# Parallel Robots
# Quattro 650H/HS

## Four-axis parallel robot achieves high speed and high precision

- Ethernet capability to control the robot through the familiar programming language (IEC 61131-3) of Machine Automation Controller NJ/NX Series
- Four-axis arm evenly distributes the load on the robot
- Fast and high-precision conveyance and assembly
- Designed with a high payload to support multi-hand (multi-picking)
- Supports fast Pick & Place on a fast conveyor
- Meets the sanitary standards of the United States Department of Agriculture for prevention of product contamination
- Maximum working diameter 1,300 mm
- Working height 500 mm
- Maximum payload 15 kg
- Weight 117 kg
- Protection IP66 (HS type)

## Specifications

| Product name | | Quattro | |
|---|---|---|---|
| | Size | 650 | |
| | Type | H | HS |
| Model | | 1721□-2600□ | 1721□-2601□ |
| Number of axes | | 4 | 4 |
| Mounting | | inverted | |
| Working volume | X,Y axis (stroke) | 1300 mm | |
| | Z axis (stroke) | 500 mm | |
| | theta axis (rotation angle) | 0° (fixed) (P30) | |
| | | ±46.25° (P31) | |
| | | ±92.5° (P32) | |
| | | ±185° (P34) | |
| Maximum Payload | | 6 kg (P30: 15kg) | |
| Repeatability | | ±0.10mm | |
| Cycle times, sustained (at 20°C ambient) | Payload 0.1 kg | 0.30s *1, 0.46 s *2 | |
| | Payload 1.0 kg | 0.36s *1, 0.47 s *2 | |
| | Payload 2.0 kg | 0.37s *1, 0.52 s *2 | |
| | Payload 4.0 kg | 0.41s *1, 0.58 s *2 | |
| | Payload 6.0 kg | 0.43s *1, 0.61 s *2 | |
| Power Requirements | | 24 VDC: 11 A (eAIB, SmartController) 200 to 240 VAC: 10 A, single-phase | |
| Protection | Base | IP65 (with optional cable sealing kit) | IP66 |
| | Tooling | IP67 | IP67 |
| Environment Requirements | Ambient Temperature | 1 to 40°C | |
| | Humidity Range | 5 to 90% (non-condensing) | |
| Weight | | 117 kg | |
| USDA-Accepted for meat and poultry processing | | --- | Yes |
| Basic configuration | Controller | SmartController EX | |
| | On-board I/O (Input/Output) | 12/8 | |
| | Conveyor tracking input | 4 | |
| | RS-232C serial communications port | 1 | |
| | Programming environment | ACE, PackXpert, PLC | |
| | ACE Sight | Yes | |
| | ePLC Connect | Yes | |
| | ePLC I/O | Yes | |
| Connectable controller *3 | | SmartController EX, NJ/NX Series *4 | |

*1. Adept cycle, in mm (25/305/25)
*2. Extended cycle, in mm (25/700/25)
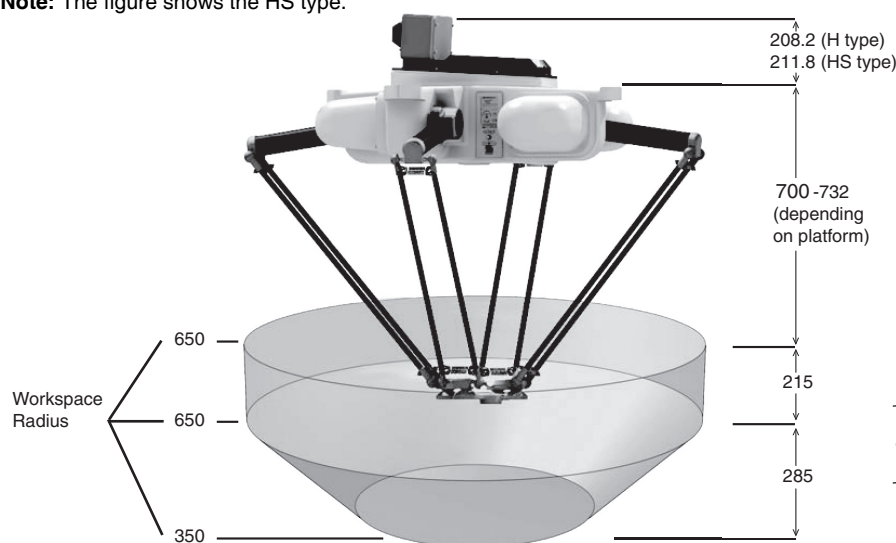*3. Choose a controller to suit your application.
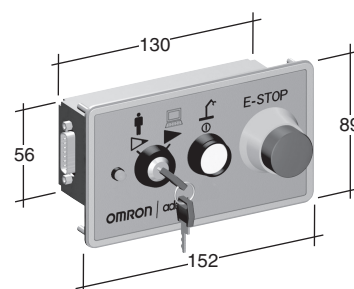*4. The robot version 2.3.C is required to connect with the NX/NJ Series.
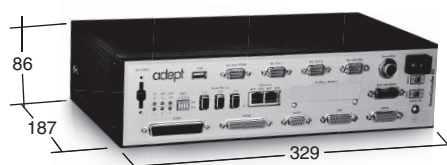
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# Dimensions

**(Unit: mm)**

### Quattro 650H/HS

**Note:** The figure shows the HS type.

208.2 (H type)
211.8 (HS type)

700 -732 (depending on platform)

650

650

350

Workspace Radius

215

285

### Front panel

130

56

89

152

E-STOP

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### SmartController EX

86

187

329

adept

Four choices of platform offer different ranges of rotation.

| Appearance |  |  |  |  |
|---|---|---|---|---|
| **Type** | P30 | P31 | P32 | P34 |
| **Rotation angle** | No rotation | ±46.25° | ± 92.5° | ±185° |
| **Maximum Payload** | H: 15 kg, HS: 12 kg | H: 6 kg, HS: 3 kg | H: 6 kg, HS: 3 kg | H: 6 kg, HS: 3 kg |

**Note:** The platform appearances of the H type are shown above. The platform of the HS type is made of stainless steel.

# Robot Parts Code and Bundled Accessories

| Type | Quattro with EX Controller | Quattro Add-On |
|---|---|---|
| **Quattro 650H P30** | 17214-26000 | 17213-26000 |
| **Quattro 650H P31** | 17214-26001 | 17213-26001 |
| **Quattro 650H P32** | 17214-26002 | 17213-26002 |
| **Quattro 650H P34** | 17214-26004 | 17213-26004 |
| **Quattro 650HS P30** | 17214-26010 | 17213-26010 |
| **Quattro 650HS P31** | 17214-26011 | 17213-26011 |
| **Quattro 650HS P32** | 17214-26012 | 17213-26012 |
| **Quattro 650HS P34** | 17214-26014 | 17213-26014 |
| **Overview** | Robot + eAIB+ SmartController EX + required connection cables | Robot + eAIB + required connection cables |
| **Purpose** | Typical for use in single robot system and multi-robot systems. | Typically added to systems with an existing SmartController EX to create multi-robot systems |
| **Bundled Accessories** | • XSYS cable with jumpers, 2m/6ft (13323-000)<br>• SmartController EX (09200-000)<br>• XSYS cable, 5m/15 ft (11585-000)<br>• 1394 latch cable, 5m/15 ft, 13632-045)<br>• Front panel kit (90356-10358)<br>• eV+ license to connect to controller (14529-103) | • XSYS cable with jumpers, 2m/6ft (13323-000)<br>• XSYS cable, 5m/15 ft (11585-000)<br>• DB9 splitter (00411-000)<br>• 1394 latch cable, 5m/15 ft, 13632-045)<br>• eV+ license to connect to controller (14529-103) |

**Note:** OMRON also provides other types of model. Ask your OMRON sales representative for details.