

HCR Advanced

Hanwha Collaborative Robot



		HCR-3A	HCR-5A	HCR-12A	
Robot Body	DOF	6 rotating joints	6 rotating joints	6 rotating joints	
	Payload	3 kg	5 kg	12 kg	
	Reach	630 mm	915 mm	1,300 mm	
	Speed (Tool)	1 m/s	1 m/s (Max. 1.5m/s)	1 m/s (Max. 1.2 m/s)	
	Repeatability	±0.05 mm	±0.05 mm	±0.07 mm	
	Weight	13 kg	21 kg	53 kg	
	Tool/IO 1	Connector	M8, 8pin, A Coding (Standard)	M8, 8pin, A Coding	M8, 8pin, A Coding
		Power	DC24V (set on GUI) 1.5A Max	DC24V (set on GUI) 3A Max (1.5A/pin)	DC24V (set on GUI) 3A Max (1.5A/pin)
		Digital In (Type)	2 (PNP)	2 (PNP)	2 (PNP)
		Digital Out (Type)	2 (NPN)	2 (NPN)	2 (NPN)
		Analog In	2	2	2
	Tool/IO 2	Connector		M8, 8 pin, A Coding	M8, 8 pin, A Coding
		Power		DC 24V (1.5A max)	DC 24V (1.5A max)
		Digital In (Type)		D-in 2 (PNP)	D-in 2 (PNP)
		Digital Out (Type)		D-out 2 (NPN)	D-out 2 (NPN)
EtherCAT	Connector	M8, 6 pin	M8, 6 pin	M8, 6 pin	
	DC	TX+, TX-, RX+, RX-DC 24V	TX+, TX-, RX+, RX-DC 24V	TX+, TX-, RX+, RX-DC 24V	
Sound Level		Less than 60 dBA	Less than 65 dBA	Less than 70 dBA	
Motion Range, Speed	J1	± 360°, Max 180°/sec	± 360°, Max 178°/sec	±180°, Max 130°/sec	
	J2	± 360°, Max 180°/sec	± 360°, Max 178°/sec	±150°, Max 130°/sec	
	J3	± 160°, Max 180°/sec	± 165°, Max 178°/sec	±165°, Max 200°/sec	
	J4	± 360°, Max 360°/sec	± 360°, Max 180°/sec	± 190°, Max 200°/sec	
	J5	± 360°, Max 360°/sec	± 360°, Max 180°/sec	± 170°, Max 200°/sec	
	J6	Infinite, Max 360°/sec	± 360°, Max 180°/sec	± 360°, Max 200°/sec	
IP protection		IP64	IP54	IP54	
Controller	Size	450 x 470 x 223 mm	450 x 470 x 223 mm	450 x 470 x 223 mm	
	Weight	17.6 kg	17.6 kg	19.8 kg	
	Power	100-240 VAC, 50-60Hz (1kW)	100-240 VAC, 50-60Hz (1kW)	100-240 VAC, 50-60Hz (1kW)	
	Internal I/O Ports	Emergency	2ch (4 ports)	2ch (4 ports)	2ch (4 ports)
		Safety	2ch (4 ports)	2ch (4 ports)	2ch (4 ports)
		Remote Power On/Off	Yes / Yes	Yes / Yes	Yes / Yes
		Digital In	Flexible In 8 ch (SINK) General In 8 ch (SINK)	Flexible In 8 ch (SINK) General In 8 ch (SINK)	Flexible In 8 ch (SINK) General In 8 ch (SINK)
	Digital Out	Flexible Out 8 ch (Source) General Out 8 ch (Source) * <1.2A / channel	Flexible Out 8 ch (Source) General Out 8 ch (Source) * <1.2A / channel	Flexible Out 8 ch (Source) General Out 8 ch (Source) * <1.2A / channel	
	Incremental Encoder In	2 ch	2 ch	2 ch	
	Communication Protocols	TCP/IP and Modbus TCP (Profinet and EthernetIP with Gateway, DIN Rail for Gateway available)			
T/P	Size	343 x 270 x 81 mm			
	Weight	1.8 kg			
	Monitor	Display Size	12.1 inch		
		Resolution	1,024 x 768		
		Touch Tech	Resistive		
	User Interface	Power Switch	1 EA		
		Emergency Switch	1 EA		
I/O Port	USB 2.0 1 EA				
Accessory	T/P Holder 1 EA				

Your Advanced Cobot Partner

HCR Advanced

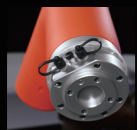
Hanwha Collaborative Robot



HCR Advanced

Hanwha Collaborative Robot

Automation is no longer difficult. The collaborative robots **HCR-3A, 5A, 12A** are easy to control in responding to changes in production layout, difficulty cutting down investment cost an operating expenses.



Enhanced Specification

- 3 Tool ports with Advanced EtherCAT Port
- Faster linear speed (Max. 1.5 m/s)
- Enhanced repeatability (0.05 mm)



Robot AI 3D Vision

- Pick & Place for any shapes of products
- Deep-learning based, AI 3D vision



Mobility with Hanwha AGV

- Hanwha LGV (Laser Guided Vehicle)
- Hanwha AMR (Automated Mobile Robot)



Robot Monitoring Service

Under the cooperation with Hanwha Techwin CCTV, Hanwha robotics is providing the specialized robot monitoring service.



HCR-3A



HCR-5A



HCR-12A

Easy

One day training is enough to be a robot operator.

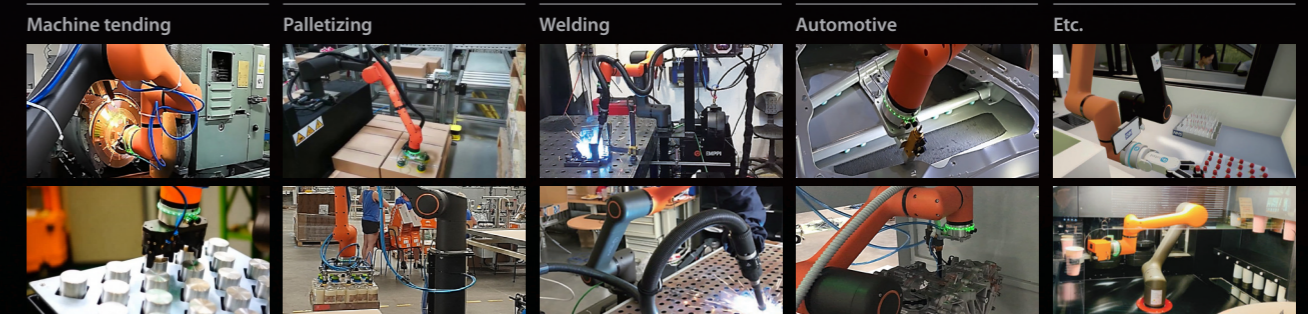
Safe

Safety of HCR allows the cooperation with employees in operation.

Flexible

Fast set-up optimizes flexible change of manufacturing.

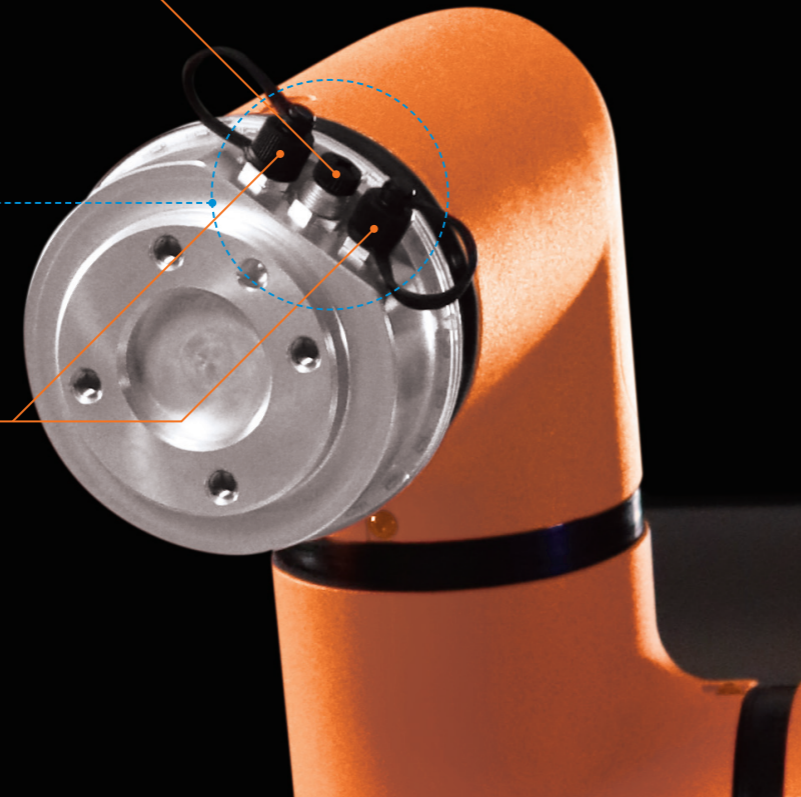
Easy & Simple in any APPLICATIONS



Advanced EtherCAT Port
For Easy Plug & Play



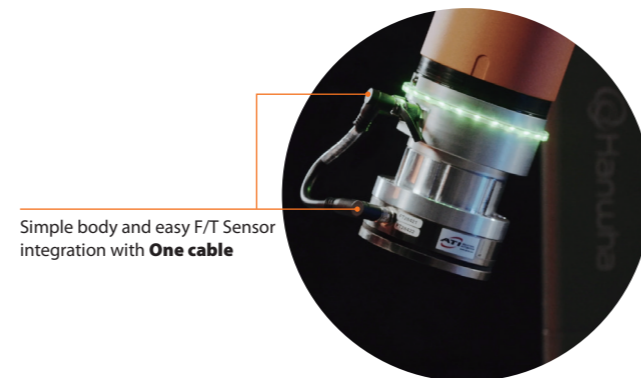
I/O 2 Ports with 8 Pins
Direct Integration
for Dual Grippers



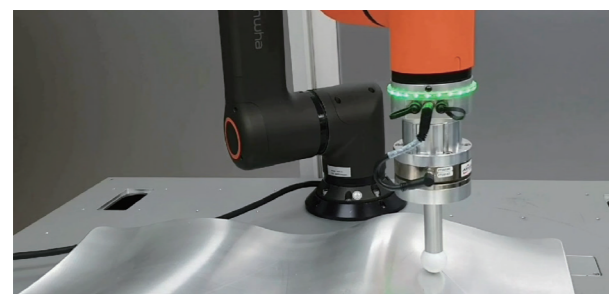
Simple Body for Easy & Cost Effective Robot Operation.

HCR pursues the simple body and easy programming.

If Force Torque sensor is needed, HCR Advanced provides easy integration & programming for F/T Sensor through EtherCAT port and intuitive Rodi X UI.



Simple body and easy F/T Sensor integration with **One cable**



Polishing

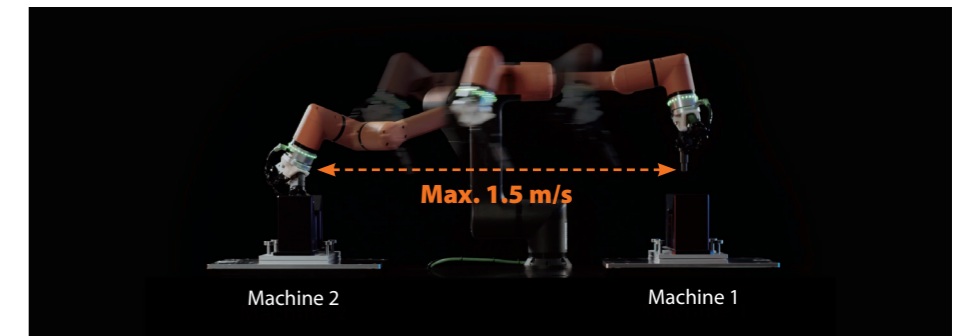


Assembly/ Inserting with spiral movement

**Faster Speed
Enhanced
Repeatability**

Linear Speed of HCR-5A is increased to Max. 1.5 m/s

- HCR Advanced realizes the increased productivity.
- Linear speed of HCR-5A is increased to Max. 1.5 m/s.
 - Enhanced repeatability to Max. 0.05 mm



Body Cables

Enhanced Flexibility

HCR Advanced provides enhanced flexibility through "Detachable & Flexible body cable". (Cable length : Max. 10 m)



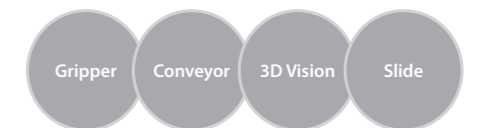
Rodi-X
for ECO Plug & Play

Expanded Compatibility through Rodi-X & SDK

- HCR Advanced provides expanded compatibility through "Rodi-X & SDK"
- Easy development for Rodi UI/UX
 - Shorter development time to implement applications
 - Free SDK



Rodi SW



Rodi-X Plugins



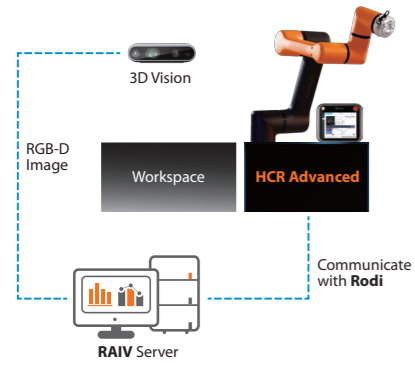
Extension

Program

Widget

Daemon

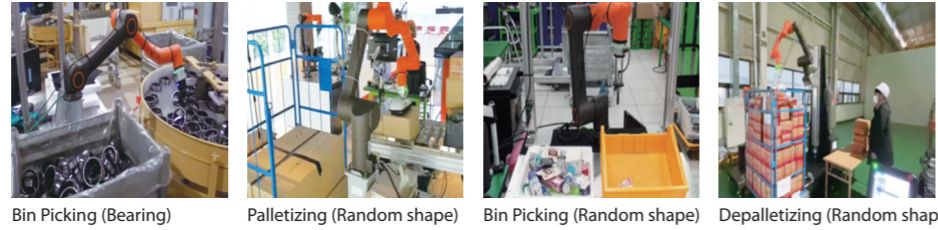
RAIV Robot AI Vision



HCR`s Own Advanced AI 3D Vision Solution



This deep-learning based, RAVI solution enables "Pick & Place" for any random shape products.



RVS Robot Visual Safety

HCR` Own Enhanced Safety Through Robot Visual Safety

This camera-based, visualized safety solution enhances the safety of operators depends on the distance between Robot and Operator.

- Yellow zone : Robot speed gets down.
- Red zone : Robot stops.



RPC Robot Positioning Compensation

CNC Machine Tending Automation / 2D positioning compensation

2D vision & FOCAS interface for easiness & Flexibility of HCR compensation and interface with machine tools.

- With its Self-developed 2D vision positioning compensation solutions, Hanwha can provides more simple/fast/economic way by skipping re-teaching.
- One QR code + 2D vision + Hanwha a algorithm



Mobility Hanwha AGV

HCR DC-controller
HCR-3A/5A : HC-S2DC
HCR-12A : HC-P2DC

Hanwha LGV (Laser Guided Vehicle)

Hanwha LGV can realize the full automation at logistics industry and CNC machine tending for handling heavy items.

Hanwha AMR (Automated Mobile Robot)

Hanwha AMR shows the perfect automation combination with HCR Advanced (DC Controller Type).



SMART FACTORY with HCR and Hanwha AGV



Monitoring Service

Hanwha Techwin CCTV Monitors & Records Hanwha Robotics Together.

You can monitor Hanwha robotics wherever you are with your smart phone.

