● 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) 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 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)

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 parallelism (measured at 22°C)	0.005 mm/125 mm 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 consumption	: 3.0 kVA.

2) Air

Supply pressure	:	Range : 0.5 to 0.6 MPa·G (5.0 to 6.0 kgf/cm^2·G)
	:	Variation : ±0.01 MPa·G (0.1 kgf/cm^2·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)

3) Water

Wheel coolant

Pressure	:	0.3 MPa (3.0 kgf/cm^2)
	:	Variation : ±0.01 MPa (±0.1 kgf/cm^2)
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^2)
	:	Variation : ±0.02 MPa (±0.2 kgf/cm^2)
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^3/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