

RDC 15

Dip Coater

Manual

Part No: 35-1715



features:

- lift bar for several workpiece fittings. The dipping height and the sizes of the aluminium profiles can be easily adapted to even dip coat bulky items.
- The insertion and the drawing or coating speed is separately adjustable from 30 mm/min until 7200 mm/min.
- The dipping time as well as the drip-off-time (pause time up and down) is separately adjustable from 1 s up to 99h : 59min : 59s. This enables the machine not only to coat but to precisely develop. This is of great importance with certain photo coatings of the miniature etching technology.
- Up to 8 iterations are possible.
- The working range of the lift bar can be adjusted via the control panel. The maximum size of the workpiece is therefore only limited by the maximum lift range of the machine and the size of your cuvette.
- On request we manufacture Dip Coaters according to your needs. Especially the dipping height and the sizes of the aluminium profiles are easily changed.

1. Technical Data

Stroke length	0 - 480 mm
Maximum load:	1,5 kg (reduced max. speed with maximum load)
Weight:	12 kg
Dimensions (BxTxH):	21x41x112 cm
Dipping Time:	0,5s – 100 h
Drip Off Time:	0,5s – 100 h
Insertion speed	Programable from 30 mm/min - 7200 mm/min
Drawing speed	Programable from 30 mm/min - 7200 mm/min
Iterations	Up to 8 times
Power supply:	100-240 V, 50-60 Hz, 1,6 A

1. Preface

The RDC 15 is a machine designed for laboratory dip coating of modern liquid photoresists. Today a more and more popular application is the so called: "sol-gel-application". This machine was developed to meet the demand of a greater variety of speeds, iterations, dipping and drip off times and heavier workpieces.



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2. Safety Regulations

Please apply the general safety rules for working with electrical machines.

Do not run the machine in corroding, humid, dusty, extremely hot or explosive atmosphere. If you do run the machine in an atmosphere as described above be aware that this happens on your own risk and responsibility.

The operator has to provide appropriate safety precautions and equipment. We explicitly exclude any warranty for damages resulting from running the machine in an atmosphere as described above.

Important: the motor holds the lift bar only when the power supply is switched on. Mount items only to the holder with power on. Otherwise the lift bar will move downwards. The maximum load is 1.0 kg at maximum speed.

3. Set up

Examine the machine for possible transport damages. If you encounter any problems inform us and the carrier immediately.

Carefully transport the machine to its operation site. Do not use the motor or other extending parts as a handle.

Strip off the packing. Make sure not to damage the tooth belt.

Connect to power supply.

4. Operation

There is a schematic as appendix in this manual. If you put this schematic next to this instruction it will be easier for you to follow.



After switching on the power the controller boots a welcome message appears on the LCD-screen and then a prompt to start drive home position.



Pressing the green switch the machine continues to its upper home position. Then the prompt to start the reference drive appears:



Pressing the green switch the machine runs down to the lower end switch and back to home position and calculates the step resolution. You can determine the travel length during the reference drive by pressing the yellow switch when the machine reaches your desired depth. When dipping the RDC 15 will drive to this point and then go up again.



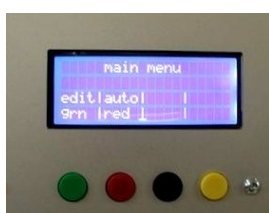
Important: All your set parameters will be stored and be available after turning off and on the machine again until you overwrite them. The only exception is the travel length. For safety reasons the travel length needs to be determined each time the machine runs a reference drive.

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After the reference drive the **main menu** appears on the screen. Here you can choose between the **edit** menu to specify the dipping parameters and the **auto** menu to start the machine with your old predefined parameters.



Selecting edit you will enter the edit mode with the sub menus

veloc (speed)

time (pause times)

iter (iterations)



Pressing escape (yellow button) you will go back to the next higher level.

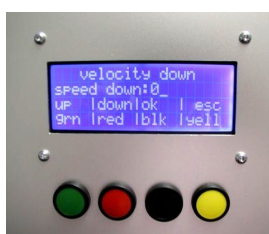
velocity (level 3)

Here you can choose between **V.up** (green button) to adjust the drawing speed and **V.-down** (red button) to adjust the insertion speed.



If you press **V.down** the **velocity down** menu comes up. You can select between 100 steps of speed (0-99). Step 00 is the lowest and 99 the highest possible speed.

No other values can be selected.



There is a table on page 4 chapter 6 showing the steps and the according speed in mm/min.

With **ok** (black button) you confirm the set value and jump to the next digit. With **esc** you enter the next higher level.

Do the same procedure in the **V.up** menu to adjust the drawing speed.

Pressing **esc** (yellow button) two times you get back to **edit mode**.



Pause time menu (level 3)

Here you can edit the pause times. You can edit different times for pause time in upper position (dripping time/ **t.up**) and pause time in the lower position (dipping time / **t.-down**).



Having entered for example the **pause time up** menu insert your desired pause time by pressing up or down. Values between **00:00:00** (min.value) for no pause up to **99:59:59** for 99 hours, 59 minutes, 59 seconds are possible. With **ok** (black button) you confirm the set value and jump to the next digit. With **esc** you enter the next higher level.



Number iterations (level 3)



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Having entered all parameters you can start dipping.

Go back with **esc** to the main menu. Press the red button to open the **auto** menu and press **start**.

The machine will start the coating procedure with your set parameters.



When the process is complete a message appears on the screen: **job complete – ok press green**

You can restart the machine with the pre-set parameters.



If the machine does not reach its end position for example due to overload, the screen will show an error note:

no home-position

press green

If you confirm by pressing the green button the screen shows:

drive homeposition

start press green.

Confirm with green the machine runs to its end position and the screen shows:

reference drive

start press green

Now the machine wants to run the reference drive again. If you confirm with green the machine does the reference procedure and is then ready for another job. **All parameters have been saved.**

5. Loading

Important: the motor holds the lift bar only when the power supply is switched on. Mount items only to the holder when the power is on. Otherwise the lift bar will move downwards. The maximum load is 1.0 kg at maximum speed.

The machine is equipped with a universal lift bar.



Inserted in the bar you will find a couple of special nuts M5. You can fix your dipping items with screws and clamp sheets to these nuts.

6. Relation Table Steps/mm/min

Step	mm/min
00	30
10	125
20	315
30	465
40	610
50	760
60	950
70	1310
80	1760
90	4230
99	7200

You can interpolate the other steps if required.

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7. Guarantee

All machines are submitted before distribution to examination on function and continuous operation firmness. On the machine we grant a work warranty of 12 months to our customers starting from purchase date on accuracy in material and processing. We warrant at our choice by exchange of incorrect parts or by repair of the machine in our house. Old parts change into our possession.

8. Disclaimer of Warranty

All parts subjected to wear are excluded from this warranty. Non-observance of this manual shall void all warranty claims.

We cannot accept subsequent claims from damage or destruction of workpieces worked on in the machine, because we have no knowledge or control over the operating conditions at your site. This is valid in a general manner also for requirements from damage to articles, buildings and persons as well as the environment.

We do not warrant that the function of the machine will meet the customer's requirements or that the operation of the machine will to this regard be error free.

In no event will we be liable to the customer for any incidental, consequential, or indirect damages of any kind, including loss of profit and prosecution for environmental pollution, even if we could have been aware of the possibility of such damages.

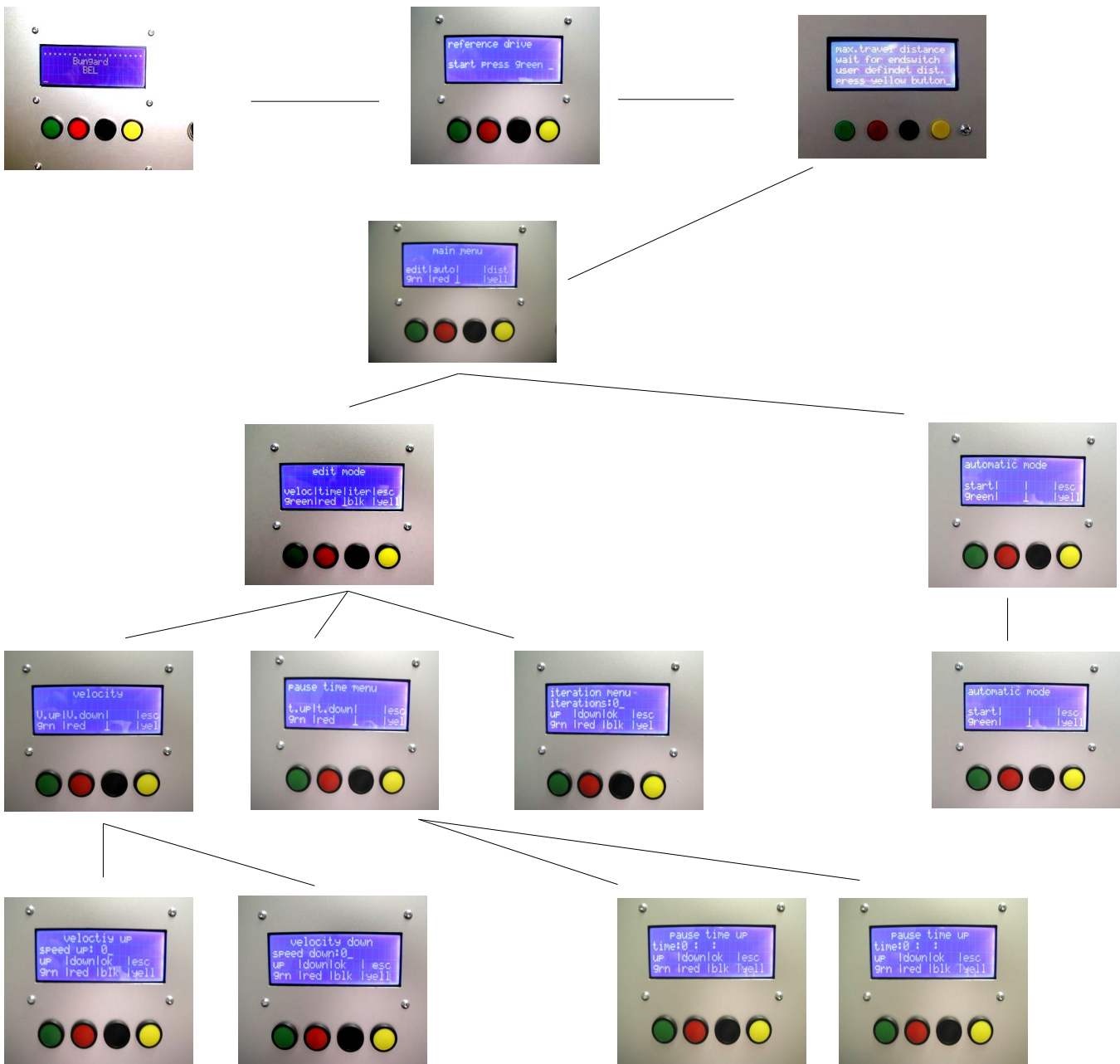
All information was arranged with great care. We reserve ourselves however mistake and technical changes without previous announcement.

Running the machine in corroding, humid, dusty, extremely hot or explosive atmosphere happens at the operator's own risk and responsibility.

We explicitly exclude any warranty for damages resulting from running the machine in in corroding, humid, dusty, extremely hot or explosive atmosphere.

9. Copyright

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