

HIWIN®

Datorker® Rotary Actuator (DRA)

Feature/ Specification / Size

DRA Features



① Lean Structure

Compared to others

- Volume **50%** less
- Weight **70~95%** less



③ High Precision

- Positioning accuracy within **60 arc-sec**
- Bidirectional repeatability within **30 arc-sec**
- Unidirectional repeatability within **6 arc-sec**
- Positioning **360 degrees**



② High Thrust Density

- Small volume
- High torque · up to **300Nm**



④ Easy Installation

- Installed at any directions (front /flip/side mount)
- Motor easily tune · modularized programs (Triggered via IO)



⑤ Total solution

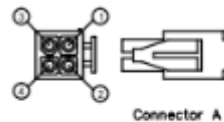
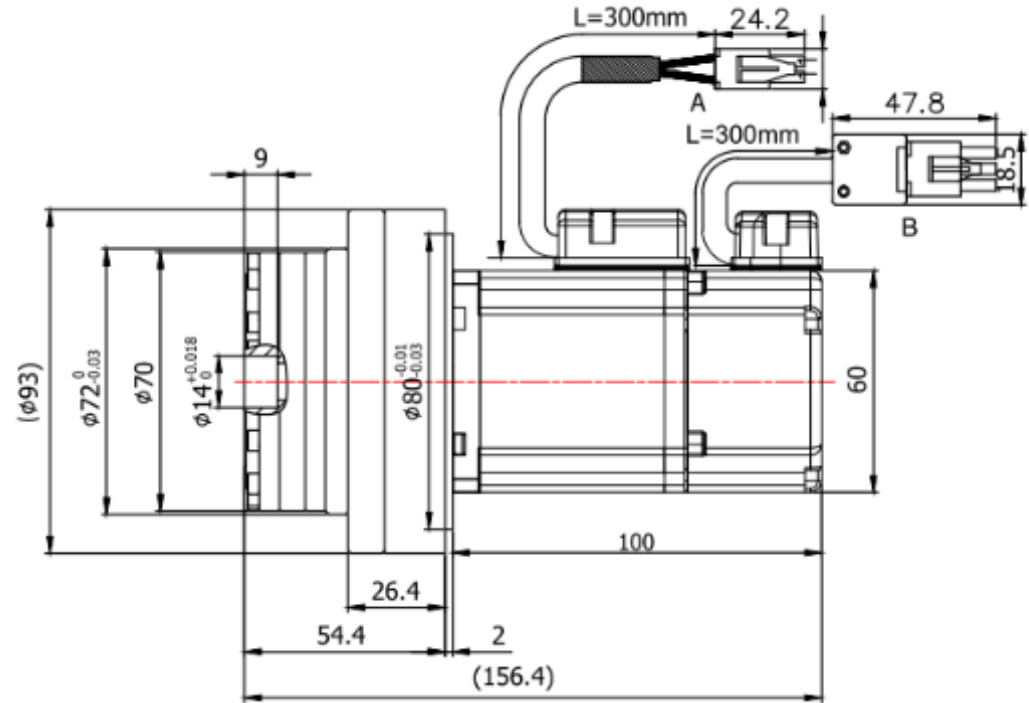
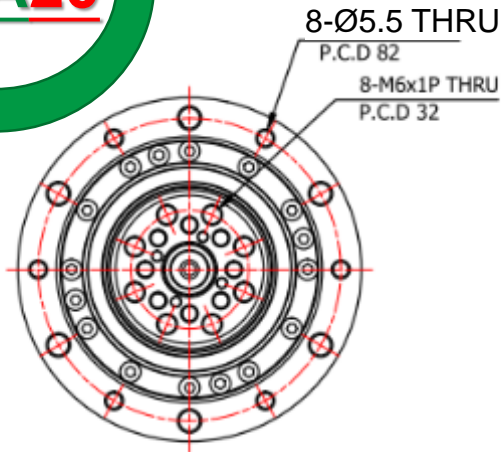
- Drive D2T
- Absolute encoder (brake optional)
- Multiple Reduction Ratio (**50/80/100**)

DRA Specifications

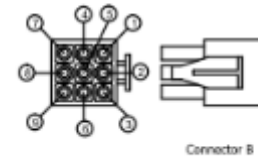
MODEL			20			25			32		
Reduction Ratio			50	80	100	50	80	100	50	80	100
AC Voltage 220V	Max Torque	Nm	56	74	82	98	137	157	216	304	333
	Max Speed	rpm	90	56	45	90	56	45	90	56	45
	Rating Speed	rpm	60	37	30	60	37	30	60	37	30
	Max Current	A	5.1			7.8			15.3		
	Rating Current	A	1.7			2.6			5.1		
Absolute encoder	Encoder Type		17 bits absolute encoder								
	Encoder Resolution (one Rotation of Output Shaft)		2 ¹⁷ (131,072)								
Torque Rating		Nm	91			156			313		
Stiffness		10 ⁴ Nm/ rad	12.8			24.2			53.9		
Weight	No Brake	kg	2.43			3.31			6.36		
	With Brake	kg	2.98			3.86			7.02		
Output Shaft Resolution	Pulses / Rotation		6,553,600	10,485,760	13,107,200	6,553,600	10,485,760	13,107,200	6,553,600	10,485,760	13,107,200
Servo Drive			D2T-0423-S/E-B5			D2T-0423-S/E-B5			D2T-1023-S/E-B5		
Unidirectional Positioning Accuracy		arc-sec	60								
Repeatability		arc-sec	± 6								

DRA Dimensions

DRA20



A : Power Pin Assignment	
Signal	AMP-172167-1
U	3
V	2
W	1
⚡	4



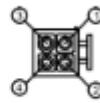
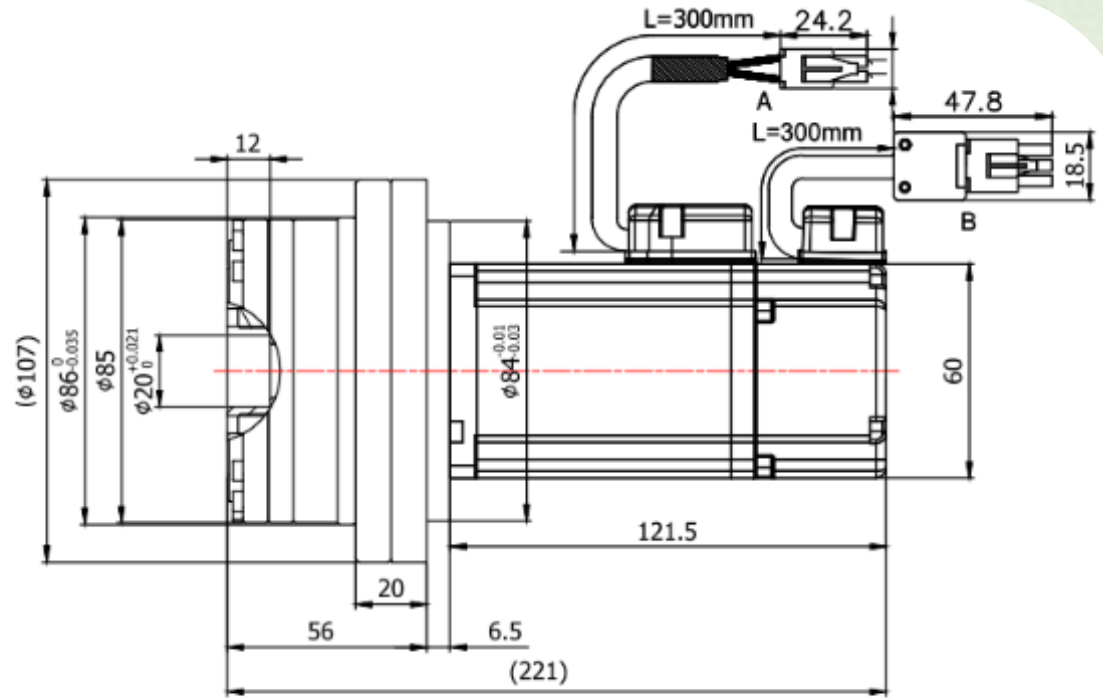
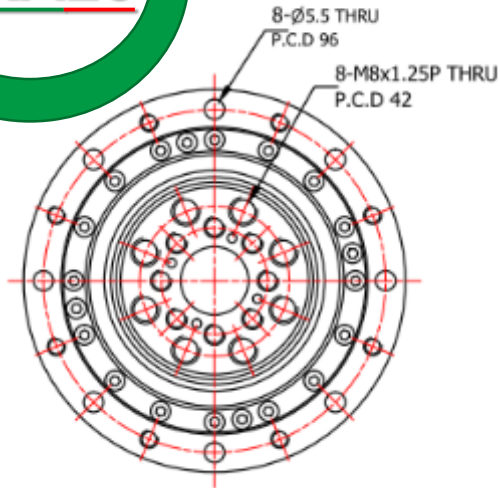
B : Encoder Pin Assignment		
Function	Signal	AMP 1-172169-9
Power	5V	1
	0V	2
Incremental Signal	SD +	7
	SD -	8
Shielding	Shielding	9
Battery	VB	5
	GND	6

4 ■ Reduction ratio (50/80/100), same dimensions

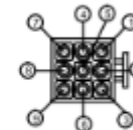
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DRA Dimensions

DRA25



A : Power Pin Assignment	
Signal	AMP-172167-1
U	3
V	2
W	1
	4



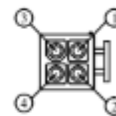
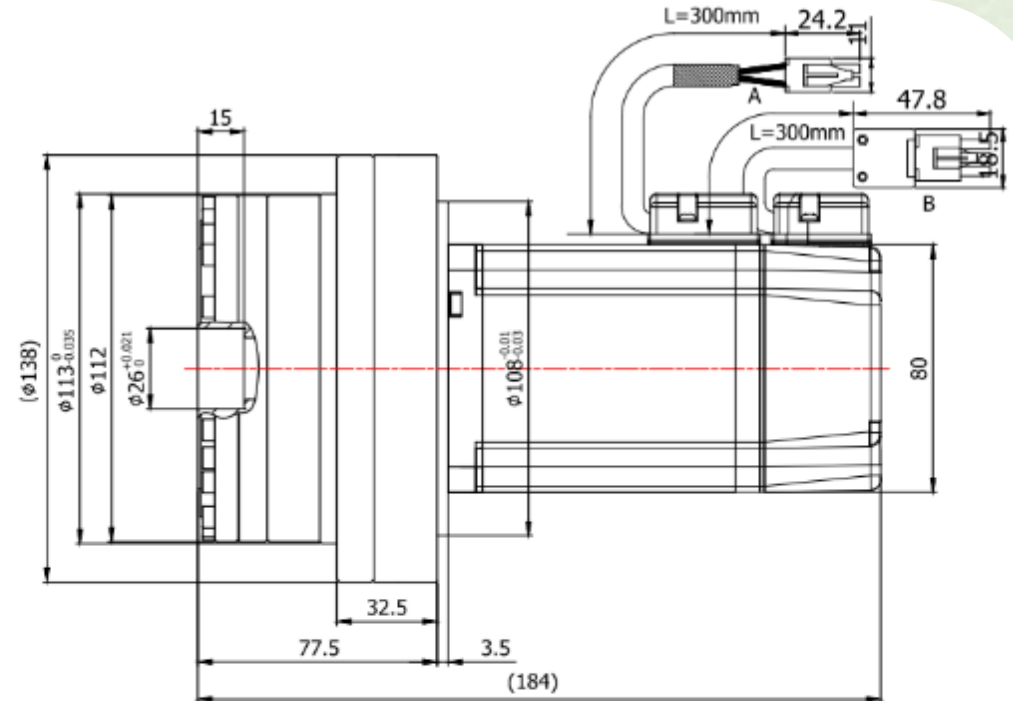
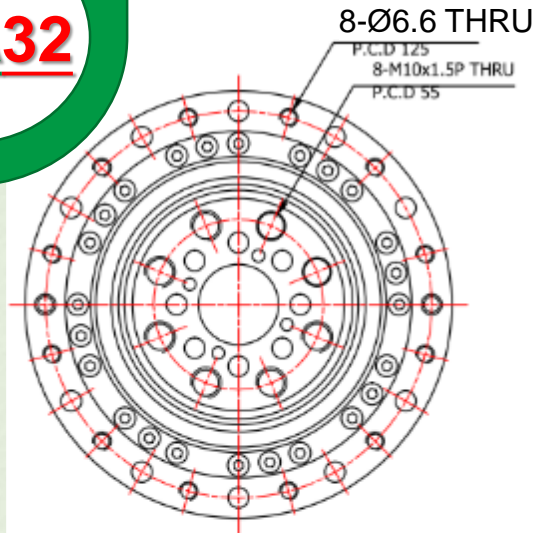
B : Encoder Pin Assignment		
Function	Signal	AMP 1-172169-9
Power	5V	1
	0V	2
Incremental	SD +	7
Signal	SD -	8
Shielding	Shielding	9
Battery	VB	5
	GND	6

5 ■ Reduction ratio (50/80/100), same dimensions

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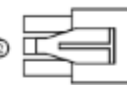
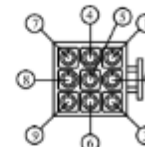
DRA Dimensions

DRA32



Connector A

A : Power Pin Assignment	
Signal	AMP-172167-1
U	3
V	2
W	1
	4



Connector B

B : Encoder Pin Assignment		
Function	Signal	AMP 1-172169-9
Power	5V	1
	0V	2
Incremental Signal	SD +	7
	SD -	8
Shielding	Shielding	9
Battery	VB	5
	GND	6

6 ■ Reduction ratio (50/80/100), same dimensions

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DRA Application



① Precision Machine

Metal Working / Tube Bending /
Measurement / Wood Working /
AB axis



⑤ Semiconductor

Packaging Test / Laser Marking



② Articulated Robot

6- axis / Delta / SCARA



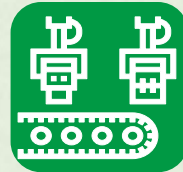
⑥ Biomedical

Medical Equipment /
Pharmaceutical Equipment



③ General Industry

Printing / Packaging / Textile



⑦ Automation

Inspection System /
Automated Production Line



④ Transportation

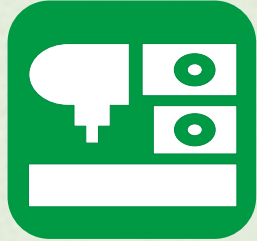
Aviation / Parking / Automotive



⑧ 3C Electronic Peripherals

Smartphone Applications /
Inspection / Dispensing

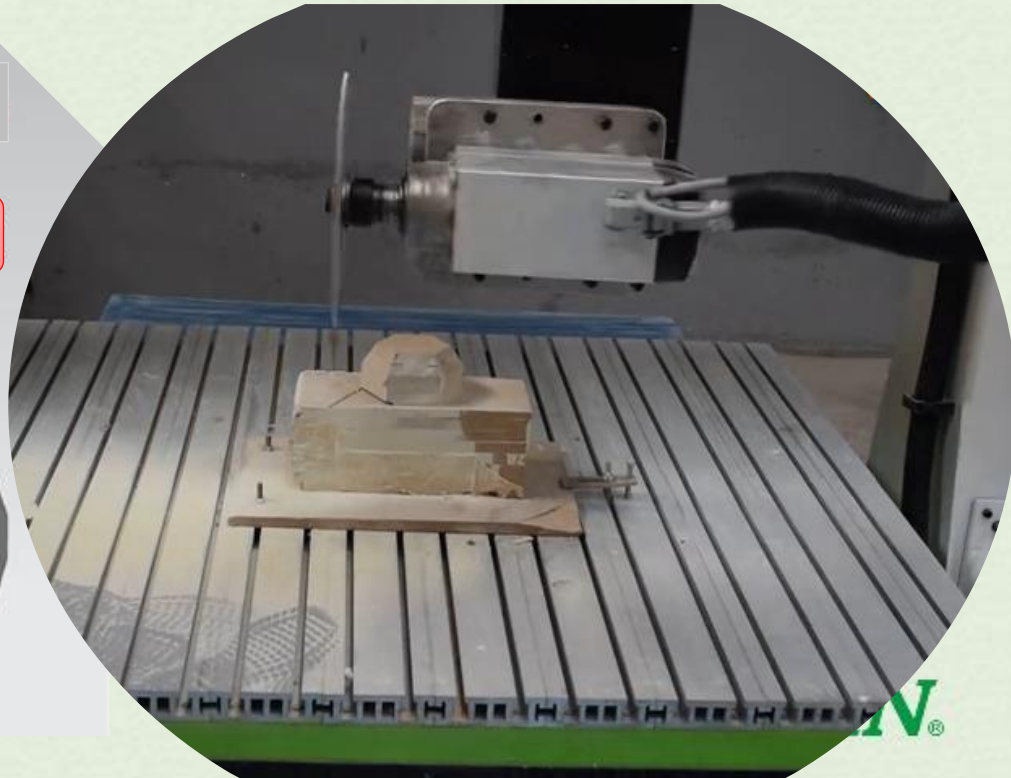
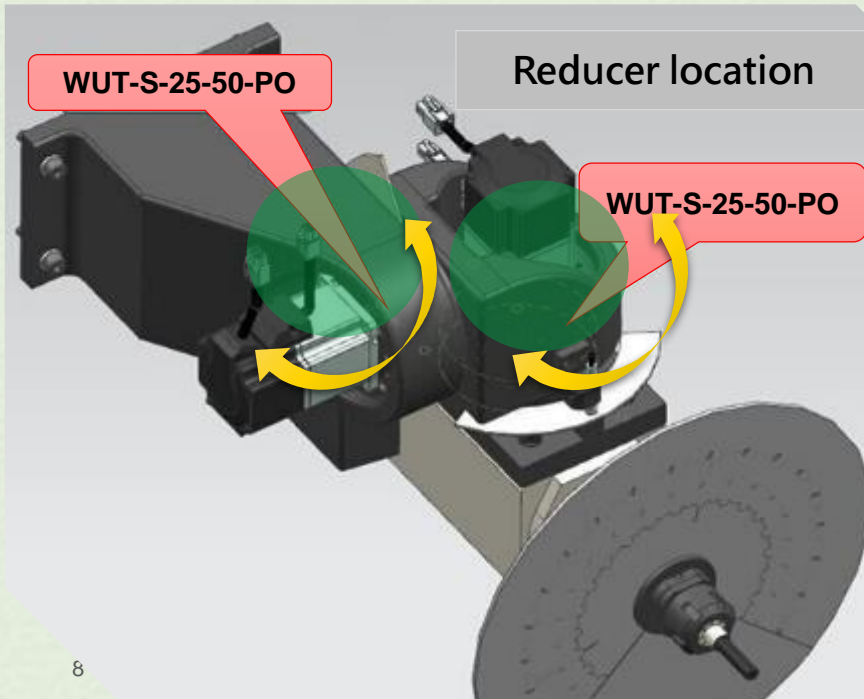
DRA Application



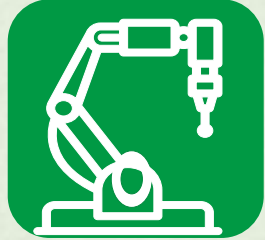
① Precision Machine

Metal Working / Tube Bending / Measurement /
Wood Working / AB axis

■ Wood Working Machine AB axis

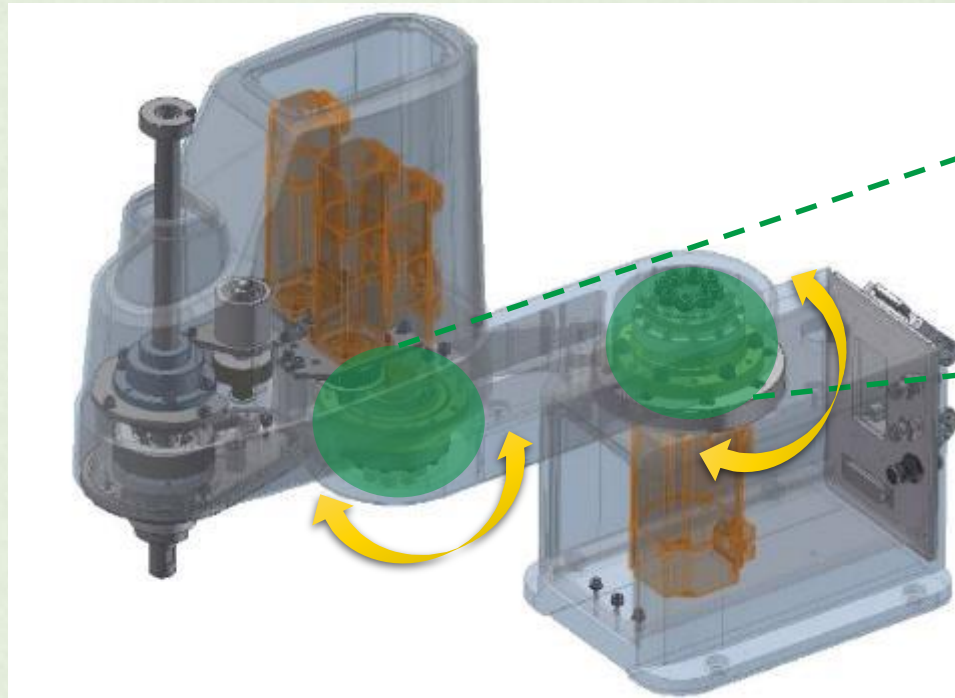


DRA Application



② Articulated robot

6 axis/ Delta / SCARA



■ SCARA robot

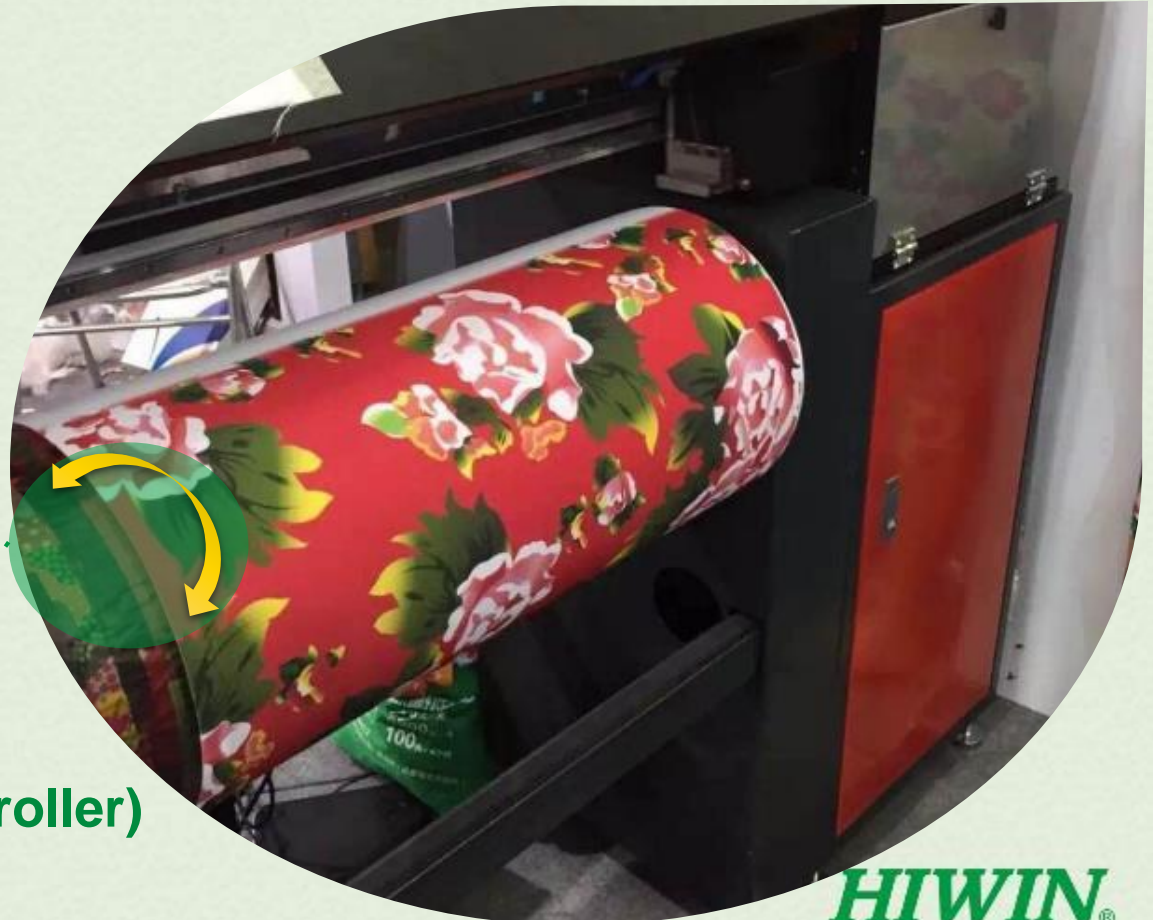
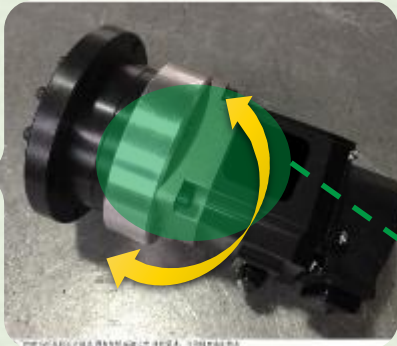
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DRA Application



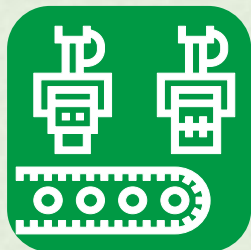
③ General industry

Printing/ Package / Textile



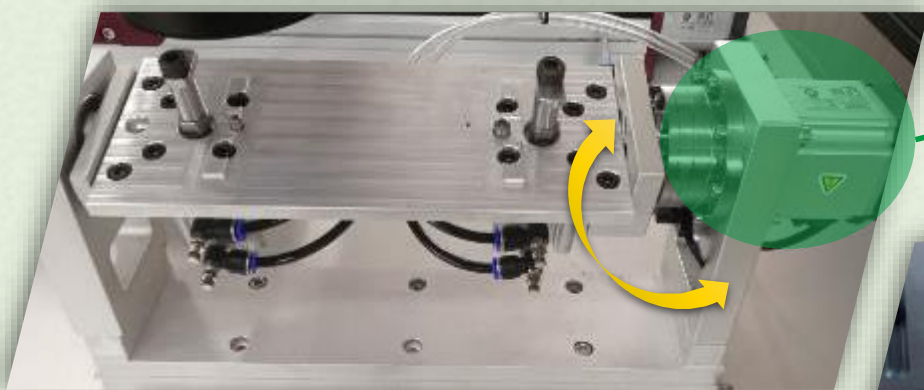
- Precision rotation
(Printing machine drum/roller)

DRA Application

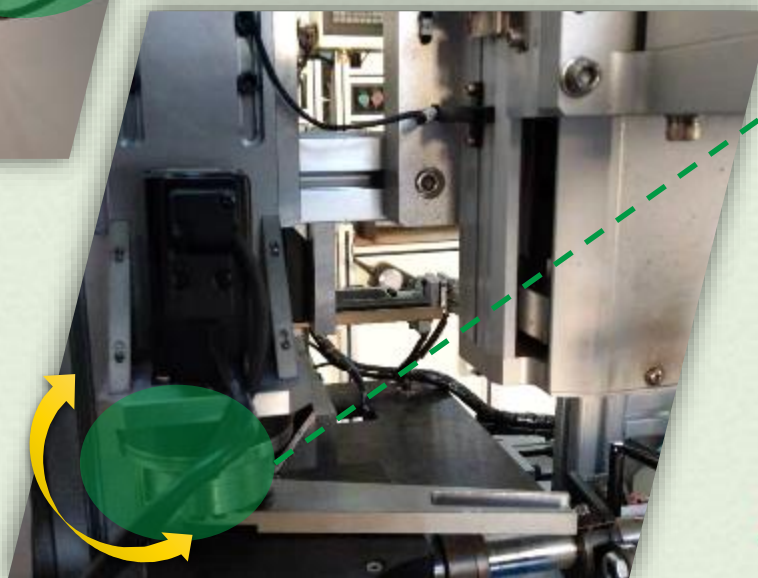


⑦ Automation

Inspection System / Automated Production Line



■ Inspection Platform



■ Automated Equipment