# Pickit

# A plug & play 3D camera for your robot

# 5 good reasons
## to automate with Pick–it

### Save installation and setup time

Save setup time with our intuitive and easy to use 3D camera and software. With Pick-it, you can build any camera supported automation application without requiring experience. **Don't waste time** on long robot programs, Pick–it will tell your robot where to go.

### Automate with full flexibility

Build a new application in a day or define a new product to pick in just a few minutes. The Pick-it software is designed to handle **fast adaptations** and change-over times. It nicely guides you through the picking steps with a best-in-class user interface.

### Cut costs at a fixed price

Save costs using an **off-the-shelf product** that has proven itself with more than 150 applications in over 40 countries instead of going for a custom engineered approach with unpredictable results.

### Get rid of bulky and space-taking fixtures

Since Pick–it can find parts in any sort of location and layout, there is **no need** for a bulky feeding line with custom, in-flexible and expensive tools such as convey- or belts, fixtures, feeders or shaker tables.

### Worry less with 24/7 reliability

Rely on Pick-it to deliver **quality of work** day and night, seven days a week without getting tired. The Pick-it software even enables you to keep an eye on its eyes from wherever you are.

> "If I wanted to, fresh from a sealed box, I could get the system unpacked, connected, powered up, and picking simple parts such as boxes or circles in just 2 hours (if we ignore that I read slow). I think it is very well designed for being a new product and very robust."
>
> — Austin Shupe, Onexia, USA

ROBOT VISION MADE EASY

# Endless automation possibilities

Parts of different shapes, materials and sizes come into processes every day. They need to be ordered, placed, picked and mostly fed into a machine or a process.
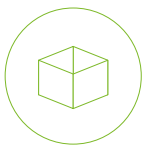
Traditionally this task was very hard to automate. **Adding our 3D camera and software to your robot makes this automation step made easy for you**.
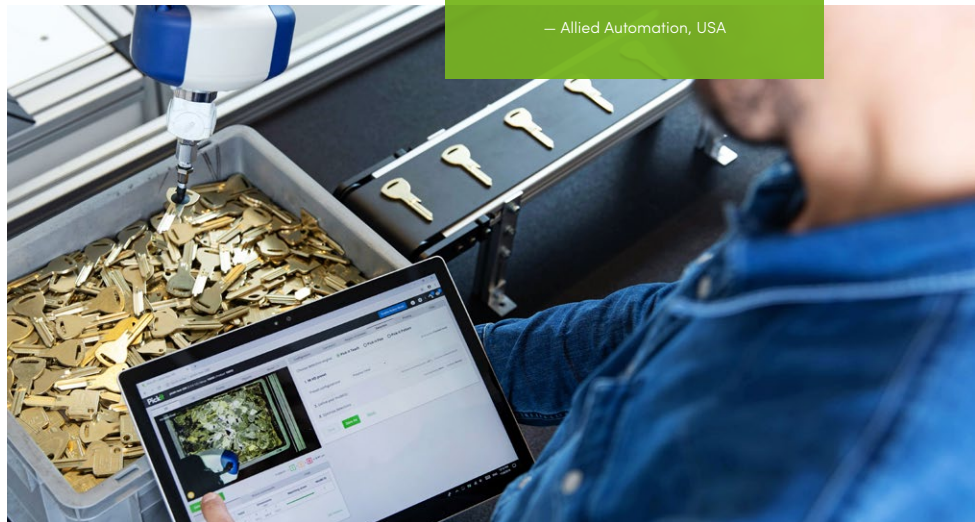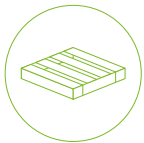
## Pick-it can find parts

in bins

in boxes

on pallets

on tables

and many more ...

## Pick-it will show your robot where to pick parts and place them onto:

- a CNC Machine
- an assembly line
- a conveyor belt
- a welding station
- a working bench

- a tray
- a box
- a package
- a co-workers hand
- and many more

### TRAINING

If you want to discover all possibilities of our system, learn how to use the latest features or just need that tiny bit of extra information to convince your team or management that Pick-it is the product you need, don't hesitate to request a training session. We offer **free training days** at our Belgium office targeted to anyone from Pick-it novices to seasoned experts. Aside from those we provide **online training materials and webinars on** http://support.pickit3d.com.

## Challenge us with your application.
We're happy to help: pickit3d.com/contact

# A plug & play solution

The Pick-it package contains a **3D camera** and the **3D Picking software** ready-to-run on a dedicated industrial processor.

Connect your pc or laptop to the Pick-it processor to configure your application through Pick-it's web interface.

Connect your robot to the Pick-it processor and program your robot with ready-to-use Pick-it commands to start picking.

## No programming needed

To configure an application with Pick-it you don't need to write a single line of code. We guide you through your setup with our interactive web interface.

> *"If I had to teach all waypoints for this application myself, this would have taken me 2 days. Now Pick-it does this for me. Just amazing."*
>
> Yves Machiels, KUKA programmer, Belgium

## This is how it's done

- Show an example part to the plug & play 3D camera
- Save this into the Teach detection engine
- Tell Pick-it where to look with our click and drag tool
- Pick-it will tell your robot where the best pickable part is

## Our artificial intelligence makes your robot smart

Our product:
- learns what your parts look like,
- knows where your robot is and how it moves,
- knows where your bin is,
- knows what your tool looks like,
- predicts & prevents collisions with obstacles and other parts,
- decides the best part to pick next,
- and much more ...

### WE VALUE TIME AS MUCH AS YOU DO

A typical detection cycle takes **less than one second** and can find multiple parts in one cycle.
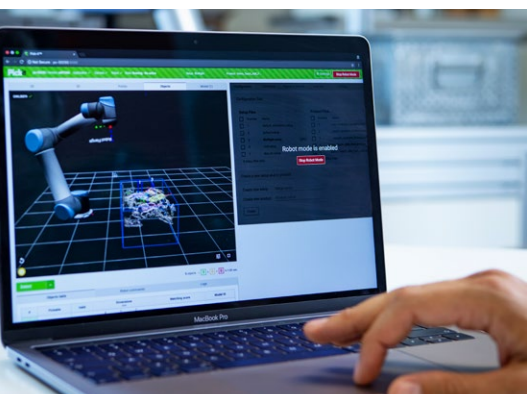
### UR+ CERTIFIED

Setting up and running an application with Pick-it on your Universal Robots robot is nearly effortless with the free Pick-it **URcap**. The test and validation professionals at Universal Robots tested our 3D camera, software and URcap and labeled Pick-it as a UR+ certified solution.

support.pickit3d.com/urcap

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# An elegant solution for any pick and place application

**NEW!**

## Pick-it **M-HD**

Best fit for picking of **small and medium sized objects** with **high accuracy** from bins, boxes and tables.

- High resolution 3D camera
- Highly accurate
- Best in class

## Pick-it **M**

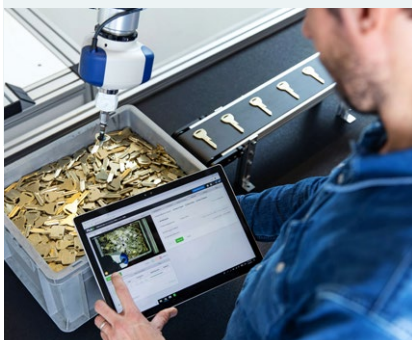Best fit for picking of **medium sized objects** from bins, boxes and tables.

- Highly versatile 3D camera
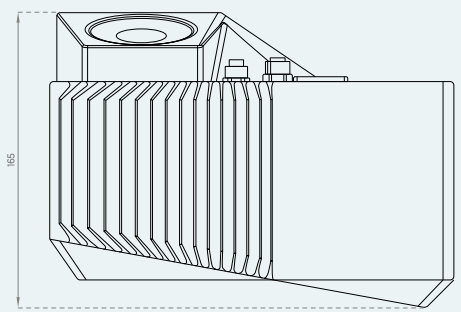- No parameters, real plug and play
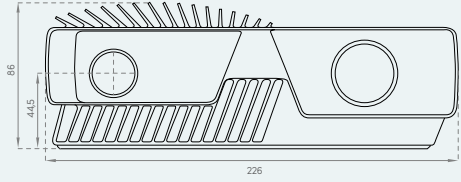- Fastest ROI in the market

## Pick-it **L**

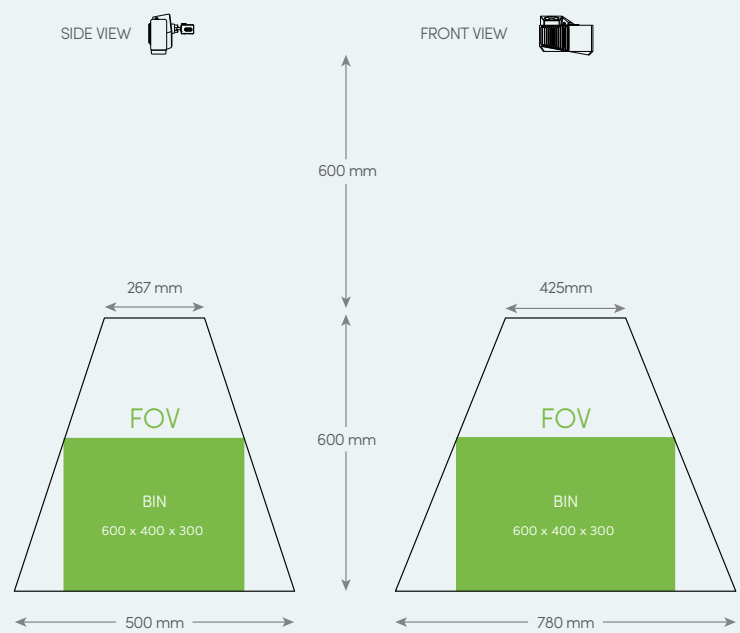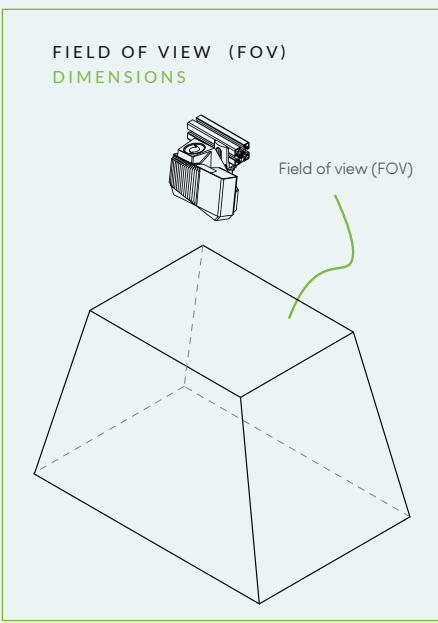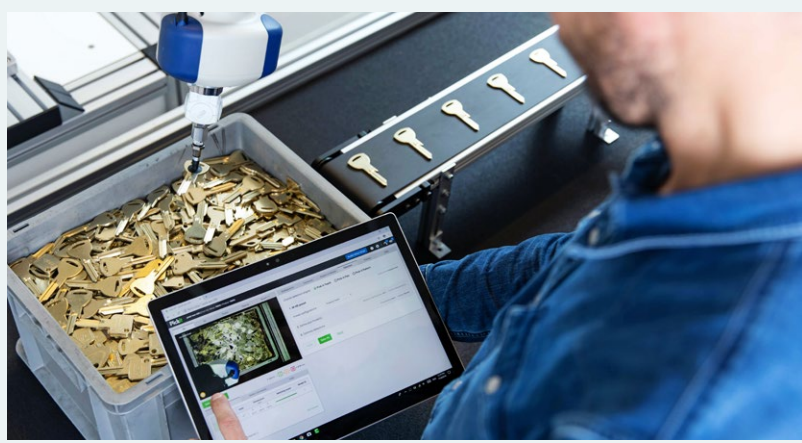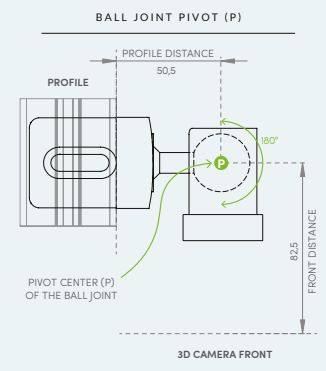Best fit for picking of **large sized objects** from pallets and bins.

- High versatile 3D camera
- No parameters, real plug and play
- Fastest ROI in the market

# Pick-it M-HD
# facts



20

R7,60
R4.10

**BALL JOINT PIVOT (P)**

PROFILE DISTANCE
50,5

PROFILE

180°

82,5

FRONT DISTANCE

PIVOT CENTER (P)
OF THE BALL JOINT

**3D CAMERA FRONT**

L-BRACKET
MOUNTS TO PROFILES

86
44,5
226

165

## Minimum object size:
## 10 x 10 x 5 mm
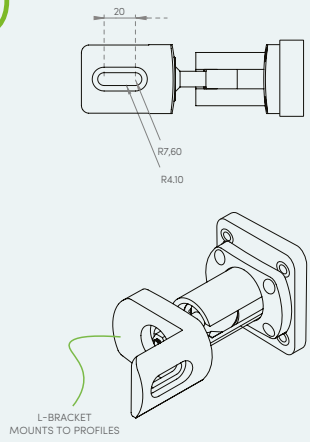


### FIELD OF VIEW (FOV)
### DIMENSIONS

Field of view (FOV)

SIDE VIEW          FRONT VIEW

600 mm

267 mm          425mm

FOV          FOV

600 mm

BIN
600 x 400 x 300          BIN
600 x 400 x 300

500 mm          780 mm

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## 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

**10m**

**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)
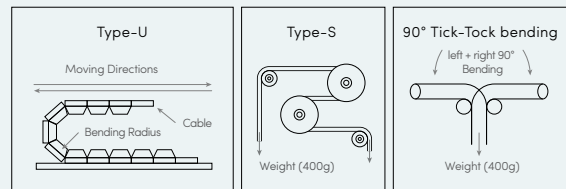


## PROCESSOR

**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)
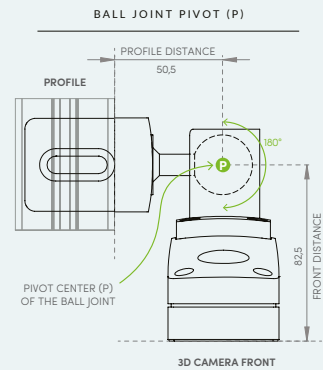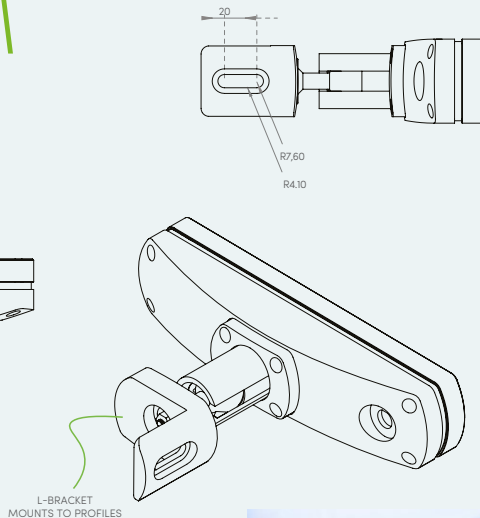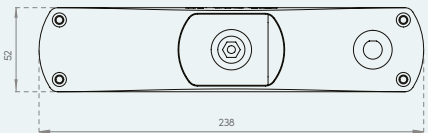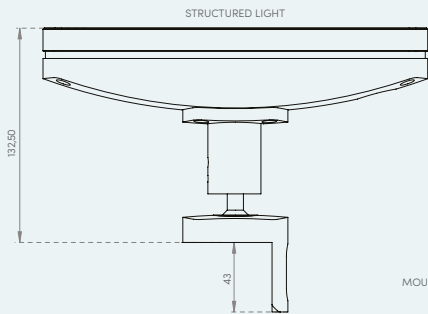


## WORKS WITH YOUR ROBOT

FANUC · STÄUBLI · KUKA · YASKAWA · ABB · UR · UNIVERSAL ROBOTS · FRANKA EMIKA · AUBO ROBOTICS

# Pick–it M facts

STRUCTURED LIGHT

132,50

43

52

238

20

R7,60

R4.10

L-BRACKET
MOUNTS TO PROFILES

BALL JOINT PIVOT (P)

PROFILE DISTANCE
50,5

PROFILE

180°

PIVOT CENTER (P)
OF THE BALL JOINT

FRONT DISTANCE

82,5

3D CAMERA FRONT

**Minimum object size:**
**50 x 50 x 10 mm**
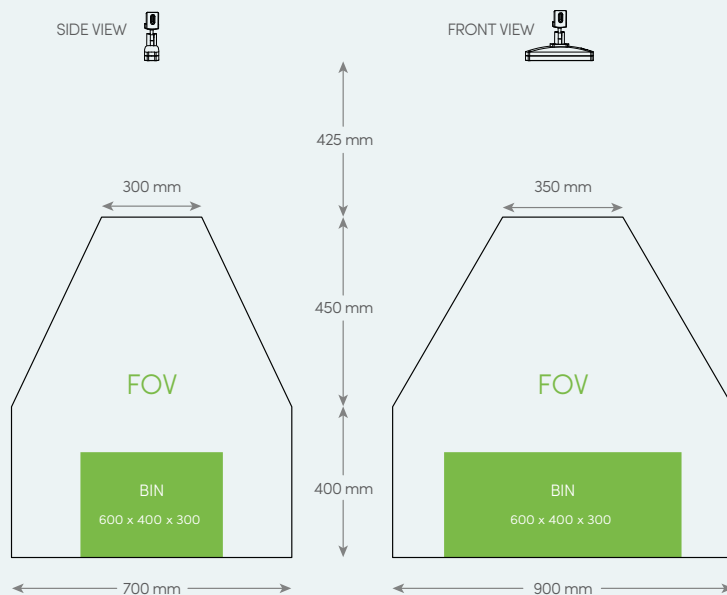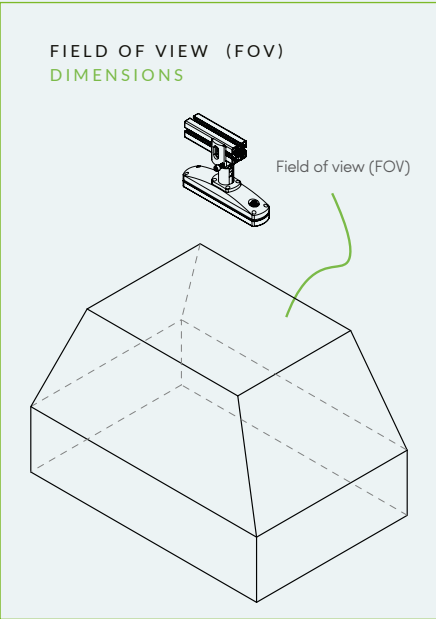
## FIELD OF VIEW (FOV)
### DIMENSIONS

Field of view (FOV)

SIDE VIEW

FRONT VIEW

425 mm

300 mm

350 mm

450 mm

FOV

FOV

400 mm

BIN
600 x 400 x 300

BIN
600 x 400 x 300

700 mm

900 mm

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Pickit

## CAMERA TECHNICAL SPECIFICATIONS

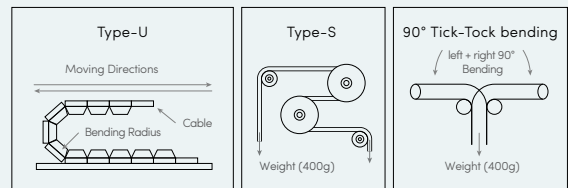| | |
|---|---|
| **3D measurement method** | Structured light |
| **Image processing speed** | 30 fps |
| **3D Camera accuracy** | < 3mm |
| **3D Camera repeatability** | < 1mm |
| **3D camera weight** | 1030 g |
| **3D camera connection to PC** | M12 (USB) – USB3 |
| **PC connection to robot** | TCP/IP over Ethernet |
| **Power supply** | USB3 5VDC |
| **Temperature** | 5°C to 40°C |
| **Humidity** | ~95% @ 40°C (non-condensing) |
| **IP rating** | IP55 |
| **Vibrations** | Operating, 2 Grms, 5-500 Hz, 3 axes |
| **Conforms to** | CE, FCC |

## CAMERA CABLE TECHNICAL SPECIFICATIONS

**10m**

**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
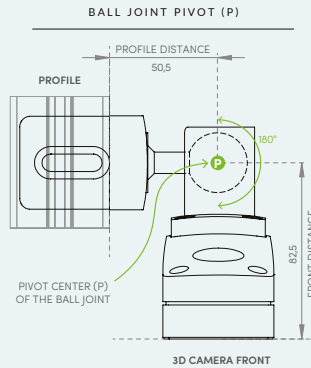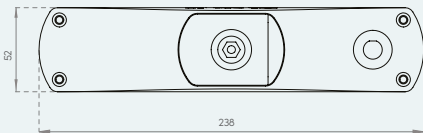- Booting: 100W
- Idle: 60W
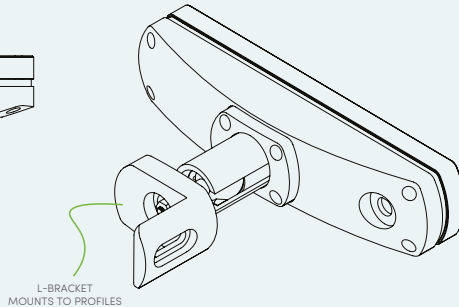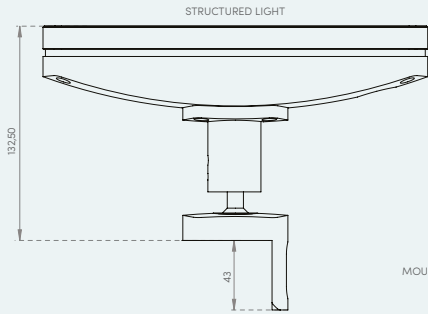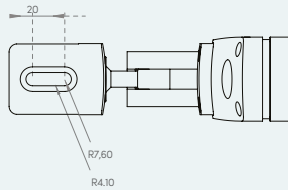- Heavy processing: 130W

**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
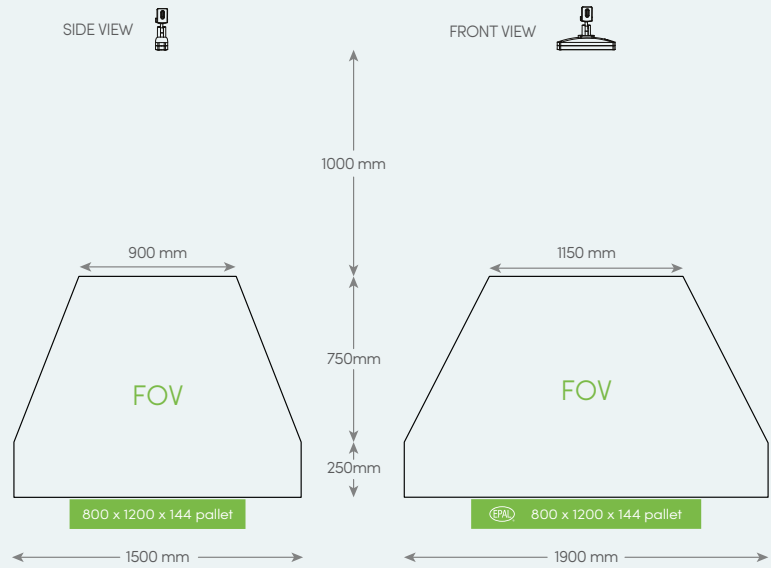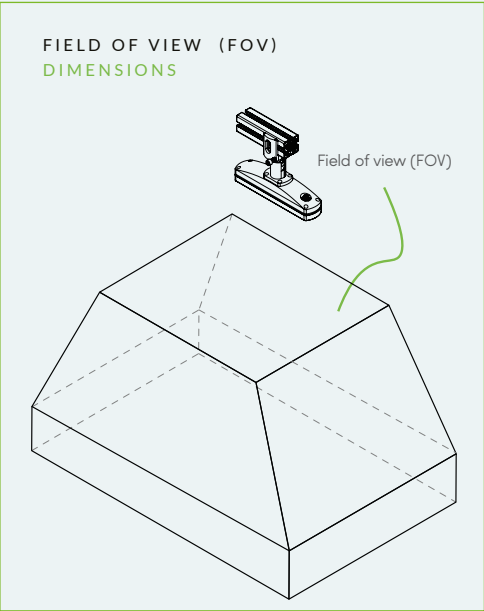- Humidity: ~95% @ 40°C (non-condensing)



## WORKS WITH YOUR ROBOT

FANUC  Stäubli  KUKA  YASKAWA  ABB  UR  UNIVERSAL ROBOTS  FRANKA EMIKA  AUBO ROBOTICS

# Pick-it L facts



R7,60
R4,10

20

STRUCTURED LIGHT

132,50

43



L-BRACKET
MOUNTS TO PROFILES

52

238

### BALL JOINT PIVOT (P)

PROFILE DISTANCE
50,5

PROFILE

180°

82,5    FRONT DISTANCE

PIVOT CENTER (P)
OF THE BALL JOINT

**3D CAMERA FRONT**

*Minimum object size:*
*150 x 150 x 50 mm*

## FIELD OF VIEW (FOV)
## DIMENSIONS

Field of view (FOV)

SIDE VIEW

FRONT VIEW

1000 mm

900 mm

1150 mm

FOV

FOV

750mm

250mm

EPAL  800 x 1200 x 144 pallet

800 x 1200 x 144 pallet

1500 mm

1900 mm

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## CAMERA TECHNICAL SPECIFICATIONS

| | |
|---|---|
| **Temperature** | 5°C to 40°C |
| **Vibrations** | Operating, 2 Grms, 5-500 Hz, 3 axes |
| **IP rating** | IP55 |
| **Power supply** | USB3 5VDC |
| **Humidity** | -95% @ 40°C (non-condensing) |
| **3D measurement method** | Structured light |
| **Image processing speed** | 30 fps |
| **3D camera weight** | 1030 g |
| **3D camera connection to PC** | M12 (USB) - USB3 |
| **PC connection to robot** | TCP/IP over Ethernet |
| **Conforms to** | CE, FCC |

## CAMERA CABLE TECHNICAL SPECIFICATIONS

**10m**

**Industrial M12 camera connector**

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- 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: 100W
- Idle: 60W
- Heavy processing: 130W

**Technical specifications**

- Processor: 6 cores (12 threads) at 3.7 Ghz
- 19 inch server: rack compatible (2U)
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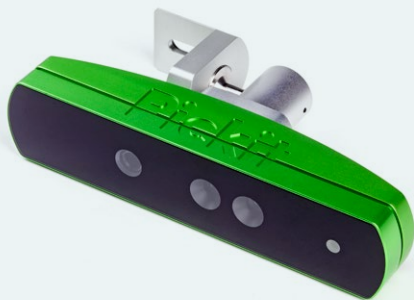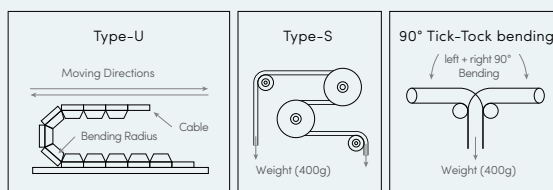- Humidity: -95% @ 40°C (non-condensing)

## WORKS WITH YOUR ROBOT

# A global network for excellent local support

At Pick-it, we put a lot of effort into finding the best partners around the globe. These partners are professionally trained Pick-it experts that can help you set it up at your facility. Don't hesitate to get in touch with them.

www.pickit3d.com/certified-channel-partners

## Contact us

Our mission is to help you save time, lower costs and ensure a reliable output with a product that ensures the fastest ROI on the market so you can start focussing on the things that matter most. **Are you interested in our product? Do you want to become a Pick-it partner?**

sales@pickit3d.com          +32 16 624 882
www.pickit3d.com            🐦 @pickit3d

**Pickit** ROBOT VISION MADE EASY