

HIWIN®

UNDERWATER DIRECT DRIVE ROTARY TABLE





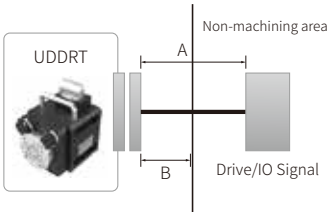
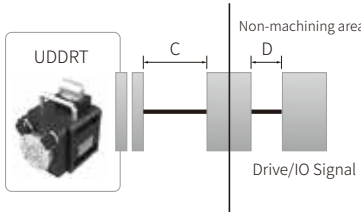


HIWIN Support



About HIWIN

UNDERWATER DIRECT DRIVE ROTARY TABLE Selection Guide

Company Name			Industry		Date		
Specification of the Machine	Machine	Manufacturer's brand:		Model No.:			
	Drive Interface	<input type="checkbox"/> EtherCAT® <input type="checkbox"/> V-command <input type="checkbox"/> Pulse <input type="checkbox"/> MECHATROLINK- III <input type="checkbox"/> PROFINET <input type="checkbox"/> Other _____					
	Machine type	<input type="checkbox"/> Wire Cut EDM Machine <input type="checkbox"/> EDM Machine <input type="checkbox"/> Drill EDM Machine					
Schematic diagram							
Type		<input type="checkbox"/> RCV-125E	<input type="checkbox"/> RCV-100E	<input type="checkbox"/> RCH-100E	<input type="checkbox"/> RAS-100E		
Rotation speed		<input type="checkbox"/> 200rpm (Standard) <input type="checkbox"/> 1000rpm	<input type="checkbox"/> 200rpm (Standard) <input type="checkbox"/> 1000rpm	200rpm (Standard)	Rotary axis 200rpm (Standard) Tilting axis 50rpm (Standard)		
Positioning Accuracy		±5 arc-sec	<input type="checkbox"/> ±20 arc-sec (Standard) <input type="checkbox"/> ±5 arc-sec	±15 arc-sec	±8 arc-sec		
Repeatability		±2 arc-sec	<input type="checkbox"/> ±7.5 arc-sec (Standard) <input type="checkbox"/> ±2 arc-sec	±5 arc-sec	±3 arc-sec		
Cable Type	<input type="checkbox"/> Type 1 ※ Figure 1	A : Power, Signal and Encoder Cable Length (m) <input type="checkbox"/> 5m (Standard) <input type="checkbox"/> Other _____ m B : Protective tube <input type="checkbox"/> Protective tube 3m (Standard) <input type="checkbox"/> Other _____ m Note : Flying lead	A : Power, Signal and Encoder Cable Length (m) <input type="checkbox"/> 5m (Standard) <input type="checkbox"/> Other _____ m B : Protective tube <input type="checkbox"/> Protective tube 3m (Standard) <input type="checkbox"/> Other _____ m Note : Flying lead	A : Power, Signal and Encoder Cable Length (m) <input type="checkbox"/> 12m (Standard) <input type="checkbox"/> Other _____ m Note : Flying lead	A : Power, Signal and Encoder Cable Length (m) <input type="checkbox"/> 5m (Standard) <input type="checkbox"/> Other _____ m B : Protective tube <input type="checkbox"/> Protective tube 3m (Standard) <input type="checkbox"/> Other _____ m Note : Flying lead		
	<input type="checkbox"/> Type 2 ※ Figure 2	C : Cable (including protective tube) <input type="checkbox"/> 3m (Standard) <input type="checkbox"/> Other _____ m D : Cable (not include protective tube) <input type="checkbox"/> 2m (Standard) <input type="checkbox"/> Other _____ m Note : HARTING Industrial connectors	C : Cable (including protective tube) <input type="checkbox"/> 3m (Standard) <input type="checkbox"/> Other _____ m D : Cable (not include protective tube) <input type="checkbox"/> 2m (Standard) <input type="checkbox"/> Other _____ m Note : HARTING Industrial connectors	-	C : Cable (including protective tube) <input type="checkbox"/> 3m (Standard) <input type="checkbox"/> Other _____ m D : Cable (not include protective tube) <input type="checkbox"/> 2m (Standard) <input type="checkbox"/> Other _____ m Note : HARTING Industrial connectors		
Accessories		Chuck : <input type="checkbox"/> SK-4 Drive : <input type="checkbox"/> Required <input type="checkbox"/> Not required Electrode Brush Cable : <input type="checkbox"/> Required : 100 A, Cable length 60 cm (Standard) <input type="checkbox"/> Required : _____ A, Cable length _____ cm <input type="checkbox"/> Not required : Provides cable fixing holes	Chuck : <input type="checkbox"/> ER-007521 <input type="checkbox"/> ER-037970 Drive : <input type="checkbox"/> Required <input type="checkbox"/> Not required Electrode Brush Cable : <input type="checkbox"/> Required : 100 A, Cable length 60 cm (Standard) <input type="checkbox"/> Required : _____ A, Cable length _____ cm <input type="checkbox"/> Not required : Provides cable fixing holes	Chuck : <input type="checkbox"/> ER-007521 <input type="checkbox"/> ER-037970 Drive : <input type="checkbox"/> Required <input type="checkbox"/> Not required Electrode Brush Cable : <input type="checkbox"/> Required : 100 A, Cable length 60 cm (Standard) <input type="checkbox"/> Required : _____ A, Cable length _____ cm <input type="checkbox"/> Not required : Provides cable fixing holes	Drive : <input type="checkbox"/> Required <input type="checkbox"/> Not required Electrode Brush Cable : <input type="checkbox"/> Required : 100 A, Cable length 60 cm (Standard) <input type="checkbox"/> Required : _____ A, Cable length _____ cm <input type="checkbox"/> Not required : Provides cable fixing holes		
Workpiece Specification		Workpiece weight : _____ kg Workpiece size : _____ mm Workpiece inertia : _____ kgm ²					
※ Figure 1 Machining area					※ Figure 2 Machining area		
							

HIWIN UNDERWATER DIRECT DRIVE ROTARY TABLE

The RCV-E series, a 4th axis EDM rotary table, is an IP68 rated torque motor rotary table for underwater applications. It is specifically designed for wire EDM machines. Under high-speed operation, it can be completely immersed in water or oil, which is suitable for non-contact micro-processing, such as

- Advanced EDM
- Wire cutting
- Laser processing equipment

It is suitable for producing precision parts for automotive, semiconductor, medical and other industries.

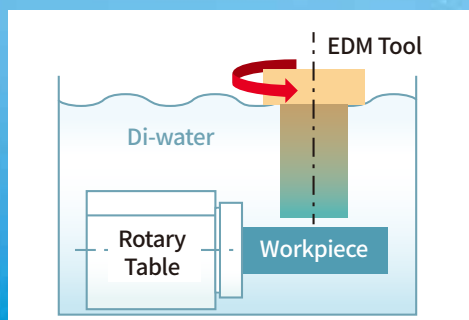
In order to offer high-quality, high-efficiency, energy saving and carbon reduction solutions to customers, HIWIN provides a complete system package including torque motors, drives, and precision bearings to provide industrial innovation and high value-added products.



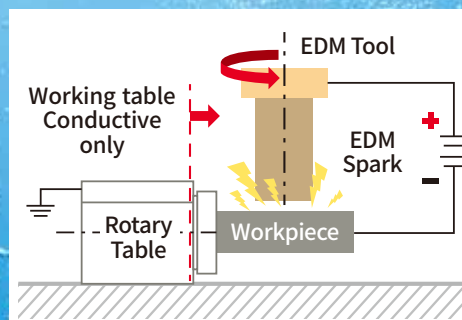
Lightweight and high ingress protection
Compared to traditional mechanical type rotary table, the weight of Hiwin's rotary table has been reduced 50%~60% and insulation protection has been increased 80 times. It also features anti-corrosion, high waterproof and high dustproof.

Features

- IP68 waterproof.
- Non-contact direct drive motor.
- Build-in encoder to achieve high precision and zero backlash, which can ensure the accuracy of positioning control when the rotary table is under acceleration, deceleration, and reverse conditions.
- The table unit is insulated from the rotary unit to avoid damage to the internal components caused by the discharge current of EDM.



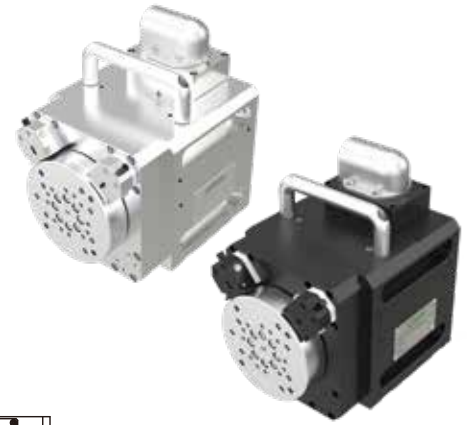
Waterproof Design



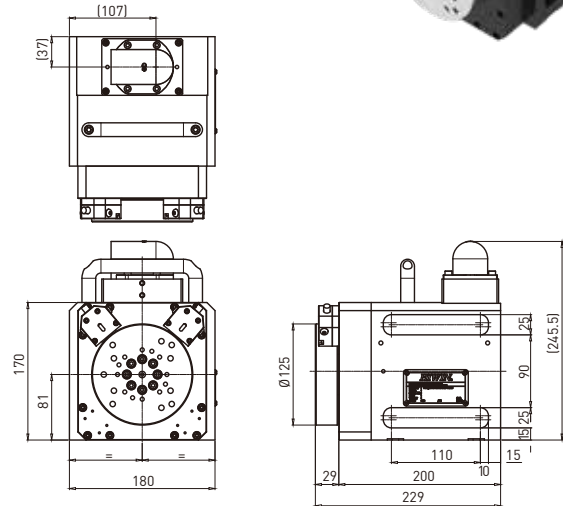
Insulation Design

RCV-125E

The RCV-125E equipped with current-collecting brushes to prevent electric current flow into the internal structure of rotary table. It can be installed either as A-axis or B-axis and it's high-speed feature can be used for EDM turning or grinding.



Spec / Model	Unit	RCV-125E
Table Diameter	mm	125
Center Height	mm	81
Max. Speed	rpm	1000(opt.) / 200
Max. Torque	Nm	33.8
Max. Current	A	13.5
Accuracy	Arc-sec	±5
Repeatability	Arc-sec	±2
Clamping Torque	Nm	9
Net Weight	kg	20
Load Capacity	kg	20



Electrical Discharge Machining

Aircraft / Mold

Features

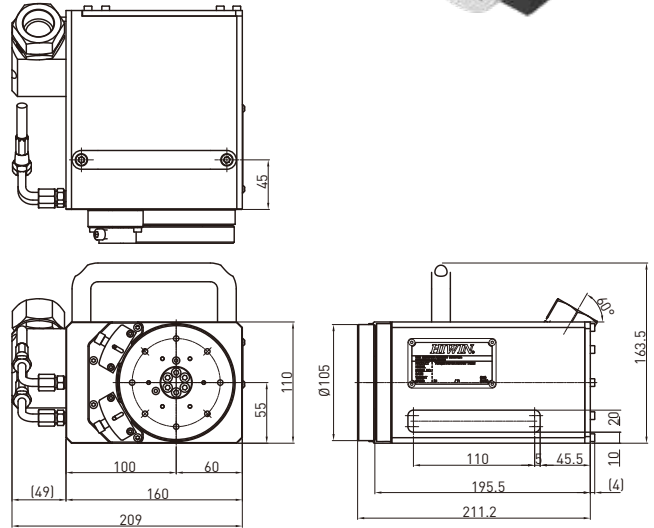
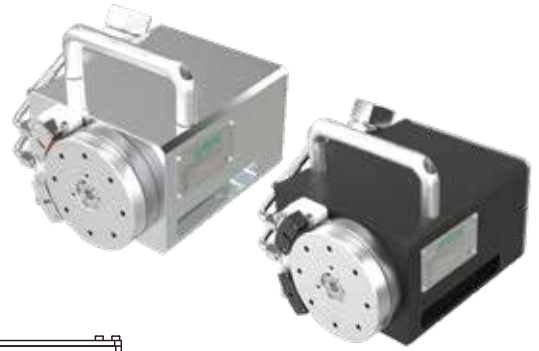
- Direct drive motor, High accuracy, High rotation speed, Zero backlash.
- Compatible with SK-4 chuck.
- Maximum rotation speed reach 1000rpm; Axial runout $\leq 0,005\text{mm}$; Positioning accuracy ± 5 arc-sec; Repeatability: ± 2 arc-sec.
- Maximum payload: 20kg.
- Equipped with leakage diagnosis module, and can be installed horizontally or vertically.
- Supports different protocols such as Pulse, V-command, EtherCAT®, MECHATROLINK-III, PROFINET.



RCV-100E

The RCV-100E is equipped with current-collecting brushes to prevent electric current flow into the internal structure of rotary table. The table height is low, suitable for thin electrode wire threading.

Spec / Model	Unit	RCV-100E
Table Diameter	mm	105
Center Height	mm	55
Max. Speed	rpm	200
Max. Torque	Nm	20.9
Max. Current	A	6.8
Accuracy	Arc-sec	±5
Repeatability	Arc-sec	±2
Net Weight	kg	12
Load Capacity	kg	10



Electrical Discharge Machining Semiconductor / Medical Equipment

Features

- Direct drive motor, High accuracy, High rotation speed, Zero backlash.
- Equipped with 2 ports pneumatic circuit, compatible with EROWA or 3R chuck.
- 55mm low center height, improve the stability of threading the electrode wire.
- Axial runout $\leq 0,005\text{mm}$; Positioning accuracy: ± 5 arc-sec; Repeatability: ± 2 arc-sec.
- Maximum payload: 10kg.
- Equipped with leakage diagnosis module.
- Supports different protocols such as Pulse, V-command, EtherCAT®, MECHATROLINK-III, PROFINET.



Turbine Blade



Medical Parts

RCH-100E

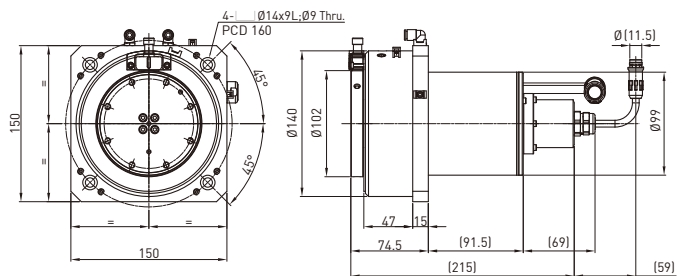
The RCH-E series is for EDM C-axis, which is a special design for die sinking EDM.

The C-axis can perform turning at high speed and index with high precision due to the built in absolute encoder. The permanent magnet synchronous motor in the RCH-E series is compact and lightweight.

The RCH-E series equipped with current-collecting brushes to prevent electric current flow into the internal structure of rotary table. It's continuous rotation characteristic can improve the efficiency of discharging blind holes, through holes and tapping.



Spec / Model	Unit	RCH-100E
Max. Electrode Weight	kg	35
Max. Speed	rpm	200
Max. Torque	Nm	20.9
Max. Current	A	6.8
Max. Centric Flushing Pressure	Bar	20
Accuracy	Arc-sec	±15
Repeatability	Arc-sec	±5
Net Weight	kg	10

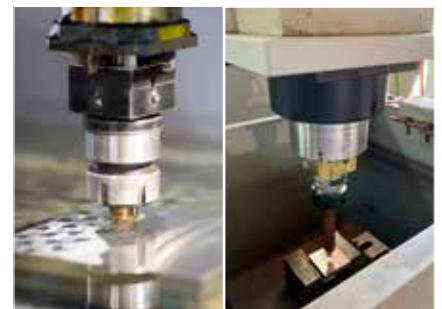


Electrical Discharge Machining

Aircraft / Mold

Features

- Direct drive motor, High accuracy, High rotation speed, Zero backlash.
- Compatible with ER0WA and 3R chuck.
- Patented insulation design, fine-tuning-free and calibration-free during installation.
- Continuous rotation speed is up to 200rpm ; Positioning accuracy: ±15 arc-sec ; Repeatability:±5 arc-sec.
- The maximum electrode weight that can be clamped is 35kg.
- Supports for different protocols such as Pulse, V-command, EtherCAT®, MECHATROLINK-III, PROFINET.



Die drilling

RAS-100E

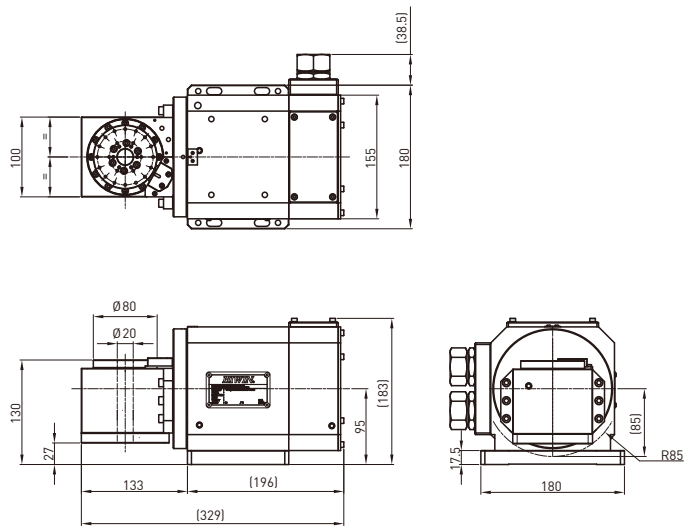
The RAS-E series, a two-axis EDM rotary table, which is a special design for hole-popper EDM applications. The table equips with current-collecting brushes to prevent electric current flow into the internal structure of rotary table.

The RAS-E series is designed for parts processing for aircraft, automotive, medical, cutting tool ...etc.

It allows the EDM machine to perform the processing of cooling holes and diffusers on complex non-planar workpieces.



Spec / Model	Unit	RAS-100E	
Table Diameter	mm	80	
Table Height @0°	mm	130	
Center Height @90°	mm	95	
Load Capacity	kg	5	
Net Weight	kg	40	
		Rotary	Tilt
Max. Speed	rpm	200	50
Max. Torque	Nm	7.01	50.6
Max. Current	A	28	13.5
Accuracy	Arc-sec	±8	±8
Repeatability	Arc-sec	±3	±3



Electrical Discharge Machining

Aircraft / Auto Parts

Features

- Direct drive motor, High accuracy, High rotation speed, Zero backlash.
- Compact size: W180 x L325 x H172.5mm.
- 22mm center through hole.
- Positioning accuracy: ±8 arc-sec ; Repeatability: ±3 arc-sec.
- Maximum payload: 5kg.
- Supports different protocols such as Pulse, V-command, EtherCAT®, MECHATROLINK-III, PROFINET.



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