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FLEXIBOWL PARAMETERS URCAP

1) INTRODUCTION



FlexiBowl Parameters is a URCap developed to integrate FlexiBowl[®] with UniversalRobot so as to make the system configuration as simple as possible. By allowing you to control every movement of the FlexiBowl[®] you only use the robot's TeachPendant.



before proceeding with the URCap installation phase, make sure that you have read and correctly

performed all the steps described in the FlexiBowl® user manual

This URCap will use port 60000 for the <u>XMLRCP</u> communication

2) INSTALLATION

<unnamed></unnamed>	i storat O institues O institues		> Preferences	Settings Active URCaps	
<ur> unnamed> Load Program </ur>	C Antilingen O Schardburgen Andrage		> Preferences > Pessword	Active URCaps	
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10 23 27 36				_	
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- 1) Copy the "Flexibowl-1.0.urcap" file to a USB flash drive
- 2) Insert the USB device in the robot's TeachPendant
- 3) Press "Settings" in the top right menu, then "System" → URCaps and click on the installation button (+)

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ter CA Case Facts Dates Parama		CCC: Labor	Preferences Active LRCaps Password Di Cocontrol	Pernote TCP	
csbatyre-1.0.0.urcap			System System Backup		
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Fiename	Fitter:	-	License Type: All rights reserve License Copyright (c) 2018 - INUTAI 0.1. All rights reserved.	4	
	Unital ties	Open Cancel	tet + -		Restart
Prawer off Spece		Smiller	Normal Sceed =		Smiller

- 4) Select the URCap from the files of the USB device
- 5) Press "Open"
- 6) Press "Restart" to proceed with the installation.

		Settings	
> Preferences	Active URCaps	Inactive URCaps	
> Password	Ilexibowl		
🗸 System			
System Backup			
URCaps			
Robot Registration			
Control	URCap Information		
Network			
Update			
Exit	+ -		Restart

7) Once restarted, if the installation was successful, a green check mark
 will appear next to your URCap.

3) CONNECTION

To complete your installation, you just have to connect to the FlexiBowl®.

	∰ <u>©</u> ∰			PROGRAM <unnamed></unnamed> INSTALLATION default*	lew Open Save		د د د
> General	Flexibowl						
 > Safety > Features > multiplication 		Flexibo	wl Paramet	ers UR]	
V URCaps	Flexibowl IP:	192.168.0.10	CONNECT	My Daemon Flexibowl runs]	
My Daemon Swing							
. ICAIDOWI							
Power off			Speed	100%	O C	0	Simulation

Press "Installation" and select the correct URCap.

> General	Flexibowl
> Safety	
> Features	Flexibowi Parameters UR
> Fieldbus	
✔ URCaps	
My Daemon Swing	
Flexibowl	
Power off	Speed100%

You must enter the IP of your FlexiBowl[®] in the appropriate field. If the procedure was successful and you press "Connect", the list of parameters will appear.

4) SETUP

	Image: Degree was an analysis of the section of t									
> General	Flexibowi									
> Safety	Flowih owil Downworks vo. U.D.									
> Features	Flexibowi Parameters UK									
> Fieldbus	Flex/bow/ IP: 192.168.0.10 CONNECT My Daemon Flexibow/ runs									
V URCaps										
Swing	Accel Move: 250 CCW Shake: -45									
Flexibowl										
	Decel Move: 250 CW Shake: 45									
	Speed Move: 250 Count Shake: 1									
	Angle Move: 45 Flip Count: 2									
	Accel Shake: 250 Flip Delay:									
	Decel Shake: 250 Test Move Test Shake Test Flip Test Blow									
	Speed Shake: 250 Light Save Parameters									
Power off	Speed									

Once connected to the FlexiBowl® you can modify all the parameters and test their movements manually.

Element	Description
Move	Used to perform a single movement with clockwise or counterclockwise rotation with the parameters defined in the interface.
	Note: to execute the movement command, press the Test Move button.
Shake	Used to perform a combined clockwise and counterclockwise movement with the parameters below. Note: the first movement is counterclockwise and the number of movements is given in the "Count" parameter. The clockwise angle is "CW Angle" and the counterclockwise one is "CCW Angle".
	Note: to execute the movement command, press the Test Shake button.
Flip	Used to overturn the parts on the FlexiBowl [®] by means of a pneumatic pulse
	Note: to execute the movement command, press the Test Flip button.
	Used to move the parts on the FlexiBowl by activating a blow of air.
Blow	Note: to execute the movement command, press the Test Blow button.
Accel Move	Acceleration used with every Move instruction.
Decel Move	Deceleration used with every Move instruction.
Speed Move	Speed, used to move the FlexiBowl [*] . Used in the Move instruction.
Angle Move	Angle with which the FlexiBowl [®] moves. Used in the Move instruction.

FLEXIBOWL PARAMETERS URCAP

Element	Description
Accel Shake	Acceleration used with every Shake instruction.
Decel Shake	Deceleration used with every Shake instruction.
Speed Shake	Speed, in RPM, used to shake the FlexiBowl [.] . Used in the Shake instruction.
CCW-Angle Shake	Counterclockwise angle that the FlexiBowl ⁻ moves at with every Shake instruction.
CW- Angle Shake	Clockwise angle that the FlexiBowl ⁻ moves at with every Shake instruction.
Count Shake	Number of movements, in alternate directions, that are made with every Shake instruction. Example: sh_count=3 means that the FlexiBowl [.] will move counterclockwise at an angle equal to ccw_angle, clockwise at an angle equal to cw_angle, and will return at an angle equal to ccw_angle.
Flip Count	Number of times the Flip will be turned on. It must be positive.
Flip Delay	Time, in milliseconds, between the Flip turning on and off. It must be positive.
Light	Turns the backlight on/off.
Save Parameters	Used to save all of the movement parameters in the FlexiBowl [®] .

5) **PROGRAMMING**

					AM <unnamed>*</unnamed> ON default*	New	Open Save			۰ د د د
> Basic						۹	Command	Graphics	Variables	
> Advanced > Templates	 Robot Program Flexibowl: 						Flexibowl			
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Cycle Counter S							Epter In Addres	c of Eleviboud		
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Flexibowl										
							Select the move	ment of the Flexi	bowl	
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	1	+ +	* 📕	5						
Power off			Speed		100%		000			Simulation

Press "program" → URCaps.

You will then have access to the list of your URCaps; select the one related to FlexiBowl[®] control. A function block for device control will be automatically inserted into the program.



You will have to write the IP of your FlexiBowl[®] in the relevant field and select the movement you want to perform.

Multiple function blocks can also be used to perform combinations of movements.

FLEXIBOWL PARAMETERS URCAP

6) PROGRAMMING CYCLOGRAM

