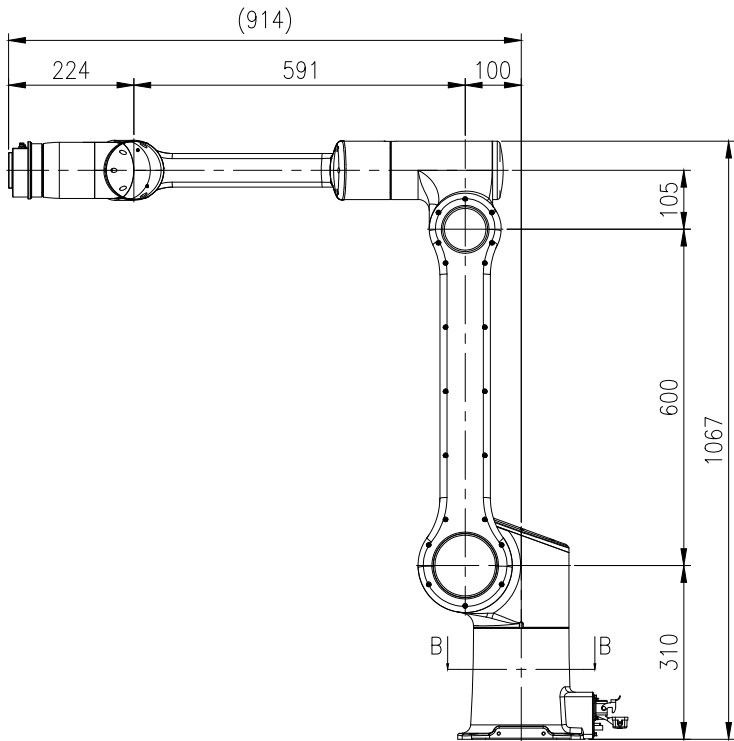
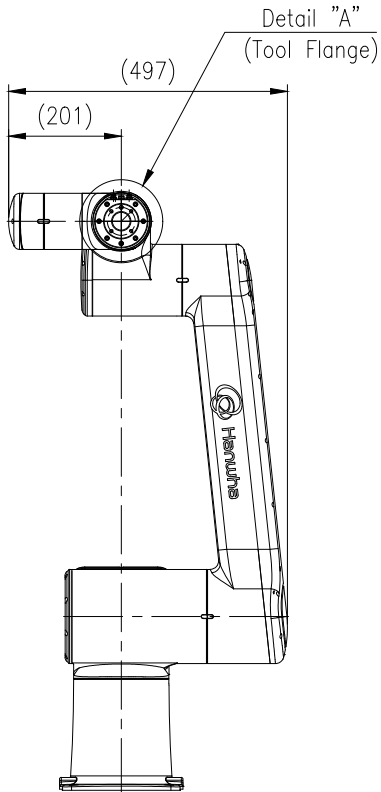


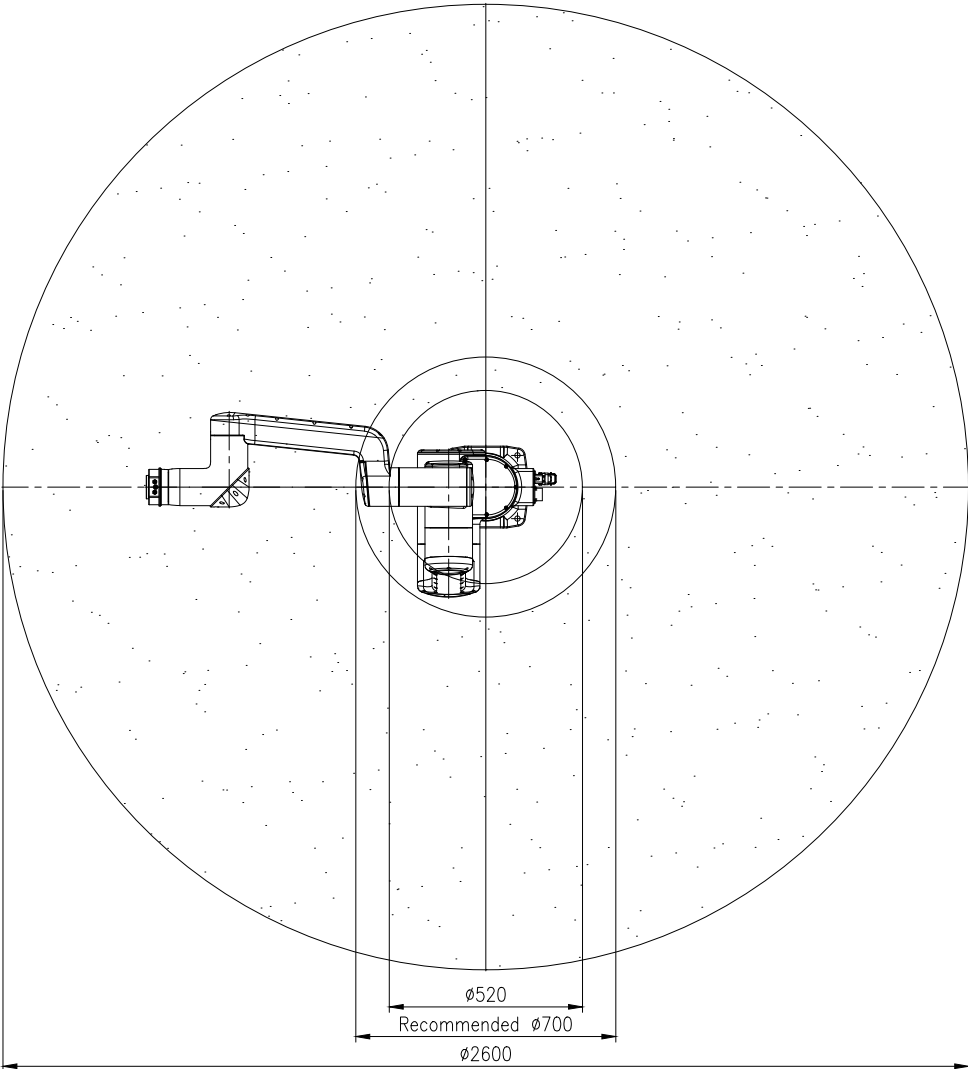
# HCR Advanced

Hanuwa Collaborative Robot



|                   |                         | HCR-3A   | HCR-5A   | HCR-12A  |  |
|-------------------|-------------------------|--|--|--|--|
| <b>Robot Body</b> | 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   |
| <b>Controller</b> | 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)<br>General In 8 ch (SINK)                            | Flexible In 8 ch (SINK)<br>General In 8 ch (SINK)                            | Flexible In 8 ch (SINK)<br>General In 8 ch (SINK)                            |
|                   |                         | Digital Out  | Flexible Out 8 ch (Source)<br>General Out 8 ch (Source)<br>* <1.2A / channel | Flexible Out 8 ch (Source)<br>General Out 8 ch (Source)<br>* <1.2A / channel | Flexible Out 8 ch (Source)<br>General Out 8 ch (Source)<br>* <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) |  |  |  |
| <b>T/P</b>        | 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         |  |  |  |  |





HCR-12A Working area, top view