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CRYO.S 6-CHANNEL HANDHELD DECAPPER

Item No.: 852076 -NA/ -UK/

-EU/ -AU/ -JP/ -CN

www.gbo.com







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INSTRUCTION MANUAL

INTRODUCTION:

This manual helps users operate the Cryo.s 6-Channel Handheld Decapper correctly and safely, herein referred to as the Decapper. To achieve this goal, the manual describes the different components of the Decapper and their functionality.

After introducing you to the various parts of the Decapper, the manual will describe step by step how to operate the Decapper. After you have read through this manual, you should be capable of operating the Decapper.

In order to prevent injury to personnel and damage to equipment the manual contains the following precautionary statements:



WARNING

The WARNING statement describes a potentially hazardous situation which if not avoided could result in serious injury of personnel and damage to equipment.



CAUTION

The CAUTION statement describes a potentially hazardous situation which if not avoided could result in damage to equipment and minor injury.



NOTICE

The NOTICE statement indicates information considered important but not hazard related.

FURTHER INFORMATION:



The animated demonstration provides a brief overview of how to utilize the decapper in just a few seconds, but it does not serve as a substitute for the comprehensive Instruction for Use.



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1/ INFORMATION ABOUT INTENDED USE. SAFETY AND SECURITY

This User's Manual is designed to help you get the most out of your Decapper.



NOTICE

You should carefully read through the entire manual before beginning to operate your Decapper. This first section must be read with attention. It contains important information about the use of the Decapper and this manual.

1.1/ DISCLAIMER STATEMENT

This user manual is designed to provide quidance and information for users who are working with the Decapper. It covers the most encountered procedures, handling techniques, and safety considerations for daily use. Please note that the content of this manual is subject to change without notice, as Greiner Bio-One GmbH continues to develop new products, accessories, and software. It is important to recognize that this manual may not be comprehensive in its explanations, instructions, or statements, and may not reflect the most current information available. Some illustrations, images, and descriptions may also be incomplete or vary from the actual product received. Our goal is to provide the most accurate and up-to-date information possible, but we cannot guarantee its completeness or accuracy.

1.2/INTENDED USE

The Decapper provides a fast and robust method to cap and uncap Cryo.s non-coded Tubes and Cryo.s with Barcode and Datamatrix Code in SBS 48-format racks. A list of compatible products from Greiner Bio-One GmbH is provided hereinafter.

The Decapper is a handheld standalone instrument designed to quickly and reliably decap and cap six tubes in parallel. The device will be used in conjunction with a docking station for storage and charging when not in use.

Item No.	Description
123263	Cryo.s non-coded tubes, 1 ml, starfoot base, internal tube thread
122263	Cryo.s non-coded tubes, 2 ml, starfoot base, internal tube thread
126263	Cryo.s non-coded tubes, 2 ml, starfoot base, external tube thread
127263	Cryo.s non-coded tubes, 4 ml, starfoot base, external tube thread
123263-2DG	Cryo.s non-coded tubes, 1 ml, starfoot base, internal tube thread, linear barcode, human readable identifier and datamatrix code
122263-2DG	Cryo.s non-coded tubes, 2 ml, starfoot base, internal tube thread, linear barcode, human readable identifier and datamatrix code
126263-2DG	Cryo.s non-coded tubes, 2 ml, starfoot base, external tube thread, linear barcode, human readable identifier and datamatrix code
127263-2DG	Cryo.s non-coded tubes, 4 ml, starfoot base, external tube thread, linear barcode, human readable identifier and datamatrix code
803202	48-format Rack for Cryo.s , low profile for 1 and 2 ml Cryo.s
803270	48-format Rack for Cryo.s , high profile for 4 ml Cryo.s
803202-2DG	48-format Rack for Cryo.s , low profile for 1 and 2 ml Cryo.s , linear barcode, human readable identifier and datamatrix code
803270-2DG	48-format Rack for Cryo.s , high profile for 4 ml Cryo.s , linear barcode, human readable identifier and datamatrix code
803507	48-format Cap Carrier

In addition, the Decapper may be used with Cryo.s non-coded Tubes and Cryo.s with Barcode and Datamatrix Code with coloured screw cap versions as well as customized barcodes (REF 12x2xx, 12x2xx-2dx).

1.3/ LEGAL REGULATIONS

All local, state and federal laws which prescribe the use, application, and/or the handling of dangerous materials in connection with the Decapper must be strictly followed.

1.4/ MALFUNCTION / TROUBLESHOOTING

Refer to the section: 6 Troubleshooting/page 21.



NOTICE

For a malfunction and for troubleshooting the Decapper, contact your local Greiner Bio-One representative.

1.5/ SAFETY PRECAUTIONS



NOTICE

Read the following safety notices carefully before using the Decapper

1.5.1/ MAINTENANCE, SERVICE AND REPAIR

Only trained contractual partners of Greiner Bio-One are authorized to perform mechanical repair on the Decapper.

15.2/ OPERATING THE INSTRUMENT

When using the Decapper, Good Laboratory Practices (GLP) must be observed. Suitable protective clothing, safety glasses and protective gloves must be worn.



WARNING

During Decapper operation, keep clear of all moving parts. Never interfere with the Decapper while it is in operation!



CAUTION

If the Decapper is used in a manner not specified by Greiner Bio-One, the protection provided by the device may be impaired.

1.5.3/ ELECTRICAL SAFETY PRECAUTIONS

There are no electrical components that are accessible to the user in the Decapper.



WARNING

Any removal of the housing to access internal components must only be performed by contractual partners of Greiner Bio-One.

1.5.4/ **HAZARDS**

The following section describes the main safety considerations, electrical and biological, in operating this product and the main hazards involved.



CAUTION

Only authorized personnel may have access to the device. The laboratory or operator of the instrument is responsible for ensuring that the environmental conditions for safe operation of the Decapper are always met. The laboratory or operator is responsible for any improper handling. It must be ensured that untrained or unauthorized personnel cannot manipulate or interfere with the Decapper while it is in use.

1.5.5/ SAFETY MEASURES



CAUTION

Use appropriate protective clothing, goggles and gloves!



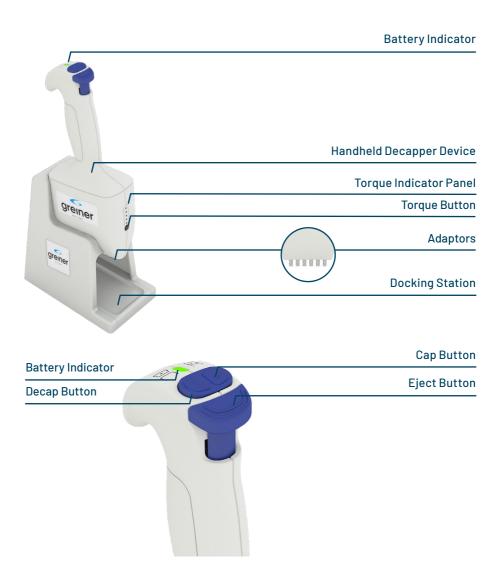
1.5.6/ REPORTING SERIOUS INCIDENTS

Any serious incident or near incident that has occurred in relation to the Decapper shall be reported to Greiner Bio-One and to the competent authority of the member state in which the operator is established. Contacting Greiner Bio-One either by contacting a local Greiner Bio-One representative or by utilizing the Greiner Bio-One webpage, which can be found on the last page of this operating manual.

2/ DECAPPER INTRODUCTION

2.1/ DECAPPER DESIGN OVERVIEW

The following picture depicts the main components of the Decapper.



2.2/ CONCEPT OVERVIEW

The Decapper provides a precise method for processing six tubes in parallel. An integrated torque control panel allows to pre-set torque levels. For details on torque setting please refer to 4.7 Adjusting Capping Torque/ page 18.



NOTICE

For Greiner Bio-One's cryogenic tubes with internal and external threads, torque pre-setting levels 4 and 5 (4/5 green LEDs lit up) were found to be optimal, respectively.

The docking station and integrated re-chargeable battery provide the convenience of wireless operation with ease of use for charging integration into your workflow. The Decapper is an intuitive and ergonomic device, designed to simplify your capping and decapping processes.

The Decapper comprises the following functions:

- / Adjustable torque control
- / Wireless operation
- / Magnetic docking station
- / Supports SBS-format tube racks

To guarantee proper tube capping and decapping with the Decapper, it is necessary to fulfil the following functions:

- 1. Tubes must be presented in complementary SBS 48-format racks.
- The cap button must be depressed to actuate the motors to rotate counterclockwise.
- 3. The decap button must be depressed to actuate the motors to rotate clockwise.
- 4. The torque button must be depressed to change the applied capping torque.
- The eject button must move the ejector block vertically to detach adaptors from caps

3/ INSTALLATION AND SET-UP

These instructions allow operators to independently install the Decapper device into their workspace.

3.1/ SHIPMENT

Your delivery consists of the following items:

- / Decapper device
- / Docking station
- / Power cord & power adaptor
- / Adaptors (pre-installed)
- / Adaptors case
- / Manual
- / Quick start guide

3.2/ HARDWARE INSTALLATION

3.2.1/ POWER CABLE CONNECTION

Connect the power cable as shown in the area on the docking station indicated by the arrow



3.2.2/ DOCKING THE DECAPPER

Before initial use the Decapper should be fully charged. After removal from packaging, the Decapper should be placed in the Docking Station until a full charge is indicated.



3.2.3/ DISPOSAL OF SHIPMENT MATERIALS

It is the customer's responsibility for the care and disposal of all packaging materials.

4/ WORKING WITH THE DECAPPER

4.7/ **DECAPPING TUBES**

Fully insert the adaptors into the inner cavities of the six corresponding caps by firmly pressing the Decapper down. The ejection block should be flush with the tops of the tubes. Press and hold the decap button to start the decapping operation. During decapping, press the device down. While decapping, slowly move the device upwards.





NOTICE

Ensure the ejection block is parallel and flush to the caps so that caps are retained properly.

4.2/ STORING CAPS

Caps can stay on the adaptors during pipetting or other aspects of your workflow. The device can be placed in the docking station while not in use. Alternatively, the caps can be ejected into a cap carrier. To dock the device, simply place the Decapper into the docking station and slide it firmly to the back. When installed properly the status LED should display a charging or battery full status.



NOTICE

The Greiner Bio-One Cap Carrier in 48-format REF 803507 can be used as a cap holder for Cryo.s non-coded Tubes and Cryo.s with Barcode and Datamatrix Code. These Cap Carriers are not included with the tubes and must be purchased separately.

4.3/ CAPPING TUBES

Position the device with the attached screw caps directly above the tube openings. Gently press the device down while holding the cap button to begin the capping process. Continue pressing downwards on the tube while holding the cap button until the rotation of all adaptors come to a complete stop.



NOTICE

After capping, carefully check that screw caps are applied correctly, with no protruding caps or squeezed-out sealing gaskets. This semi-automatic device requires manual visual inspection to identify and correct rare cases of improper sealing.

4.4/ EJECTING CAPS

When done capping a row of tubes, release pressure on the device and press the eject button until you feel the device lift off the plate. Press the eject button completely down to ensure the caps are fully unseated from the adaptors.

4.5/ WIRELESS OPERATION

The Decapper only operates wireless. The battery indicator will display the battery status when in use. This will remain on for ~15 seconds after either the cap or decap buttons have been pressed. The below table shows the power status levels displayed by the Decapper. The power indicator will also flash every ~8 seconds while the device is not in use.

Colour	Battery Status	Appearance
Solid green	Good battery level.	EZ EZ
Solid yellow	Battery level low. Charge when possible.	ENOR DE LA CONTRACTION DE LA C
Solid red	Critical battery level. Device is disabled. Charge immediately.	E E E

4.6/ CHARGING

When not in use, place the device in the docking station to automatically charge. The power indicator will indicate the charging state of the device when properly installed. The motors are disabled, and the device cannot be used while in the docking station. The below table shows the charging status indicators.

Colour	Battery Status	Appearance
Solid blue	Fully charged.	E C C C C C C C C C C C C C C C C C C C
Flashing green	Actively charging.	E E
Flashing red	Charging error.	E E E E E E E E E E E E E E E E E E E

4.7/ ADJUSTING CAPPING TORQUE

The Decapper comes programmed with 5 pre-set torque levels. Press the torque button once to light up the torque indicator panel. The number of LEDs lit up indicates the set torque level. To change the level, press the torque button within 2 seconds to increment the torque level by one. Repeat the previous step until the desired torque level is reached. After reaching level 5, the torque will cycle to level 1. The below table shows the torque level and the approximate capping torque applied at that level.



NOTICE

Torque pre-setting **level 4** (four green LEDs of the torque indicator lit up) was found optimum for capping Greiner Bio-One's Cryo.s non-coded Tubes and Cryo.s with Barcode and Datamatrix Code with **internal** thread.

Torque pre-setting **level 5** (five green LEDs of the torque indicator lit up) was found optimum for capping Greiner Bio-One's Cryo.s non-coded Tubes and Cryo.s with Barcode and Datamatrix Code with **external** thread.

Torque Level Indicator	Capping Torque	Display
1	70 mNm ± 10 mNm	
2	90 mNm ± 10 mNm	
3	120 mNm ± 10 mNm	

Torque Level Indicator	Capping Torque	Display
4	200 mNm ± 10 mNm	
5	250 mNm ± 10 mNm	



NOTICE

Do not apply too high torque levels as this may destroy the thread on the tube and tubes may not be closed properly any longer. Leakage may occur.

5/ ORDERING INFORMATION

The following article numbers are for 6-channel decappers, each with an included charging cable featuring a region-specific plug for countries and their associated regions with the same plug standard: European Union (EU), United Kingdom (UK), North America (US), Japan (JP), China (CN), Australia (AU).

Item No.	Description
852076-EU	CRYO.S DECAPPER, 6 CHANNEL, EU VERSION, FOR CRYO.S TUBES, 1 UNIT PER CASE
852076-UK	CRYO.S DECAPPER, 6 CHANNEL, UK VERSION, FOR CRYO.S TUBES, 1 UNIT PER CASE
852076-US	CRYO.S DECAPPER, 6 CHANNEL, US VERSION, FOR CRYO.S TUBES, 1 UNIT PER CASE
852076-JP	CRYO.S DECAPPER, 6 CHANNEL, JP VERSION, FOR CRYO.S TUBES, 1 UNIT PER CASE
852076-CN	CRYO.S DECAPPER, 6 CHANNEL, CN VERSION, FOR CRYO.S TUBES, 1 UNIT PER CASE
852076-AU	CRYO.S DECAPPER, 6 CHANNEL, AU VERSION, FOR CRYO.S TUBES, 1 UNIT PER CASE

6/TROUBLESHOOTING:

If any issues arise when using the Decapper use the below guide to help diagnose any problems your device might have.

Problem	Description	Solution
	No/low battery power	Charge device
Adaptors do not spin	Installed in dock/charging	Remove from dock before use
	Faulty battery	Contact Greiner Bio-One
Overtighten/	Incorrect torque setting	Adjust torque level
damaged vials	Incorrect torque setting	Contact labware manufacturer
	Incorrect torque setting	Adjust torque level
Under tightened/	Worn out labware	Replace labware
unsealed vials	Incorrect torque setting	Contact labware manufacturer
Flashing red while	Battery overheated	Allow cooldown
charging	Battery connection fault	Contact Greiner Bio-One
Single Adaptor does	Motor Failure	Contact Greiner Bio-One
not spin	Manifold/Gearing failure	Contact Greiner Bio-One
	Insufficient retention force	Press down with device during entire decapping process
Caps fall off adaptors	Incorrect adaptors	Only use device with approved labware/adaptor pairings
	Worn out labware	Replace labware
Adaptor does not	Damaged adaptor	Replace adaptor
compress	Damaged spindle	Contact Greiner Bio-One
No charging indicator	Improperly seated	Reseat device
No charging mulcator	No power	Check power connector

7/ CLEANING MAINTENANCE

When necessary, the Decapper can be cleaned.

7.1/ MATERIALS REQUIRED

- / Disposable nitrile or latex gloves
- / Protective glasses
- / Lab coat

7.1.1/ CLEANING AGENTS

According to the degree of contamination, the following cleaning agents are suitable for cleaning parts of the Decapper. It is recommended to clean only the described part.

Cleaning Agent	Concentration	Risk to Decapper	Additional Comments
Water	Distilled or de- ionized water	-	-
Alcohol	70% ethanol, 70% 2-Propanol (isopropanol)	No risk during short exposure times	-
Detergents	Mild detergent, special detergents	Check with vendor of the agents	-
Tissue	-	-	Use only lint-free tissues.



CAUTION

Follow the manufacturer's instructions when using cleaning, disinfecting, and decontaminating fluids. Avoid disinfecting materials that contain hypochlorite (such as Javel water or Chlorox) or bleaching fluids. Always prepare disinfectant fluids as directed on their labelling.

7.2/ CLEANING PARTS OF THE INSTRUMENT

Instrument Part	Cleaning Agent
Adaptors	Alcohol
Device Housing	Detergent/ Alcohol
Ejection Block	Detergent/ Alcohol
Docking Station Housing	Detergent/ Alcohol



NOTICE

Cleaning procedures others than described are not recommended and may destroy the device e.g., washing of carriers in washing machines, autoclaving of instrument components, etc.

8/ TECHNICAL SPEFICIATIONS

	Width	Depth	Height
Dimensions	114 mm (4.48 in)	60 mm (2.36 in)	255 mm (10.04 in)
Weight of Decapper w/o Docking Station:	1.3 lb		
Supported Labware:	Greiner Bio-One Cryo.s non-coded Tubes and Cryo.s with Barcode and Datamatrix Code in 48-format racks		
	Input:	100 VAC to 240 VAC Auto switching	
Power Adapter	Frequency:	50 Hz to 60 Hz	
Power Adapter:	Output:	12 VDC	
	Power:	4 A	
	Description:	Lithium Polymer	
Description	Capacity:	2500 mA*hr	
	Nominal Output:	7.4 VDC	
Operating Conditions:	Temperature:	50 °F to 86 °F (10 °C to 30 °C)	
operating conditions.	Relative Humidity:	10% - 90% non-condensing	
Recommended Sto-	Temperature:	32 °F to 86 °F (0 °C to 30 °C)	
rage Conditions:	Relative Humidity:	40% to 70% non-condensing	

9/ DECLARATION OF CONFORMITY

CE conformity is issued and maintained for the Decapper. See the Declaration of Conformity provided with the instrument as well as the information in the following sections. The Decapper is designed and built-in compliance with safety and health requirements of applicable EC Directives. With the declaration of conformity, the manufacturer declares conformity with the provisions of the directives.

		EG-KONFOR	RMITATSERKLARUNG	Page 1 of 1
Drawn Date Revision	S. Kälberer April 25, 2023 03	EC DECLARA	TION OF CONFORMITY	greine
Mayba	r Bio-One Gm chstr. 2 6 Frickenhau ny			
aufgef	ührten EG-Richt oduktes oder ei	linien und Normen entspr	en einschlägigen grundlegenden Ar icht. Bei einer nicht mit uns abgesti mäßen Anwendung verliert diese Er	mmten Änderung
EC dire	ectives and star	ne device(s) named below dards listed. In the case o claration becomes invalid	r fulfills the relevant fundamental red of unauthorized modifications to the l	quirements of the device or an
Produ	ktbezeichnung	Product Description:		
Cryo.s	6-Channel Han	dheld Decapper		
Artikel	nummer / Part	No.:	17 1 5	
852	2076-EU 2076-UK 2076-NA	852076-CN 852076-AU 852076-JP		
Einsch	lägige EG-Rich	ntlinien / Relevant EC Di	rectives:	
		Electrical & Electronic Ed	quipment (WEEE) 2012/19/EU, resp	ective symbology
Electro	ery Directive 20	06/42/EC, Supplement II atibility Directive 2014/30, /65/EU	A /EU	
Norme	n / Harmonized	Standards:		
FCC Pa VCCI/C AS CIS	ISPR 32, Class PR 11, Class A	Radiated and conducted	cted Emissions to VCCI/CISPR 32	
EN6100 EN6100 EN6100	00-4-2 – Electro 00-4-3 – Radiate 00-4-8 – Magne	static Discharge ed Immunity	urement, control and laboratory	
Datum	ı / Date : 27 Ap	ril 2023	Dr. Chanket-Chai Director Quality Management)

10/ COMPLIANCE WITH THE EUROPEAN UNION'S WASTE ELECTRICAL & ELECTRONIC EOUIPMENT DIRECTIVE

To adhere to the European Union's WEEE Directive 2002/96/EC, this product is labelled with a specific symbol. If you are in Europe, you can return the product free of charge by contacting your local Greiner Bio-One representative for information on the disposal process. However, items classified as biohazardous or medically contaminated cannot be recycled through this program and must be disposed of as biohazardous waste in compliance with the proper protocols.



11/ ROHS COMPLIANCE

The Decapper follows RoHS II Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011, on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS II) and its amendments.

12/ STANDARD WARRANTY

The warranty for the Decapper lasts for 12 months from the date of sale. If a customer discovers a defect or problem caused by bad materials, faulty design, or poor workmanship, they can request a repair or replacement in writing. Greiner Bio-One will choose whether to repair or replace the defective parts, and any replaced parts become the property of the company. However, the warranty does not cover consumable parts, damage from normal wear, improper maintenance, failure to follow operating instructions, or any reasons for which Greiner Bio-One is not responsible. The customer is not entitled to any additional rights or claims beyond what is explicitly stated in this clause regarding defective materials, design, workmanship, or unfulfilled warranties. Customers can contact their Greiner Bio-One representative to request free repairs within the warranty period.

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GREINER BIO-ONE IS A GLOBAL PLAYER.
FIND THE CONTACT DETAILS OF YOUR
LOCAL PARTNER ON OUR WEBSITE.



Devices of Greiner Bio-One are to be used by properly qualified persons only in accordance with the relevant instructions for Use (IFU), where applicable. For more information contact your local Greiner Bio-One sales representative or visit our website (www.gbo.com).

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