3 Machine Specifications

DAD341 specifications

Cutting section ...

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.

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) θ -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⁻¹(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⁻¹(rpm)

(programmable).

Output

2.2 kW.

Taper section

Larger diameter: 12.69 mm.

Taper ratio: Equivalent to 1/20.

Applicable to \$\phi\$ 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)

Visibility range

Entire area to the right of and 57 mm area to the left of

the table center

81 mm areas on both the front and rear sides of table

center.

(4) Operating controls

1) Console display

A 12-inch monochrome monitor is employed to display microscope images, cutting data, error messages, and other relevant information.

2) Keyboard

Used for mode selection, data input, screen selection, and the like.

(It consists of function keys, numeric keys, cursor keys, single-function keys, and

axis movement keys.).

(5) Signal tower

The buzzer ON/OFF and indicator lamp steady illumination/blinking setup is programmable. However, the alarm setup cannot be changed. Whenever an alarm condition occurs, the red

lamp blinks and the buzzer sounds.

Colors: Red, yellow, green

Factory setup

Steady green light · · · The machine is operating in the AUTO mode.

Steady yellow light · The machine is in the standby state.

Blinking red light · · An alarm (error or emergency) condition exists.

(6) Accuracy

1) Chuck table upper surface

0.005 mm/125 mm

parallelism (measured at 22°C)

0.006 mm/150 mm

0.008 mm/200 mm

2) Y-axis index positioning accuracy

Single error

0.003 mm or less

Cumulative error:

0.005 mm/210 mm or less.

3) Z-axis repeatability

0.001 mm (range).

7) Utilities

1) Power requirements

Input voltage

: Three-phase, 200 VAC±10%

Power frequency

: 50-60 Hz

Noise

Less than 2000 V when the pulse width is 500 ns (square wave).

Grounding

: The machine must be properly grounded.

Maximum power

: 3.0 kVA.

consumption

Air

: Range: 0.5 to 0.6 MPa·G (5.0 to 6.0 kgf/cm²·G) Supply pressure

: Variation : ± 0.01 MPa·G (0.1 kgf/cm²·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 1/min (ANR) (150 N1/min)

(air-injection gun use excluded)

Water

Wheel coolant

 $: 0.3 \text{ MPa} (3.0 \text{ kgf/cm}^2)$ Pressure

: Variation: ± 0.01 MPa (± 0.1 kgf/cm²)

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

 $: 0.3 \text{ MPa} (3.0 \text{ kgf/cm}^2)$

: Variation: ± 0.02 MPa (± 0.2 kgf/cm²)

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 1/min.

Water drainage

Connection port

Duct hose

32 mm ID

5) Duct

Duct capacity: 5.0 m³/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 bod

:Main body 863 W x 1235 D x 1235 H mm (without protrusions)

7) Machine dry weight : Approx 900 kg

3) Paint color :Munsell No. 2.5GY8.0/0.5