GENERAL DOCUMENTATION

SATELLITE CELLS

DIY ROBOTICS

AUGUST 2019

TABLE OF CONTENT

TERMS OF USE

The DIY Robotics cell must be used in an environment with a relative humidity of less than 75% without condensation. For a period of less than one month, the relative humidity must not exceed 95%. This robotic cell must not be exposed to rain, drizzle or even fog.

This robotic cell must be operated at a minimum temperature of 0 °C to a maximum of 45 °C. The temperature change in the operating zone of the robot must not exceed 0.3 °C / minute.

Additional protective measures shall be provided if the cell is installed in an environment with significant amounts of dust, dielectric fluid, contaminants, organic solvent, acid, corrosive gas and / or salt.

This robotic cell should be operated in a none windy environment.

This robotic cell must be operated at an altitude less than a 1000 meters above the sea level.

The robotic cell must be placed on a hard surface and leveled.

The robotic cell should have a least 1,5 meters clearance on each side, except for the operator side, if an orbit swivel option is added to the cell, that should have the maximum space needed for the operator to be able to move in and out of operator zone easily. A clearance of 2 meters should be enough.

Any intervention on FANUC robot, in DIY Robotics cells, must be made by a qualified technician trained by FANUC.

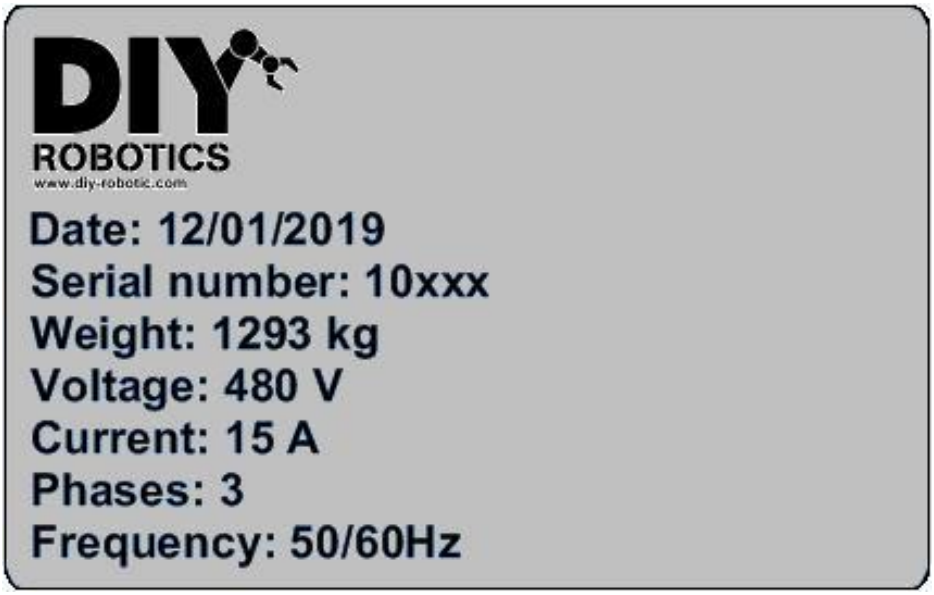
Non-respect of these conditions could lead to nonconformity in the product produced by the robotic cell.

DIY robotics can not be held responsible for any nonconforming product produced by this robotic cell if one or more of the terms of use are not respected.

DIY robotics can not guarantee this robotic cell if one or more terms of use are not respected.

DESCRIPTIVE PLATE AND TECHNICAL CHARACTERISTICS

This DIY Robotics cell has a nameplate which identifies the manufacturer, the date the cell was made, the serial number, the weight of the cell, the required voltage and current, the number of phases and the electrical frequency.



CONFORMITY DECLARATION

Manufacturer : DIY Robotics.
465, Rue Joseph-Latour
Sherbrooke, Québec, Canada, J1C 0W2

DECLARE

This robotic cell

Model:	**Satellite**
Serial Number :	XXX
Year of Manufacturing	**2019**

For which this declaration is issued, complies with the following directives :

DIRECTIVE 2006/42/CE
DIRECTIVE 2006/95/CE
DIRECTIVE 2004/108/CE

This robotic cell complies, as well with CSA norms.

Authorized by Steve Blanchette, President

_____
Signature

Signed in Sherbrooke on : _____

ROBOTIC CELL DESCRIPTION

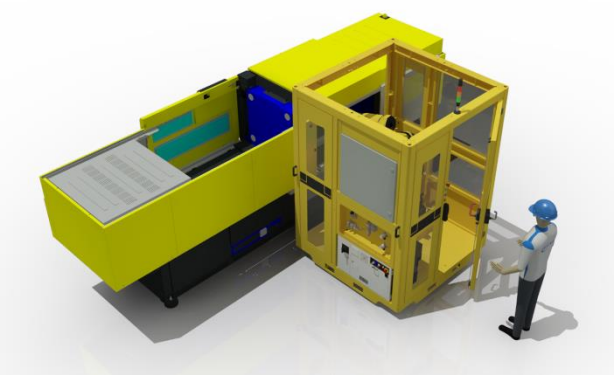
The DIY Robotics cells are designed to be programmed by the customer to meet his own needs. These robotic cells are built to the customer requirements in terms of side panels, robot position, pneumatic and electrical panels layout.

They are designed to be as versatile as possible in order to adapt to changes in production over time.

These robotic cells are designed to work together with another machine such as an injection molding machines.

They provide a safe environment where the robot can perform tasks.

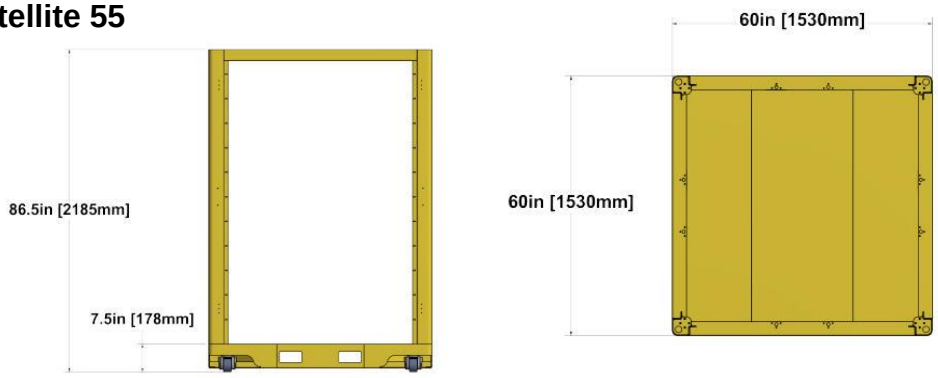
The Satellite cells come in two different base sizes. 5 feet by 5 feet, or, 6 feet by 6 feet. All side panels are exchangeable. Accessories are also available.



Here are the technical specifications for these Satellite robotic cells:

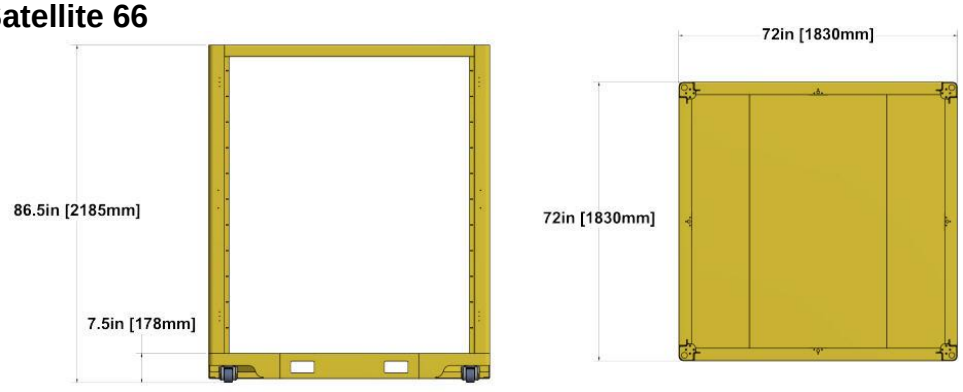
Frame dimensions

Satellite 55



- Dimensions (mm): 1530 x 1530 x 2185
- Dimensions (in.): 60 x 60 x 86.5
- Weight: 1111 kg (2450 lb.)

Satellite 66



- Dimensions (mm): 1830 x 1830 x 2185
- Dimensions (po.): 72 x 72 x 86.5
- Weight: 1293 kg (2850 lb.)

Features	• Wheels with integrated leveling pads • Integrated electrical cabinet (32 inputs/32 outputs available) • 480 VAC three phases • Pneumatic cabinet (4 valves 5/3 open centre 6 mm ports) • Secured robotic environment • Meets CSA requirements • Compatible with standard DIY-Robotics accessories and options • Easily adaptable for custom needs
Baseline	• Ethernet IP communication • Karel • DCS • Basic interference check • Secured door
Robotic compatibility	**FANUC Robot M-10*i*D/12** • 2000 mm/s • 1441 mm • 12 kg  **FANUC Robot M-20*i*B/25** • 4000 mm/s • 1853 mm • 25 kg *Floor anchoring of the cell may be required.*  **FANUC Robot M-20*i*B/35S** • 4000 mm/s • 1445 mm • 35kg *Floor anchoring of the cell may be required.* 

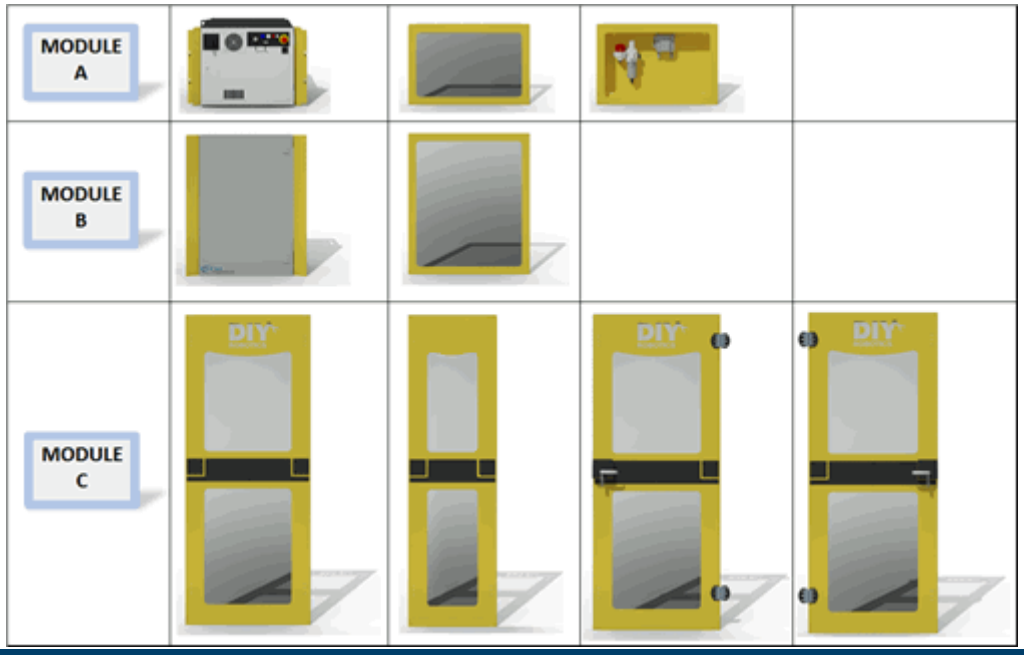
DIY Accessories

- Drawer
- Rotating door (Fanuc axis)
- Robot DK
- Clariprod
- Euromap 67 connector
- Euromap 73 connector

ABC Modules

- Each side of the Satellite-55 is divided into two zones.
- Each zone can contain 2 A modules and a B module:
  C = (2 x A) + B, except for the narrow fixed panel shown on the right of both of these top images

Please note that "module A" and "module B" panels are not available for the Satellite 55 narrow zone.

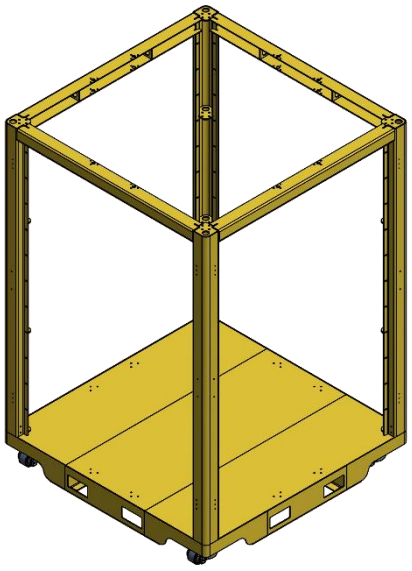


SATELLITE CELLS ISOMETRIC IMAGES

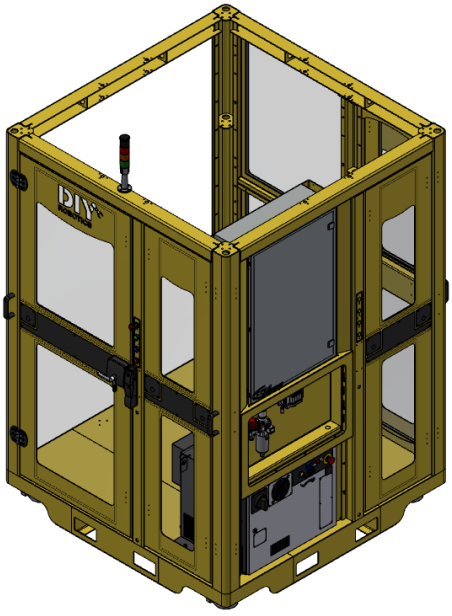
This section shows isometric images of the Satellite 55 and Satellite 66 robotic cells

1. Satellite 55 isometric images

This image shows the isometric view of the Satellite 55 frame:



This isometric image shows the back of the cell:



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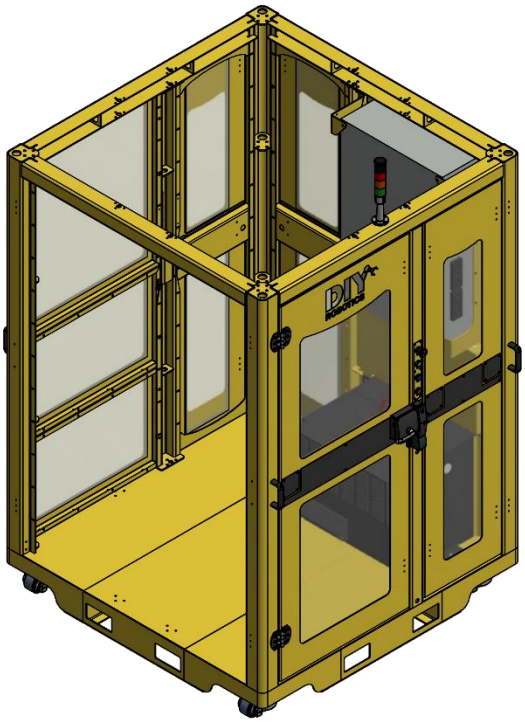
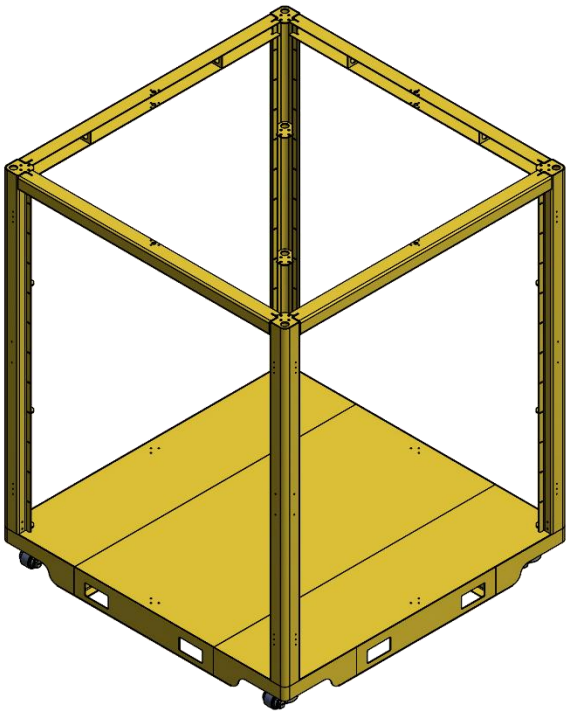


2. Satellite 66 isometric images

This image shows the isometric view of the Satellite 66 frame:



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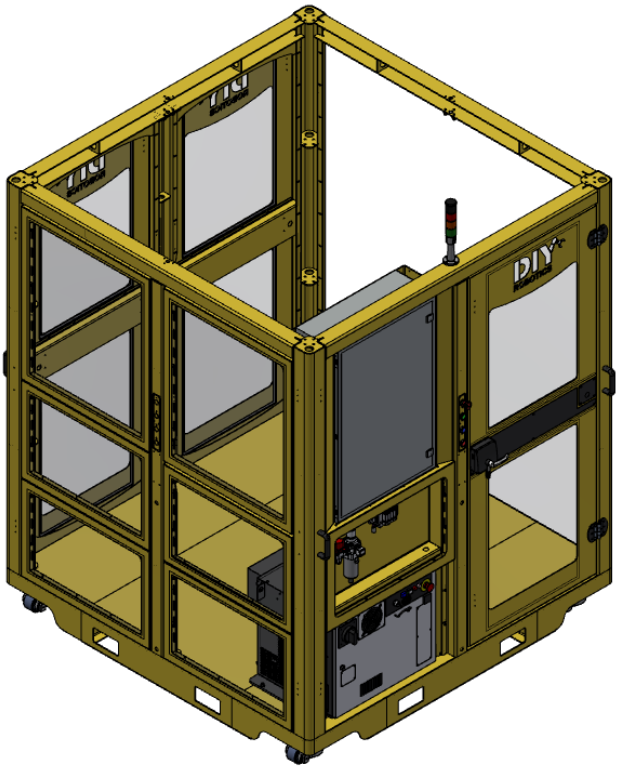

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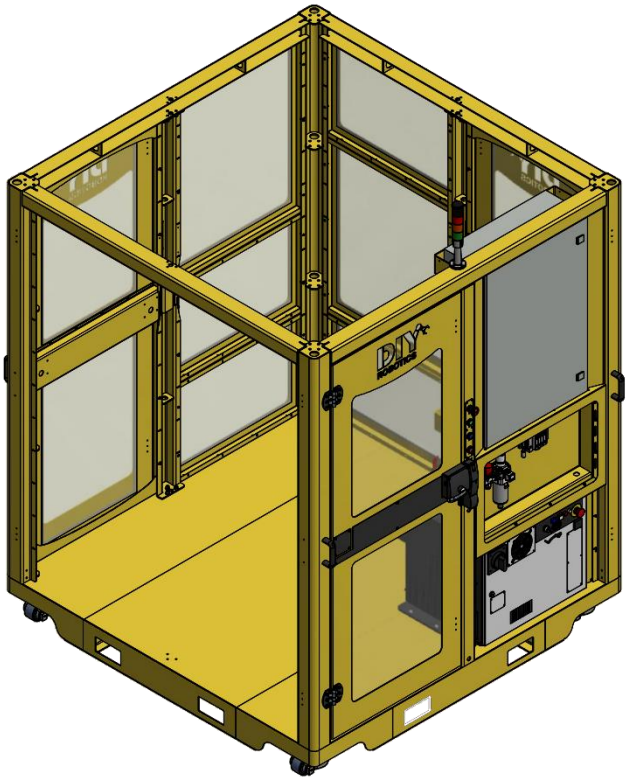


SATELLITE CELLS 3D IMAGES

This section shows 3D images of the Satellite 55 and Satellite 66 robotic cells

1. Satellite 55 3D images

These images show the 3D views of the Satellite 55 cell:

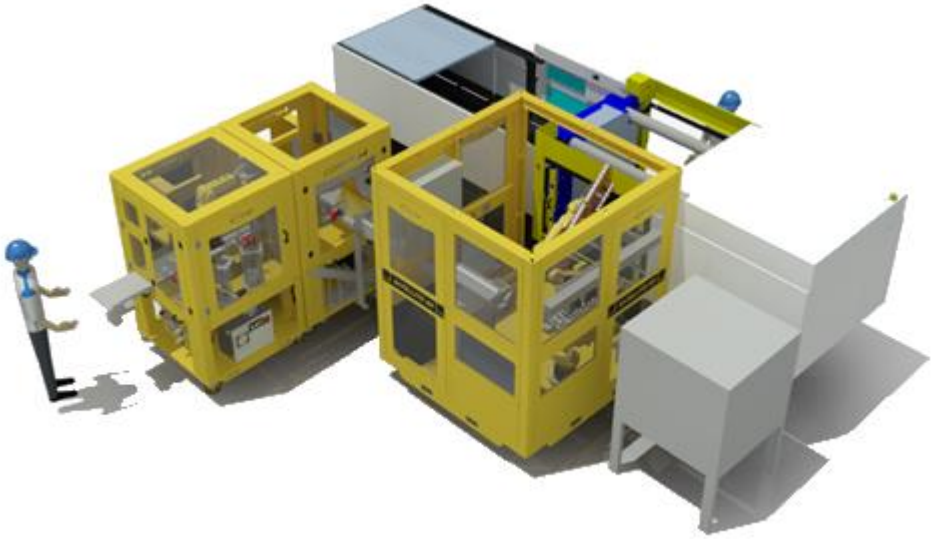
2. Satellite 66 3D images

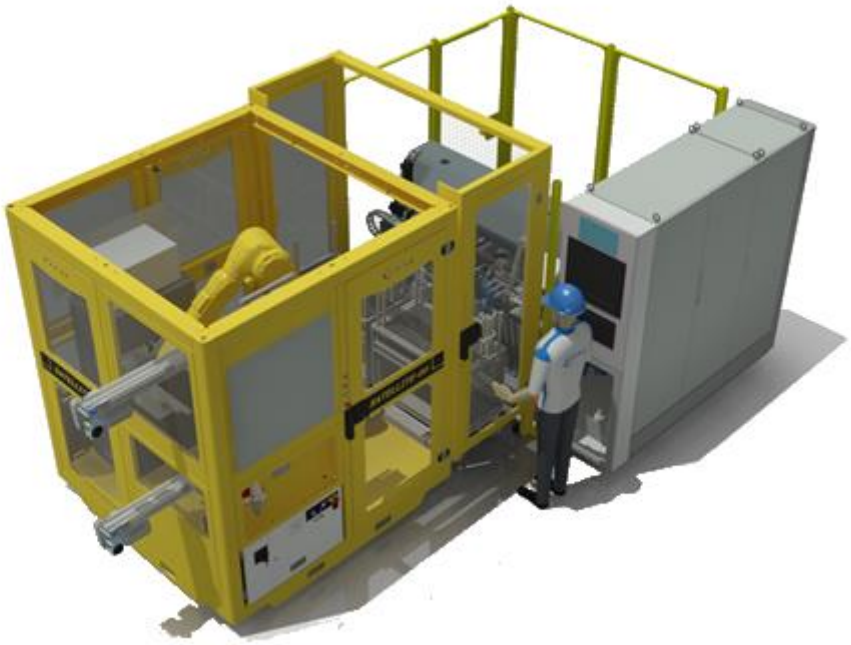
These images show the 3D views of the Satellite 66 cell:

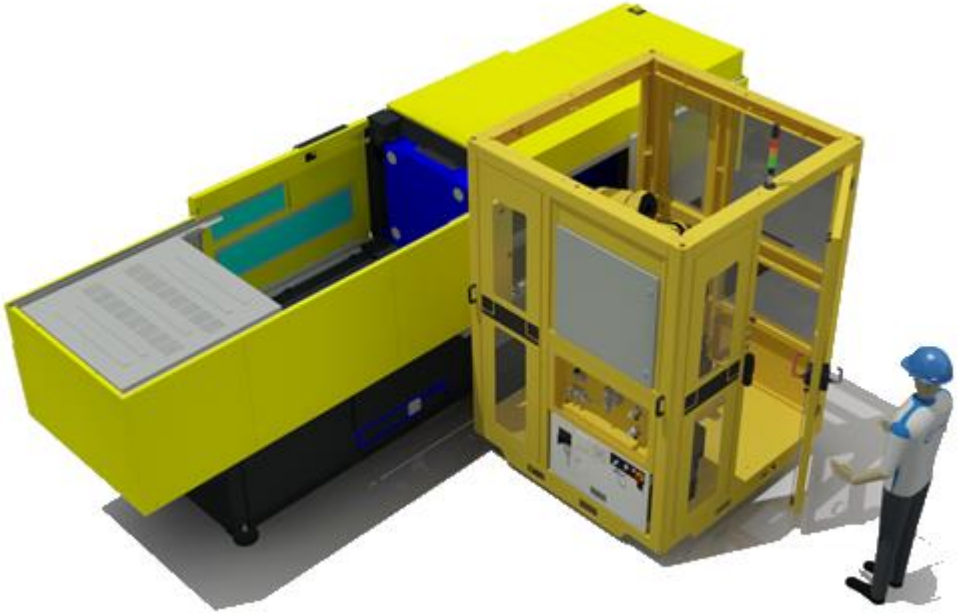
MULTIPLE CELLS AND MACHINES LAYOUT POSSIBILITIES

Arrangements of 2 cells or more are also possible. For instance, a layout of three DIY Robotics Satellite 55 cells:

DIY Robotics cells with other kinds of machines







TRANSPORTING THE ROBOTIC CELL

To move off the robotic cell from one place to another, you must, first of all, make sure that the robot is at the shipping position. If the robot is not at its shipping position, select the SHIP program and run it in T1 mode. Make sure nothing interferes with the robot while getting to this position. The original shipping position was made without any “eoat” (end of arm tooling). So, depending on what was added to the cell and/or on the robot, you might have to jog the robot joints manually to get to the shipping position. If you are unable to reach this position even when jogging the robot joints, then teach a similar position. Joint 1 position is not important as far as it doesn’t make a part of the robot hang outside the cell. You must fold the robot on itself in order to bring the gravity center as close as possible to the middle of joint 1 and as low as possible.

Unplug the main power connection and the compressed air supply.

Unplug and remove all external features that may interfere with the moving of the cell.

Remove HMI and command button box. Put them in the cell attached firmly.

Bring up all wheel leveling pad so the cell can be moved freely.

To move the cell, use a forklift that can lift at least 4500 lbs or 2050 Kg. Use holes made in the bottom frame to lift and move the cell.

Once in the desired work area, get the cell leveled by adjusting the wheel pads down to the proper height.

Re-install all previous items removed before moving the cell.

Connect power and air supply after all items are installed properly.

If a DIY Orbit option has been installed, Make sure immaterial barriers (light curtains), attached to the front doors, see each other.