration and heat
  transferring to the machine. The specially designed hydraulic circuit always provides powerful feeding even at low speed movement.

Optional Accessories
- PG Optical Dresser
  England PG optical wheel dresser with microscope (Model:Optidress 2E)
- Hydraulic Oil Temperature Controller
  The hydraulic power unit is available to equip with an oil temperature controller for maintaining oil temperature at the
  room temperature with tolerance ±1°C. It effectively eliminates thermal displacement of the machine body while assuring outstanding
  grinding accuracy.
- Dynamic Balancer
  • Minimum vibration accuracy : 0.1µ (@6000rpm)
  • R.P.M Range : 1800~6000rpm.
- Overtop auto-dresser on wheel-head
  Dressing amount can be compensated to vertical axis automatically. Infeed axis is driven by stepping motor and DC motor drive for
  cross movement.
- Linear Scale Feedback on Vertical Axis
  The vertical axis feeds position can be fed back through linear scale and displayed on control panel.
Advanced NC Control

Fully Automatic!
User-friendly!

Versatile Grinding Capabilities
- Surface Grinding
- Plunge grinding
- Cross-cross grinding
- Two sides feed grinding

Swing Control Box
The control box swings to any direction to facilitate operation. All of machine controls are centralized on a control panel for operational convenience.

MPG Hand wheel
The control box is provided with a MPG hand wheel. It increases convenience for grinding test and workpiece setup.

Extra Powerful NC Control Function
- Vertical feed employs fully digitalized servo system, that allows the machine to automatically perform surface and plunge machining.
- Outstanding accuracy and easy to operate.
- Extra powerful NC functions greatly upgrades machining efficiency. When spindle down feed at rapid traverse or low speed, it is requested to press the confirmation key. This may avoid danger due to careless pressing of key.

Selection of Various Operation Modes
- Selection of single or double sides feeding for plunge grinding.
- Cross feed is equipped with "variable speed regulator" combined with graduation for easy reading.
- Cross feed mode provides a selection of intermittent or criss-cross feed (optional)

Convenient To Change Machining Condition
During grinding operation, machining conditions (grinding data) can be changed at any time.

Diagrammatic Feed Instruction
- T: Total stock removal: 0.001~0.066 mm
- R: Rough grinding feed: 0.001~0.019 mm
- F: Fine grinding feed: 0.001~0.008 mm
- T: Total fine feed stock removal: 0.0001~0.009 mm
- a: Spindle return amount: 0~999.999 mm
- (Y position above zero point)

Automatic grinding cycle
- Rapid approaching
- Slow approaching
- Jogging
- Rough grinding
- Fine grinding
- Spark-out
- 0-9 times Table stop
- Grind
## Dimensional Drawings

![Dimensional Drawings](image)

## Specifications

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Unit</th>
<th>ASG-618AH</th>
<th>ASG-1020AH</th>
<th>ASG-1224AH</th>
<th>ASG-1632TS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAPACITY</td>
<td>Maximum grinding length x width (in)</td>
<td>11.75 x 11.75</td>
<td>16.18 x 16.18</td>
<td>20.08 x 20.08</td>
<td>24.6 x 24.6</td>
</tr>
<tr>
<td></td>
<td>Maximum distance from table top to spindle center line (in)</td>
<td>10.51</td>
<td>14.5</td>
<td>18.1</td>
<td>21.8</td>
</tr>
<tr>
<td>TABLE</td>
<td>Table surface (length x width) (in)</td>
<td>18.3 x 6</td>
<td>20.8 x 10</td>
<td>24 x 12</td>
<td>32 x 16</td>
</tr>
<tr>
<td></td>
<td>Maximum table travel (in)</td>
<td>6.3</td>
<td>6.3</td>
<td>6.3</td>
<td>6.3</td>
</tr>
<tr>
<td></td>
<td>Maximum cross travel (in)</td>
<td>11.72</td>
<td>14.08</td>
<td>16.08</td>
<td>18.08</td>
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<tr>
<td></td>
<td>T-slot width (in)</td>
<td>0.59</td>
<td>0.59</td>
<td>0.59</td>
<td>0.59</td>
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<tr>
<td>Hydrfeed movement of table</td>
<td>Linear feed rate (in/min)</td>
<td>3.38 x 0.004-0.08</td>
<td>3.38 x 0.004-0.08</td>
<td>3.38 x 0.004-0.08</td>
<td>3.38 x 0.004-0.08</td>
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<tr>
<td></td>
<td>Hand feed per revolution</td>
<td>2.77</td>
<td>2.77</td>
<td>2.77</td>
<td>2.77</td>
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<tr>
<td>Cross movement of saddle</td>
<td>Linear feed rate (in/min)</td>
<td>0.004-0.08</td>
<td>0.004-0.08</td>
<td>0.004-0.08</td>
<td>0.004-0.08</td>
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<tr>
<td></td>
<td>Graduation of handwheel</td>
<td>0.0001 (mm)</td>
<td>0.0001 (mm)</td>
<td>0.0001 (mm)</td>
<td>0.0001 (mm)</td>
</tr>
<tr>
<td>SPINDLE</td>
<td>Linear feed rate (in/min)</td>
<td>0.004-0.08</td>
<td>0.004-0.08</td>
<td>0.004-0.08</td>
<td>0.004-0.08</td>
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<tr>
<td></td>
<td>Graduation of handwheel</td>
<td>0.00001 (mm)</td>
<td>0.00001 (mm)</td>
<td>0.00001 (mm)</td>
<td>0.00001 (mm)</td>
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<tr>
<td></td>
<td>Micro feed (S/D)</td>
<td>0.000005 (mm)</td>
<td>0.000005 (mm)</td>
<td>0.000005 (mm)</td>
<td>0.000005 (mm)</td>
</tr>
<tr>
<td></td>
<td>Hand feed per revolution</td>
<td>0.004-0.08</td>
<td>0.004-0.08</td>
<td>0.004-0.08</td>
<td>0.004-0.08</td>
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<tr>
<td></td>
<td>Graduation of handwheel</td>
<td>0.00001 (mm)</td>
<td>0.00001 (mm)</td>
<td>0.00001 (mm)</td>
<td>0.00001 (mm)</td>
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<tr>
<td></td>
<td>Rapid feed (S/D)</td>
<td>86.4</td>
<td>86.4</td>
<td>86.4</td>
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<tr>
<td></td>
<td>Rapid feed</td>
<td>117.9</td>
<td>117.9</td>
<td>117.9</td>
<td>117.9</td>
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<tr>
<td>Vertical automatic down feed</td>
<td>Feed per time (in/min)</td>
<td>-</td>
<td>0.007-0.08</td>
<td>0.007-0.08</td>
<td>0.007-0.08</td>
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<tr>
<td></td>
<td>Total feed</td>
<td>-</td>
<td>7.8 (100mm)</td>
<td>7.8 (100mm)</td>
<td>7.8 (100mm)</td>
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<tr>
<td></td>
<td>Total fine feed</td>
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<td>0.007-0.08</td>
<td>0.007-0.08</td>
<td>0.007-0.08</td>
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<tr>
<td></td>
<td>Spindle overtravel (in)</td>
<td>-</td>
<td>0-3</td>
<td>0-3</td>
<td>0-3</td>
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<tr>
<td></td>
<td>Spindle motor (HP)</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Spindle speed (RPM)</td>
<td>500</td>
<td>500</td>
<td>500</td>
<td>500</td>
</tr>
<tr>
<td></td>
<td>Grinding wheel (diameter x width x bore) (inch)</td>
<td>6 x 0.25 x 1.25 (025x075x075)</td>
<td>6 x 0.25 x 1.25 (025x075x075)</td>
<td>14 x 2.5 x 3.0 (050x075x075)</td>
<td>14 x 2.5 x 3.0 (050x075x075)</td>
</tr>
<tr>
<td>MOTOR</td>
<td>Hydraulic motor (HP)</td>
<td>0.75</td>
<td>0.75</td>
<td>0.75</td>
<td>0.75</td>
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<tr>
<td></td>
<td>Vertical feed (in/min)</td>
<td>108</td>
<td>108</td>
<td>108</td>
<td>108</td>
</tr>
<tr>
<td></td>
<td>Cross feed (in/min)</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Weight (lb)</td>
<td>70</td>
<td>70</td>
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</table>

### Standard Accessories

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>ASG-618AH</th>
<th>ASG-1020AH</th>
<th>ASG-1224AH</th>
<th>ASG-1632TS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.6</td>
<td>Grinding wheel (Dia x Thickness x Bore) x 33&quot; x 1 5/8&quot; x 1 1/2&quot; (80x60x40)</td>
<td>1pc</td>
<td>1pc</td>
<td>1pc</td>
<td>1pc</td>
</tr>
<tr>
<td>1.7</td>
<td>Grinding wheel &amp; flange &amp; puller</td>
<td>1 set</td>
<td>1 set</td>
<td>1 set</td>
<td>1 set</td>
</tr>
<tr>
<td>3.1</td>
<td>Arbor for wheel balancing</td>
<td>1pc</td>
<td>1pc</td>
<td>1pc</td>
<td>1pc</td>
</tr>
<tr>
<td>4.1</td>
<td>Diamond tool (24 nav) with a box</td>
<td>1set</td>
<td>1 set</td>
<td>1 set</td>
<td>1 set</td>
</tr>
<tr>
<td>5.1</td>
<td>Dust sweeping plate</td>
<td>1pc</td>
<td>1pc</td>
<td>1pc</td>
<td>1pc</td>
</tr>
<tr>
<td>6.1</td>
<td>Working lamp</td>
<td>1set</td>
<td>1 set</td>
<td>1 set</td>
<td>1 set</td>
</tr>
<tr>
<td>7.1</td>
<td>Suction plate, bolts and nuts</td>
<td>5 sets</td>
<td>5 sets</td>
<td>4 sets</td>
<td>4 sets</td>
</tr>
<tr>
<td>8.1</td>
<td>Eyebolts</td>
<td>4 pcs</td>
<td>4 pcs</td>
<td>4 pcs</td>
<td>4 pcs</td>
</tr>
<tr>
<td>9.1</td>
<td>T-Nut &amp; screws</td>
<td>2 sets</td>
<td>2 sets</td>
<td>2 sets</td>
<td>2 sets</td>
</tr>
<tr>
<td>10.1</td>
<td>Necessary tool with a tool box</td>
<td>1set</td>
<td>1 set</td>
<td>1 set</td>
<td>1 set</td>
</tr>
<tr>
<td>11.1</td>
<td>Lubricant oil (4 liters, grade #1405)</td>
<td>1 can</td>
<td>1 can</td>
<td>2 cans</td>
<td>4 cans</td>
</tr>
<tr>
<td>12.1</td>
<td>Plug (5/16&quot;)</td>
<td>4 pcs</td>
<td>4 pcs</td>
<td>4 pcs</td>
<td>4 pcs</td>
</tr>
<tr>
<td>13.1</td>
<td>Operation manual and inspection certificate</td>
<td>1 each</td>
<td>1 each</td>
<td>1 each</td>
<td>1 each</td>
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</table>

### Optional Accessories

<table>
<thead>
<tr>
<th>ITEM</th>
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<th>ASG-618AH</th>
<th>ASG-1020AH</th>
<th>ASG-1224AH</th>
<th>ASG-1632TS</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.1</td>
<td>Spindle inverter *</td>
<td>2HP</td>
<td>2HP</td>
<td>5HP</td>
<td>5HP</td>
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<tr>
<td>15.1</td>
<td>Permanent magnetic chuck (Fine pole), KANETSU</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
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<tr>
<td>17.1</td>
<td>Spigot guard*</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
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<tr>
<td>18.1</td>
<td>Dust suction system</td>
<td>0.5HP</td>
<td>0.5HP</td>
<td>NA</td>
<td>NA</td>
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<tr>
<td>19.1</td>
<td>Coolant system</td>
<td>10.5gal</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>20.1</td>
<td>Coolant and dust suction system</td>
<td>11.9gal</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
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<tr>
<td>21.1</td>
<td>Coolant system with magnetic dust separator</td>
<td>21.1 gal</td>
<td>26.4 gal</td>
<td>26.4 gal</td>
<td>26.4 gal</td>
</tr>
<tr>
<td>22.1</td>
<td>Coolant system with dust suction system with magnetic dust separator</td>
<td>19.5gal</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>23.1</td>
<td>Coolant system and paper filter</td>
<td>26.4 gal</td>
<td>31.7gal</td>
<td>31.7gal</td>
<td>31.7gal</td>
</tr>
<tr>
<td>24.1</td>
<td>Coolant system with paper Sh and magnetic dust separator</td>
<td>26.4gal</td>
<td>31.7gal</td>
<td>31.7gal</td>
<td>31.7gal</td>
</tr>
<tr>
<td>25.1</td>
<td>&quot;Magnus-N&quot; Two Axle GRAY system (including installation &amp; Delivery art &amp; Top, Mounting Bracket)</td>
<td>2000mm x 3500mm</td>
<td>3500mm x 4500mm</td>
<td>4000mm x 7500mm</td>
<td>5000mm x 7500mm</td>
</tr>
<tr>
<td>26.1</td>
<td>Grinding wheel balancing apparatus</td>
<td>Bubble type</td>
<td>Bubble type</td>
<td>Bubble type</td>
<td>Bubble type</td>
</tr>
<tr>
<td>27.1</td>
<td>Micro-feeder for cross movement*</td>
<td>0.000005&quot; feed</td>
<td>0.000005&quot; feed</td>
<td>0.000005&quot; feed</td>
<td>0.000005&quot; feed</td>
</tr>
<tr>
<td>28.1</td>
<td>Micro-feeder for vertical movement*</td>
<td>0.000005&quot; feed</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
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<tr>
<td>29.1</td>
<td>Hand dresser mounted on wheel head*</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>30.1</td>
<td>Electromatic Chuck (Standard pole)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>31.1</td>
<td>Electromatic Chuck (Fine pole)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>32.1</td>
<td>Automatic demagnetizing controller</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>33.1</td>
<td>Hydraulic overload breaker</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>34.1</td>
<td>Main dynamo balance for grinding wheel on machine</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
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<tr>
<td>35.1</td>
<td>Table mounted feed dresser with one diamond tool for profiling with compensation</td>
<td>NA</td>
<td>NA</td>
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</tbody>
</table>

### Notes
- ASGDESIG is constantly improving the design of its machines. Appearance, specifications and dimensions are subject to be changed without prior notice.