

## 1. Specifications

- 1-1 Workpiece for grinding
- 1) Material Glass
  - 2) Size MAX  $\Phi$ 300 mm
- 1-2 Grinding method
- 1) Grinding control Aspherical grinding is performed with simultaneous 3-axes control for longitudinal, cross and vertical feed
  - 2) Program for grinding To be prepared by your company
- 1-3 The body and the related parts
- 1) Table size 300 mm X 300 mm (Longitudinal X Cross)
  - 2) Working height of the table 950 mm above the floor level
  - 3) Work clamp Vacuum-type (Adsorption-type)
  - 4) Net weight 4000 kgf (including power supply\* accessories)
  - 5) Floor space required Approx. 2500 mm X 2500 mm
- 1-4 Longitudinal feed shaft and the related parts
- 1) Stroke 300 mm (Note: 20 mm is for the limit.)
  - 2) Driving system Ball screw + servo motor
  - 3) Control system Totally closed loop control by linear scale
  - 4) Guide system Hydraulic static pressure guide
  - 5) Feed rate 1~1000 mm/min
  - 6) Least input increment 0.1  $\mu$  m
  - 7) Straightness 4  $\mu$  m/300 mm
  - 8) Cyclic positioning accuracy Target below  $\pm 1.0 \mu$  m
- 1-5 Cross feed shaft and the related parts
- 1) Stroke 300 mm (Note: 20 mm is for the limit.)
  - 2) Driving system Ball screw + servo motor
  - 3) Control system Totally closed loop control by linear scale
  - 4) Guide system Hydraulic static pressure guide
  - 5) Feed rate 1~1000 mm/min
  - 6) Least input increment 0.1  $\mu$  m
  - 7) Straightness 4  $\mu$  m/300 mm
  - 8) Cyclic positioning accuracy Target below  $\pm 1.0 \mu$  m

## 1-6 Vertical feed shaft and the related parts

- |                                |   |
|--------------------------------|---|
| 1) Stroke                      | 120 mm (Note: 20 mm is for the limit.)      |
| 2) Driving system              | Ball screw + servo motor                    |
| 3) Control system              | Totally closed loop control by linear scale |
| 4) Guide system                | Roller guide                                |
| 5) Feed rate                   | 1~1000 mm/min                               |
| 6) Least input increment       | 0.1 $\mu$ m                                 |
| 7) Straightness                | 4 $\mu$ m/120 mm                            |
| 8) Cyclic positioning accuracy | Target below $\pm 1.0 \mu$ m                |

## 1-7 Wheel spindle and the related parts

- |                                       |  |
|---------------------------------------|--|
| 1) Structure                          | Bearing spindle  |
| 2) Spindle speed                      | 500~3600 rpm<br>Infinite variable-speed by inverter                  |
| 3) Wheel spindle motor                | 1.5kw AC200V 2P Reverse fan  |
| 4) Grinding wheel                     | Metal-bonded diamond wheel<br>$\Phi 180$ mm X $\Phi 50.8$ mm X t20mm |
| 5) Dust-proof/water-proof for bearing | Labyrinth seal + Air purge   |
| 6) Wheel cover                        | SUS-made with the above wheel in item no. 4)                         |

## 1-8 Wet cover and the related parts

- |   |  |
|---|--|
| 1) Structure                                  | Wholly enclosed cover in sheet metal structure |
| 2) Door                                       | Manual-type front door                         |
| 3) Dust collection                            | Collection of mist inside the cover            |
| 4) Dust-proof/water-proof for sliding surface | Air purge + Bellows + Sheet metal cover        |

## 1-9 Oil feed

- |                       |   |
|-----------------------|---|
| 1) Automatic oil feed | Automatic oil feed for feed screw portion and sliding portion         |
| 2) Oil for use        | Common use with hydraulic oil for static pressure and circulating use |

## 1-10 Switch box and the related parts

- |                          |   |
|--------------------------|---|
| 1) Location              | Independent-type power switch box located in the right side<br>Control panel, strong electric panel and NC control unit are built-in. |
| 2) Relay box             | Fixed on the body bed   |
| 3) Power supply required | AC200V 3P 12KVA   |

## 1-11 Control unit

- |    |                        |  |
|----|------------------------|--|
| 1) | NC control unit        | FANUC 16M  |
| 2) | Number of control axes | Simultaneous 3-axes control  |
| 3) | Name of each axis      | X ..... Longitudinal axis<br>Y ..... Cross axis<br>Z ..... Vertical axis                                 |
| 4) | Least input increment  | 0.1 $\mu$ m  |
| 5) | Control method         | Scale feedback control   |
| 6) | Automatic operation    | Automatic operation is performed by PC data through remote buffer (PC shall be prepared by your company) |

## 1-12 Dust collector/ Coolant device with temperature controller

- |    |  |   |
|----|--|---|
| 1) | Structure                              | Independent-type sheet metal structure                                      |
| 2) | Tank capacity                          | 300 liter   |
| 3) | Coolant pump                           | Grundfos pump SPK4-8/5 (550W)<br>30 liter/min at 3.0kgf/cm <sup>2</sup>     |
| 4) | Circulating pump                       | Grundfos pump SPK4-5 (550W)<br>30 liter/min at 3.0kgf/cm <sup>2</sup>       |
| 5) | Separation of chip                     | ① Paper filter Mesh 40 $\mu$ m<br>② Cartridge filter Mesh 3 $\mu$ m         |
| 6) | Dust collection performance            | 230 mmAq 10.8m <sup>2</sup> /min Motor 400W                                 |
| 7) | Performance of temperature -controller | 1500kcal/h (Water cooling type)<br>Cooling water required ..... 6 liter/min |

## 1-13 Hydraulic unit for static pressure

- |    |                     |  |
|----|---------------------|--|
| 1) | Structure           | Independent-type sheet metal structure   |
| 2) | Tank capacity       | 50 liter                                 |
| 3) | Pump motor          | 0.75kw                                   |
| 4) | Temperature control | Cooling by coolant in the heat exchanger |

## 1-14 Accessories

- |    |              |                                 |   |
|----|--------------|---------------------------------|---|
| 1) | Tools        | 1 set                           |   |
| 2) | Wheel flange | 6 pcs.<br>(with grinding wheel) | Noritake<br>•SD120F50MS5<br>•SD500F50MS5<br>•SD800L100BDF each 2 pcs. |

## 1-15 Painting

- |    |                |                    |
|----|----------------|--------------------|
| 1) | Painting color | Munsel No. 10GY8/4 |
|----|----------------|--------------------|

## 1-16 Utility

- |                         |                                    |                              |
|-------------------------|------------------------------------|------------------------------|
| 1) Air supply source    | Pneumatic pressure<br>Using amount | Over 0.5MPa<br>15N liter/min |
| 2) Cooling water source | Using amount                       | 6 liter/min                  |

## 1-17 Others

- 1) Export Spec. for USA