HIWIN®

DATORKER®
Strain Wave Gear System

INDUSTRIE 4.0 Best Partner

DATORKER® Strain Wave Gear System

New generation DATORKER® Strain Wave Gear System is the best solution for rotary applications. DATORKER® Strain Wave Gear System is suitable for wide range of applications like: semiconductor, precision laser cutting, 3C electronic automation, PCB industry, sustainable industry, automobile industry or any rotary related applications.

Feature /

High torque
Multiple reduction ratios available under the same size

High precision
Excellent positioning ability and repeatability

Tuning free
With high-performance drive and built-in software system

High rigidity
Equipped with HIWIN crossed roller bearings providing high bending moment resistance

Compact size Lightweight
The best solution under space and weight constraints

High torque	Maximum output torque > 300 Nm
Compact structure	Volume and weight reduction by more than 50% compared to other types of reducers
High precision	Positioning accuracy < 60 arc-sec Repeatability < ± 6 arc-sec
Easy installation	Can be installed in any direction / Can be programmed to any angle
Total solution	Matching drives with absolute encoder / Built-in editable PDL program Support multiple control (I/O, Pulse, EtherCAT)

Matching Drives /

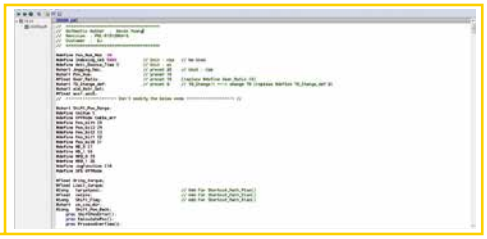
D2T E1

- Variety of I / O functions

  To support a number of different functions, you are free to configure the I/O pin functionality and adapt different hardware interface needs. This satisfies diverse requirements for different motion controllers with regards to their pin assignments and hardware interfaces.

- PDL (Process Description Language)

  Easy-use process description language is provided. Complex motions can be designated via PDL, such as extrusion process, point-to-point motion, fixed speed control, homing process and so on. PDL gains the advantages of flexibility and programmability. For quick learning, a number of sample programs are provided in the PDL manual.



- Built-in safe torque off function (STO) *available in E1 only

  When STO is triggered, motor power will be cut off immediately providing safety function.

Product Specifications /

DRA	25	050	–	U	B	D

Product Series	Model	Reduction Ratio	Structure	Brake	Encoder
DATORKER® Strain Wave Gear System	20 / 25 / 32	50 / 80 / 100	U- Solid Shaft	N- Without Brake B- With Brake	D- 17bit E- 23bit

Specification Sheet /

Model	Reduction Ratio	Power Supply: AC 220V					Control Mode	Encoder		Permissible Moment Load	Moment Rigidity	Weight		Output Resolution	Positioning Accuracy (uni-direction)	Repeatability
		Max Torque	Max Speed	Rated Speed	Max Current	Rated Current		Encoder Type	Encoder Resolution (One Rotation of Output Shaft)			Without Brake	With Brake			
		Nm	rpm	rpm	A	A				Nm	$\times 10^4$ Nm/rad	kg	kg	pulse/rev	arc-sec	arc-sec
DRA20-D	50	56	90	60	5.1	1.7	Position control (Pulse), EtherCAT(CoE)	17bit Absolute	2^{17} (131,072)	91	12.8	2.4	3.0	6,553,600	<60	<±6
	80	74	56	37										10,485,760		
	100	82	45	30										13,107,200		
DRA25-D	50	98	90	60	7.8	2.6				156	24.2	3.3	3.9	6,553,600		
	80	137	56	37										10,485,760		
	100	157	45	30										13,107,200		
DRA32-D	50	216	90	60	15.3	5.1				313	53.9	6.8	7.5	6,553,600		
	80	304	56	37										10,485,760		
	100	333	45	30										13,107,200		
DRA20-E	50	56	120	60	6.4	1.6		23bit Absolute	2^{23} (8,388,608)	91	12.8	2.3	2.6	419,430,400		
	80	74	75	37										671,088,640		
	100	82	60	30										838,860,800		
DRA25-E	50	98	112	60	10	2.5				156	24.2	3.3	3.9	419,430,400		
	80	137	70	37										671,088,640		
	100	157	56	30										838,860,800		
DRA32-E	50	216	96	60	18.6	4.65				313	53.9	6.9	7.6	419,430,400		
	80	304	60	37										671,088,640		
	100	333	48	30										838,860,800		

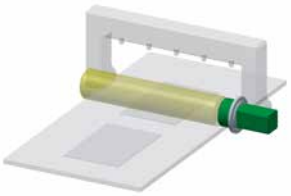
*Standard parts include drive (preset as position control mode), motor cable (3M), encoder cable (3M)

Product application and installation /

Indexing equipment, Inspection equipment (vertical)

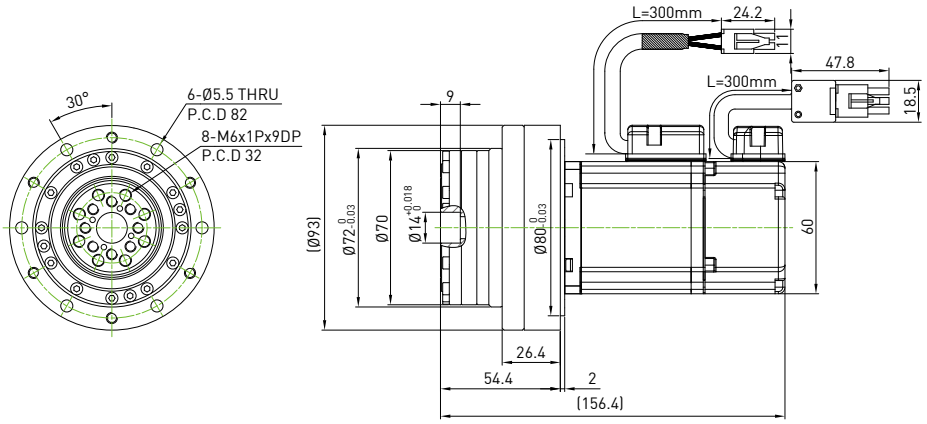
Robot (vertical up/vertical down)

Printing automation (horizontal)



Multi-Axis applications (any angle)

DRA20□□□ -UND



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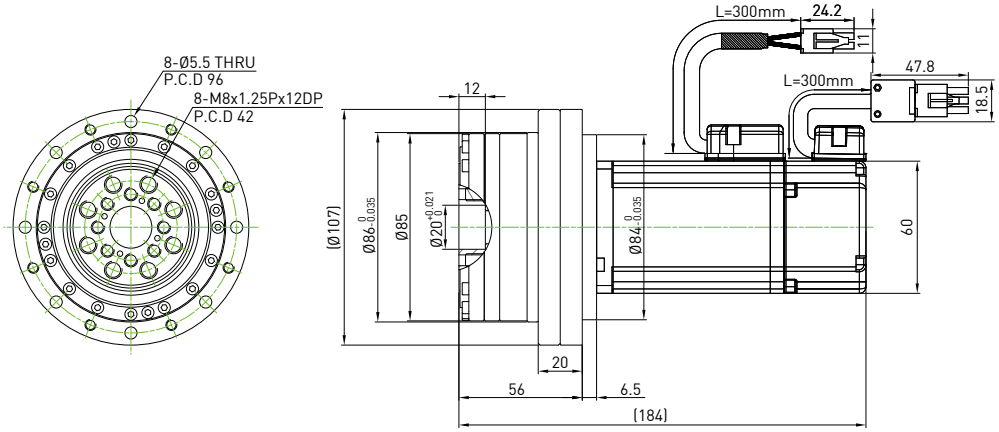

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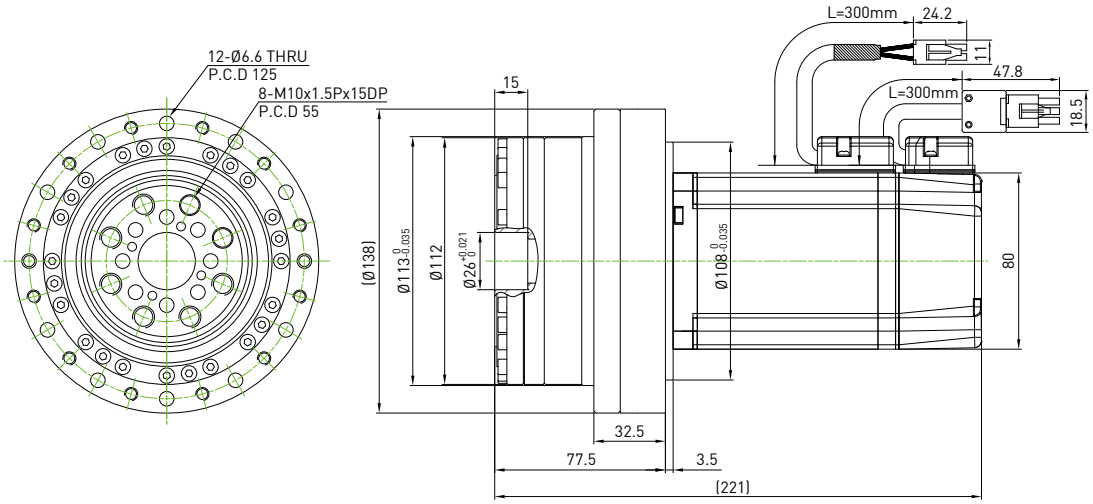

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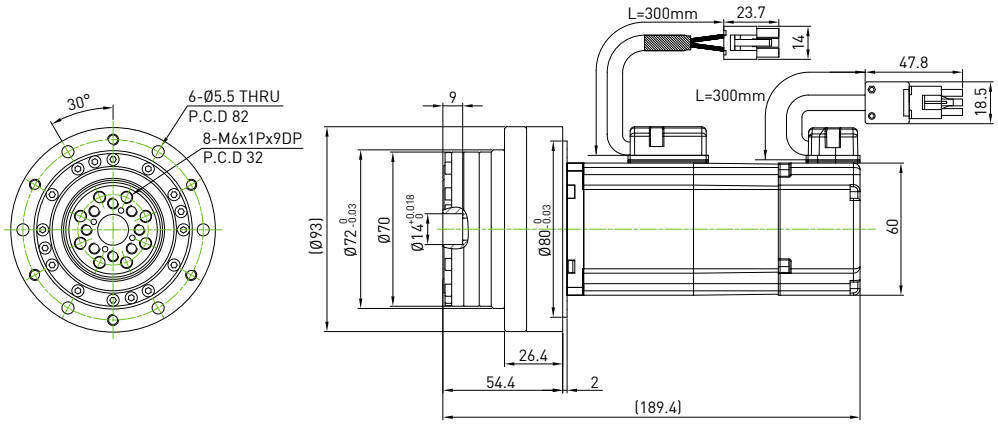

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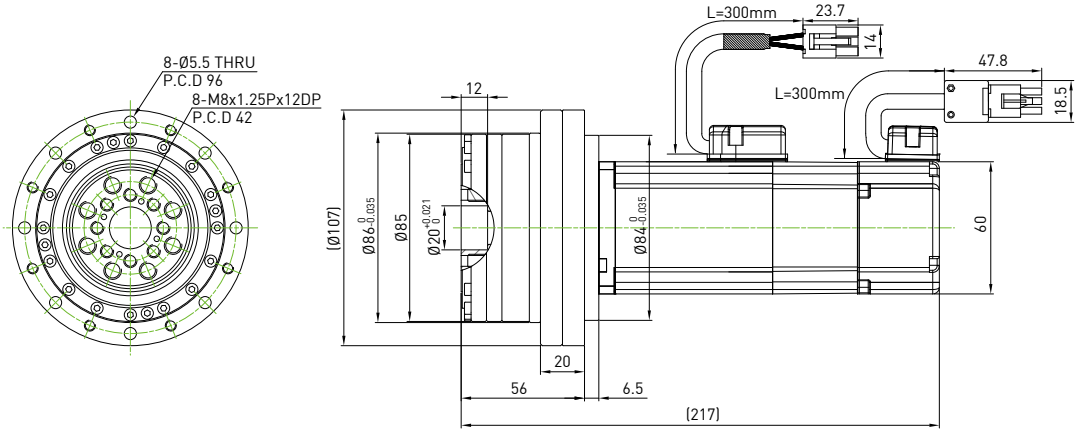

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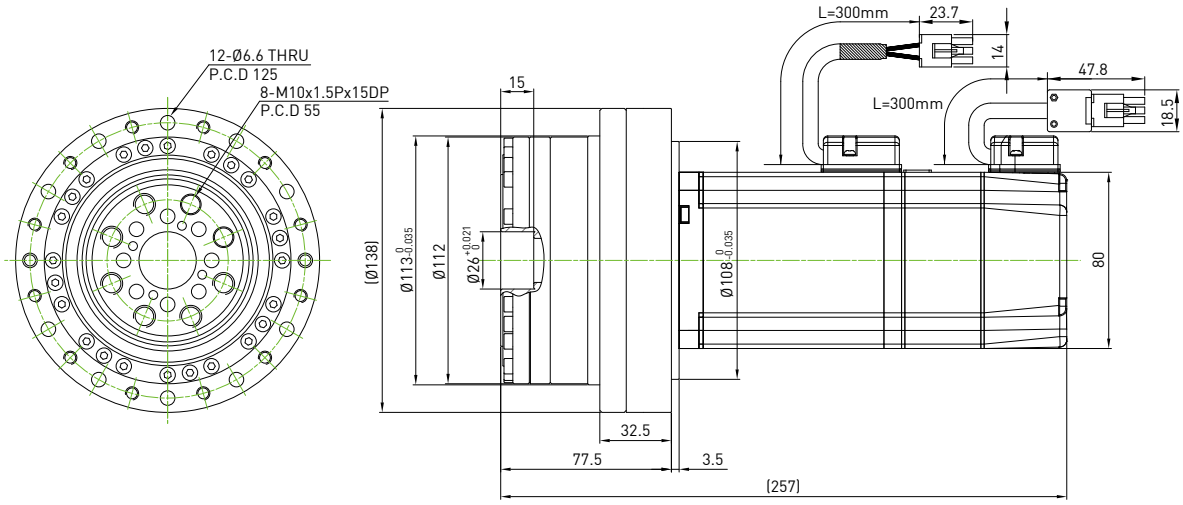

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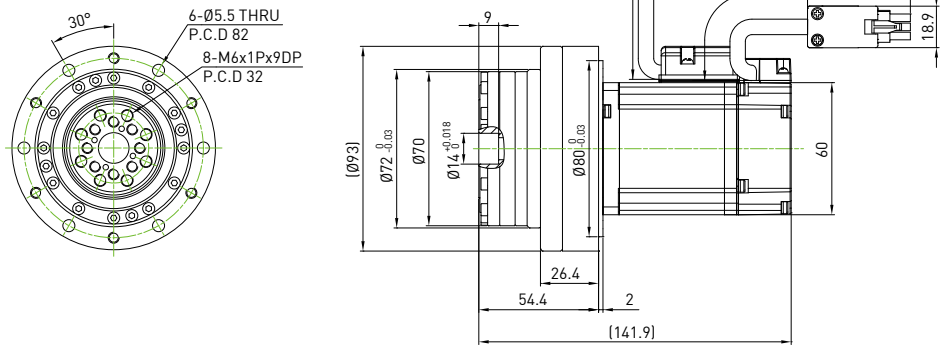

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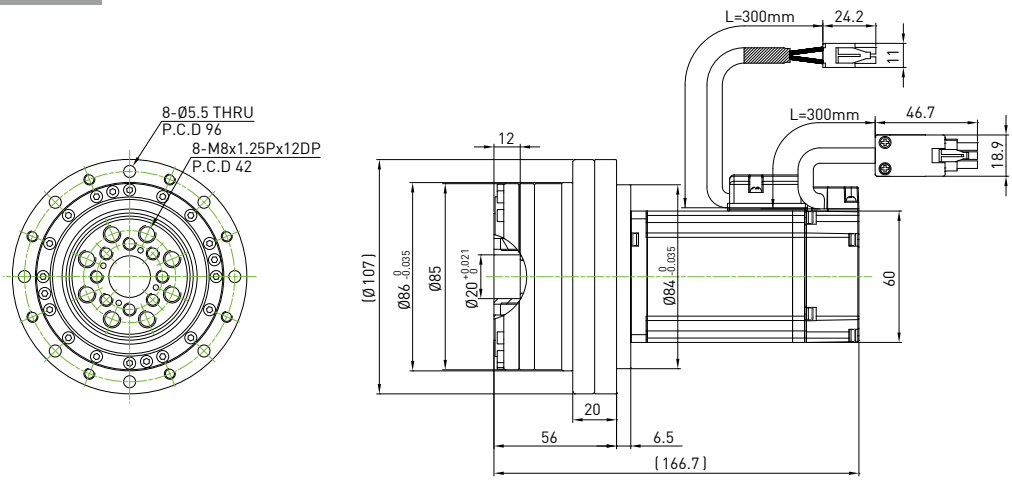

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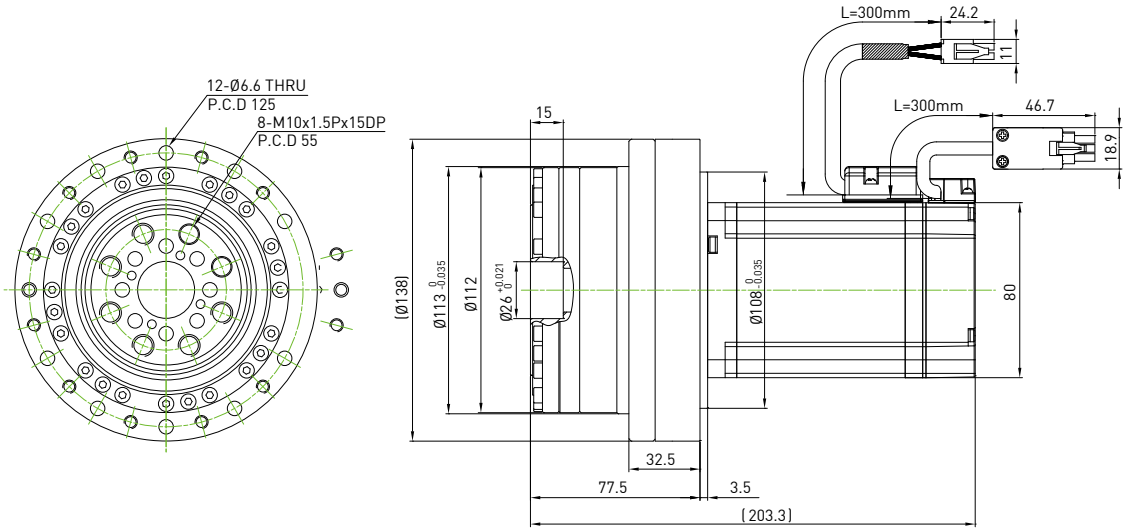

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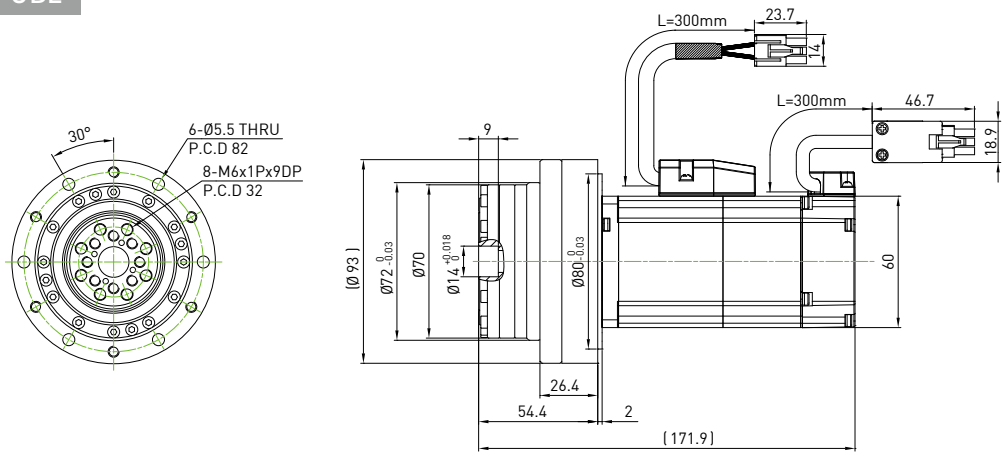

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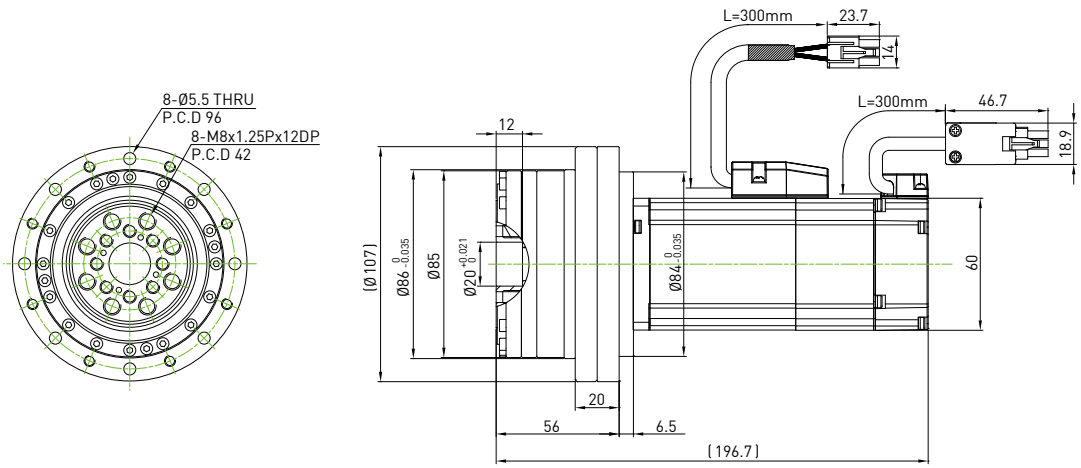

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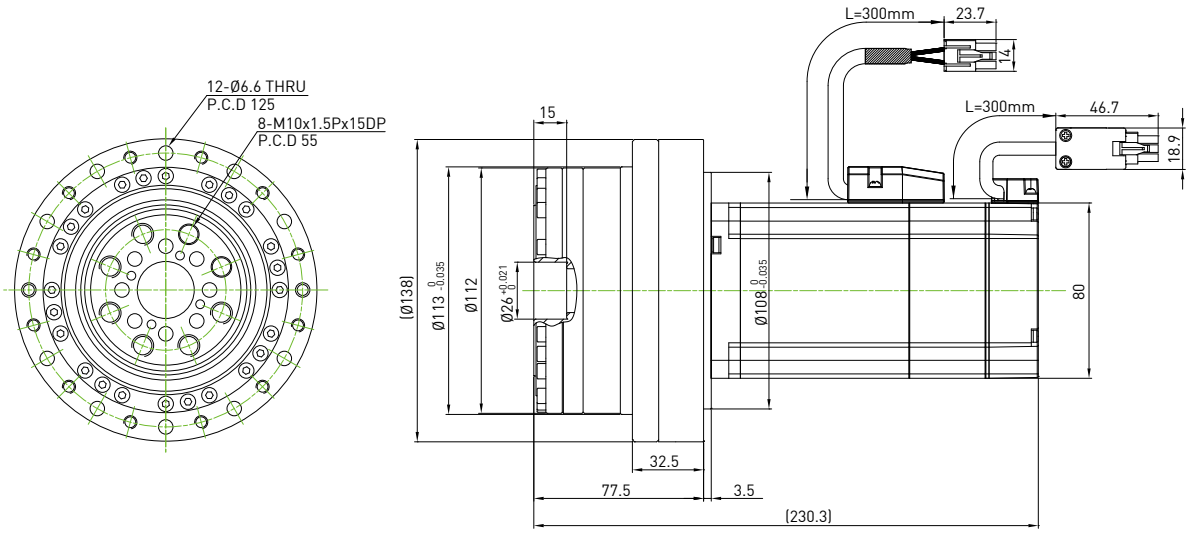
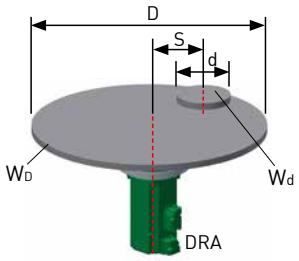
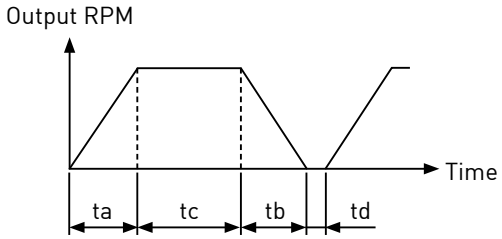


HIWIN DATORKER® Strain Wave Gear System Inquiry Form

Customer name		**Telephone**	
Email		**Date**	
Applications	☐Robot_____ ☐Inspection equipment_____ ☐Automation equipment_____ ☐Electronics industry equipment_____ ☐Machine tool_____ ☐Medical equipment_____ ☐Semiconductor_____ ☐Others, please specify_____		
Selection	● Mechanism details Table diameter(D)：_____ (mm) Table weight (W_D)：_____ (kg) Workpiece diameter(d) ：_____ (mm) Workpiece weight(W_d)：_____ (kg) Distance between axis center and workpiece center (S)：_____ (mm) 	● Operation parameters Maximum RPM ：_____ (rpm) Acceleration time(ta)：_____ (sec) Deceleration time(tb)：_____ (sec) Velocity time(tc)：_____ (sec) Resting time(td)：_____ (sec) 	
Working environments	☐Normal working environment (ambient temperature 0°C - 40°C, humidity under 80% RH) ☐Special working environment (ambient temperature : _____°C) ☐Harsh environment (dusty, wet, etc) ☐Other special environment :		
Installation type	☐Horizontal ☐Vertical(up/down) ☐Others(any angle)		
Brake	☐No ☐Yes		
Drive	☐D2T ☐E1(STO)		
Input voltage	☐220V Single phase ☐220V Three phase ☐Others		
Power cable & Encoder cable	☐3M (standard) ☐5M ☐7M ☐10M		
Optional accessories	☐Control cable (including pulse + I/O pins) ☐USB transfer cable ☐Single phase filters ☐Three phase filters		
Control type	☐Position control (pulse) ☐EtherCAT(CoE) ☐Others		
Host	☐None ☐PLC/Brand ： Model： ☐Axis card/Brand ： Model：		
Other requirements			
Below to be filled in by HIWIN or Distributor **Suggested Model & Specification：**			

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