



INTELLIGENCE x FUTURE
Linear Motor Drive Wire Cut EDM



RV Series Wire Cut EDM





New. Concept

In the process of development of the RV series, the use and experience of our customers are always leading us to a higher standard. Under constant research and innovation, the 1st intelligent wire cut EDM of CHMER is presented with unprecedented intelligent technologies such as IoT (Internet of Things), simulation, diagnose, spare parts life and factory management. It is the humanity that achieves perfection.

The quality and every angle of RV series are speaking for its craftsman, who cares for the combination of performance and aesthetics based on ergonomics.





Extraordinary Performance

Tailored designs for the molds and spare parts of aerospace, automobile, energy and electronics.

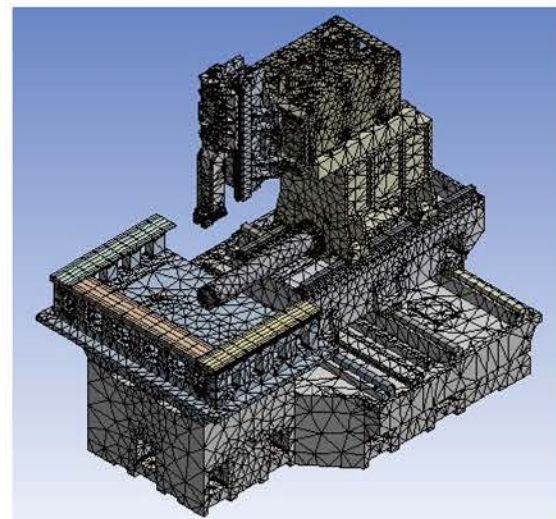
Excellent indexing accuracy and convenience by working with the self-developed highly accurate submerged rotary table.



High Rigid Structure Column

The best and rigid design by FEA (Finite Element Analysis).

Three large span linear guideways with a fixed table for heavy loads. Ensuring high accuracy as a small sized machine.



Shape Accuracy Comparison

Exceptional machining efficiency and cost competition especially for very thick workpieces.

Thickness	Cuts	Roughness	Accuracy
80mm	3cuts	0.55~0.58μm	3μm
100mm	2cuts	1.98~2.0μm	5μm
125mm	3cuts	0.55~0.58μm	3μm
250mm	3cuts	1.9~2.1μm	10μm
400mm	4cuts	1.9~2.1μm	19μm

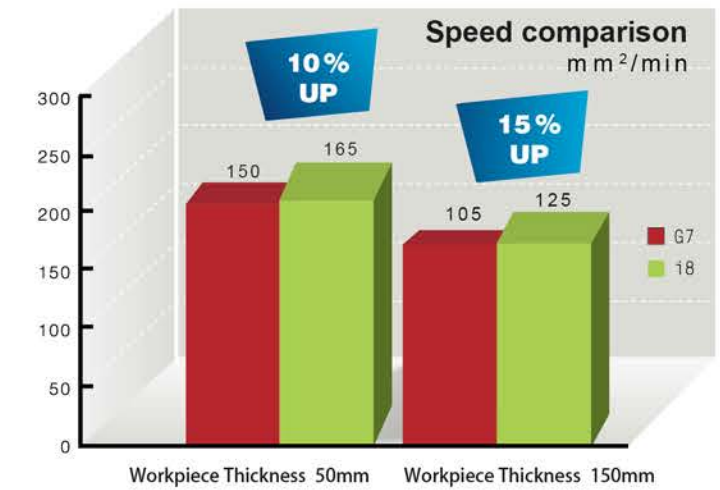


Revolutionary *i8* Power Supply

i8 Power Supply

Faster cutting speed (increasing 15% on 150mm workpiece and saving energy by 20%)
More powerful wire break suppression, which increases the machining stability and decreases the accuracy error.

Improved heat dissipation and cooling system with the thermal reduced *i8* components, maintains the machine temperature in continued and high-speed machining for longer PCB use without the trouble of malfunctions.

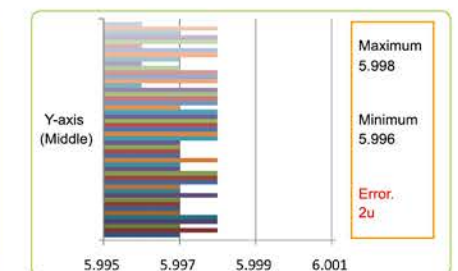
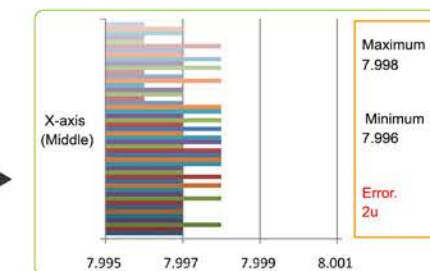


Intelligent Regulated Power Supply

New developed IVC, high frequency switching power supply for regulating and adjusting the voltage. Ensuring the machining temperature and safety by separating the load and the power.

Using the advanced technology to efficiently regulate the unstable external power to high precise internal power and intelligently determine more energy on high energy cutting for higher accuracy.

The continuous processing of 50 punches has a repeating precision of ±2μm, and the performance is comparable to that of Japanese and Swiss high-end products.



8x6mm square punch
(Continually for 50pcs job with a single-cut at 30mm thick)



Portability & Intelligence

i-Connected System(opt.)

Providing all information using mobile devices, during your absence from the machine. Experience the new intelligent machinery era of full portability management.



The core technology of intelligent information center can gather data from each machine and build the machining history, for instance: A customized data base of relative records of electricity, temperature and time by selecting the needed information in a specific time period.

Under the intelligent information center, there are 4 developed management platforms for more easy and convenient use including the intelligent information center, website service, active communication software service and APP monitoring system.

The Intelligent Information Center

The Kanban information for having instant machine data through servers and building the machining history.



APP Monitoring System

The exclusive Android APP for mobile phone and tablet, for multiple instant information including machine status, utility, spare parts life management and machining path monitor... etc.



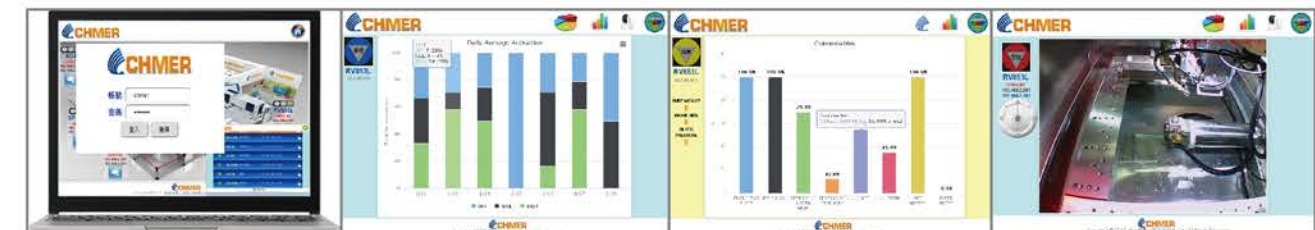
Active Communication Software Service

Having instant data through software such as LINE & E-MAIL.



Website Service

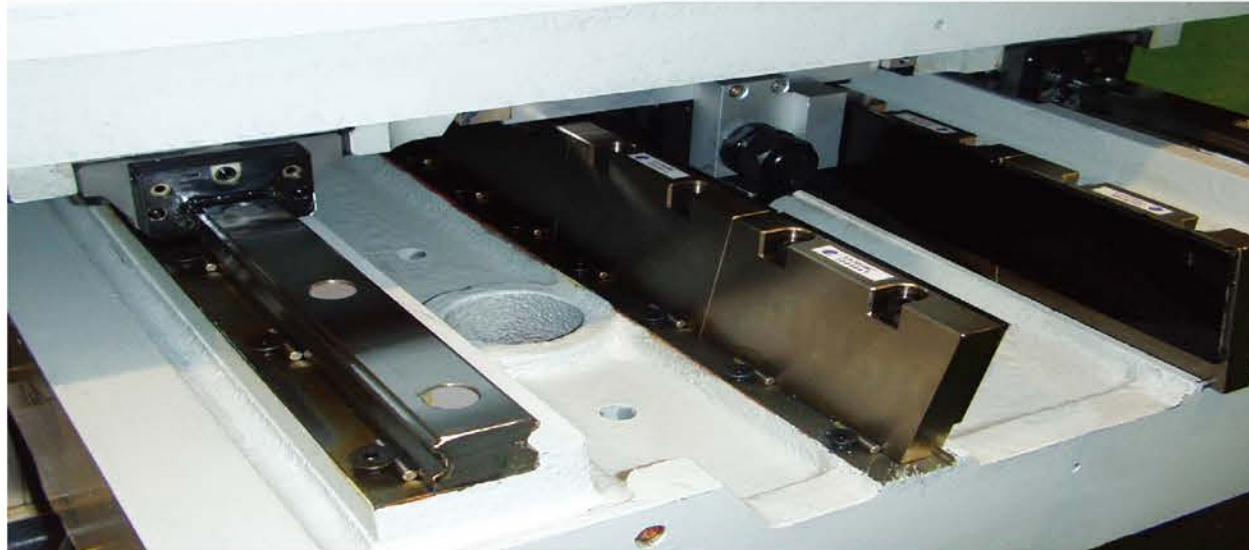
After accessing the system, all information is shown directly including machine status, utility, spare parts life management and machining path monitor... etc.





Linear Motor Drive

RV Series is equipped with CHMER's new generation high efficient Linear Motor, fulfilling no friction, backlash-free, no kinetic energy conversion loss, high response and longer life-span.



Reduce Profile Error
(Improving Linear / Circular Cross-section)

Work Conditions
Brass wire=0.20mm/BS Work-Piece=SKD11
Harden Steel Thickness=50mm
Cutting Pass=1+2 Skims

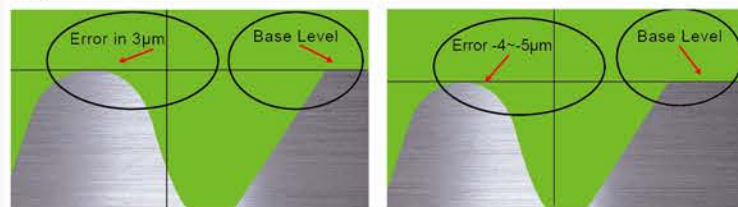
Cutting Shape

Ball-Bar Inspection

	Linear Motor		Ball Screw	
	A Section	B Section	A Section	B Section
Up	5.999	3.999	5.999	3.998
Middle	6.000	3.998	5.998	3.995
Bottom	6.000	4.000	6.000	3.999
Error	-0.001	-0.002	-0.002	-0.005

Improvement on "Corner" by Linear Motor

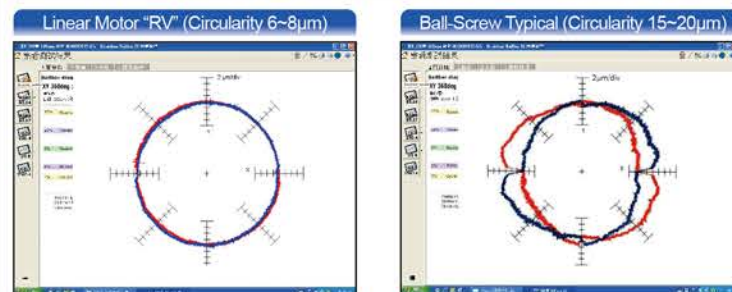
Cutting condition
Brass wire: 0.20mm/BS Workpiece: SKD11 Thickness: 50mm
Cutting Pass: 1+2 skims Roughness: Ra0.58µm Radius(R): 0.20mm
Angle: 30°



Linear Motor (Radius Error: 3µm) by optical projection 120X
Ball Screw (Radius Error: 4-5µm) by optical projection 120X

Ball-Bar Inspection

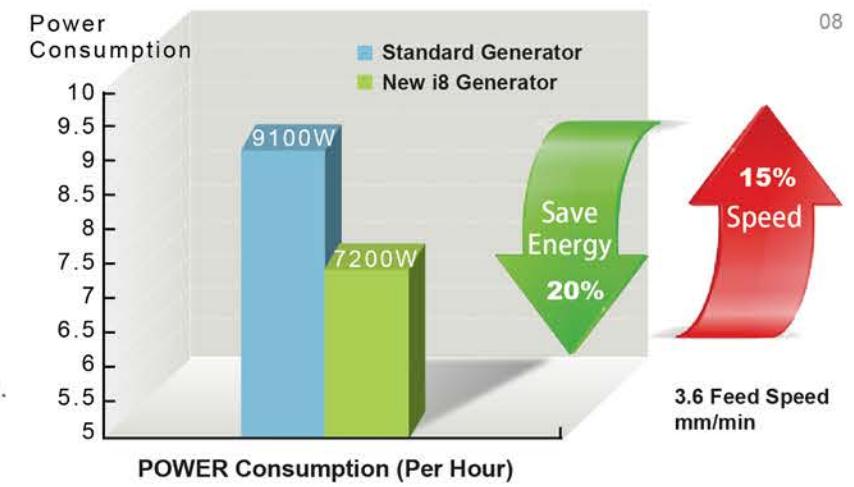
Roundness after 5 years



Energy-Efficient Technology

i8 Energy Saving Circuit

Reusing the released power by resistance to reduce 20% power consumption and heat, lowering the waste of the air conditioning system.



Energy-Efficient Inverter Type Chiller

Precisely controlling the water temperature to ±0.5°C and then power consumption is 45% lower compared to the fixed frequency chiller.

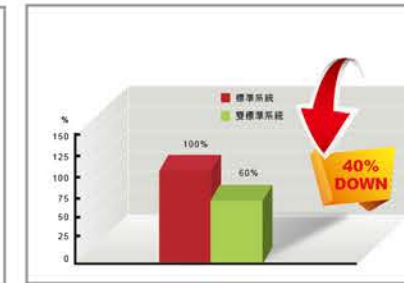
New double circulation of a three filter device to lower down the operating expenses and increasing production competitiveness.



Power consumption ratio of the chiller



Resin expense ratio



Filter expense ratio



Built-in Sleep Mode for the Host Computer and Water Treatment systems.

Power off when the machine idles for a set time (default: 3 mins for host computer, 10 mins for water treatment) to reduce the power consumption.



Embedded LED Lights

Fashion and energy efficiency instead of the conventional 3-colors halogen.





Age of Intelligence



CT HMI 2.0 Human Machine Interface

Pleasant operation with 19 inches touch screen combining excellent HMI and ergonomics.



Auto Sliding Door

Auto open and close for loading and unloading of automated systems.



3 Filters Capacity

Built-in 3 filters for extended replacement cycle.



The 6th Axis (opt.)

Cutting with the self-developed high accurate submerged rotary table (opt.) for complex machining.



DXF Transferring Function

CHMER self-developed software to easily transfer from drawing to cutting program.



High Speed Zinc Coating Wire(opt.)

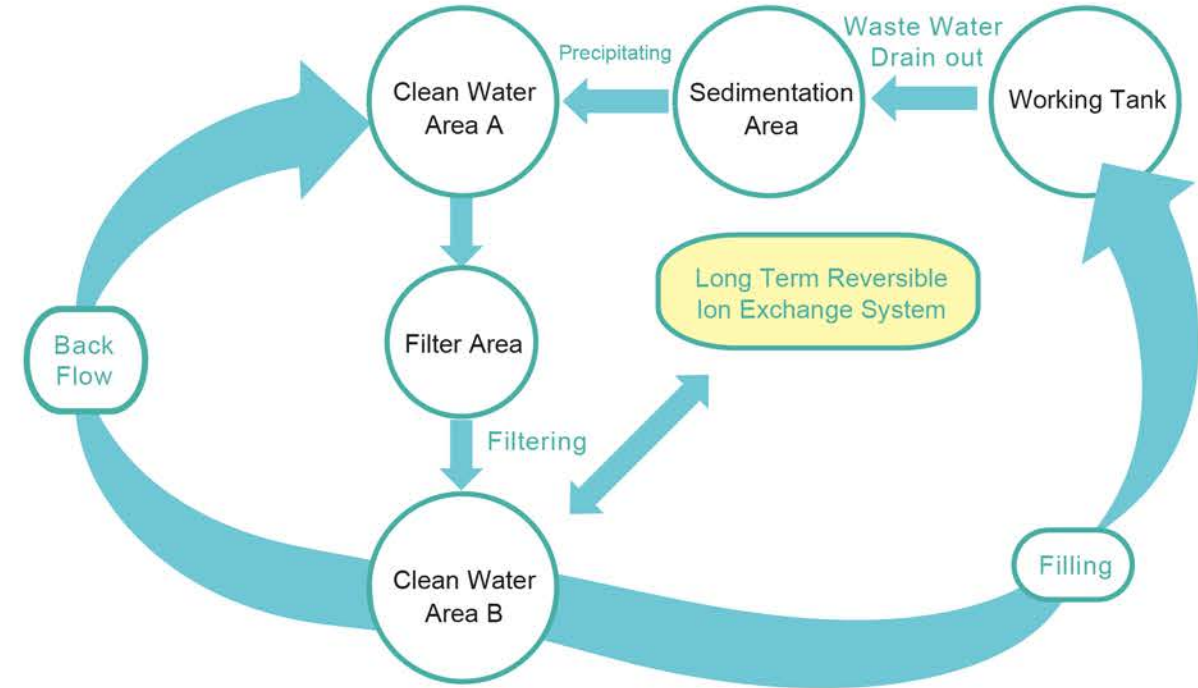
Using CHMER Chorro10 wire to increase the speed by 30%.



Jumbo Wire Feeder (opt.)

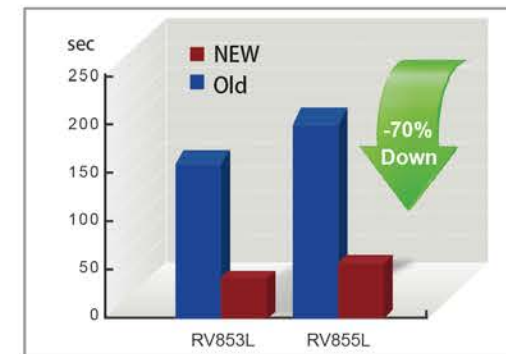
For up to a 30kg wire spool, to cut for a longer period and to achieve unmanned operation.

Energy Efficient Water Circulation System



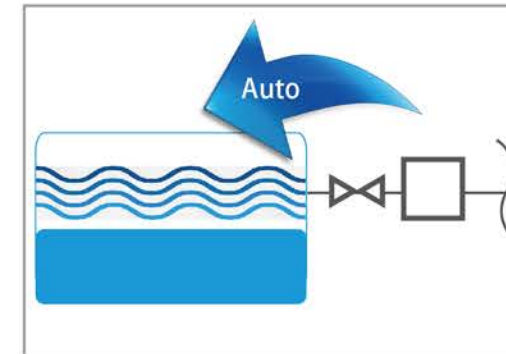
IWA(Intelligent Working Aid)

Introducing the most advanced automatic hydration function (patented) to instantly replenish water when the water level is lower than the setting. In addition, with the programmable sliding door, the intelligent leveling control system (patented) and high-speed filling and draining, the processing time is only one third of the previous generation. Giving you unmatched confidence by greatly improved efficiency and intelligent automated cutting.



High-Speed Filling and Draining Function

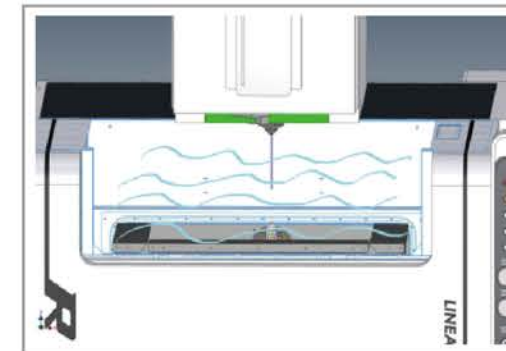
Instant control of the filling and draining, the process time is only 1/3 of the previous generation, pursue higher processing efficiency.



Automatic Hydration Function [Patent]

The All-new water circulation system is equipped with intelligent sensing detection, automatically replenish when the water volume of the water tank is insufficient.

No need to concern about the insufficient water volume, effectively replacing the manual water-inspection operation, preventing the delay of manual operation and downtime caused by water shortage.



Intelligent Liquid Level Control System [Patent]

During the operation, once the work-piece been setted up, the liquid-level will be adjusted in accordance with the height of work-piece automatically.

Even if processing multi-work-pieces with different thickness, the leveling can be automatically regulated during the machining, and the processing lead time can be effectively reduced.



The Newest Generation AWT system

With the rich experience in automation and technology, CHMER presents the perfect AWT system.



- + Concise and reliable design for easier maintenance, lowering the cost of repairs.
- + Unique "EC tension control technology" for nearly 100% successful threading rate to achieve unmanned operation.
- + Threading in the break point, under water, no need to return back to the start point and waste time in draining and refilling water.

- + Setting the threading mode according to the cutting condition for continuous machining.
- + With the threading assistant device, threading for high thickness workpiece is no longer troublesome.
- + Automatic water level control for multiple cutting missions of different thicknesses to increase production efficiency.
- + Easily and precisely threading in the holes of stepped workpiece.
- + Impeccable fast and steady threading in multiple holes.



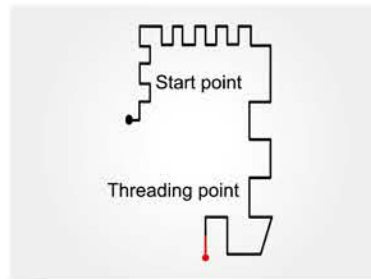
Visual Parameter Setting

50 groups of brass wire parameter selections.



3999 Hole Cutting sets

3999 cutting sets of processing holes for more references.



Wire Break Point Threading Function

Efficiently resuming the machining by threading in the wire break point.

Standard/Optional Accessories

Standard ● Option ○ Not Available —

Item	Unit	QTY	RV743L	RV853L	RV855L	RV1063L	RV1065L	RV1283L	RV1285L
i8 Energy-Efficient Power Circuit		1 set	●	●	●	●	●	●	●
X/Y Axis Linear Motor	CHMER	1 set	●	●	●	●	●	●	●
X/Y Axis Incremental Linear Scale	0.5μm	1 set	●	●	●	●	●	●	●
AWT System	5th	1 set	●	●	●	●	●	●	●
Threading Assistant Device		1 set	●	●	●	●	●	●	●
Auto Sliding Door		1 set	●	●	●	●	●	●	●
Sink Door (Transparent Window)		1 set	○	○	○	○	○	○	○
Water Circulating Function		1 set	●	●	●	●	●	●	●
Intelligent Working Aid IWA		1 set	●	●	●	●	●	●	●
Inverter Chiller (20,000 BTU)		1 set	●	●	●	●	●	●	●
New Touch Screen Panel(USB)	19 inches	1 set	●	●	●	●	●	●	●
Network Transmission		1 set	●	●	●	●	●	●	●
DXF Transferring Function		1 set	●	●	●	●	●	●	●
i-Connected System		1 set	○	○	○	○	○	○	○
6th Axis of Rotary Table	CHMER	1 set	○	○	○	○	○	○	○
Jumbo Wire Feeder	3~30kg	1 set	○	○	○	○	○	○	○
Wire Chopper		1 set	○	○	○	○	○	○	○
2 in 1 Transformer and AVR		1 set	○	○	○	○	○	○	○
High Speed Zinc Coating Wire	CHMER	1 set	○	○	○	○	○	○	○
CE Conformity (EC Circuit + EMC Shield)		1 set	○	○	○	○	○	○	○

3 years warranty on Linear Motors (Rotor+ Stator)

10 years positioning guarantee





Standard Model

Model	RV743L	RV853(5)L	RV1063(5)L	RV1283(5)L
Axis Travel (XxY)	mm 700x450	800x500	1000x600	1200x800
Axis Travel (UxVxZ)	mm 150x150x300	150x150x300 (150x150x500)	150x150x300 (160x160x500)	150x150x300 (160x160x500)
Max. Size of Workpiece	mm 1100x750x295	1200x800x295 (1200x800x495)	1240x900x295 (1240x900x495)	1440x1100x295 (1440x1100x495)
Max. Weight of Workpiece	kg 3000	3000	3000 (5000)	5000
XY Feed Rate	mm/min Max.1500	Max.1500	Max.1500	Max.1500
Axis Drive System	axis X-Y axis by Linear Motor ; U , V , Z axis by AC Servo Motor			
Wire Diameter Range	mm 0.15-0.3(φ0.25)	0.15-0.3(φ0.25)	0.15-0.3(φ0.25)	0.15-0.3(φ0.25)
Max. Wire Feed Rate	kg ≤ 8kg	≤ 8kg	≤ 8kg	≤ 8kg
Wire Tension	gf 300~2500	300~2500	300~2500	300~2500
Taper Angle	mm ±21° / 150mm (wide-angled nozzle , DA+DB=15mm)			
Appearance Configuration (WxDxH)	mm 3730x3000x2200	3840x3000x2200 (3865x3000x2750)	4300x3300x2250 (4300x3300x2780)	4650x4000x2250 (5050x4000x2780)
Machine Weight	kg 7600	7800 (8000)	8000 (8200)	8800 (9000)

Working Fluid Supply Unit

	RV743L	RV853(5)L	RV1063(5)L	RV1283(5)L
Water Tank Capacity	1400L	1400L	2250L	2250L
Fiter Element	Paper	Paper	Paper	Paper
Ion Exchange Resins	30L*2	30L*2	30L*2	30L*2
Conductivity Control	Auto	Auto	Auto	Auto
Fluid Temperature Control	Auto	Auto	Auto	Auto

Power Supply Unit

Circuit System	Power MosFET Transistor
Max. Output Current	25A
Current Selection	15
Rest time	60

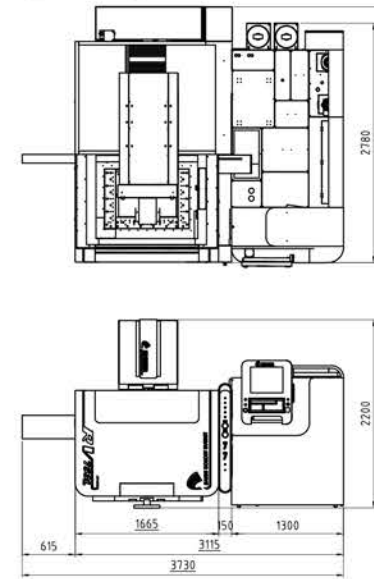
CNC Unit

Date Input	Keyboard · RS-232 · USB · LAN
Display	19-Inch Color
Control System	32bit · 1-CPU · X&Y Cloesd Loop
Control Axis	X · Y · U · V · Z(5 Axis) 6th Axis optional
Setting Unit	0.001mm
Max. Command Value	±9999.999mm
Interpolation	Linear/Circular
Command System	ABX/INC
Machining Feed Control	Servo/ Const. Feed
Scaling	0.001-9999.999
Machining EDM Condition Memory	1000-9999
Total AC Power Input	3 Phase 220±5%/20KVA

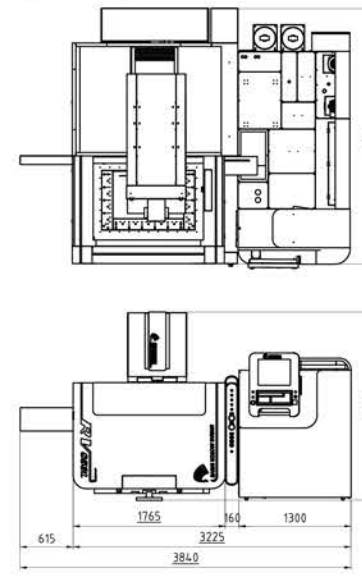
- In submerged condiation,maximum height of work-piece recommended is Z stoke minas 45mm.
- Because of our continuous research and improvements, the specification and information above might be adjusted without notice.

Floor Layout

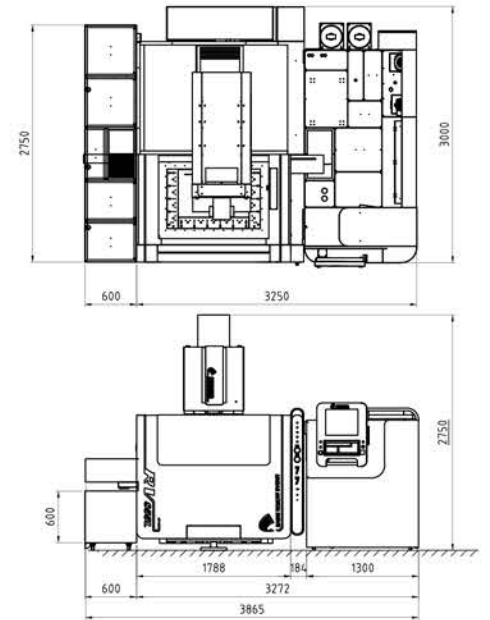
RV743L



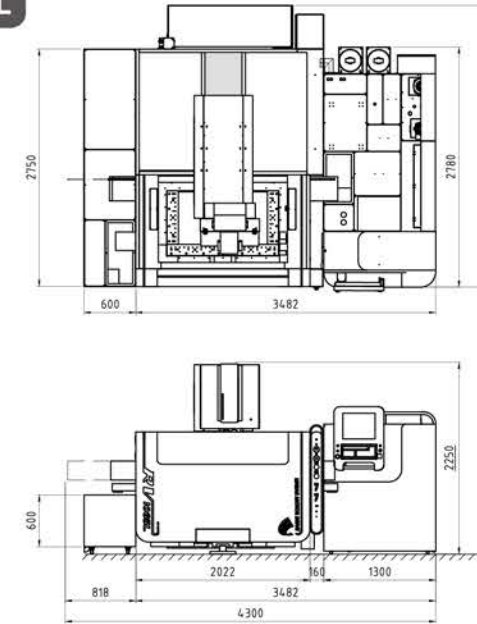
RV853L



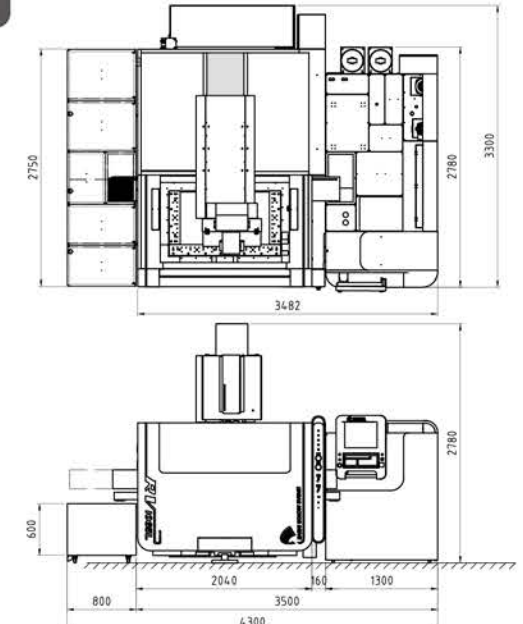
RV855L



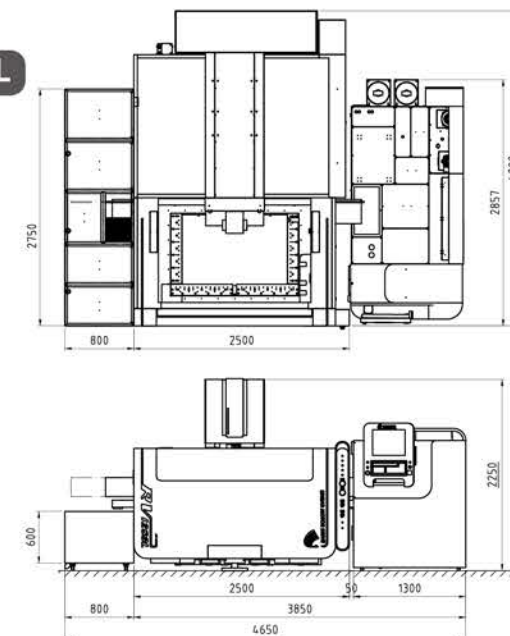
RV1063L



RV1065L



RV1283L



RV1285L

