Horizontal Electrophoresis System

4849.1 ROTIPHORESE® PROfessional runVIEW System

4850.1 ROTIPHORESE® PROfessional runVIEW Base for electrophoresis unit ROTIPHORESE® PROfessional III (2850)

9958.1 ROTIPHORESE® PROfessional runVIEW Base MINI 1 for electrophoresis unit ROTIPHORESE® PROfessional I (2788)

9961.1 ROTIPHORESE® PROfessional runVIEW Base MINI 2 for electrophoresis unit ROTIPHORESE® PROfessional II (2799)

runVIEW – made by Cleaver Scientific Ltd, UK

Warning: The runVIEW real-time horizontal DNA electrophoresis system has been thoroughly tested and found to comply within the limits of CE regulation. It has been manufactured using the latest technology and does not require maintenance. When used correctly this unit poses no particular health risk, although it can deliver dangerous voltage levels if used incorrectly. Accordingly, **this power supply must only be operated by fully qualified personnel adhering to the guidelines laid out within this instruction manual.** Although this power supply is equipped with all necessary safety features against abuse and accidental failure, caution should always be exercised when working with high voltage equipment. Any individual intending to use this instrument should read the entire manual thoroughly before operation.

The horizontal electrophoresis units from ROTH are designed for long term laboratory use and to obtain reproducible results. Please spend a few moments reading the instruction manual thoroughly.

These units comply with the statutory CE safety rules:
73/23/EEC: Low voltage directive: IEC 1010-1:1990 plus amendment 1:1992
EN 61010-1:1993/BS EN 61010-1:1993

Please verify that you received the unit completely and without any damage. Any faults or losses have to be reported to ROTH immediately. ROTH can not accept responsibility for goods that were sent back without informing them.
Please take a look at the packing list and check whether all components and accessories are present. Please retain all packaging material until the warranty period has expired.

Environmental Conditions
This unit may only be installed and operated only under the following environmental conditions:
- This apparatus is intended for indoor use only.
- The unit can be operated safely at an altitude of 2000 m.
- The normal operating temperature range is ambient to 40 °C.
- Atmospheric pressure: 75 kPa – 106 kPa
- Relative humidity: ≤95 %

This apparatus is rated POLLUTION DEGREE 2 in accordance with IEC 664.
POLLUTION DEGREE 2, states that: “Normally only non-conductive pollution occurs. Occasionally, however, a temporary conductivity caused by condensation must be expected”.

All ROTH products are supplied having passed rigorous quality control procedures.
For additional questions please give us a call: ++49-721-5606-0

PACKING LIST

4849.1 ROTIPHORESE® PROfessional runVIEW System:
- 1x runVIEW base station (including power cord)

- 1x special lid with spectral emission filter and extractor fan within its viewing pane for dyes with green and red fluorescence
- 1x ROTIPHORESE® PROfessional III tank w/o lid, with electrodes, 1x 15 x 15 cm gel tray, 2x casting dams
- 1 pair of 4 mm power output cables
- 8x double-sided combs:
  2x 4-sample/16-sample (1 mm); 4x 20-sample/28-sample (1 mm, multichannel compatible);
  1x 4-sample/16-sample (3 mm);1x 20-sample/28-sample (3 mm, multichannel compatible)
- Instruction manual

4850.1
ROTIPHORESE® PROfessional runVIEW Base:
- 1x runVIEW base station (including power cord)
- 1x special lid with spectral emission filter and extractor fan within its viewing pane for dyes with green and red fluorescence
- Instruction manual

The lid is **suitable to electrophoresis unit ROTIPHORESE® PROfessional III (Art. No. 4850.1)**

runVIEW base station
for PROfessional III unit

9958.1
ROTIPHORESE® PROfessional runVIEW Base MINI 1:
- 1x blue light illuminator (adjustable to 2 different sizes, including power cord)
- 1x special lid with spectral emission filter and extractor fan within its viewing pane for dyes with green and red fluorescence
- Instruction manual

The lid is **suitable to electrophoresis unit ROTIPHORESE® PROfessional I (Art. No. 2788.1)**

runVIEW base MINI 1 with special lid
for PROfessional I unit

9961.1
ROTIPHORESE® PROfessional runVIEW Base MINI 2:
- 1x blue light illuminator (adjustable to 2 different sizes, including power cord)
- 1x special lid with spectral emission filter and extractor fan within its viewing pane for dyes with green and red fluorescence
- Instruction manual

The lid is **suitable to electrophoresis unit ROTIPHORESE® PROfessional II (Art. No. 2799.1)**

runVIEW base MINI 2 with special lid
for PROfessional II unit

METHOD

ROTIPHORESE® PROfessional runVIEW for real-time electrophoresis under blue light

ROTIPHORESE® PROfessional runVIEW is an innovative new system designed for real-time size fractionation and recovery of nucleic acids. You can watch your bands migrate through the gel in blue light – without mutagen or retina damaging effects.

The runVIEW system maximises the efficiency of DNA recovery from stained gels by minimising the number of steps involved in post-electrophoretic purification. First choice for rapid gel analysis, gel elution and all control gels.

TECHNICAL FEATURES

Real-time electrophoresis for ROTIPHORESE® PROfessional III unit

4849.1 ROTIPHORESE® PROfessional runVIEW System
4850.1 ROTIPHORESE® PROfessional runVIEW Base

The runVIEW system consists of a base unit with integrated power supply and blue LED gel illuminator and a ROTIPHORESE® PROfessional III unit with a special lid,
containing a spectral emission filter and extractor fan within its viewing pane.

runVIEW base station with PROfessional III unit and special lid

The lid is suitable for dyes with green fluorescence, e.g. the non-toxic dye SYBR® Green, and red fluorescence, e.g. ethidium bromide
or the non-toxic dye ROTI®Gelstain Red (Art. No. 0984).

The blue light illuminator provides instant time-saving visualisation of DNA/RNA band migration. No UV safety equipment required for blue light illumination.

For the ROTIPHORESE® PROfessional III unit, gel trays of 15 x 7, 15 x 10 and 15 x 15 cm are available. The gel tank or the UV tray may be placed on the viewing platform for immediate observation of the nucleic acid bands within the gel.

ROTIPHORESE® PROfessional runVIEW is suitable for ROTI®Load DNA Stain, ethidium bromide, and SYBR® Green stained gels in real-time observation, post-run visualisation, or even post-run staining.

Operational (runVIEW Base)

Wave length (excitation)	470 nm (blue)
Voltage (V)	25 – 150 (resolution 1 V)
Max. intensity of current (mA)	300 mA (resolution 1 mA)
Max. output	30 W
Timer	1 – 999 mins. (alarm)
Display	LED display
Output type	Constant V or mA
Outlets (parallel socket pairs)	1 (4 mm)
Safety	”no load“ detection
Ambient temperature	15-40 °C
Dimensions (cm)	22 x 29.3 x 8 cm
Weight	2.6 kg
Current	100 – 240 V

Real-time electrophoresis for ROTIPHORESE® PROfessional I and II units

9958.1 / 9961.1 ROTIPHORESE® PROfessional runVIEW Base MINI

The runVIEW base MINI consists of a blue light illuminator and a special lid, containing a spectral emission filter and extractor fan within its viewing pane.

The lid is suitable for dyes with green fluorescence, e.g. the non-toxic dye SYBR® Green, and red fluorescence, e.g. ethidium bromide or the non-toxic dye ROTI®Gelstain Red (Art. No. 0984).

The illuminator is adjustable to 2 different sizes. It is suitable to the units ROTIPHORESE® PROfessional I (Art. No. 2788.1) and ROTIPHORESE® PROfessional II (Art. No. 2799.1).
No UV safety equipment required for blue light illumination.

Convenient power supplies are EV1450 (Art. No. CP56.1) or Roth MINI (Art. No. 2907.1).

Operational (runVIEW Base MINI)

Wave length (excitation)	470 nm (blue)
Ambient temperature	15-40 °C
Current	100 – 240 V

USING THE HORIZONTAL GEL ELECTROPHORESIS UNITS

A. Safety Precautions

1. Read the instruction manual thoroughly before use.
2. Never touch the power outlets with any conductive object (e.g. naked metal wire) other than properly insulated power supply cables.
3. Do not spill liquid or insert metal objects inside the power supply.
4. Never block the ventilation holes or place the unit in any enclosure unless there is adequate ventilation; never expose the power supply to a direct heat source.
5. Never touch any part of the power supply assembly (i.e. power supply, cables or electrophoresis tank) before switching OFF the power supply.
6. Never manipulate with wet hands.
7. Do not connect to ground any of the power outputs or the buffer within the electrophoresis tank; the power outputs should be only connected to an insulated electrophoresis tank equipped with a safety cover.
8. Do not connect any power supplies in series or in parallel.
9. Never open the back plate nor remove the cover, otherwise an electric shock may result. Repairs should only be made by the manufacturer or a service technician authorised by the manufacturer.
10. Never use this power supply if the safety cover is not in position correctly.
11. Do not use the unit if there is any sign of damage to the external tank or cover. Contact our technical service (++49-721-5606-172) immediately to replace or repair any damaged parts.
12. Never use the power supply in the presence of flammable or combustible material as fire or explosion may result.
13. Ensure that the power supply is only connected to an earthed power line. Do not cut and splice the power line. When removing the power cord from the wall, unplug it by holding the plug attachment and not by pulling the cord. Do not hold the plug with wet hands or gloves.
14. Please wear always protective gloves while working.
15. Do not fill the unit with running buffer above the maximum fill lines.
16. Do not move the unit when it is running.

CAUTION: During electrophoresis very low quantities of various gases are produced at the electrodes. The type of gas produced depends on the composition of the buffer employed.
To disperse these gases, make sure that the apparatus is run in a well ventilated area.

B. General Care and Maintenance

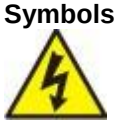
Clean the apparatus with hand warm water and a mild detergent only. Water at temperatures above 60 °C can cause damage to the unit and components. Often, a thorough rinse with distilled water is all that is required. Dry components with clean tissues prior to use, e.g. ROTH tissues (ref. 0087.1).

The tank should be thoroughly rinsed with warm water or distilled water to prevent build-up of salts but care should be taken not to damage the enclosed electrode and vigorous cleaning is not necessary or advised. Air-drying is preferable before use.

Important: Compatible detergents include dishwashing liquid, Hexane and Aliphatic hydrocarbons. The units should not be left to in detergents for more than 30 minutes.
Acrylic plastic is not resistant to aromatic or halogenated hydrocarbons, ketones, esters, alcohols (over 25 %) and acids (over 25 %), they will cause „crazing“ of the plastic and should not be used for cleaning. Do not use abrasive creams or scourers.
The units should never come into contact with the following cleaning agents, these will cause irreversible and accumulative damage: Acetone, Phenol, Chloroform, Carbon tetrachloride, Methanol, Ethanol, Isopropyl alcohol, Alkalis.
Before use, and then on a monthly basis, check the unit for any leaks at the bonded joints. Place the unit on a sheet of dry tissue and then fill with distilled water only to the maximum fill line. If any leakage is seen do not attempt to repair or use the apparatus, but notify Carl Roth GmbH + Co. KG immediately (+49/0721/5606-172).
The replacement platinum electrodes are partially shrouded for protection. However, when cleaning the main tank do not use cleaning brushes in the electrode area.
Ensure that the connectors are clean and dry before usage or storage.

RNAse Decontamination
Clean the units with a mild detergent as described above. Wash with 3 % hydrogen peroxide (H_2O_2) for 10 minutes. Rinse with 0.1 % DEPC (diethyl pyrocarbonate)-treated distilled water.
Caution: DEPC is a suspected carcinogen. Always take the necessary precautions when using.
ROTI®Nucleic Acid free (Art. No. HP69) and RNAse AWAY(TM) (Art. No. A998) may also be used.
Please consult the instructions for use with acrylic gel tanks.

Symbols



Indicates the potential for electric shock. Consult the manual to avoid possible personal injury or instrument damage.
Indicates disposal instruction.

DO NOT throw this unit into a municipal trash bin when this unit has reached the end of its lifetime. To ensure utmost protection of the global environment and to minimise pollution, please recycle this unit.

C. Installation Instructions

Place the runVIEW on a sturdy and level, dry surface. Plug the power cord into the back of the unit and mains power. Slot the electrophoresis tank so that it fits comfortably on the illumination platform within the base unit and fit the electrode cables into the lid as follows:

1. Note the position of the lid on the unit. This shows the correct polarity and the correct orientation of the cables, black is negative and red positive.
2. Remove the lid from the unit. Note if the lid is not removed, fitting the cables may result in un-tightening of the gold plug and damage to the electrode.
3. Screw the cables into the tapped holes as fully as possible so that there is no gap between the lid and the leading edge of the cable fitting.
4. Refit the lid.

D. Control interface

There are five buttons and four LED indicators on the faceplate. Each LED indicates the activation status or mode of operation of the unit.

1. To select Voltage, Current or Time

2. 

To switch blue light ON or OFF

3.  **Increase select**

4.  **Decrease select**

5. 

Start / stop the program

a. Setup Mode (before pressing RUN/Start)
Each LED light indicates each activated parameter. For example, the Voltage LED will be activated when selecting the desired voltage. Use 

to alternatebetween Voltage, Current and Time. Use  or  to adjust the value to the desired setting.

b. Operation Mode


Press to start electrophoresis. The LED light next to the Start/Stop button will light up to indicate the unit is in operation. Use 

to monitor the remaining time and changes in current and voltage.

c. Blue light
There are two modes of blue light illumination for visualisation of nucleic acid bands during electrophoresis.

1. Press the 

once to activate the blue light source for 10 seconds, to monitor the extent of band migration.
2. Press the 

button for 3 seconds for continuous blue light illumination and real-time visualisation of band migration.

E. Gel Pouring

1. Fit the casting dams over each end of the tray and place onto a level surface. The dams should be fitted so that there is no gap between the sides of the tray and the groove in the dams. This will ensure that there is no possibility of gel leakage.
2. Place the gel casting tray on a flat surface or use the Roth levelling table (Art. No. N854.1).
3. Insert the appropriate comb into the grooves. Melt agarose in electrophoresis buffer. **Cool the agarose down to 50-60 °C in order to avoid leaking of the gel during pouring and any damage to the gel tray.** Pour the agarose to the desired height (approx. 5 mm).
4. Do not move the casting tray until the gel has polymerised. We recommend further polymerisation of the agarose gel for approx. 10 min in the refrigerator. Place the gel casting tray and agarose gel into the electrophoresis chamber and submerse the gel in running buffer.

Note: We recommend using 0.5x TBE buffer for optimal signal-to-noise ratio in blue light transmission.

F. Performing real-time nucleic acid separation

1. With runVIEW placed on an even bench surface, switch it on using the ON/OFF button located at the rear of the base unit.
2. Place the gel tray containing an agarose gel in the middle of the electrophoresis tank in the correct orientation (the wells in which samples are to be loaded should be closer to the black/negative electrode)
3. Pour in enough of your electrophoresis buffer so that the gel is just submerged.
4. Load the DNA samples. We recommend use with the DNA loading and staining reagents ROTI®Load DNAstain 1, 2 or 3 SYBR® Green containing the non-toxic fluorescent dye SYBR® Green (see below).
5. Select your settings accordingly. In order to run the system at constant voltage, switch the mode button to the Voltage setting and alter the value to the desired setting as described in **Set Up Mode** (the Volt LED will be illuminated by this stage).
6. Use the same principle to run the system at constant current (in this case the Current LED will be illuminated instead).
7. For separations free of condensation, connect the cable from the runVIEW lid into the rear of the base to activate the extractor fan (IMPORTANT – see Note, next page).

Note: 1.) In order to operate under constant voltage or constant current modes, adjust the other parameter to the maximum value. For example, to operate under constant voltage, adjust the current to the maximum output of 300mA before running the power supply with the voltage set at the desired output setting. For constant runs, "time" should be set to zero. "Time" then counts up until the Start/Stop-button is pressed.
2.) We recommend using 0.5x TBE buffer for optimal signal-to-noise ratio in blue light transmission.

To Start the Run

1. Press the 

button to commence electrophoresis. Press the 

button again to pause or stop electrophoresis at any time.
2. Press the 

button to switch on the blue light source in order to view real-time DNA migration. In order to conserve the blue light lamp, the light will be there for 10 seconds only and switch off again by its own. Press the button for 3 seconds to switch constant light on.
3. Once electrophoresis is completed 'End' will show in the display accompanied by an alarm.

   Press the 

button again to cancel this.

Note:
1.) Blue light bands may only be seen in a darkened room or by shielding the unit from light by a dark cloth or paper.

2.) In order to conserve the blue light lamp, the light will be there for 10 seconds only, and then switch off again by its own. Press the button for 3 seconds to switch constant light on.
3.) By its very nature during electrophoresis the application of current through a gel leads to a build up of heat resulting in the accumulation of condensation within the runVIEW lid viewing pane. Excessive levels of condensation impair visualisation of the nucleic acid bands within the gel. Condensation may be cleared by using the fan extractor in runVIEW lid.

Using runVIEW as a blue light illuminator

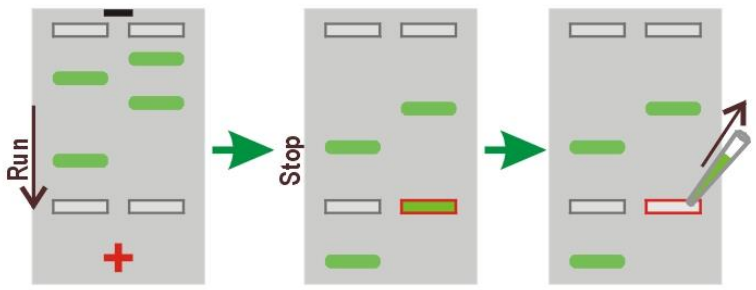
We recommend use with the DNA loading and staining reagents ROTI®Load DNAstain1 or 2 for blue light and UV-light excitation.

1. With runVIEW placed on an even bench surface, switch it on using the ON/OFF button located at the rear of the base unit.
2. Using gloved hands, place the gel tray containing the gel onto the illumination platform within the base unit and place the orange lid on top.
3. Switch on the blue light by pressing the Blue Light button located on the front panel. Any present DNA stained with ethidium bromide or ROTI®Load DNAstain should be immediately visible beneath the runVIEW lid.
4. Protective glasses are not necessary when viewing the blue light illuminator.

Note:
1.) Blue light bands may only be seen in a darkened room or by shielding the unit from light by a dark cloth or paper.
2.) In order to conserve the blue light lamp, the light will be there for 10 seconds only, and then switch off again by its own. Press the button for 3 seconds to switch constant light on.

Using runVIEW for DNA recovery

1. Cast a gel featuring two rows of wells with one matching pair of the preparatory combs supplied, before transferring the blue-light transparent gel tray to the PROfessional III tank located on the base unit.
2. Add sufficient buffer just to cover the gel, and remove the combs to load the DNA samples into the upper row of wells ('Loading' tier).
3. Replace the lid to connect the PROfessional III tank to the integrated power supply before applying the voltage as described in SETUP MODE. Press the Start/Stop button to start the run.
4. Press the Blue Light to switch on the blue LED illuminator.
5. Watch through the runVIEW lid's viewing pane as the samples migrate in real-time to the second row of wells ('extraction' tier).
6. Once the DNA bands of interest enter the 'extraction' tier, simply stop the power supply, remove the lid and harvest the DNA by pipette.
7. Upon harvesting, measure the volume obtained from the extraction well by pipette before performing ethanol precipitation using 1/10th volume of 3 M Sodium Acetate and 2x volumes of ice-cold 100 % ethanol. Spin using a micro centrifuge for 10' at maximum rpm.
8. Decant supernatant and perform a second centrifugation for 10 min. with ice-cold 70 % ethanol.
9. Decant supernatant and dry the DNA pellet at room temperature or using a Speedy vac
10. Once dry, resuspend the pellet in a small volume of distilled water or TE buffer, and store or use accordingly.



TIP: For extractions performed with **samples of low DNA amount**, a small piece of dialysis membrane may be inserted into the extraction wells ahead of elution. The paper may be washed by changing the salt concentration to release the DNA, whereas for the membrane, reversal of the power output cables in the base unit (i.e. red cable to the black outlet and the black cable to the red outlet) and application of the voltage for 15-60 seconds, should release the DNA from the dialysis membrane. For both techniques, the solution should be then removed from the extraction tier and ethanol precipitation performed as described steps 7-10.

Note:
1.) Blue light bands may only be seen in a darkened room or by shielding the unit from light by a dark cloth or paper.
2.) In order to conserve the blue light lamp, the light will be there for 10 seconds only and switch off again by its own. Press the button for 3 seconds to switch constant light on.
3.) By its very nature during electrophoresis the application of current through a gel leads to a build up of heat resulting in the accumulation of condensation within the runVIEW lid viewing pane. Excessive levels of condensation impair visualisation of the nucleic acid bands within the gel. Condensation may be cleared by using the fan extractor in runVIEW lid.

G. At the End of the Run

Turn the power supply settings to zero, turn off mains supply and disconnect the power leads. Remove safety lid at the end of the run and take gel tray out of the chamber for staining. Rinse the apparatus with distilled water only after the run (see section: B General Care and Maintenance). Ensure that the connectors are clean and dry before usage or storage.

NOTE: Make sure to take of current and disconnect the electrophoresis unit from Power Supply before opening the unit!

H. Accessories for ROTIPHORESE®-PROfessional III electrophoresis unit

Special lid for runVIEW system, green and red fluorescence	3077.1
Gel tray (w/o casting dams) 15 x 7 cm	3250.1
Gel tray (w/o casting dams) 15 x 10 cm	3251.1
Gel tray (w/o casting dams) 15 x 15 cm	3252.1
Gel casting dams (1 pair)	3262.1
Positive electrode	3247.1
Negative electrode	3248.1

Combs

Sample volume for a 5 mm thick gel							
	4 + 2	10	12	16	20	28	35
0.75 mm	91 µl	34 µl	30 µl	20 µl	16 µl	8 µl	7 µl
1.0 mm	122 µl	45 µl	41 µl	27 µl	21 µl	11 µl	10 µl
1.5 mm	182 µl	68 µl	61 µl	41 µl	32 µl	17 µl	15 µl
2.0 mm	243 µl	90 µl	81 µl	54 µl	43 µl	23 µl	20 µl

Wells	4 + 2	10	12	16	20	28	35
Thickness	Art. No.	Art. No.	Art. No.	Art. No.	Art. No.	Art. No.	Art. No.
0.75 mm	3263.1**	3266.1	3269.1	3270.1*	3276.1	3281.1*	3283.1
1.0 mm	3302.1**	3308.1	3309.1	3312.1*	3317.1	3332.1*	3334.1
1.5 mm	3339.1**	3347.1	3350.1	3365.1*	3368.1	3370.1*	3372.1
2.0 mm	3373.1**	3374.1	3378.1	3379.1*	3381.1	3382.1*	3384.1

*compatible with multi-channel pipettors
**comb with especially broad wells + narrow marker well (for preparative gels)

I. Accessories for ROTIPHORESE® PROfessional I electrophoresis unit

Special lid for runVIEW system, green and red fluorescence	3663.1
Power Supply Roth-MINI	2907.1
Power Supply EV1450	CP56.1

Further accessories see Professional I unit, Art. No. 2788.1.

J. Accessories for ROTIPHORESE® PROfessional II electrophoresis unit

Special lid for runVIEW system, green and red fluorescence	3680.1
Power Supply Roth-MINI	2907.1
Power Supply EV1450	CP56.1

Further accessories see Professional II unit, Art. No. 2799.1.

K. Additional Items and Reagents

Levelling table	N854

Agaroses:

Standard	3810
NEEO ultra-quality	2267
Agarose-Tablets	HP67
Broad Range (for all fragment lengths)	T846
GTQ (gene technique quality - for DNA elution)	6352
HR-PLUS (for fragments 100-3000 bp)	HP30
High Resolution (for small fragments 50-1000 bp)	K297
Low Melt (for gel elution and in-gel-applications, for fragments 500-20000 bp)	6351
LM/PCR (Gel elution of fragments < 1500 bp)	HP31
Super LM (particularly low melting temp., for fragments ≥ 1000 bp)	HP54
Synergel™ (Agarose additive for even better band resolution)	0184

Gel Loading Buffers:

ROTI®Load DNA 6x (with Glycerol / Ficoll)	X904 / X905
ROTI®Load DNA short run 6x (with Glycerol)	0095
ROTI®Load DNA 1x (with Glycerol)	0100
ROTI®Load DNA short run 1x (with Glycerol)	0099
ROTI®Load DNA small (with Glycerol)	HP03
ROTI®Load DNA orange 1 (with Glycerol)	HP04
ROTI®Load DNA orange 2 (with Glycerol)	HP05
ROTI®Load DNA tricolor (with Glycerol)	HP06
ROTI®Load DNAstain 1 SYBR® Green (for fragments > 500 bp)	1CN5
ROTI®Load DNAstain 2 SYBR® Green (for fragments 100-2000 bp)	1CN6
ROTI®Load DNAstain 3 SYBR® Green (for fragments < 500 bp)	1CN7

Gel Running Buffers:

ROTIPHORESE®- 10 x TBE-Buffer	3061
ROTIPHORESE®- 10 x TAE-Buffer	T845
ROTIPHORESE®- 10 x TAE-Buffer *light* (for gel elution)	0122

DNA Markers:

Please call ++49-0721-5606-0 for our brochure on the complete range of DNA Markers.

Staining Reagents:

Ethidium bromide solution 1 %	2218
Ethidium bromide solution 0.5 % in dropper bottle	HP46
Ethidium bromide solution 0.025 % in dropper bottle	HP47
Ethidium bromide dye	7870
ROTI®GelStain (green fluorescent dye, substitute for eth. bromide)	3865
ROTI®GelStain Red (red fluorescent dye, substitute for eth. bromide)	0984
SYBR® Green DNA dye (green fluorescent dye, substitute for eth. bromide)	1CN2
Methylene blue staining solution	0648
Methylene blue dye	A514
SEKUROKA® Decon Bags (for removal of 125 mg eth. bromide from solutions)	T856

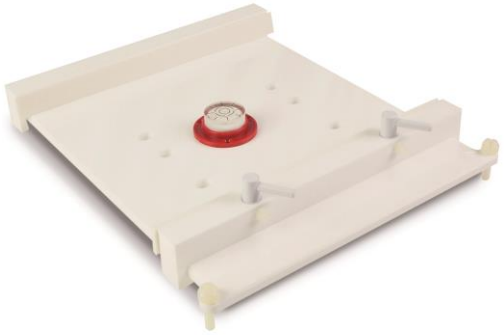
3688.1 ROTIPHORESE® PROfessional Flexicaster

External Gel Casting Unit

For use with the electrophoresis units PROfessional I-V

Casting unit for pouring gels outside the gel chamber, suitable for all PROfessional gel trays up to a size of 26 x 32 cm (W x L).
When using gel trays up to a size of 10 x 10 cm, 2 gels can be poured simultaneously (PROfessional I and II).

The level bubble allows an optimal levelling of the gels. Additional sealing is not necessary.



L. Troubleshooting and Maintenance

Each runVIEW system uses all solid-state components and should require no maintenance or recalibration under normal use. If the unit is to be returned for repair, contact our customer's service. Many operating problems may be solved by reading and following the instructions in this manual accordingly. Some suggestions for troubleshooting are given below. If these suggestions fail to resolve the problem, contact us for assistance. If troubleshooting service is required, please include a full description of the problem.

1. Check the troubleshooting section.
2. Call our Technical Service (++49-721-5606-172) or e-mail to info@carlroth.de
3. If it is necessary to return unit for repair, please contact our customer's service for decontamination formulas and shipping instructions. The unit will be repaired and returned to you as quickly as possible.

Problem	Cause	Solution
No bands seen in blue light	No DNA there	Check presence of DNA using a UV illuminator or methylene blue staining
	Too much light present	Darken the room or use a dark cloth or paper to shield the unit from light.
	Lid not used	Bands can only be seen through the orange runVIEW lid.
	Buffer suppresses bands	Faint bands are not seen when using 1x TBE buffer. Use 0.5x TBE buffer for electrophoresis.
No Display / lights	No AC power.	Check if the power supply is unplugged, or if the AC power source is a problem.
	AC power cord is not connected.	Check AC power cord connections at both ends. Use the correct cords.
	The fuse has blown.	Replace the fuse
Operation stops	Electrophoresis leads are not connected to the power supply or the electrophoresis unit; or the circuit is broken in the electrophoresis system.	Check the connections to the power supply and within electrophoresis system to make sure the connection is intact; check the electrodes to make sure they are intact. Close the circuit by reconnecting the cables. Press **START/STOP** to restart the run.
	High resistance due to tape left on a pre-cast gel, incorrect buffer concentration, or insufficient buffer volumes in the electrophoresis system.	Make sure that the tape is removed from the pre-cast gel, that the buffers are prepared correctly, and the recommended volume of buffer is added to the electrophoresis unit and is covering the gel.
 Error message	Over voltage (170 V safety limit reached or exceeded).	Press **START/STOP** button to clear the error message. Contact our service department if the problem persists.
 Message	No load is detected.	(1) Check the connections. (2) Check the buffer condition / buffer Level.
 Alarm message	Maximum power output reached (30 W).	Warning message for reference.

Complete electrophoresis system
ROTIPHORESE®PROfessional runVIEW 4849.1

Electrophoresis Station ROTIPHORESE®PROfessional runVIEW Base
Suitable for: Unit PROfessional III 4850.1

Electrophoresis Station ROTIPHORESE®PROfessional runVIEW Base MINI 1,
Suitable for: Unit PROfessional I 9958.1

Electrophoresis Station ROTIPHORESE® PROfessional runVIEW Base MINI 2,
Suitable for: Unit PROfessional II 9961.1

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