

# Lab Edging Systems





# NIDEK Lab Edging Systems Comprehensive Solutions

Automation

## Complete Automation & Lens Processing

Various configurations are made possible with NIDEK's Lab Equipment --- SE-9090 Express, AHM-1000 and RHU-1000/1500.

From a small optical lab to a large scale outfit, NIDEK delivers and provides efficient and comprehensive solutions to meet and satisfy your lab business needs.

## System Edger SE-9090 Express

Provides High-Speed Automatic Edging & Polish Chamfering with High Precision and Accuracy

## Auto Drilling Unit AHM-1000

Offers Automatic 3-D Drilling & Grooving for Various Lens Designs and Styles

## Robotic Handling Unit RHU-1000/1500

Provides Robotic Handling for Automatic Lens Production



## High Efficiency & Versatility

In a small footprint, NIDEK lab equipment offers highly efficient lens production --- A variety of lab configurations best suited for each customer's needs.

### Compact & Complete Systems of the SE-9090 Express & RHU-1000S



**AES-1500**

(SE-9090 Express & AHM-1000 & RHU-1500)  
**includes Automatic Drilling & Grooving**

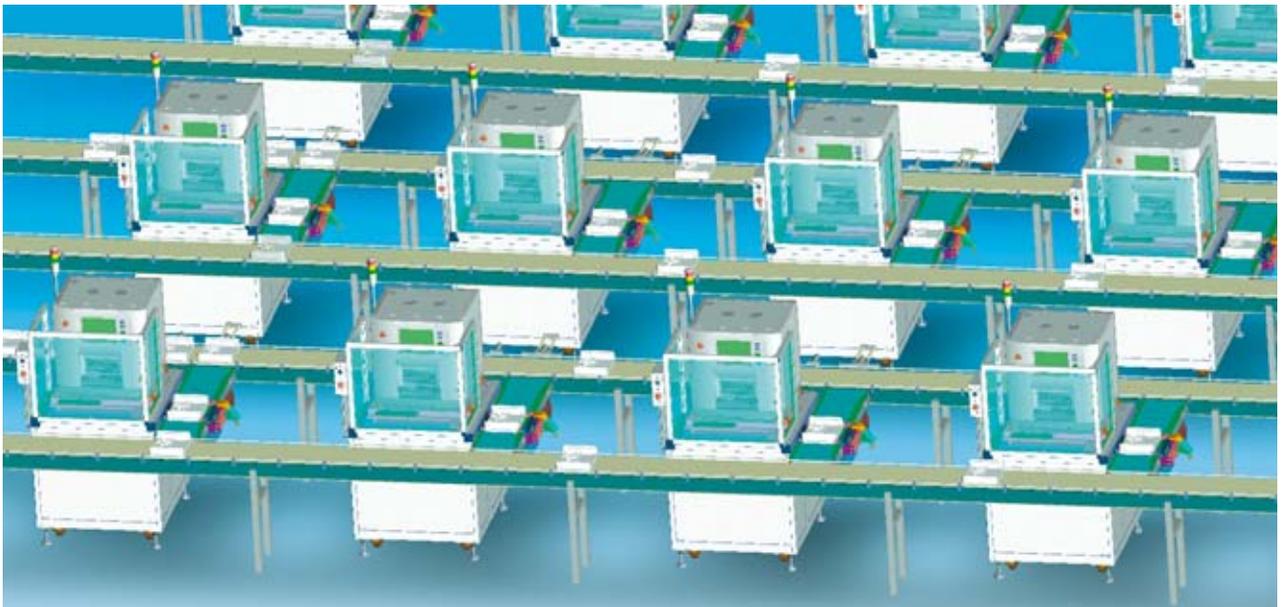
## VCA Protocol

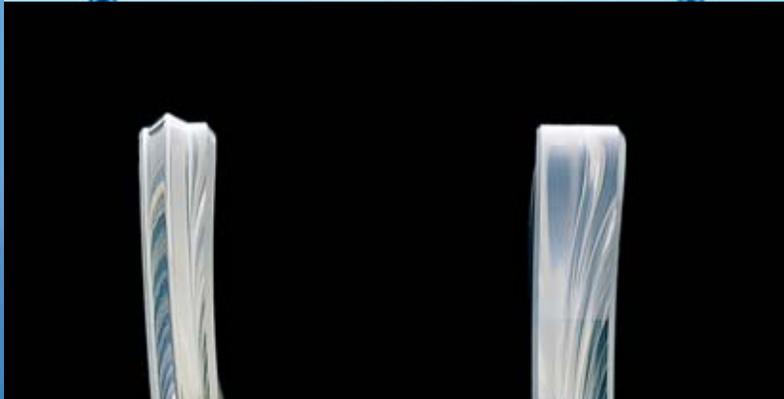
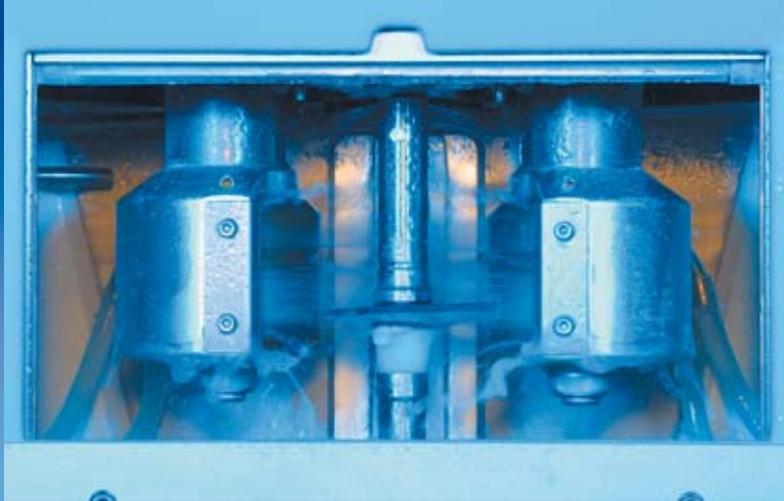
Lab networks using VCA protocol.

## Enhanced Flexibility

Various configurations of the SE-9090 Express and RHU-1000CB can provide highly productive and efficient workflow of automated and continuous lens processing.

The systems are highly flexible for expansion, to fit in various floor layouts and production areas. Efficiency of output can be achieved without increasing manpower, offering high quality finished lenses with greater profitability.





## System Edger SE-9090 Express Accurate & Durable

### High Quality Automatic Crystal Cut™ Chamfering

The NIDEK System Edger SE-9090 Express offers automatic standard chamfering and polish chamfering; paying greater attention to the creation of more beautiful lenses with less effort than ever before.



Normal Chamfering    Special Chamfering

### Faster Grinding with the Double Spindle System

The Double Spindle System incorporates a program to automatically control the grinding pressure of 7 different levels. As the grinding pressure is variable, time can be saved by processing at the best pressure and optimum speed.

### Simultaneous Double-Sided Shape Measurement

The SE-9090 Express simultaneously measures both front and rear sides of the lens for faster operation. The system measures a lens in approximately 5 seconds, providing accurate and fast processing.

### Improved Durability & Accuracy

The robust SE-9090 Express platform supports powerful, industrial-strength servo drive motors linked to an advanced RISC CPU microprocessor. These drive the world's first patented dual-spindle edger, accurate to 0.15 mm in lens circumference. The powerful servo drive motors offer continuous operation capabilities, less down time and higher productivity.

### High Quality Polishing

The SE-9090 Express incorporates low-vibration motors for spindles, and 20,000 grinding control points for obtaining a high quality polished finish.

## User Friendly Touch Panel

The large 10.4-inch SVGA color LCD touch panel provides all the information needed for total processing. Bevel simulation can be observed, assuring a satisfying result.



10.4-inch SVGA color LCD (Touch Panel)

## Advanced Networking Capability

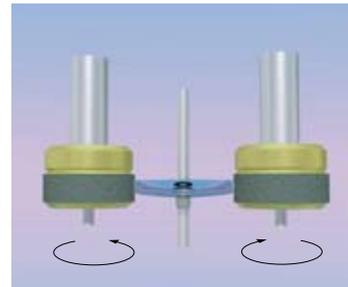
The SE-9090 Express is compatible with various communication protocols - VCA, RS-232C, LAN, etc., offering advanced networking capabilities.

## Data Transmission

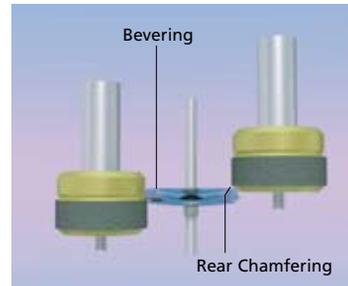
Data transmission with the barcode scanner (optional) can simplify troublesome procedures. This feature also saves processing time and reduces errors, to assure fast and high productivity.



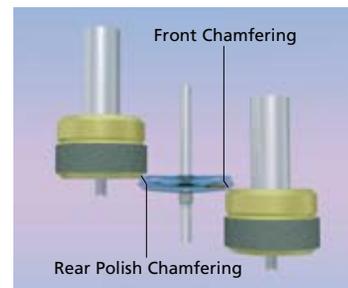
Barcode Scanner (Optional)



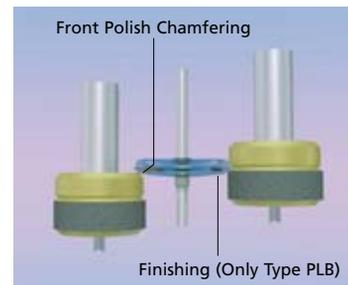
Rough Process



Beveling & Rear Chamfering



Front & Rear Polish Chamfering



Front Polish Chamfering & Finishing

## Grinding Wheels

TYPE PLB	Lens material					Grinding					
	Plastic	High index plastic	Polycarbonate	Acrylic resin	Glass	Bevel edging	Flat (rimless) edging	Safety beveling	Bevel polishing	Flat (rimless) polishing	Safety bevel polishing
	○	○	○	○	×	○	○	○	○	○	○

TYPE PLA	Lens material					Grinding					
	Plastic	High index plastic	Polycarbonate	Acrylic resin	Glass	Bevel edging	Flat (rimless) edging	Safety beveling	Bevel polishing	Flat (rimless) polishing	Safety bevel polishing
	○	○	○	○	×	○	○	○	×	×	○

TYPE GLS	Lens material					Grinding					
	Plastic	High index plastic	Polycarbonate	Acrylic resin	Glass	Bevel edging	Flat (rimless) edging	Safety beveling	Bevel polishing	Flat (rimless) polishing	Safety bevel polishing
	×	×	×	×	○	○	○	○	×	×	×

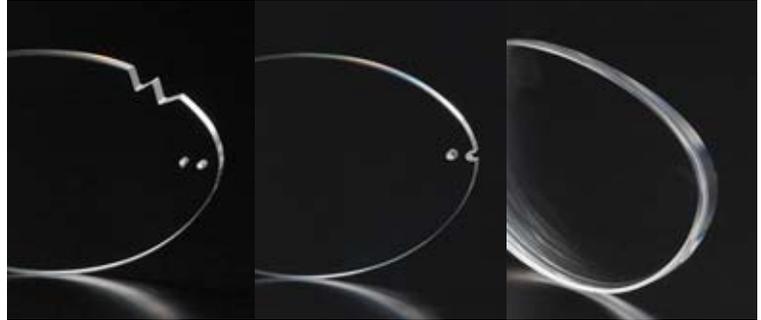


AHM-1000

## AHM-1000 Automatic Drilling and Grooving for Industrial Labs

The NIDEK Auto Drilling Unit AHM-1000 provides automatic hole drilling and grooving for various frame styles.

Combined with the RHU series, the AHM-1000 offers automatic and continuous lens processing for labs.



Twin Holes &  
Peripheral Design Cut

Hole & Notch

Grooving

## Auto Drilling Unit AHM-1000 Versatility

### Key Features

- Automatic 3-D Hole Drilling according to the Spherical Surface Curve of Lenses.
- Progressive Grooving with Tilting Function for Rimless Frame Lenses
- 10.4-inch LCD Touch Panel for Easy Operation



3-D Drilling



Grooving with Tilting Function

## RHU-1000/1500 Enhanced Functionality with the SE-9090 Express

The NIDEK Robotic Handling Unit (RHU) Series offer automatic lens conveyance to assist automation of the SE-9090 Express' lens processing in industrial labs.



### Key Features

- Small Foot Print
- High-Speed Conveyance 25 sec. / job (RHU-1000)
- Great Adaptability for any Style Edging Laboratory
- Easy Operation and Maintenance

## Robotic Handling Unit RHU-1000/1500 Automation

The RHU-1000S (with stacker), RHU-1000CB (with conveyer belt) and RHU-1500 can provide continuous automatic processing to achieve high productivity and profits for large production labs. The RHU-1000 (without stacker/conveyer belt) is also an available option.



**SE-9090 Express & RHU-1000S  
(NIDEK Tray Type Stacker)\***

\*LOH tray type stacker is also available.



**SE-9090 Express & RHU-1000CB  
(with Conveyer Belt)**



**AES-1500\* (RHU-1500)**

\*AES-1500 is the combined system of the SE-9090 Express + AHM-1000 + RHU-1500.

## SE-9090 Express Specifications

<b>Grinding System</b>	Patternless Double Spindle System
<b>Grinding Mode</b>	Auto Grinding : Computer Beveling Guided Grinding Flat Edging Safety Beveling (Chamfering) Polishing (Type PLB only. Type PLA polishes safety-beveled edges.)
<b>Grinding Lens Material</b>	Plastic (CR-39 etc.), Polycarbonate, Acrylic Resin, TRX (Type PLA or Type PLB), Glass (Type GLS)
<b>Minimum Grinding Size With chamfering</b>	When Flat Edging : 33 (Horizontal Width) x 26 (Vertical Width) mm When Beveling : 35 (Horizontal Width) x 27 (Vertical Width) mm
<b>Without Chamfering</b>	When Flat Edging : 33 (Horizontal Width) x 20 (Vertical Width) mm When Beveling : 34 (Horizontal Width) x 21 (Vertical Width) mm
<b>Grinding Pressure</b>	Variable: 7 Levels (Automatic Control by Program)
<b>Display</b>	10.4-inch SVGA Color Display (Touch Panel)
<b>Lends Chucking Chucking Method</b>	Electric
<b>Chucking Pressure</b>	Variable: 7 Levels (Parameter Setting)
<b>Water Supply System</b>	Pump Circulation or Direct Connection to Tap Water
<b>Power Supply Power Source</b>	AC200 - 240 V, 50/60 Hz (Single Phase)
<b>Power Consumption</b>	2.5k VA
<b>Dimensions/Weight</b>	600 (W)x510(D)x611(H) mm/120 kg 23.6(W)x 20 (D)x 24 (H) "/265 lbs.
<b>Standard Accessories</b>	Lens Cup (x10), Lens Cup for Half-eye Lenses (x10), Double-coated Adhesive Tape (x1 box), Lens Adapter/Lens Clamp for Half-eye Lenses (x1 set), Cup Remover (x2), Coupler (x2), Hose Band (x2), Duct (x2), Duct Adapter (x2), Power Cable, Monkey Wrench, Hex. Wrenches (2, 5, 6 mm), Dressing Stick for Roughing Wheel :WA80 K (Type GLS only), Dressing Stick for Finishing Wheel :WA320, Dressing Stick for Polishing Wheel :WA4000 (Except for Type GLS)

## AHM-1000 Specifications

<b>Drilling</b>	
Hole dia.	Dia. 0.8 - 3.0 mm (in increments of 0.1 mm)
Hole depth	6.0 mm or less
Drilling range	Dia. 33 - 70 mm around lens axis
Drilling direction	Normal to lens surface (max. 30°)
<b>Grooving</b>	
Width	0.6 - 1.2 mm continuously variable (in increments of 0.1 mm)
Depth	0.0 - 0.8 mm continuously variable (in increments of 0.1 mm)
Grooving mode	Automatic Guided
<b>Display</b>	10.4-inch SVGA color LCD (Touch Panel)
<b>Power Supply</b>	
Power Source	AC200 - 240V, 50/60 Hz
Power Consumption	300 VA
<b>Dimensions/Weight</b>	400(W)x 515 (D)x 611(H) mm/50 kg 16 (W)x20.6(D)x24.4(H) "/110 lbs.
<b>Standard Accessories</b>	End mill (x10), Grooving cutter (x1), Lens Adapter/Lens Clamp for Half-eye Lenses (x1 set), Standard Pattern, Grooving Calibration Jig, Drill Calibration Jig, Coupler, Hose Band, Duct (1M), Duct Adapter, Power Cable, Monkey Wrench (8 - 9 mm), Hex. Wrenches (2, 5, 6 mm), Fuse (x4), Interface Cable

## RHU-1000 / 1500 Specifications

<b>Conveyable Lens</b>	
Outer dia. (Before Grinding)	80 mm dia. or Less
Outer dia. (After Grinding)	20 mm dia. or More
<b>Maximum Thickness</b>	17 mm (Edge of Concave Lens) 10 mm (Center of Concave Lens) 14 mm (Total of Convex Lens)
<b>Power Supply</b>	
Power Source	AC 200/230 V, 50/60 Hz (Single Phase)
Power Consumption	600 VA
<b>Positive Pressure</b>	
Used Fluid	Dry Air
Pressure Supply	0.45 - 0.8 MPa
Flow	70 L /min or More
Connection Method	10 mm dia. One-Touch Joint
<b>Dimensions/Weight</b>	
<b>RHU-1000</b>	800 (W)x 875 (D)x1472(H) mm/140 kg 31.5(W)x34.4(D)x 58 (H) "/309 lbs.
<b>RHU-1000S</b>	800 (W)x1185(D)x1472(H) mm/220 kg 31.5(W)x 44.3(D)x 58 (H) "/486 lbs.
<b>RHU-1000CB</b>	1207(W)x1128(D)x1472(H) mm/185 kg 47.5 (W)x 44.4 (D)x 58 (H) "/ 408 lbs.
<b>RHU-1500</b>	1300(W)x1185(D)x1472(H) mm/230 kg 51.2 (W)x46.7 (D)x 58 (H) "/ 507 lbs.
<b>Standard Accessories</b>	RS-232C Cable, Drain Hose

\*Specifications and design are subject to change without notice for improvement.

## VISIONARY PERFORMANCE



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Printed in Japan Lab Edging Systems NMDMM①



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