

PROFEEDER FLEX USER MANUAL



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Legend:



This symbol means danger to life or risk of personal injury or damage to the equipment. Read carefully. Caution is required!

1 Introduction/intended use

ProFeeder Flex is designed for easy manual transport of a fully installed cobot. It is intended to move a cobot between different processing machines

The intention of this manual is to give a guideline of installing a cobot on to the ProFeeder Flex and how to put it safely into operation.

Read this manual carefully. Both for safety reasons as well as helping to realize the maximum potential of the product.



2 Safety notice

The CE marking of the ProFeeder Flex is **not** valid as a marking of the **complete** robot cell. An overall risk assessment of the full installation must be performed. The Risk assessment must include the ProFeeder Flex, the robot, the gripper and all other equipment, machinery and installations at the workspace.

ProFeeder Flex must be leveled before being put into operation.

Local governmental safety rules and legislation must be followed.

When setting up a new task, be especially aware of the combination of payload, reaching distance, speed and acceleration/deceleration. Always make sure, that the ProFeeder Flex will stay in place without moving or tipping over.



3 Installation and usage

The installation of the ProFeeder Flex must be carried out by trained and skilled personnel with the relevant profession and experience. It is crucial to the safety and function of the machine, that it is properly aligned and safely prevented from tipping over. EasyRobotics recommend using the **EasyDock option (see Fejl! Henvisningskilde ikke fundet.)**.



3.1 Mounting the controller inside the ProFeeder Flex

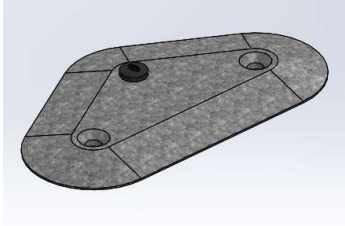
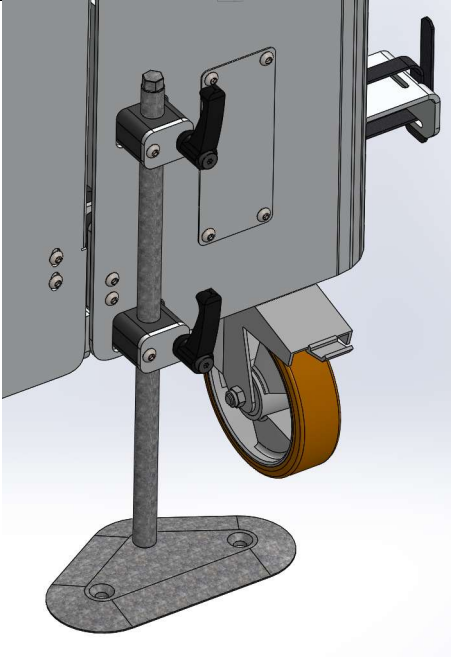
Open the lid of the ProFeeder Flex to mount the controller inside.

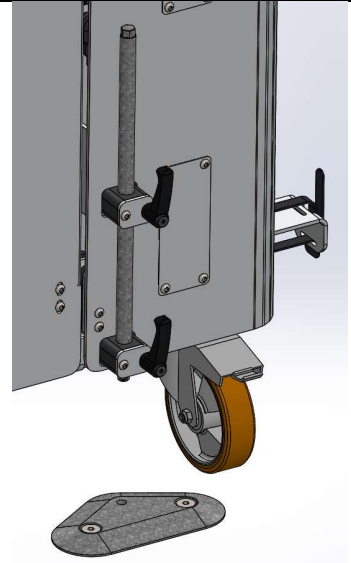
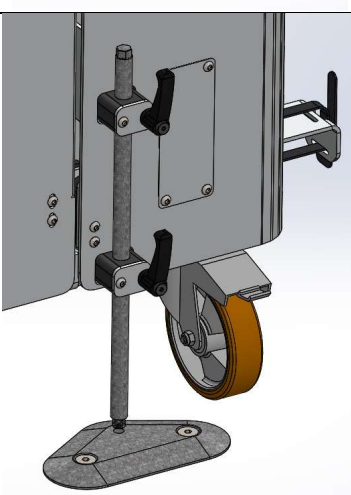
Maintain grip on the handle until the lid is in the lower position. Do not drop the lid.

Check that none of the cables are squeezed.




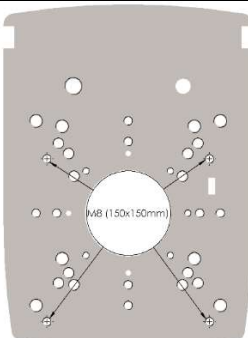
3.2 Docking

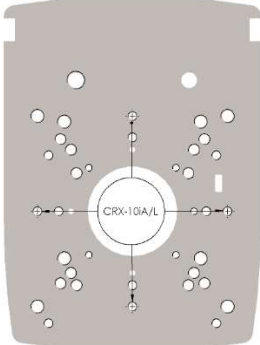
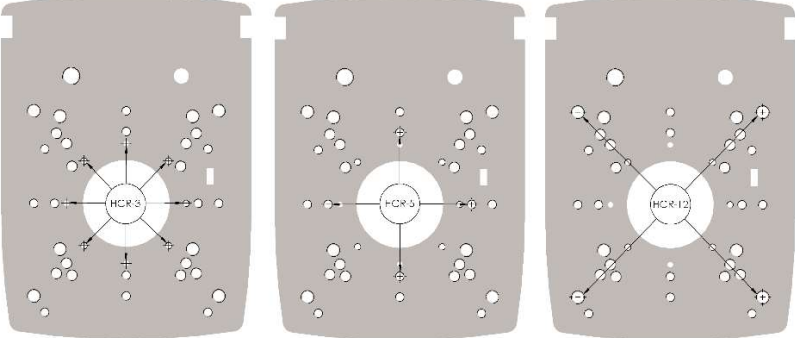
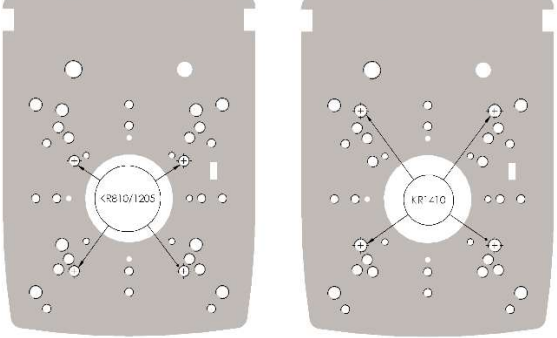
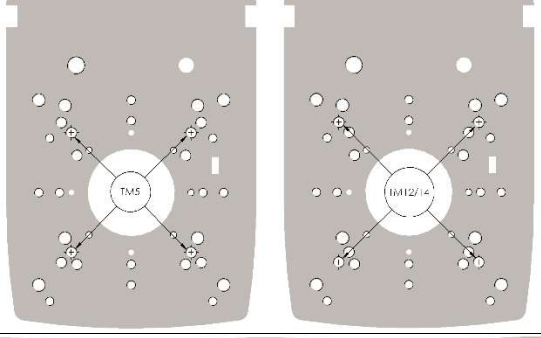
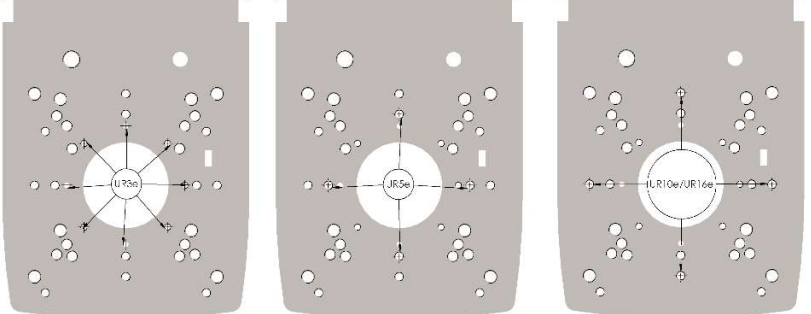
Installation	
The ProFeeder Flex is delivered with 2(?) docking plates	
<ol style="list-style-type: none"> 1. Remove the blind plugs. 2. Loosen the clamping grips of the docking shaft holders. 3. Attach the dockings plates to the shafts. 4. Place the ProFeeder Flex in the wanted position. 5. Brake the wheels. 6. Put the plates to the floor and align the plates with the ProFeeder Flex. 7. Retighten the clamping grips. 8. Drill Ø10 holes for the floor bolts (not supplied) directly through the countersunk holes. 9. Anchor the plates to the floor using anchors, that are fit for the floor and the job. 	

Usage	
<p>Undocking</p> <ol style="list-style-type: none"> 1. Loosen the clamping grips 2. Unscrew the shafts from the docking plates 3. Raise the shafts and tighten the clamping grips 4. Possibly deactivate the brakes on the wheels 5. The ProFeeder Flex is now free to move 	
<p>Docking</p> <ol style="list-style-type: none"> 1. Lower the docking shafts to only just above the docking plates. 2. Position the ProFeeder Flex so the docking shafts are directly above the thread in the docking plates 3. Loosen the clamping grips and screw the shafts into the plates 4. Tighten the clamping grips. 5. The ProFeeder Flex is now docked 	

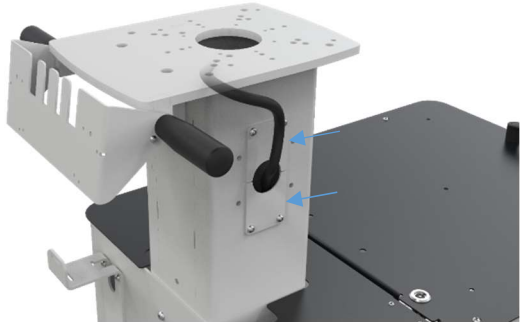
3.3 Mounting the robot

-  Keep the ProFeeder Flex docked during the mounting of the robot. Follow the mounting guidelines of the robot manual. Attach the robot on top of the horizontal robot console.


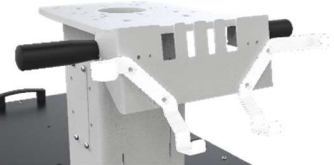
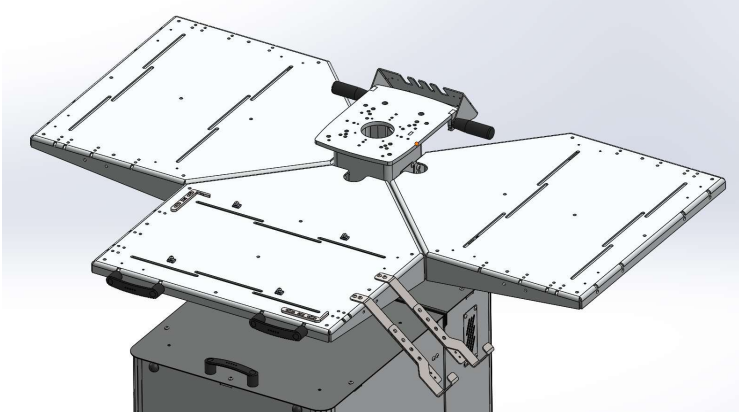
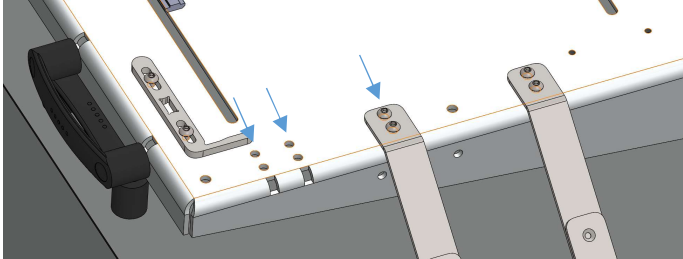
Brand	Which holes to use
Doosan	

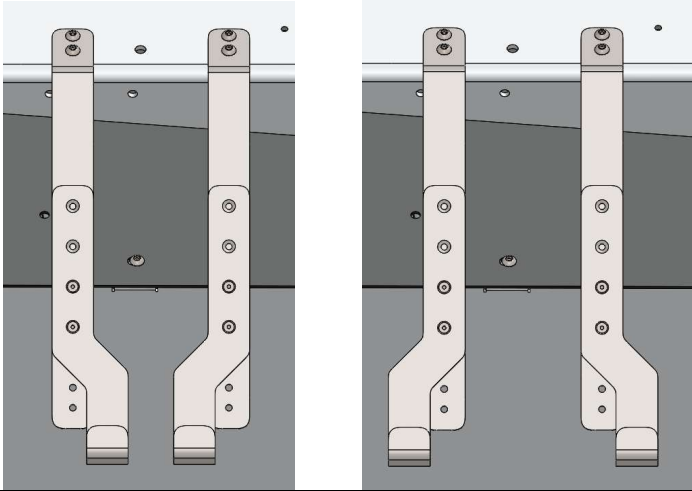
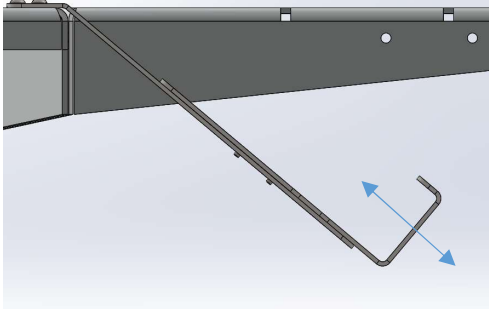
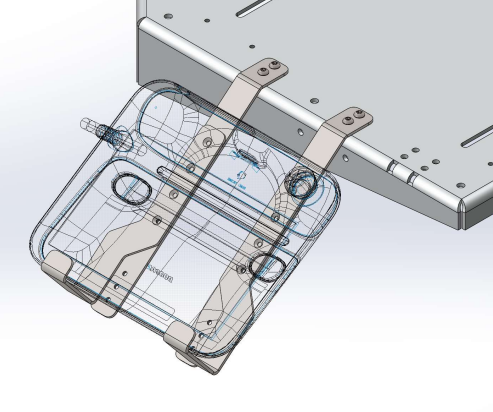
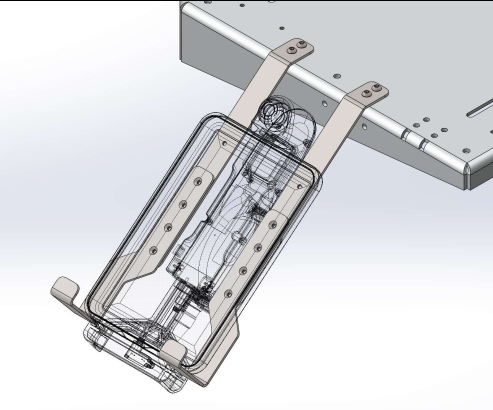
<p>Fanuc</p>	
<p>Hanwha</p>	
<p>Kassow</p>	
<p>Techmann</p>	
<p>Universal Robot</p>	

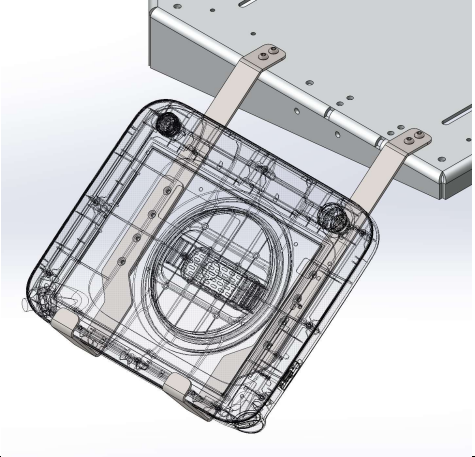
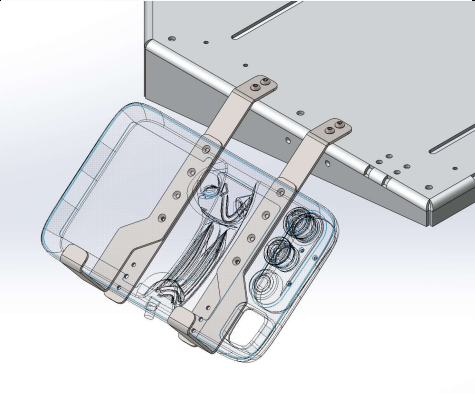
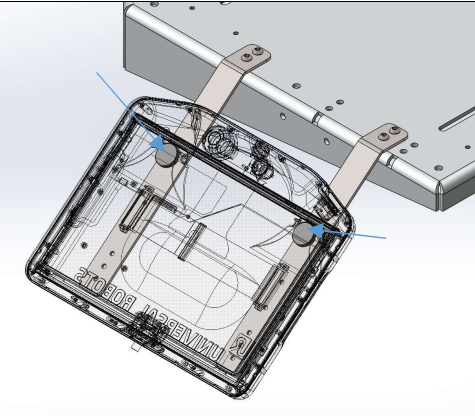
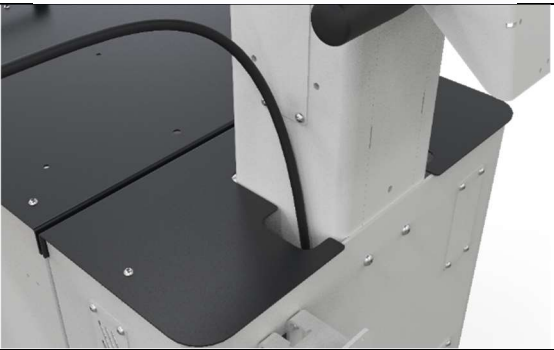
3.4 Cable guidance

<p>Detach the cable cover plates from the pedestal and insert the cable from the robot. Reattach the cover plate. If the plug is too big, use the opening in the tabletop.</p>	
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3.5 Teach pendant holder


<p>Using the pendant holder on the pedestal. If the robot teach pendant is delivered with a bracket, relocate it on to the ProFeeder Flex Teach pendant holder.</p>	
<p>Universal Robots</p>	
<p>Kassow</p>	
<p>Alternatively use the pendant holder brackets for the wing tables</p>	
<p>The brackets can be placed on both sides of each wing table. 3 Wing Tables => 6 possible positions.</p>	
<p>There are 3 optional distances between the base brackets</p>	

<p>There are 2 ways of fitting the supporting brackets</p>	
<p>The supporting brackets are height adjustable. Detach and reattach in the wanted height.</p>	
<p>Examples of how to configure as per brand.</p>	
<p>Doosan</p>	
<p>Fanuc</p>	

<p>Hanwha</p>	
<p>Kassow</p>	
<p>Universal Robot. Relocate the knobs from the controller and skip the supporting brackets.</p>	
<p>The cable of the teach pendant can be fitted through the shown slot by detaching and reattaching the tabletop</p>	
<p>When teach pendant holder is installed, make sure that the robot will not collide with the teach pendant.</p>	



4 Adjustments


<p>Loosen the lock nut, adjust the foot by turning, retighten the lock nut. Adjust so the ProFeeder Flex stands stable without rocking. Possibly use a bubble level.</p>	
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5 Maintenance

Component(s)	Action	Frequency
Wheels	Check function of brakes	Yearly
	Check that the wheels run freely.	Yearly
Wheel variant with feet	Check function of feet	Yearly

6 Transport

6.1 Further transport

<p>Easy Door is delivered in a wooden box. Use this box for any further transport.</p> <p> Lash securely. Weight with box is approximately 200 kg.</p>	
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7 Dimensions

8 Declaration of incorporation of partly completed machinery (for CE-marking)

Declaration of incorporation

according to the EU Machinery Directive 2006/42/EC, Annex II 1. B
for partly completed machinery

Manufacturer

EasyRobotics ApS
Mommarmvej 5
DK - 6400 Sønderborg

Person established in the Community authorized to compile the relevant technical documentation

Per Lachenmeier
EasyRobotics ApS
Mommarmvej 5
DK - 6400 Sønderborg

Description and identification of the partly completed machinery

Product / Article	ProFeeder Flex
Type	PFF1002 (PFF1002-1 & PFF1002-3)
Project number	0071-00002
Commercial name	ProFeeder Flex
Function	The ProFeeder Flex (when robot is installed) is to be used for automated mobile feeding for CNC machines and other machines/workplaces. The ProFeeder Flex provides a framework for the robot's location and can optionally contain both the processed and unprocessed parts.

It is declared that the following essential requirements of the Machinery Directive 2006/42/EC have been fulfilled:

1.2.4.3, 1.3.1, 1.3.2, 1.3.7, 1.5.3, 1.6.3, 1.7.3, 1.7.4

It is also declared that the relevant technical documentation has been compiled in accordance with part B of Annex VII.

Reference to the harmonized standards used, as referred to in Article 7 (2):

EN ISO 12100:2010-11	Safety of machinery - General principles for design - Risk assessment and risk reduction (ISO 12100:2010)
EN ISO 14118:2018	Safety of machinery - Prevention of unexpected start-up

The manufacturer or his authorized representative undertake to transmit, in response to a reasoned request by the national authorities, relevant information on the partly completed machinery. This transmission takes place

This does not affect the intellectual property rights!

Important note! The partly completed machinery must not be put into service until the final machinery into which it is to be incorporated has been declared in conformity with the provisions of this Directive, where appropriate.

Sønderborg, 14/10/2020
Place, Date

Signature
Per Lachenmeier
CEO

