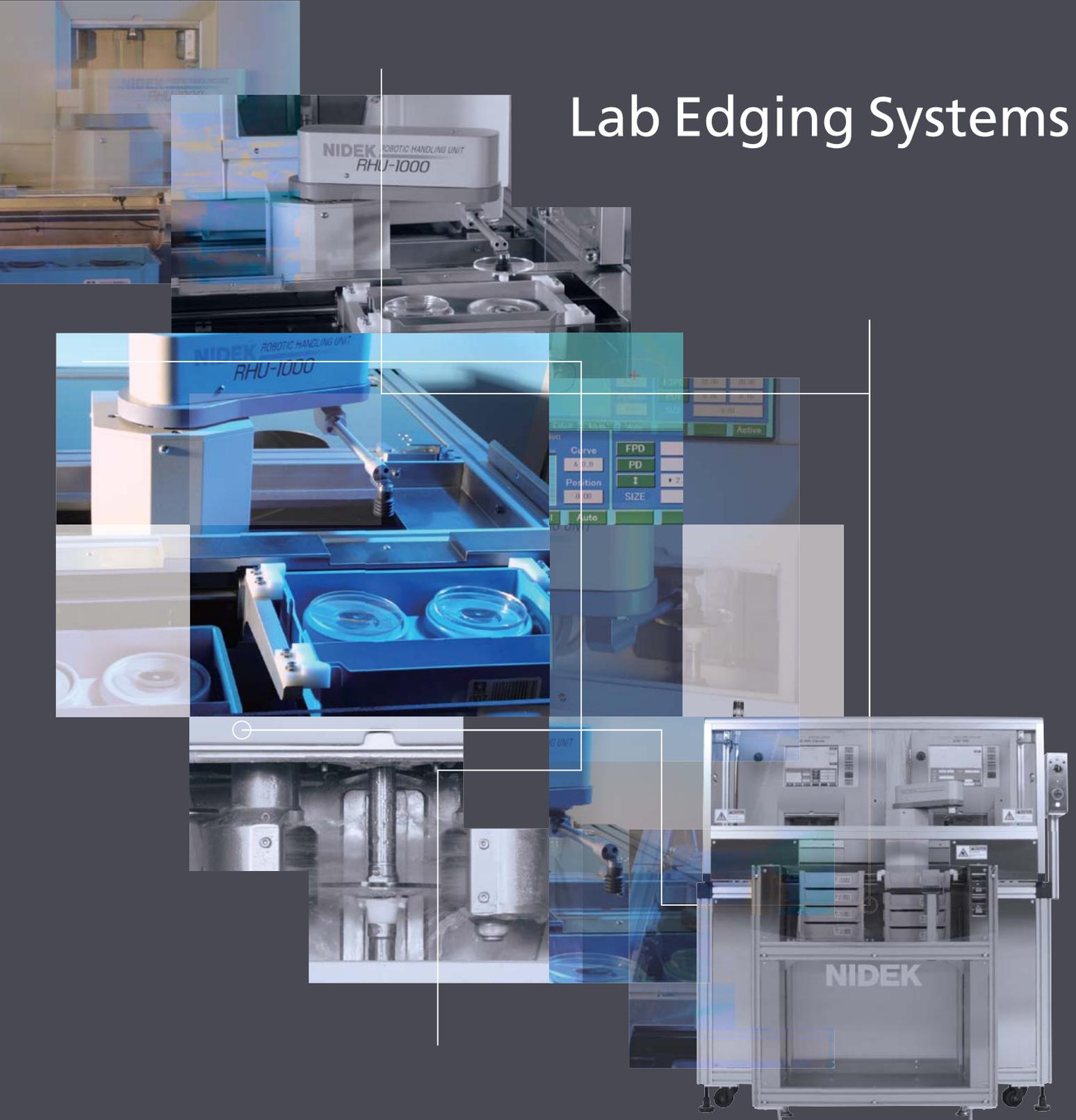




Lab Edging Systems



Lab Edging Systems



Comprehensive, Automated Lens Processing Solutions

Robotic Lab Edging Systems from NIDEK balance high productivity and the ultimate lens processing quality. Various configurations are possible with the SE-9090 Express+/SE-9090 Supra, AHM-1000 and RHU-1000/1500.

For industrial labs of all sizes, NIDEK delivers superior comprehensive solutions to meet your lab business needs and growth strategy. NIDEK Lab Edging Systems offer the most proven and time-tested technologies in lens finishing.

● High-Curve Technology

AES robotic series processes high base curve lenses for any frame. With the high-curve model (PLB-8) of the SE-9090 series, you can process high base curve lenses with our auto-handling system or as a stand alone unit.

The SE-9090 high-curve model processes front and rear bevel of high-curve lenses separately. It can control the height of the bevel, creating an option of either "micro bevel" or a highly customized bevel. The quality of this high curve bevel is far superior to that of dry edging technologies.

● High Quality Polishing

Our Lab Edging Systems offer an exclusive diamond luster polish finish. High-curve bevel, flat bevel and safety bevel can all be polished.

This polished finish continues to be one of the most sought-after features of our finishing technology.

● Cost Efficient

The SE-9090 Edger Series uses a diamond grinding wheel for all processing except for the drilling function. This saves on the cost of frequent tool/blade change-out which often occurs with dry edging technologies.

from NIDEK

● High Size Stability

The SE-9090 Supra achieves the highest on-size stability via NIDEK's exclusive "3D-fit" technology. The unit's touch-sensor calibration (optional) largely reduces time needed for size adjustment via a new, revolutionary technique (see page 4).

● Minimum "B" Size (type for PLB)

NIDEK Labs Edging Systems process minimum "B" size, as follows:

Flat bevel processing: 19.0 mm; Bevel processing: 20.6 mm; High curve bevel: 24.4 mm; Safety bevel for flat lenses: 21.0 mm; Safety bevel for bevel lenses: 22.6 mm with the use of NIDEK original pliable blocks.

● Internet Remote Tracing

NIDEK's Internet Remote Tracing offers the best solution and does not even require a dedicated server.



The Ultimate Lens Edger for Labs

NIDEK has the most technologically advanced series of industrial lens edgers for high-volume production labs. This innovative equipment has a proven track record as reported by many of the top labs throughout the world. At the core of these systems is the SE-9090 series, which boasts NIDEK's proprietary technology.

Key Features of SE-9090 series

■ Faster grinding with dual spindle system

The unique Dual Spindle System of the SE-9090 series incorporates a program which automatically controls grinding pressure at seven different levels.

■ Simultaneous dual-side lens measurement

The SE-9090 series simultaneously measures both front and rear sides of the lens for faster operation.

■ High quality automatic polish safety beveling

The SE-9090 series offers automatic safety beveling and polish safety beveling, paying the utmost attention to the aesthetic of beautiful lenses as a standard feature.

■ Improved durability & accuracy

The robust SE-9090 series platform supports powerful, industrial-strength servo drive motors linked to an advanced RISC CPU microprocessor.

■ User-friendly 10.4-inch SVGA color LCD touch panel

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

■ Exclusive 3D-fit

3D-fit is a process management technology for high size accuracy of a lens. Optimal fit can be achieved depending on 3D circumference of frame with NIDEK tracers (LT-1000 / Lt 910).

■ Advanced network capability

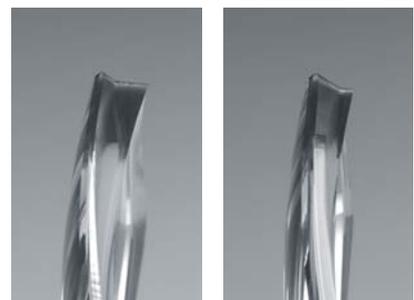
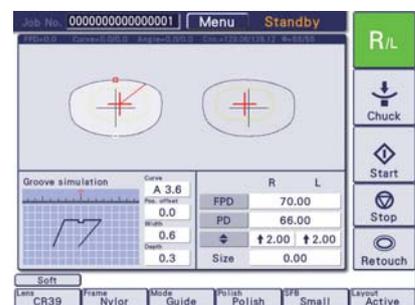
The SE-9090 series is compatible with various communication protocols OMA-VCA, LAN, etc., offering advanced network capabilities.

■ Data transmission

Data Transmission using a barcode scanner (optional) simplifies communication procedures. This feature also saves processing time and reduces errors, to assure fast and high volume productivity.

■ High-Base curve technology (PLB-8 Model)

The SE-9090 series high-curve technology processes front and rear bevel of high-curve lens separately. It controls the height of the bevel, resulting in a "micro bevel" or a highly customized bevel.



SE-9090 Supra

New generation edger offers grooving and step bevel function

Additional Features

- Auto grooving
- Step bevel processing (type PLB-8 only)
- High spec RISC CPU
- Touch sensor calibration tool
Adjustment time is dramatically reduced with high calibration accuracy.



SE-9090 Supra

SE-9090 Express+

Standard model of SE-9090 series



SE-9090 Express+

AHM-1000

Automatic drilling and grooving for industrial labs

The AHM-1000 Unit provides automatic 3D drilling and 3D grooving for various frame styles. Combined with the RHU-1500 and SE-9090 Express+, the AHM-1000 offers automatic and continuous lens processing for labs in conveyor belt or stacker configurations.

Key Features

- Automatic 3D drilling perpendicular to front base curve of lenses
- Progressive 3D grooving with tilting function for rimless frames
- 10.4-inch LCD touch panel for easy operation



Drilling

Grooving



AHM-1000

The Ultimate Auto Edging System for Labs

The RHU-1000/1500, Robotic Handling Unit, offers lens conveyance automation for lens processing in industrial labs - all in a minimum footprint.

AES-1500S/CB

The SE-9090 Express+, AHM-1000 & RHU-1500 Combination System

The AES-1500 system is available with two different robotic handling units: stacker configuration (RHU-1500S) or conveyer belt configuration (RHU-1500CB). The optimal combination of the SE-9090 Express+'s proven technology, the AHM-1000's 3D Drilling & Grooving, and the RHU-1500's automated lens handling delivers the most reliable and efficient solution for lab business needs.



AES-1500S

AES-1000S/CB

The SE-9090 Supra/Express+ & RHU-1000 Combination System

Available with the SE-9090 Supra or SE-9090 Express+, the AES-1000 system is offered with the RHU-1000, Robotic Handling Unit, in a stacker configuration (RHU-1000S) or a conveyer belt configuration (RHU-1000CB).

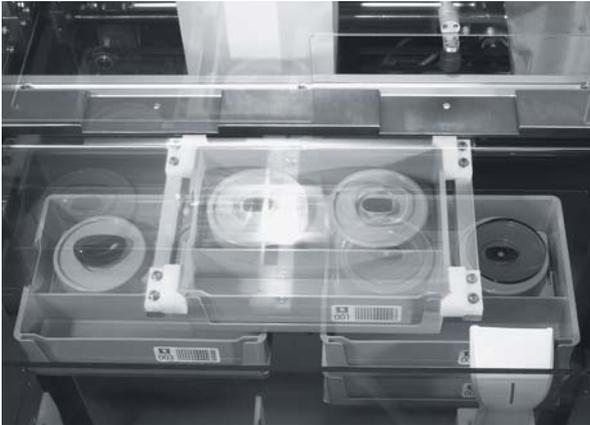


AES-1000CB



AES-1000S

Comprehensive Solution of NIDEK Lab Edging Systems



● Key Features of AES series

- Great adaptability for any style edging lab
- Easy operation and maintenance
- Small footprint
- High-speed conveyance
- High-curve technology

The AES series processes high base curve lenses for the latest wrap frames.



Enhanced flexibility

Various configurations of the AES series can provide highly productive and efficient workflow for automated and continuous lens processing. The systems offer flexibility and can fit various floor plans and production areas which can easily be modified for expansion. Increased high quality finished lens throughput can be obtained without additional manpower, resulting in greater profitability.

Server software for Internet Remote Tracing

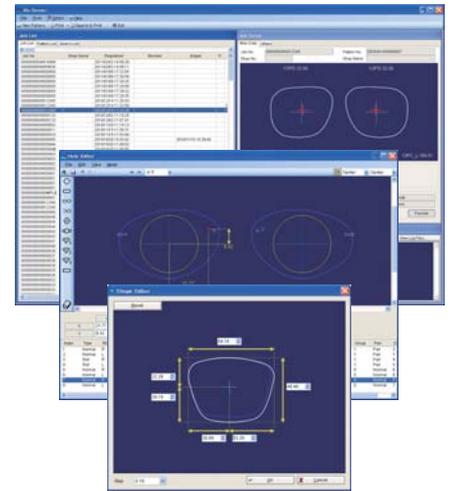
The iRx Server along with the use of NIDEK equipment creates a simple and complete package of internet remote tracing system, using only traditional internet access.

iRx Server

Server software for lab

● Features

- Internet remote tracing system with internet ordering system
- Server function sends data to edger in a lab.
- Master file maintenance sends files from the LT-1000 to iRx satellite via Internet.
- 4 types of job entry methods
- Data import / export customize
- Data save for the Me 1200
The Me 1200 data such as Facet, Design Cut & Partial Grooving can be supported and saved to the server.
- Shape edit function
- Job & pattern management
- 3D-fit data communication supported

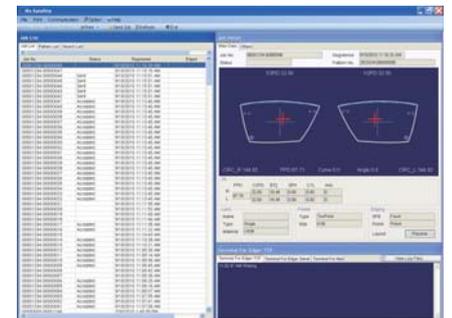


iRx Satellite

Software for data communication from retail locations

● Features

- Internet remote entry software to iRx Server
PC with the Lt 910 tracer can be used as well as the LT-1000 tracer.
- Server Function
- Saves data for the the Me 1200
The Me 1200 data such as Facet, Design Cut & Partial Grooving can be supported and saved to the server.
- Shape edit function
- 3D-fit data communication supported



Satellite tracer

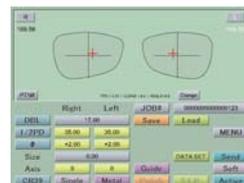
LT-1000

Satellite Tracer for labs and web-based tracer

While conventional tracers can only acquire frame data, the LT-1000 satellite tracer, can create a job with frame and layout data and transmit to a server PC / lens edger, allowing simpler and more accurate operation for lab processing. It is most suitable as a job entry tracer for VCA server. It can also be connected to the Internet without a PC.

● Features

- Ordering job can be sent to a Lab without the need of a computer (web-based tracer).
- Automatic 3D tracing with high precision
- Easy data input on LCD touch panel.
- Shape editor
- 3D-fit data communication supported
- High-curve frame angle verification function



Lt 910

Satellite Tracer

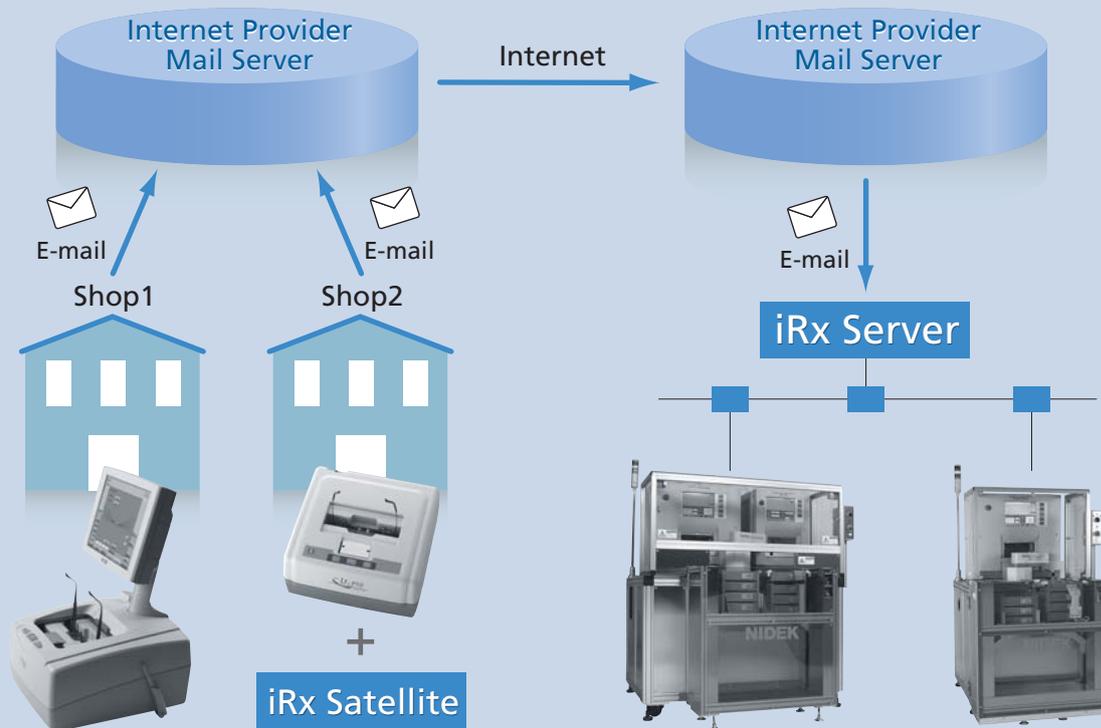
● Features

- Automatic dual 3D tracing with high precision
- 3D-fit data communication supported



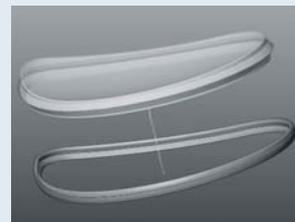


NIDEK's internet remote tracing is the best solution, without the need for an installed dedicated server. NIDEK's tracers and Lens Edgers by 3D-fit technology provide high quality "one-cut fit" lens-to-frame which is crucial to accurate and precise remote tracing.



3D-fit

Highly precise processing size management technology of NIDEK. If frame curve is not same as bevel curve. 3D circumferences have small difference between frame and Lens, and lens does not fit the frame. In this case, some compensation is necessary. Before grinding, compensate the size based on the difference of circumference. (PAT)



SE-9090 Series Specifications

Model	SE-9090 Supra	SE-9090 Express+
Grinding system	Double spindle system, Patternless	←
Grinding mode	Auto grinding: Computer beveling Guided grinding Flat edging Safety beveling Polishing High base curve beveling (type PLB-8 only) Grooving Step bevel (type PLB-8 only)	Auto grinding: Computer beveling Guided grinding Flat edging Safety beveling Polishing (type PLB and type PLB-8 only) High base curve beveling (type PLB-8 only)
Lens material	Plastic (CR-39 etc.), High index plastic, Poly carbonate, Acrylic resin, Trivex (TRX)	Type PLA, PLB, and PLB-8 - Plastic (CR-39 etc.), High index plastic, Poly carbonate, Acrylic resin, Trivex (TRX), Type GLS - Glass
Setting range		
FPD	30.0 to 99.5 mm (0.01 mm increments)	
PD	30.0 to 99.5 mm (0.01 mm increments)	
1/2PD	15.0 to 49.75 mm (0.01 mm increments)	←
Optical center height	0 to ±15.0 mm (0.01 mm increments)	
Size	0 to ±9.95 mm (0.01 mm increments)	
Water supply system	Pump circulation or direct connection to tap water	←
Display	10.4-inch SVGA color LCD with touch panel	←
Interface	RS-232C: three ports port1 - PC port2 - the barcode scanner port3 - the robot handling unit Ethernet: one port	←
Power supply	AC 230 V, 50 / 60 Hz	AC 200 to 240 V, 50 / 60 Hz
Power consumption	2.5 kVA	←
Dimensions / Mass*	600 (W) x 517 (D) x 611 (H) mm / 118 kg 23.6 (W) x 20.3 (D) x 24.0 (H)" / 259.9 lbs.	600 (W) x 510 (D) x 611 (H) mm / 120 kg 23.6 (W) x 20.0 (D) x 24.1 (H)" / 264.3 lbs.
Standard accessories	Coupler, Hose band, Duct, Duct adapter, Power cord, Hexagonal wrench, Dressing stick for finishing wheel, Compound kit, Splatter guard, Key for the front cover, Wrench for wheel replacement, Wrench for grooving wheel replacement	Coupler, Hose band, Duct, Duct adapter, Power cord, Monkey wrench, Hexagonal wrench, Dressing stick for roughing wheel of glass lenses, Dressing stick for finishing wheel, Compound kit
Optional accessories	Specified table, Barcode scanner, Pump and tank, Pliable cup set, Mini cup set, Pliable cup box, Mini cup box, USB flash drive, Touch sensor calibration jig	Specified table, Barcode scanner, Pump and tank, NIDEK-type cup set, WECO-type cup set, Mini cup pack

Edging lens size (mm)

	SE-9090 Supra				SE-9090 Express+			
	Without safety bevel		With safety bevel		Without safety bevel		With safety bevel	
	Flat edging	Beveling	Flat edging	Beveling	Flat edging	Beveling	Flat edging	Beveling
Maximum lens size	ø100		ø96		ø100		ø96	
Minimum lens size	SE-9090 Supra (type PLB)				SE-9090 Express+ (type PLA, PLB, and GLS)			
Pliable cup	ø32.0 x 19.0	ø33.6 x 20.6	ø34.0 x 21.0	ø35.6 x 22.6	ø32.0 x 19.0	ø34.1 x 20.6	ø34.0 x 21.0	ø36.1 x 22.6
Mini cup	ø22.0 x 17.4	ø23.6 x 19.0	ø24.0 x 19.4	ø25.6 x 21.0	ø22.0 x 17.4	ø24.1 x 19.0	ø24.0 x 19.4	ø26.1 x 21.0
Minimum lens size	SE-9090 Supra (type PLB-8)				SE-9090 Express+ (type PLB-8)			
Pliable cup	ø32.0 x 19.0	ø33.6 x 20.6	ø36.0 x 23.0	ø37.6 x 24.6	ø32.0 x 19.0	ø34.1 x 20.6	ø36.0 x 23.0	ø38.1 x 24.6
Mini cup	ø22.0 x 17.4	ø23.6 x 19.0	ø26.0 x 21.4	ø27.6 x 23.0	ø22.0 x 17.4	ø24.1 x 19.0	ø26.0 x 21.4	ø28.1 x 23.0
Pliable cup	High curve beveling		High curve step beveling	Grooving	High curve beveling	High curve step beveling	Grooving	
Mini cup	ø37.9 x 24.4		ø37.9 x 24.4	ø32.0 x 20.0	ø37.9 x 24.4		Not available	Not available
	ø27.9 x 22.8		ø27.9 x 23.9	ø22.0 x 20.0	ø27.9 x 22.8			

Wheel options

		Beveling	Bevel polishing	High base curve beveling	Flat edging	Flat-edge polishing	Grooving	Glass beveling	Glass flat edging	Safety beveling	Safety-beveled surface polishing	Step beveling
SE-9090 Epress+	PLA	○	×	×	○	×	×	×	×	○	○	×
	PLB	○	○	×	○	○	×	×	×	○	○	×
	PLB-8	○	○	○	○	○	×	×	×	○	○	×
	GLS	×	×	×	×	×	×	○	○	○	×	×
SE-9090 Supra	PLB	○	○	×	○	○	○	×	×	○	○	×
	PLB-8	○	○	○	○	○	○	×	×	○	○	○

○ - available / × - not available

Type PLB-8 of both SE-9090 Express+ and Supra are capable for high base curve bevel polishing.

AHM-1000 Specifications

Drilling	
Hole diameter	ø0.8 to 10.0 mm (0.1 mm increments)
Hole depth	6 mm or less
Range of hole milling	ø33.0 to 70.0 mm from the lens rotation axis
Direction of hole milling	Auto, Simple tilt, X Auto, Complex tilt
Slotted hole width	ø0.8 to 10.0 mm (0.1 mm increments)
Slotted hole depth	6 mm or less
Slotted hole length	20 mm or less
Grooving	
Groove width	0.6 to 1.2 mm (0.1 mm increments)
Groove depth	0 to 0.8 mm (0.1 mm increments)
Range	Maximum radius: 42.0 mm (ø84.0 mm)
Processing mode	Auto grooving, Guided grooving
Display	10.4-inch SVGA color display with touch panel
Power supply	AC 200 to 240 V, 50 / 60 Hz
Power consumption	300 VA (excluding the pump and tank), 420 VA (including the pump and tank)
Dimensions / Mass	400 (W) x 515 (D) x 611 (H) mm / 50 kg 15.7 (W) x 20.3 (D) x 24.1 (H) " / 110.1 lbs.
Standard accessories	Drill bit, Grooving cutter, Lens adapter and lens clamp for half-eye lenses, Calibration jig, Calibration jig for grooving, Coupler, Hose band, Duct, Duct adapter, Power cord, Hexagonal key wrench, Hexagonal wrench, Fuse, Communication cable, Calibration jig for drilling
Optional accessories	Circulation pump and tank, Barcode scanner, Drill bit, Grooving wheel, Lens adapter and lens clamp for mini cups

RHU-1000 /1500 Specifications

Model	RHU-1000	RHU-1500
Combinable instrument	SE-9090 Supra / Express+	SE-9090 Express+ and AHM-1000
Applicable lenses		
Maximum allowable diameter	80 mm in diameter (blank lenses)	
Minimum allowable diameter	20 mm in diameter (finished lenses)	
Maximum allowable thickness	17 mm (edge thickness of concave lenses) 10 mm (thickness at the center of convex lenses) 14 mm (overall thickness of convex lenses)	←
Positive pressure		
Used fluid	Dry air	←
Max. Flow rate	70 liters / minute or more	←
Usual pressure		
RHU-1000S	0.45 to 0.8 MPa by the regulator (lowered to 0.4 MPa by the regulator)	←
RHU-1000CB	0.45 MPa or higher (lowered to 0.40 to 0.45 MPa by the regulator)	←
RHU-1500S	—	0.45 to 0.8 MPa by the regulator (lowered to 0.4 MPa by the regulator)
RHU-1500CB	—	0.45 to 0.8 MPa (lowered to 0.40 to 0.45 MPa by the regulator)
Connecting method	One-touch joint of 10 mm in diameter	←
Applicable barcodes		
Method	JAN, UPC-A, UPC-E, UPC-D3, EAN-13, EAN-8, CODE39, CODE128, CODEBAR (NW7), Standard 2 of 5, Interleaved 2 of 5 (ITF)	←
Line width	0.2 mm or more	←
Power supply	AC 200 / 230 V, 50 / 60 Hz	←
Power consumption		
RHU-1000S	600 VA (excluding the SE-9090 Supra / Express+) 2.8 kVA (including the SE-9090 Supra / Express+)	←
RHU-1000CB	600 VA (excluding the SE-9090 Supra / Express+) 2.8 kVA (including the SE-9090 Supra / Express+)	←
RHU-1500S	—	600 VA (excluding the SE-9090 Express+ and AHM-1000) 3.4 kVA (including the SE-9090 Express+ and AHM-1000)
RHU-1500CB	—	600 VA (excluding the SE-9090 Express+ and AHM-1000) 3.0 kVA (including the SE-9090 Express+ and AHM-1000)
Dimensions / Mass*		
RHU-1000S	800 (W) x 1185 (D) x 1472 (H) mm / 220 kg 31.5 (W) x 46.7 (D) x 58.0 (H) " / 484.6 lbs.	←
RHU-1000CB	1207 (W) x 1128 (D) x 1472 (H) mm / 185 kg 47.5 (W) x 44.4 (D) x 58.0 (H) " / 407.4 lbs.	←
RHU-1500S	—	1300 (W) x 1185 (D) x 1472 (H) mm / 250 kg 51.2 (W) x 46.7 (D) x 58.0 (H) " / 550.7 lbs.
RHU-1500CB	—	1500 (W) x 1242 (D) x 1472 (H) mm / 260 kg 59.1 (W) x 48.9 (D) x 58.0 (H) " / 572.7 lbs.
Standard accessories	RS-232C cable, Drain hose	←
Optional accessories	Tray	←

*Dimensions - excluding options and protrusions / Mass - main body only

Specifications and design are subject to change without notice.



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