

### 3 Machine Specifications

#### ● DAD341 specifications

##### (1) Cutting section

###### 1) X-axis

Slide/drive system

- Motor AC servomotor
- Feed mechanism Ball-bearing leadscrew.
- Guide Linear guide.

Maximum stroke length 445 mm

Cutting range 326 mm.  
163 mm areas on both the right- and left-hand sides of spindle center.

Work width setting range 0" to 8" (0 to 203.2 mm).  
Variable in 0.001 mm steps.

Travel speed

- Feed speed input range 0.1 to 400 mm/s.
- Return speed 400 mm/s.

###### 2) Y-axis

Slide/drive system

- Motor Pulse motor.
- Feed mechanism Ball-bearing leadscrew
- Guide Linear guide.

Maximum stroke length 210 mm

Cutting range 210 mm  
105 mm areas on both the front and rear sides of table center.

Work width setting range 0" to 8" (0 to 203.2 mm).  
Variable in 0.0001 mm steps.

Index setting range

- Input 0.0001 to 210 mm (variable in 0.0001 mm steps)
- Speed 25 mm/s.

Control system Linear scale based full-closed-loop system.

Scale resolution 0.0002 mm

3) Z-axis

[1000 W spindle version]

Slide/drive system

- Motor Pulse motor.
- Feed Ball-bearing leadscrew
- Guide Linear guide.

Maximum stroke length

32 mm.

(56 mm upward and 24 mm downward from spindle center relative to table upper surface.)

Amount-left-uncut input range

0.0001 to 32 mm.

Variable in 0.0001 mm steps.

Travel resolution

0.0001 mm.

Control system

Encoder based closed-loop system.

[2200 W spindle version]

Slide/drive system

- Motor Pulse motor.
- Feed Ball-bearing leadscrew
- Guide Linear guide.

Maximum stroke length

40 mm.

(56 mm upward and 24 mm downward from spindle center relative to table upper surface.)

Amount-left-uncut input range

0.0001 to 32 mm.

Variable in 0.0001 mm steps.

Travel resolution

0.0001 mm.

Control system

Encoder based closed-loop system.

4)  $\theta$ -axis

Drive system

- Motor AC motor.
- Feed mechanism Direct drive.

Maximum rotation angle

380°

100° CW and 280° CCW from initial position.

Control system

Direct-drive motor based full-closed-loop system.

Motor resolution

0.66 s.

(2) Spindle section

[1000 W spindle version]

Mechanism

- Bearing

Air bearing.

- Motor

DC brushless motor.

Rotating speed range

6,000 to 60,000 min<sup>-1</sup>(rpm)  
(programmable).

Output

1000W.

Taper section

Larger diameter: 12.69 mm.

Taper ratio: Equivalent to 1/20.

φ 2" diameter hub type blade(standard).

Applicable to M-flange type.

[2200 W spindle version - optional]

Mechanism

- Bearing

Air bearing.

- Motor

DC brushless motor.

Rotating speed range

3,000 to 30,000 min<sup>-1</sup>(rpm)  
(programmable).

Output

2.2 kW.

Taper section

Larger diameter: 12.69 mm.

Taper ratio: Equivalent to 1/20.

Applicable to φ 2" diameter hub type or M-flange type blade.

NOTE 1: When using an L2 flange type, choose an option from the standard options listed in 10-2.

NOTE 2: When a blade outside diameter of 101.6 to 127.0 mm is to be used, consult your DISCO sales representative.

(3) Microscope section

Microscope

Single-objective microscope

Magnification

Objective: 5x

Overall: 325x (on the CRT)

Work distance

30 mm between the lens cover section to work surface  
(Stroke: 20 mm; 18 mm up and 2 mm down from table upper surface)



2) Air

- Supply pressure : Range : 0.5 to 0.6 MPa·G (5.0 to 6.0 kgf/cm<sup>2</sup>·G)
- : Variation : ±0.01 MPa·G (0.1 kgf/cm<sup>2</sup>·G)
- Filtration : 0.00001 mm/99.5% or higher
- Residual oil content : 0.1 PPM Wt/Wt
- Atmospheric dew point : -15°C or less
- Connection port : Rc (PT) 1/4" female
- Maximum consumption : 162 l/min (ANR) (150 Nl/min)
- (air-injection gun use excluded)

3) Water

Wheel coolant

- Pressure : 0.3 MPa (3.0 kgf/cm<sup>2</sup>)
- : Variation : ±0.01 MPa (±0.1 kgf/cm<sup>2</sup>)
- Water temperature : Room temperature+2°C
- : Variation : ±1°C max
- Water quality : If deionized water is not available, contact your nearest DISCO office.
- Connection port : Rc (PT) 1/4" female
- Flow rate setting range : 0.2 to 4.0 l/min.
- (The maximum flow rate varies with the employed wheel cover.)

Spindle coolant

- Pressure : 0.3 MPa (3.0 kgf/cm<sup>2</sup>)
- : Variation : ±0.02 MPa (±0.2 kgf/cm<sup>2</sup>)
- Water temperature : Same as the room temperature.
- : Variation : ±1°C max
- Water quality : If the chlorine (Cl), iron (Fe), copper (Cu), or sodium (Na) content or electrical conductivity is high, mechanical parts corrosion or piping clogging may be caused.
- Connection port : Rc (PT) 1/4" female
- Consumption flow rate : 1.5 l/min.

4) Water drainage

- Connection port : Duct hose
- : 32 mm ID

- 5) Duct
- Duct capacity : 5.0 m<sup>3</sup>/min or higher (If the duct capacity is smaller, contact your local DISCO office.)
- Connection port : Duct hose  
: 75 mm ID
- 6) Main dimensions : Main body 863 W x 1235 D x 1235 H mm (without protrusions)
- 7) Machine dry weight : Approx 900 kg
- 8) Paint color : Munsell No. 2.5GY8.0/0.5