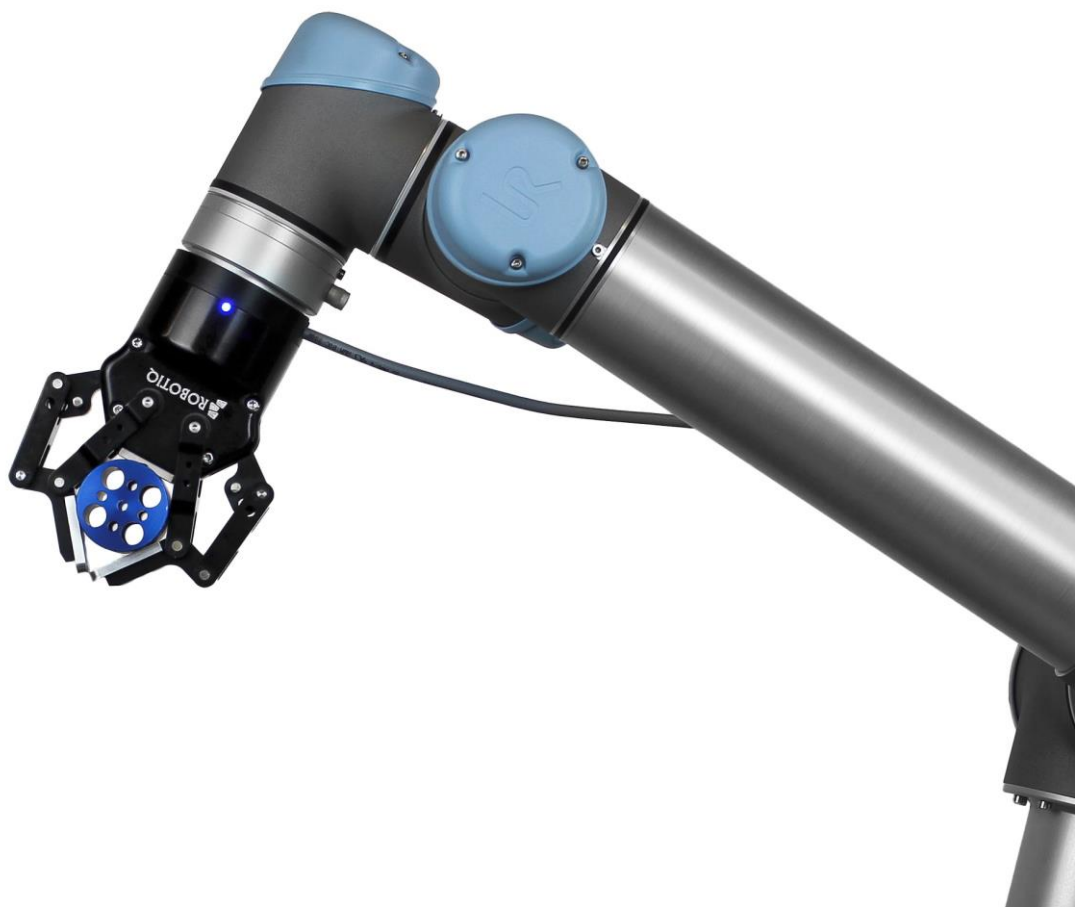




2-Finger 85 Adaptive Gripper on Universal Robots

Top Applications and Programming Tips



robotiq.com

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INTRODUCTION

There are a lot of different types of robots out there and there are probably even more accessories that can be fit on them. With the progression of collaborative force-limited robots on the market, end-users are tending to do their own shopping when it's time to install a robotic cell. Even if it seems like a good idea not to use an integrator for your next robotic cell, it is important to build a cell that is reliable. For robots using a similar platform to Universal Robots a wide choice of grippers are available. However only a very few have proven functionality and can be fit easily on this kind of robot. One gripper with a proven track record is our new 2-Finger 85 Adaptive Gripper. This end-effector has been developed around the Universal Robots platform. The 2-F 85 and the UR both have great features which allows a fast and easy integration and which work well together. The following EBOOK demonstrates the ease of integration and the different advantages of both devices.

1. 2-Finger 85 Gripper Features

Robotiq has released a new version of the [2-Finger 85 Adaptive Gripper](#). Twice as strong and 50% faster than its already successful predecessor, this new Gripper has been designed for robots having a payload of between 5 to 10 kg that are often used in high-mix applications.

Compatible with all major industrial and collaborative robot manufacturers, the 2-Finger 85 Adaptive Gripper provides [flexibility](#) to robots by being able to handle a wide variety of part shapes with its different gripping modes. With the ability to control the force exerted by its fingers, the user has the freedom to pick up fragile and brittle parts, as well as rugged parts.



Specifications

With the same 0 to 85 mm opening range, this new Gripper is now stronger and faster than ever. In fact, with a grip force from 60 to 200N, the maximum payload is thereby raised to 5 kg. This new generation of gripper is then 2 time stronger than the older version. At only 850g, this Gripper has a great payload to weight ratio. The newly released version can also accommodate higher speeds that can be adjusted from between 20 to 150 mm/s. This means it can be set to execute really fast applications or to work with human coworkers within its lower speed range. If you are curious about the details, download the spec sheet [here](#).

*“We have redesigned the 2-Finger Adaptive Gripper to let people take full advantage of robotics. With this new product and its featured bundle for Universal Robots, we want to make robotics accessible to everyone by being more intuitive and user-friendly”, says **Samuel Bouchard, President of Robotiq***

By introducing this product, Robotiq offers to every company, from SMEs to large manufacturers to research divisions, the possibility of having a flexible and user-friendly robot Gripper.

2. Universal Robots Features

Universal Robots is a Danish company that entered the robot market with a new vision for robotics. When the industry is infused with big, heavy and expensive robots, they decided to provide low-cost, flexible and easy-to-use automation solutions for all kinds of companies. Whether you are a small company making small batches or a large company with a huge manufacturing process, robots from Universal could be a good fit for you.

Their robots consist of a six-axis arm that allows them great flexibility to do a variety of tasks. They offer two products: the **URS** and **UR10** that can handle 5 and 10 kilos respectively. This robot is designed to work alongside humans. In fact, the robot can detect when a collision occurs and immediately shut down to reduce the force of any impact. It is also easy to use and to program. With a very user friendly interface, the robot can be hand-guided and reproduce the same path for further manipulations.



Universal Robots: Key Features

- Low-noise robots
- Energy efficient
- UR can be very precise (± 0.004 in) and can handle microscopically small parts.
- The programming is simple. You just have to move the arm and record points for the trajectory. Then you use the touch-screen tablet (12") to set different options. The software has a graphical interface that makes it easy to use. The UR can be up and ready to work in less than an hour without in-depth knowledge in programming.
- Also, their compact design and light weight give them good portability around the plant floor. So they can be assigned to other tasks easily and rapidly.
- Universal Robots can work with humans without undue risk. In case of collision, the robot delivers less than 150 Newtons (33.72 lbs) of force and this amount of force is acceptable according to the "force and torque limitation" set by the ISO Standard. They also operate without safety barriers in about 80% of the company's current installations. This reduces considerably the space and cost needed for the robots.
- Universal Robots starting price is relatively low. They can also be customized for the client's needs. On average, according to the company, the payback period is a relatively short 6 to 8 months.

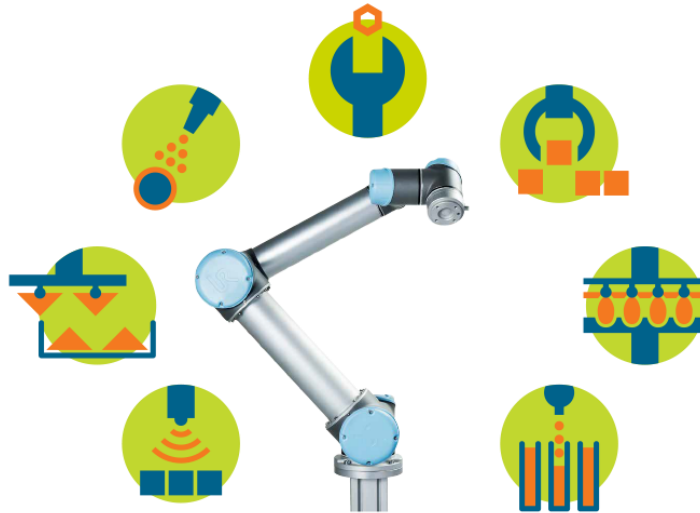


Universal Robots: Challenges

Universal Robots provides a low cost and efficient solution for any company that wants to enter the robotic world. However, the industry has been dominated by big, fast and robust robots over the years. Even if there is a need for more flexibility and user friendliness in the robotic industry, education is also needed to develop this new market and make it sustainable. But the fast growth of this company, which started in 2003, may be a part of the answer.

3. Universal Robots Top Applications

You may be asking yourself why is this robot so popular these days in the robotic market? The main answer is quite simple: It is flexible and simple to use. The same robot can be used for a wide range of applications. From collaborative applications to CNC loading operations, the UR is very versatile and has the right specifications for light applications. Here are some main examples of what the UR can do.



Machine Tending

This applications is basically to feed a CNC machine. Generally the robot is located beside the machine and its job is to place the raw part in the machine and remove the machined parts from it. Most of the time, the robot has a pick layout and a place layout. The robot can predetermine the initial position of the part and literally execute a matrix of picking and placing.

"The employee who used to operate the CNC machine can now oversee the work of other machines without any added stress. What is more, he can now devote his full attention to quality control. " - **Fries Machinenbau Owner**

One of the advantages of using this robot for such applications is the speed of programming. It is really easy to program for "first-of" parts. This means that even new parts can be loaded into the machine by the robot with very little effort from the human worker. This frees up the worker, who is no longer busy with feeding the machine and can be more focused on the inspection of the parts or other skilled tasks such as planning or machine maintenance. [WATCH A VIDEO HERE](#)

Quality Inspection

Quality inspection has many different aspect to it. We have seen applications where product where tested by robots using a constant force particularly to determine the behavior of the product after a given number of cycles. Quality inspection can also be done while doing assembly tasks. In fact, a UR paired with a vision system and monitoring tools can insure a good product repeatability. This saves a lot of time because there is a minimal inspection after the operation so the product passes from the assembly line directly to the shipping and doesn't remain in the inspection department forever. This enhances the production beat and can help you achieve your lead time goal. [WATCH A VIDEO HERE](#)

To see the complete case study [follow this link](#).

Pick and Place

Compact design, ease of use and no need for fencing are the key in most applications. In pick and place applications, using a UR is sometimes a question of saving space. In fact, not using fencing can make the design of a production line a lot easier. Even if the robot doesn't work directly alongside humans, if at a future date this situation were to occur the robot would be able to respond correctly. [WATCH A VIDEO HERE](#)

Productivity is always an important point when talking about introducing robots into a plant. For example, Akureyri Dairy is using two Universal Robots and has saved a lot of time.

"UR robots are so simple to use, and not having to build a fence around them is a big plus. We have already saved three man years of monotonous work, thanks to our two UR5s," says Sigurður Runar Friðjónsson, Director for the Akureyri dairy.

Assembly

With the introduction of force-torque sensors such as the Robotiq [FT 150](#), it is now easier to perform assembly tasks with a robot. When flexible devices such as Universal Robots and [Adaptive Grippers](#) are paired together, a virtual infinity of assembly motions and operations can be accomplished. The advantages of using a UR to execute such tasks is that it can be programmed using hand-guiding. There is no need to have a programming specialist to execute these tasks. So even with small assembly batches, the robot can still be useful. With the introduction of force-torque sensors, the robot can execute assembly tasks and know if the part is responding correctly. This gives another sense to the robot and allows it to have a more repeatable process. Note that UR already have embedded force-torque sensors but using an external one increases precision of the force reading on the robot tool. [WATCH A VIDEO HERE](#)

Collaborative Applications

Well, it seems to be obvious. Since the Universal Robots are collaborative robots (a.k.a. force limited robots) it sounds quite strange not to use them in collaborative applications. As this robot is easy to install, relatively cheap and has a good payload, most of the applications that are executed by the robot are not even in collaboration with humans. Although, since it is force limited, it is designed to work alongside humans. Applications can be as simple as bringing an object to a worker. For example, a part that has to be fix on the inside of a car door. The robot can bring it to the right position and the worker only has to fix it properly. This means the object is always placed at the right position and the worker can focus on the inspection of the part and making sure it is well fixed on the car door. This reduces the risk of injuries and focuses the human worker on the important tasks.

4. Collaborative Robot Grippers

When looking for a gripper to suit your force limited collaborative robot, you want to make the right choice. Since the payloads are small, and the operations can be delicate, you want to use a gripper that suits your requirements. Using a larger gripper than necessary would be "over-kill" and would use a larger portion of the robot payload and will leave minimum payload for the picked part. On the other hand a weak gripper could result in falling objects and non-productivity.

The following chart compares the collaborative gripper to the type of industrial robot gripper that are more common in the robotic world.



Specifications Comparison of Force-Limited Collaborative Robots and Traditional Industrial Robots

	Collaborative (force limited)	Traditional
Reach	Human scale	Up to 6 m
Payload	Max 10 kg	Up to 900 kg
Speed	Limited	High
Repeatability	Medium to low	High
Programming	Lead-Through Teaching	Teach pendant, offline programming
Safety	Shared workspace (for some applications)	Guarded space for robot
Processes	Pick and place, machine tending, packaging	Process specific robots for handling, welding, dispensing, assembling, finishing, etc.
Integration	Mostly stand alone	Within global infrastructure

The gripper, being one part of the complete solution, is highly dependent on the application and of the robot used. So let's look at the differences between the two types of robots.

The main specifications of a gripper are payload, speed and repeatability. These specifications must match the robot they're installed on. For [collaborative robots](#), we are in the human scale, while for traditional robots, the spectrum is much broader.

Collaborative robots can usually be taught by demonstration, making it simpler to program than using the traditional approaches like teach pendant programming or [offline programming](#). Ideally, we'd like the gripper to be seamlessly integrated into the workflow.

For some applications, it is safe enough to have operators share the same workspace with the collaborative robot. The traditional robot is almost always separated from the operator workspace. Again, we'd like a gripper that does not compromise the safety of the workers.

Collaborative robots are usually doing simple, stand-alone applications. But these applications can change frequently so you want a flexible gripper. The traditional industrial robots are optimized for specific applications to squeeze the most productivity out of them. You have welding robots, painting robots, material handling robots. They are usually integrated into a large factory infrastructure, in many cases a PLC (programmable logic controller) will be scheduling the robot. Then, you want the gripper also to be optimized to get the most out of the repetitive robot action.



Gripper Specifications

For safety reasons, the payload of the force limited collaborative robots is also limited. So you need the best grip with the lightest weight, you need good grip-to-weight ratio. In a traditional application, weight is not that much of an issue. The strategy is often to use an oversized robot just to be sure it will be able to handle the application and the size of the robot doesn't usually have a significant impact on the price of the robot. ([Blog Article on Payload](#))

Payload can often be confused with the weight of the gripper ([understand the difference by reading this article](#)). In actuality both specifications need to be studied. In fact, once you have chosen your robot, it will have a given allowable payload. And you must consider that the weight of the gripper has to be included in this payload. You also have to make sure that you are using a gripper that can grasp a sufficient payload for your application. For example, if you are using a gripper with a 2kg payload and a robot with a 10kg payload, you are still limited by the gripper. Your gripper and part may come in under the necessary weight for the robot, but your gripper still can't handle more than 2kg. This makes your choices less flexible for prospective applications you might want to transfer your robot to in the future.

For example, our [2-Finger 85 Gripper](#) weighs about 900g (without accessories) and can manipulate a part weighing up to 4kg. A [Universal robot](#) (UR5) has a 5kg payload. If you fit a 2-Finger 85 on a UR5, you have to consider the maximum payload of the robot (5kg) and the weight of the gripper (900g=0.9kg). So basically, you can pick up an object weighing up to (5kg-0.9kg= 4.1kg). So the 2-Finger 85 has a payload of 4kg. And when used with this robot, you are then maximizing the full power of the Gripper.

On the other hand, our [2-Finger 200 Adaptive Gripper](#) weigh 8.9kg which means it should not even be fitted on the UR5. Note that this calculation is based on estimates, a real payload calculus should be done once your equipment is selected with the real parts you will be manipulating.

Speed is about cycle time. In collaborative robots, speed is still important although the expectations are lower. Also, a super-fast gripper has more potential to do harm if the robot and the human share the same workspace.

If repeatability is critical, most of the time you'll get asked to have a gripper repeatability added to a robot repeatability that is below a certain limit. We should note however that there is no standard method to calculate gripper repeatability that all gripper manufacturers are presently using.

The durability in collaborative robots is not as stringent as with traditional robots. Grippers must be able to withstand the impact of a robot for a certain payload. On a 100 kg payload robot, you need a very bulky gripper and potentially a collision detector. On a collaborative robot, because of the low payload, speed and force limitation, the risk of gripper impact or damage is not as high. Still, you need a reliable gripper, so that you don't have to stop the robot when it is working because you need to do maintenance or repairs on the gripper.



The processes that collaborative robots perform most of the time are simple pick and place operations. You need a gripper that can pick a wide range of parts in terms of stroke, grip force, form factor, etc. In many instances, the problem is not grasping the part as much as it is reaching the part. If you're in a collaborative environment, chances are you are in a human scaled environment, including human scaled packaging. This challenge is in many cases underestimated when looking at an application.

Usually, as collaborative robots are used with humans around, the environment is much cleaner with limited dust, moisture, etc. Which again, can be tougher on your typical industrial robot job.

As you see, in many ways, collaborative robots are easy on grippers, but they offer a different set of challenges. As collaborative robots are repurposed regularly, grippers need to be flexible and easy to program. They should also be safe for the specific application.

Energy Source

There are four groups of grippers overall: electric, pneumatic, magnetic, and hydraulic. Depending of your application(s) you have to figure out which gripper will best meet your application requirements. You may want to look at [this document](#) that discusses this aspect in more detail.



Most grippers in the electric gripper category can fit on most robots. In fact, most industrial robots are fed by electricity, so there is usually no additional problem in feeding an electric gripper. With some electric grippers, [self-blocking](#) systems are embedded into the gripper which allows it to maintain the object in place without using extra energy during the clamping motion. In case of a power shut down, the object can stay grasped by the gripper.

[Magnetic grippers](#) are also electrically fed, but because of the physics of the way they work, they don't have the auto-blocking principle, which means they have to be constantly fed energy throughout the entire operation every time they move an object, and in the case of a shutdown, the part will fall.

[Pneumatic](#) and [hydraulic](#) grippers though, this is another thing. For both technologies you need to have external sources (i.e. a compressor) that builds pressure for the air or fluid in the hydraulic/pneumatic lines. These lines mean that the robot must be tethered by being nearby this source (ideally) and finally these lines somehow have to be fitted onto the robot. This requires supplemental material. Finally, this type of equipment is not "leak proof" which means problems can and do occur. This will likely result in a reduction of the pressure in the lines and a corresponding reduction of pressure at the gripper level. If the system is shut down, air or fluid pressure can be cut and the gripper can open or the suction provided will stop; releasing whatever was being held.

Mechanical Fit

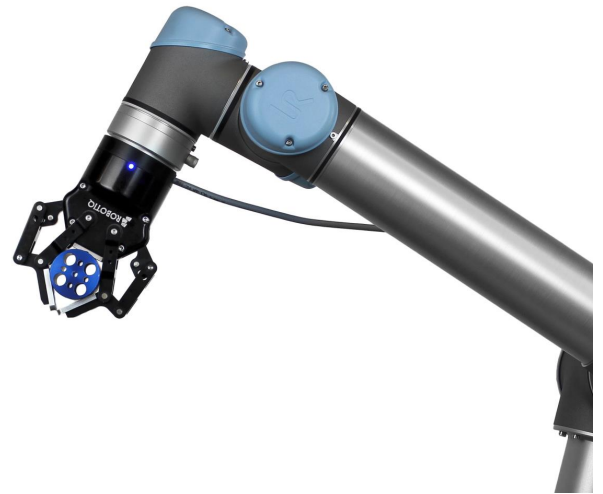
The [mechanical fit](#) can be a really restricting aspect of the fit between a robot and a gripper. The mechanical fit means that the gripper is compatible with the physical attributes of the robot wrist. Most of the time an adapter plate can be fitted between the gripper and the robot. Although, some gripper companies don't provide every adapter plate for every given robot model. Make sure to ask your vendor or application engineer about whether the gripper will mechanically fit easily onto your robot.

Communication Protocol

This compatibility also applies to the programming side of things. In fact, to make the gripper respond to its commands, the [communication protocol](#) between the robot, the gripper and the controller must be compatible. Make sure to ask your vendor about all the different communication protocols out there and which ones should be used with your robot arm and gripper.

5. New Robotiq Gripper

We have recently launch a new version of our [2-Finger 85 Adaptive Gripper](#). It has been designed with [collaborative robots](#) in mind. In fact, with a payload that can suit a lot of collaborative robot applications and other interesting specifications, this flexible gripper is a good addition to your collaborative working cell. Even though it can fit with most collaborative robots, the 2-Finger 85 is perfectly matched with the [Universal Robots](#)' UR5 and UR10 collaborative models. Because this Gripper fits so well with the UR5 and 10, we are providing a complete kit for these specific robots. In fact, the kits includes a Gripper and all the accessories you need to fit it on your Universal Robots.



Top Reasons to Choose the 2-Finger 85

Flexibility: To leverage the [flexibility](#) of a robot that can perform various tasks, you need a flexible tool that is also adaptable.

Ease of integration, ease of use: The 2-Finger 85 UR Kit has everything needed to install the Gripper on the robot. Including auto-install prepackaged subroutines for easy programming.

From a single source: Several Robotiq distributors are also UR distributors, making purchasing and support simple for the end-user.

Target Applications



As for most collaborative robot tasks, the Gripper has been designed for machine tending, pick-n-place and assembly tasks. These applications can be done easily with this gripper because of all its specifications. In fact at only 850 g and with a 5 kg [recommended payload](#), it has a really good weight to payload ratio. This means you don't have to handicap your robot with a massive gripper in order to lift (relatively) heavy parts. Also with a grip force from 60 to 200 N, a lot of different applications can be accomplished.

6. 2-Finger 85 Kit for Universal Robots

With the recent release of the [2-Finger 85 Adaptive Gripper](#) and the perfect fit that it makes when it is teamed up with [Universal Robots](#), we were sure that many manufacturing companies would be interested in having a complete package specifically for the UR users.

Easy installation, great look, low cost, enhanced force, programmable speed and position are all specifications that power the Universal Robots platform. The goal of this kit is basically to help the end-user with integration. In fact, as there are a lot of different kinds of grippers out there and it is hard to determine if they will work well on a given robot. This is one very strong reason why it is best to go with a proven concept.

What's in the box?

Robotiq provides all you need to fit the Gripper on the UR robot without having to ask yourself 'Am I missing something?'. From the Gripper itself to the communication cable and UR drivers, this package puts together an all-inclusive setup which can be a turnkey solution for your particular application. Included in the kit are:

- **2-Finger 85 Adaptive Gripper:** This new Gripper is provided with enhanced force, as well as programmable speed and finger positions. The Gripper also comes with silicone fingertips.
- **Mechanical Coupling:** The coupling between the Gripper and the robot with the appropriate bolt pattern for UR. This reduces the risk of having to manufacture your own coupling and possibly making mistakes. Note that the coupling is necessary to power the Gripper. Screws to fix the coupling to the robot wrist are also provided.



- **Device Cable and Communication Adapter:** To power the Gripper and establish proper communication, Robotiq provides a cable that goes from the Gripper directly to the robot controller. We also have an installation video to help you easily figure out the exact connections.
- **USB flash drive:** This includes all the required drives and files required to program your UR. The USB stick is inserted directly into the robot teach pendant.

The coolest thing about this package is that some sub-routines are provided with the Gripper. This allows you to program your robotic cell really easily. Since the force, speed and position are also programmable, you can build your own custom programs starting from the sub-routines provided.

With all this, there is no doubt you are ready to go with your Universal Robots. Note that both UR5 and UR10 are compatible with the 2-Finger 85 UR Kit. Look at this [installation video](#) to have a better idea of the ease of installation.

7. 2-Finger 85 Perfect Fit for Universal Robots

Once you have chosen a [Universal Robots](#), you want to have a gripper that will fit well, has proven its efficiency and has good specs that match your applications. Proven products and easy to install devices are the best thing as you want to eliminate very complicated integration processes. The following section is about what you should look for when searching for a good gripper for your Universal Robots.

Like Many Traditional Robots

The choice of a gripper is all about finding the right tool for your applications. Even if the end-effector has nice specs and unreal accuracy... do you really need all this? Can you introduce a pneumatic gripper into your workshop or would an electric one suit better? Like most industrial robot applications you need to look at the following points in your gripper choice.

Parts

Each category of: dimensions, weight, material, shape of your parts has to be considered in the choice of your gripper. You also have to think about the variety of parts that the gripper will grasp. If the end-effector is grasping a wide variety of parts, it may be worth it to go with a more flexible gripper. You probably should also be thinking about the future; in fact if you think that your production will change in time, you don't want to have to completely change your gripper equipment in a year. Read the [following article](#) for more details.

Process

Machine tending, assembly, pick-and-place are all processes that require different gripper specifications. In fact, often the machine tending applications will handle dirty parts, sometimes involving metal chips, while the assembly applications will work in a clean environment. Cycle time, required repeatability, motions/accelerations are really important to consider in the choice of the gripper. Most gripper manufacturers will rate their gripper according to these different aspects. To get more information, check out the [following article](#).

Inbound

Basically, this relates to how the part is fed to the robot. There are a very wide variety of pick and drop layers possible. Make sure the gripper (and the robot) can suit your layout. If you take it to a next level, what is the degree of flexibility your robotic cell needs in order to work with all your parts? To read more about this subject, take a look at the [following article](#).

Environment

This aspect goes along with your process, the environment is where the robot will be working. Is this a clean room, a machine shop, a lab, etc. Make sure to talk with your application engineer or your vendor to get more information on the ability of the gripper to fit into [your environment](#).

The choice of gripper should also consider flexibility. Indeed, does the robot always remain on the same task, does this create a bottleneck in the shop? Are there going to be future productions on this machine that will require a different end-effector? Why not use a robot and gripper combination that can be flexible and still be able to complete the operations flawlessly.

A Plus for Universal Robots

Flexibility - If you need to repurpose the robot to a different task the following 3 following points should be considered:

- Easy programming
- Be able to pick many different parts
- Easy to customize if needed

If you are buying a collaborative robot such as UR, you don't want to spend a day reprogramming new paths every time you change tasks. In fact, the programming should be able to be done quickly and easily. With hand guiding capability and an easy to use interface, the UR is easy to move from one work station to another in a minimum amount of time.

Picking different parts is also part of [flexibility](#). For example, for assembly tasks, your parts will definitively be different from each other. As you don't want to have to change the gripper each time you pick a part, you should consider going for a flexible gripper. [Payload](#) is also important. We often think that only the shape is important, but you definitively want to use the whole range of the payload for both the robot and the gripper. With a **5kg** payload for the gripper and 5 or 10 kg payload for the UR, a wide variety of parts can be handled.



Customized fingertips might be part of the process. If the fingertips provided with the gripper don't fit your applications, the best recommendation might be to build your own fingertips to insure a proper grip on your object.

Safety - With the introduction of collaborative robots and the elimination of fencing, this doesn't mean security and safety worries have disappeared too. You still have to consider the safety factors. You are introducing robots to help your workers by helping them do their job right and with more ease. The last thing you want is to injure your workers.

Gripper itself

The gripper used has to be designed in order to be safe for workers. A gripper with round shapes, limited pinch points and programmable speed and force would provide great specifications to ensure safety.

Gripper on the robot

The interface between the robot and the gripper should be as uniform as possible. Some grippers have geometries that create a space between the gripper and the robot. This means that if an impact occurs, there will be two regions that will apply pressure on the impact site. If the interface between the robot and gripper is nice and sleek, the pressure of an impact will be spread over a larger surface and thus reduce the force of the impact. This point counts when its time to do a risk assessment for the robotic cell.

Gripper on a robot with a part

You want to use a gripper that is safe for your workers. Some gripper manufacturers out there are building grippers with auto-blocking systems. The principle, basically, is to keep the part in the gripper fingers once it is grasp. This results in a very efficient grip since it doesn't require any energy. It is also safer to use these types of grippers since the part is secure when a power outage occurs. This is really important in cases of electricity or air failure.

8. How to Program Your Gripper

Using robots in the past has often meant coordinating complex arrangements and managing programming time. With the introduction of collaborative robots such as Universal Robots it is now easier to program robots. But what about robot tools... Are they easy to integrate? Well, with the release of our newest Gripper model we provide built-in routines to help you program your UR using a [2-Finger 85 Adaptive Gripper](#).

The [Universal Robots](#) interface uses a classical programming method with user-friendly interface. In fact, the program is using visual shortcuts (blocks) that contain the routine. This means that you place blocks (a.k.a. sub-routine) in a sequence and the robot executes these blocks one after the other. By doing it this way those sub-routines save you programming time since you don't have to write them again and again, just insert the block into the program and that's it. This is why we have created sub-routines that can be integrated into the robot program to allow the 2-Finger 85 gripper to move during the program.

For example, when the robot comes near the intended object, the gripper can open to a given opening and close itself once the gripper is around the part. Once the object has been moved to its next position, the gripper can be opened so the object can be drop. It is quite simple, right?

The coolest part about this, is that you don't have to program all this. Just put the required blocks in the desired sequence and adjust the settings to make your own program.

How to...

Robotiq provides many how-to videos on its website and YouTube channel. To program your Gripper all the necessary files are provided on a USB stick with your Kit or they are available to download from the [Robotiq Support site](#). This USB stick contains all the sub-routines you need. By inserting it in the teach pendant, all the required files are installed automatically into the robot program. To create a program using the sub-routines you should follow these steps.

- To load the sub-routines go to "robotiq_2f_gripper_programs" folder and choose the "low-level_template".
- Then you should go into the "Robot Program" section and add a "SubProgram" instruction.
- In this sub-routine, go to "command" tab and select "rq_activate_and_wait". This operation will "zero" the gripper. In other words the gripper calibrate itself.
- You can then repeat the process for the other command. Go to the "command" tab and select another sub-routine. The "rq_close_and_wait" will close the gripper and the "rq_open_and_wait" will open it.

These are the basic operations that can be done with the Robotiq Gripper. Special settings can be added afterwards.

The easy set-up of these sub-routines will help you reduce your programming time and enhance your productivity. The goal is always to make life easier for the end-user. Take a look at the specifications of our new [2-Finger 85 Adaptive Gripper](#) design around the Universal Robots platform.

CONCLUSION

As you can see, the new generation of Robotiq Gripper is very focused on collaborative robots. Through its specifications and with its specific kit, it is perfectly suited for Universal Robots. As both UR and our Robotiq Gripper are flexible, easy to use, easy to integrate and relatively cheap, they have a good potential for quick payback. Introducing this type robotic cell can be really helpful for your production line. You should also consider the fact that to integrate a robotic cell, even if the accessories provided by the integrator are cheap or seems to work well at the moment, you have to make sure it has proven functionalities. With the Robotiq Gripper you have all of this. So obviously, this is the right Gripper to choose for your Universal Robots cell!

Ask...

You should definitively ask your gripper representative or application engineer if your applications are suited for certain types of grippers. Some gripper manufacturers can make customized grippers or gripper parts (customized fingertips, customized opening range) depending on your request. You should definitively tell the representative what your applications are and work around them instead of adapting your operations to the robot and gripper.

For further information, feel free to visit our website: www.robotiq.com

ABOUT ROBOTIQ

Robotiq designs and manufactures flexible robot grippers. We aim to give to industrial manufacturing – from large businesses to SMEs – flexible peripheral solutions to optimize automated processes by providing universal, agile and rugged robotic tools.

We work with robot manufacturers, system integrators and end-users to enable new applications and improve productivity.

We are Robotiq. We make tools for agile automation.

TO LEARN MORE

For any questions concerning robotics and automated handling or if you want to learn more about the advantages of using flexible electric handling tools, contact us.

Phone (USA and Canada): 1 888 762-6847 extension 122

Phone (Anywhere in the world): 1 418 380-2788 extension 122

Email: info@robotiq.com

Website: www.robotiq.com

Blog: <http://blog.robotiq.com/>

Let's keep in touch via social media!

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