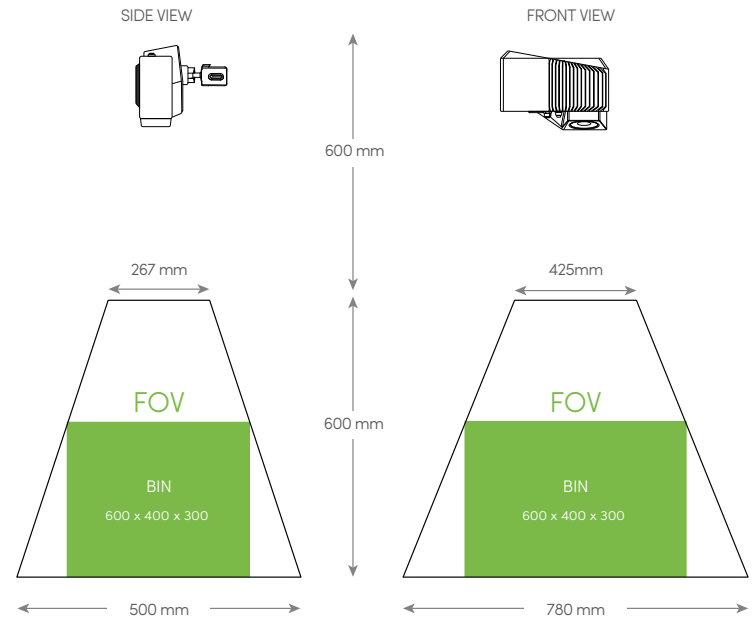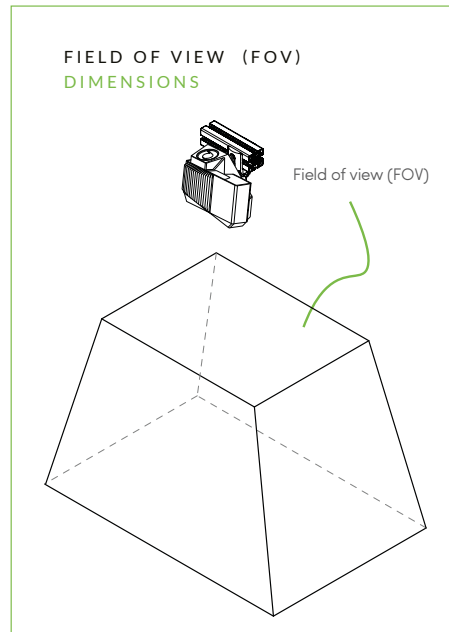# Pick-it M-HD Camera Field of view

To be visible for Pick-it, all parts or items of interest must be inside the **field of view** (FOV) of the 3D camera.

The **region of interest** (ROI) can be seen as a 'bounding box' that fits within the FOV of the 3D camer a. This box defines where the actual application takes place. You can define this ROI in the Pick-it software.
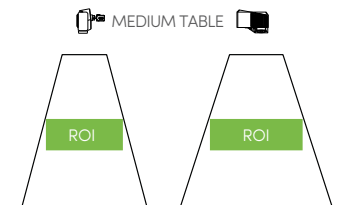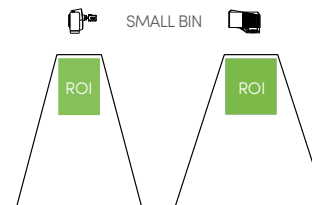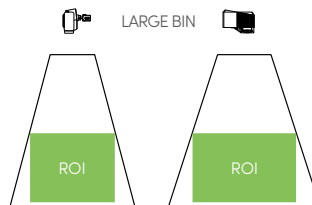
The possible dimensions of the ROI depend of the distance between the 3D camera and your ROI.

Bringing your application closer to the camera will improve image quality and shrink the potential ROI volume.
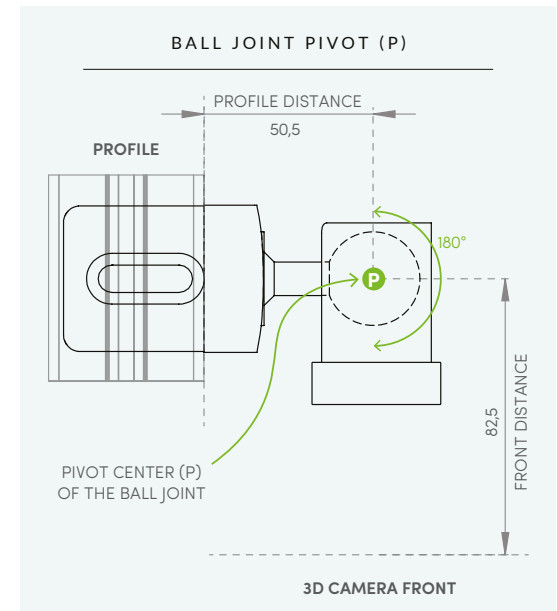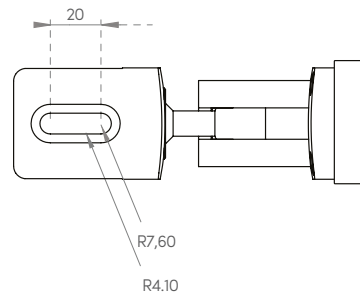
Bringing your application further from the camera will lower image quality and enlarge the potential ROI volume.

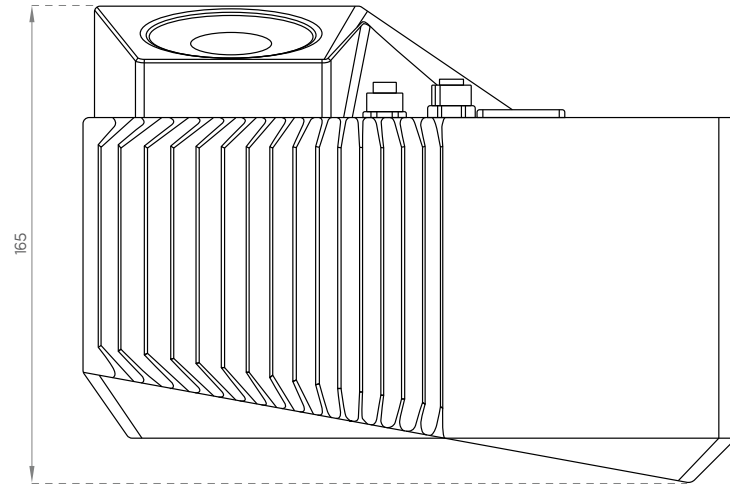**FIELD OF VIEW (FOV) DIMENSIONS**

Field of view (FOV)

SIDE VIEW

FRONT VIEW

600 mm

267 mm

425mm

600 mm

FOV

FOV

BIN
600 x 400 x 300

BIN
600 x 400 x 300

500 mm

780 mm

REGION OF INTEREST (ROI) EXAMPLE APPLICATIONS

LARGE BIN

SMALL BIN

MEDIUM TABLE

ROI

ROI

ROI

ROI

ROI

ROI

ROI

ROI

ROI

ROI

Pick-it Camera Dimensions

86

44,5

226

165

L-BRACKET
MOUNTS TO PROFILES

20

R7,60

R4.10

BALL JOINT PIVOT (P)

PROFILE DISTANCE

50,5

PROFILE

180°

P

PIVOT CENTER (P)
OF THE BALL JOINT

82,5

FRONT DISTANCE

3D CAMERA FRONT
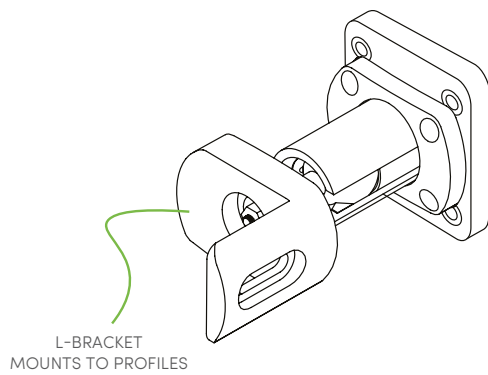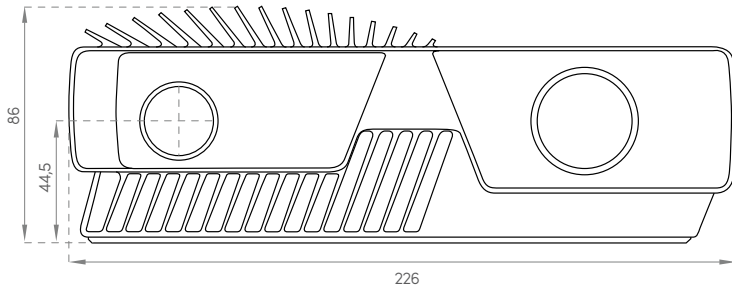
All dimensions in mm

Pick-it Facts

CAMERA TECHNICAL SPECIFICATIONS

|	
3D measurement method	Structured light
Image processing speed	≥ 10 Hz (100ms snapshots)
3D Camera accuracy	0.1mm
3D Camera repeatability	< 1mm
3D camera weight	2 kg
3D camera connection to PC	M12-8 (USB) - USB3
PC connection to robot	TCP/IP over Ethernet
Power supply	M12-5 24VDC
Temperature	10°C to 40°C
IP rating	IP65
Vibrations	5G Sinus, 25G Shock
Conforms to	CE, CB, EN6950, FCC class A

CAMERA CABLE TECHNICAL SPECIFICATIONS

5m

Industrial M12 camera connector

High-Flex / Continuous-Flex

- Type-U (R= 67,5mm - 5.000.000 times)
- Type-S (R= 60mm - 1.000.000 times)
- 90° Tick-Tock bending (R= 60mm - 1.000.000 times)
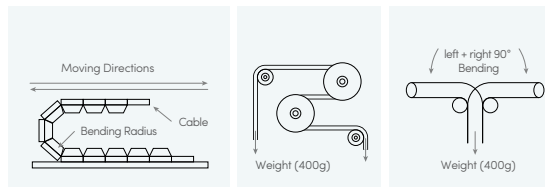
PROCESSOR

Power consumption

- While turned off: 25W
- Booting: 115W
- Idle: 70W
- Heavy processing: 160W

Technical specifications

- Processor: 6 cores (12 threads) at 3.7 Ghz
- 19 inch server: rack compatible (2U)
- Temperature: -20°C to 70°C
- Vibrations: Operating, 5 Grms, 5-500 Hz, 3 axes
- IP rating: IP54
- Power supply: 9-32V DC 160W
- Humidity: ~95% @ 40°C (non-condensing)

WORKS WITH YOUR ROBOT
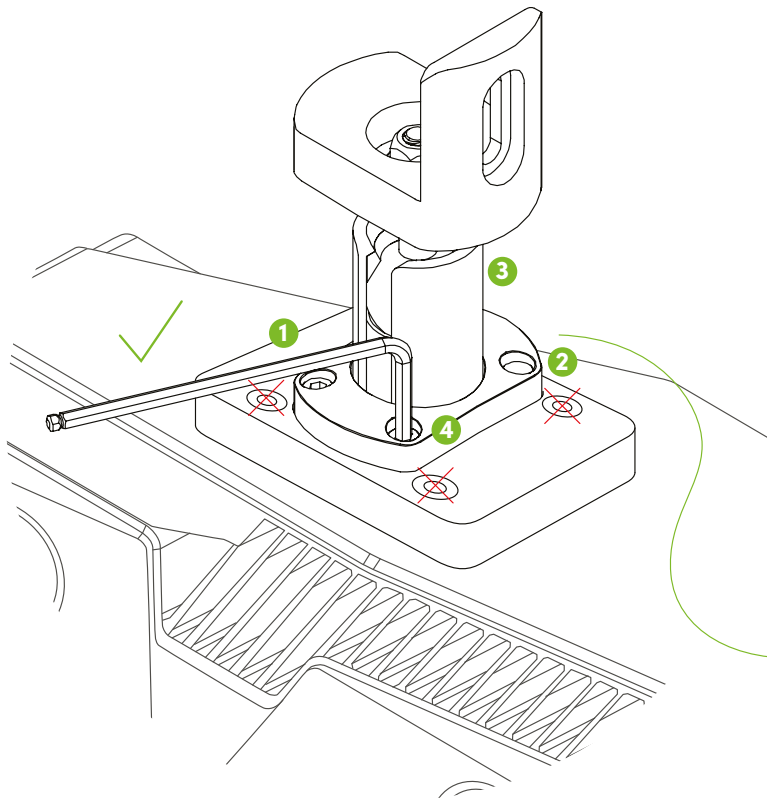
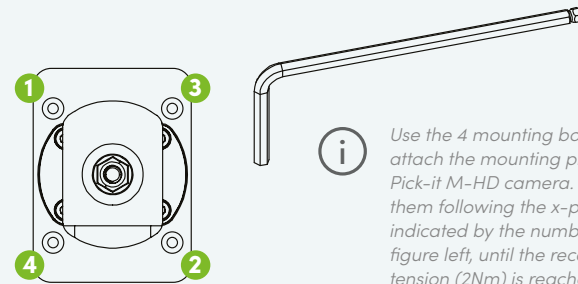FANUC   STÄUBLI   KUKA   YASKAWA   ABB   UNIVERSAL ROBOTS   FRANKA EMIKA   AUBO ROBOTICS
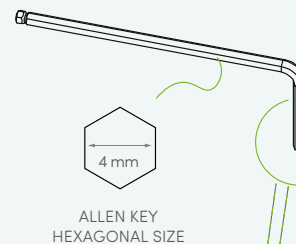
Ball Joint Tension

Adjust the 4 tensioning bolts as indicated at the right to alter the ball joint tightness and obtain a fixed joint or a flexible joint depending your application and needs.

4 MOUNTING BOLTS

Use the 4 mounting bolts to attach the mounting plate to the Pick-it M-HD camera. Tighten them following the x-pattern, as indicated by the numbers in the figure left, until the recommended tension (2Nm) is reached per bolt.
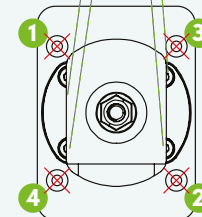
4 TENSIONING BOLTS

Nominal Bolt Tension Guidelines
- Fixed joint (immobilized) = 2 Nm
- Flexible joint (mobile) = 0,75 Nm

4 mm

ALLEN KEY HEXAGONAL SIZE

Gradually adjust the tensioning bolts of the ball joint in small steps, following the x-pattern, as indicated by the numbers in the figure left, until the recommended tension is reached per bolt.
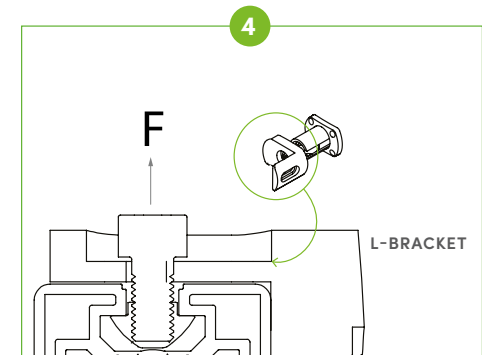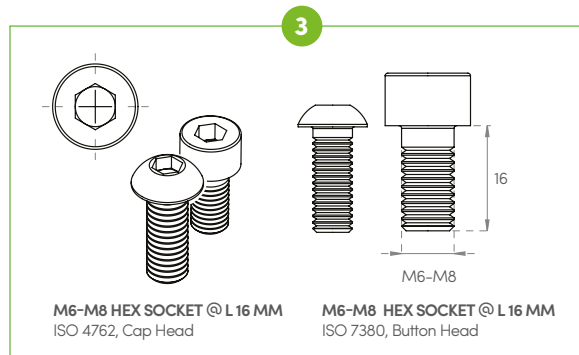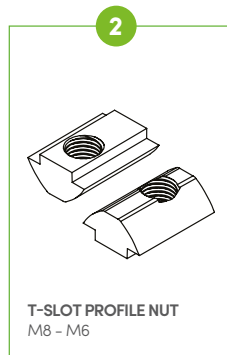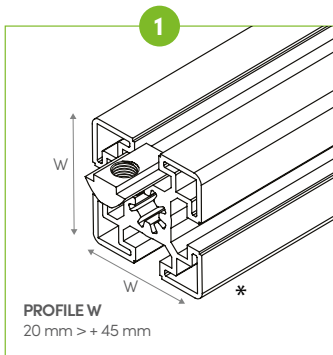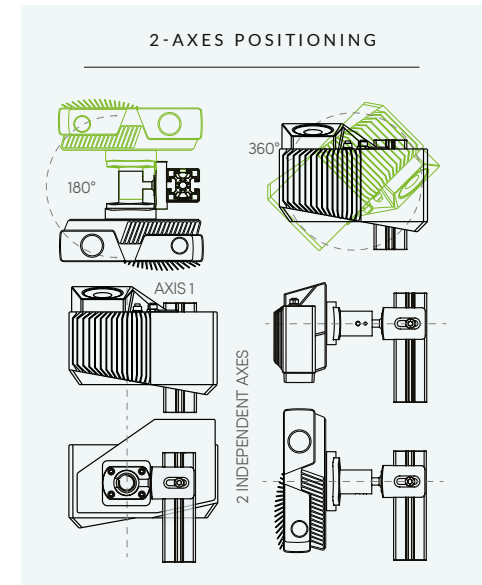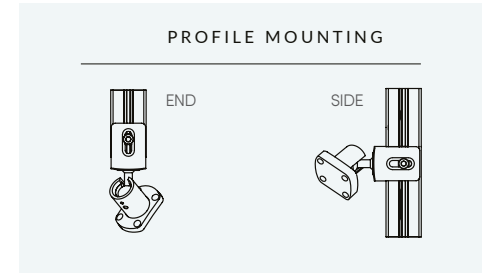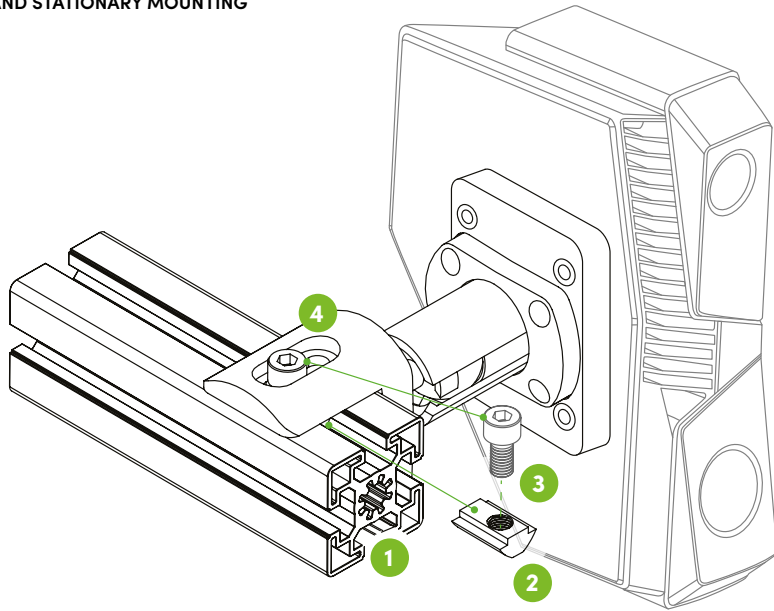
Follow the nominal bolt tension guidelines when adjusting the tensioning bolts of the ball joint to alter the joint's clamping force.

Stationary Mounting

**SOFTWARE SUPPORTS ON-ROBOT MOUNTING
AND STATIONARY MOUNTING**

RELEASE & LOCK BALL JOINT

Tool-free 3D camera positioning in any angle

PROFILE MOUNTING

END   SIDE

2-AXES POSITIONING

180°   360°

AXIS 1

2 INDEPENDENT AXES

---

1 — PROFILE W
20 mm > + 45 mm

2 — T-SLOT PROFILE NUT
M8 – M6

3
M6-M8 HEX SOCKET @ L 16 MM
ISO 4762, Cap Head

M6-M8 HEX SOCKET @ L 16 MM
ISO 7380, Button Head

16

M6-M8

4
F

L-BRACKET

Profile type shown above is for illustrative purposes only. A wide range of profile types is supported by the L-bracket. Contact us for further info.