VARIABLE FLOW PERISTALTIC PUMP

Model D-25Vplus

Code 1.9747.40

MANUAL

January 2024

Marked CE

DINTER sa

c/ Encarnació , 123 -125. Tel. +34 932 846 962. Fax +34 932 104 307
e-mail: dinter@dinko.es www.dinko.es 08024 - Barcelona

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1- GENERAL INTRODUCTION

Peristaltic pumps pump all kinds of liquid substances without coming into contact with the mechanical elements as in other pumps. They are easy to use with minimal maintenance.

The pumped substance is propelled into an elastic tube by the vacuum generated by rotors that successively press and release the surface of the tube. The liquid passes directly from its container to another without any contamination and without recoil when the pump is stopped since the tube is pressed by the roller.

Some aggressive substances prevent the use of conventional pumps and make peristaltic pumps very useful for the transfer or dispensing of such substances.

Flow rates are obtained from 0,01ml/minute to 4000ml/minute.

A large number of tubes or hoses of different sizes are available made of materials resistant to various conflicting substances.

The following instructions are intended to ensure correct reception and use of the device, and the safety of the user. For this purpose, we recommend reading this manual in detail before proceeding to unpack the device and subsequent use.

For the correct conservation of the device, it is necessary to avoid installing it in areas with corrosive atmospheres or exposed to liquid splashes.

Avoid using the device when there is the possibility of generating explosive and flammable gas mixtures.

2- PACKING LIST

Description	Code	Quantity
Peristaltic Pump D-25V plus	1.9747.40	1
Connections set		1
Power cable		1
Instruction Manual		1

3- RECEPTION

To guarantee correct reception, use of the device, and the safety of the user, we recommend reading this manual in detail before proceeding to unpack the device and subsequent use and especially the following points:

3.1-THE MANUAL

This manual must be kept permanently within reach of the user of the equipment.

3.2-UNPACKING

Unpack the device, checking that the contents match the packing list.
Immediately notify any eventuality.

3.3-EXPLOSIVE MIXTURES

Avoid using the device when there is the possibility of generating explosive gas mixtures and flammable. The ATEX Directive is not contemplated.

3.4-RESPONSIBILITY

According to European regulation 89/655/EEC, the lack of adequate maintenance and the alteration of component, exempts the manufacturer from any responsibility for any damage that may occur.

3.5-REPAIRS

Devices to be sent to *DINKO technical services must* be **clean and disinfected** .
Otherwise they will be rejected and returned with shipping at the expense of the owner.

3.6-SIGNS AND SYMBOLS

Pay attention at all times to the danger warning signs and symbols that appear in this manual or on labels attached to the body of the Pump such as those shown below.

SIGN/SYMBOL	INTERPRETATION-MEANING
	Avoid contact of fingers with moving parts
	Danger-Risk-Caution
Before opening **DISCONNECT** **the network cable** **Before removing cover** **PULL-OUT plug** 	Before accessing the interior of the Pump, disconnect the power cable from the mains.
	Possible overheating - Do not touch
230V AC 50/60Hz	AC supply voltage
110V AC 60Hz	AC supply voltage
12V DC or 24V DC	DC supply voltage
	**Disposal of waste electrical and electronic equipment by users within the European Union.** It is not disposable as household waste. Deliver to the agency for recycling electronic equipment. Contact your local office, the store where you purchased the equipment or your household waste disposal service. Recycling helps conserve natural resources. Make sure it is recycled protecting human health and the environment.

4- DESCRIPTION

The D-25Vplus peristaltic pumps in this manual are provided with an easy-loading CF-4r head that allows access to the tube for extraction when it needs to be replaced due to wear or for sterilization.

Simply pull up the top of the head to load tubes.

They accept various tube sizes which, combined with speed regulation, gives a wide variety of flows, as can be seen in the flow table .

With the FULL key, No. 3 in the description of the front panel, the maximum engine speed is obtained in loading and purging operations.

Keys 1 and 2 allow you to choose the direction of rotation of the motor to reverse the flow.

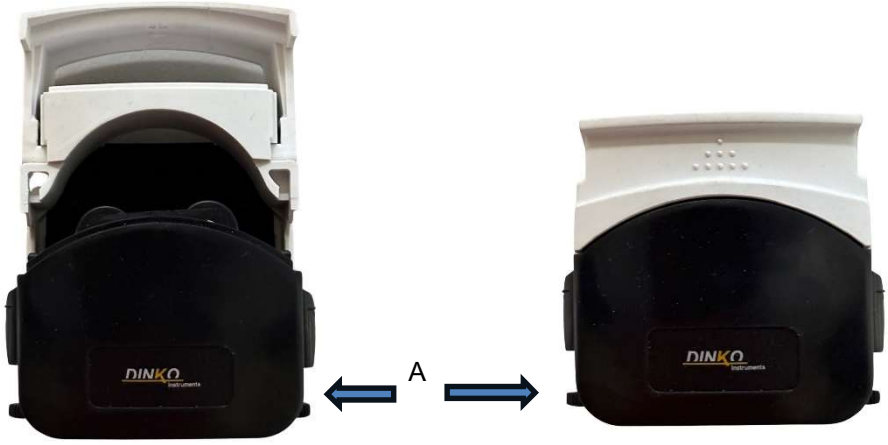
On the back there is the connection for the network cable with integrated fuse holder, connection for foot pedal and input for analog signal 0-10 V and 4-20 mA

Consult the dosage table and install the appropriate tube.

4.1 CF HEADS .

Head opening and adjustment.

For correct operation of the head and so that it does not make unnecessary noises, it is very important to properly adjust the two inner tube diameter adjustments that appear on both sides of the head.
Next, we are going to detail how they have to be adjusted:
Here we show a front view of the head:

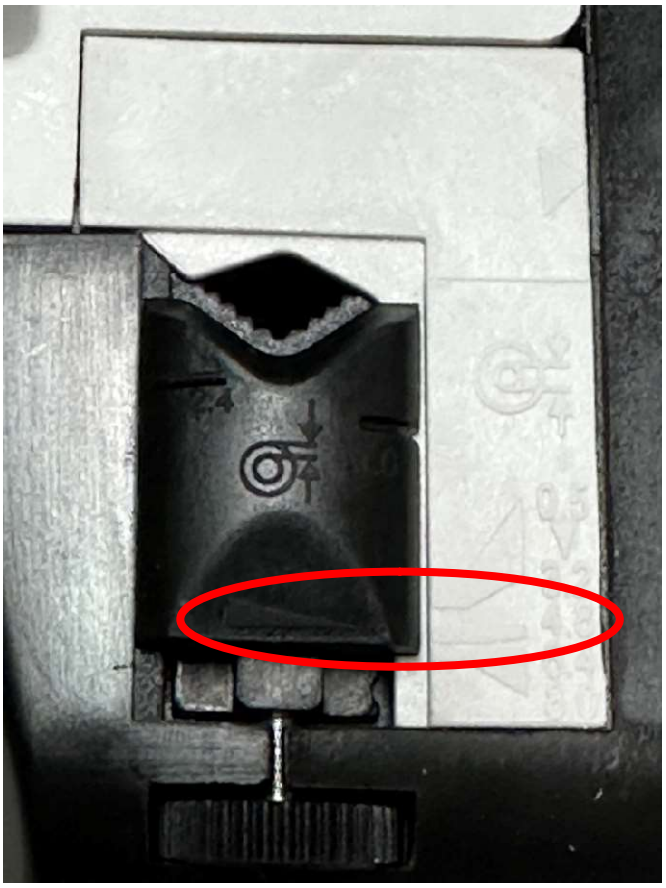


Open head Closed head

In the figure we have marked the adjustment wheels with the letter A.
Let's give an example for a tube with an inner diameter of 4,8 mm and a wall of 1,6 mm.
With the head closed, turn the wheel until the mark on the bottom of the moving part is at the height of the 4,8 mm mark, as shown in the following images:

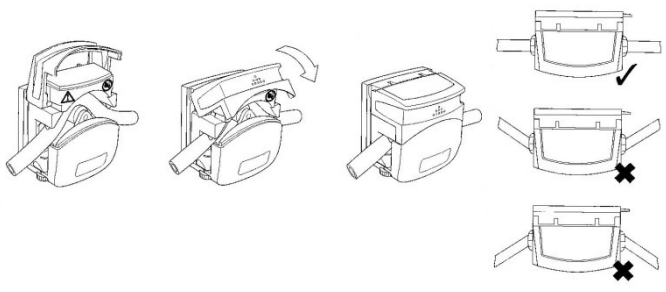
Side view:

Open head Closed head



In red we can see the correct position of how the mark on the moving part should be with the head closed. Check, by exerting a little pressure, that the moving part is located in the lowest possible position. This operation must be carried out on the two wheels, both the one on the right side and the one on the left side.
Once checked we can go and place the tube inside the head.

Tube loading.



X - Wrong position
V - Proper position

C COMPLEMENTARY HEAD CCF

The CF-4r head accepts several complementary CCF heads on its same axis of rotation.
The number of them is limited by the size of tube used in the head and the discharge pressure. See table for this purpose below these lines .

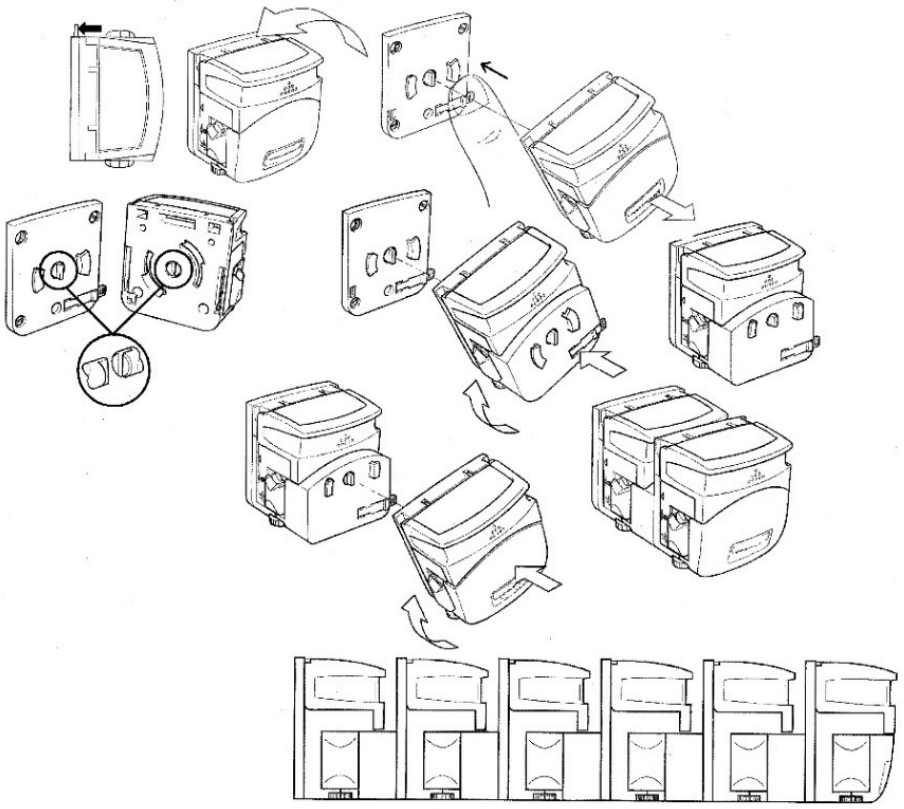
In the case of 2 heads, the typical cadence of the peristaltic flow is eliminated. To do this, when locating the complementary head, the rotor rollers must be oriented in opposition to the rollers of the main head.

When the headers are used as independent channels, each one will provide the flow corresponding to the tube installed in the headers.
If the flow is to be doubled, the two suction and discharge tubes can be installed directly in the feed and receiver containers.

The option of using a Y connection to join the tubes of both heads will allow the cancellation of the peristaltic pulse.

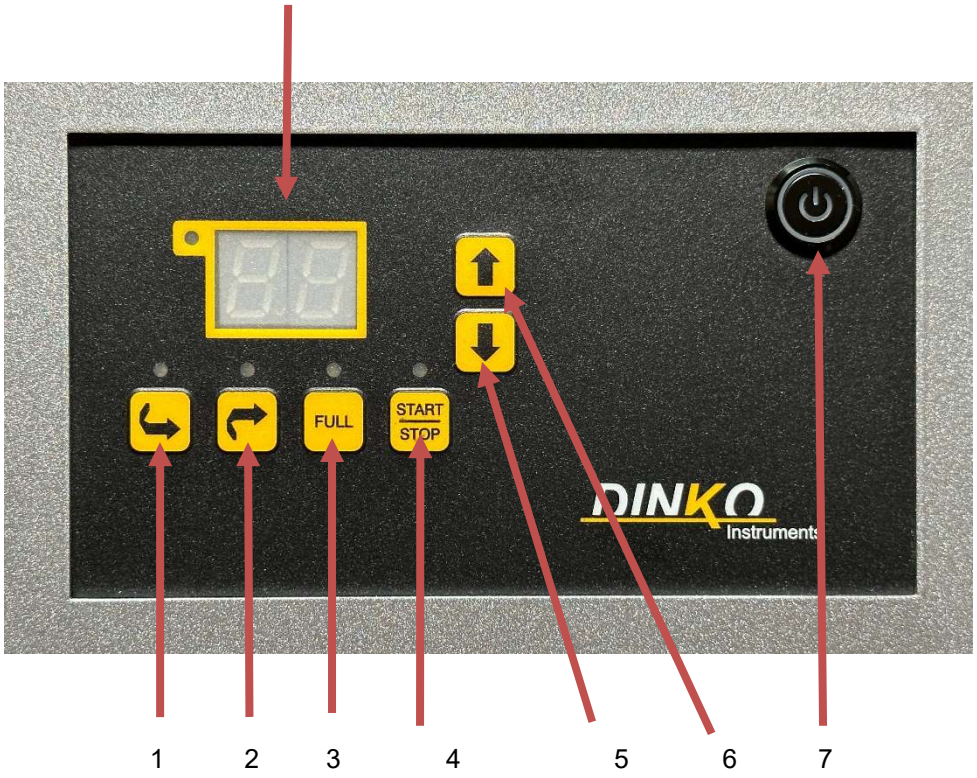
It must be remembered that the final discharge pipes and especially the suction pipes must be larger in diameter than the header pipe. If this is not possible, the total flow will be somewhat less than the expected theoretical amount.

CCF COMPLEMENTARY HEAD ASSEMBLY



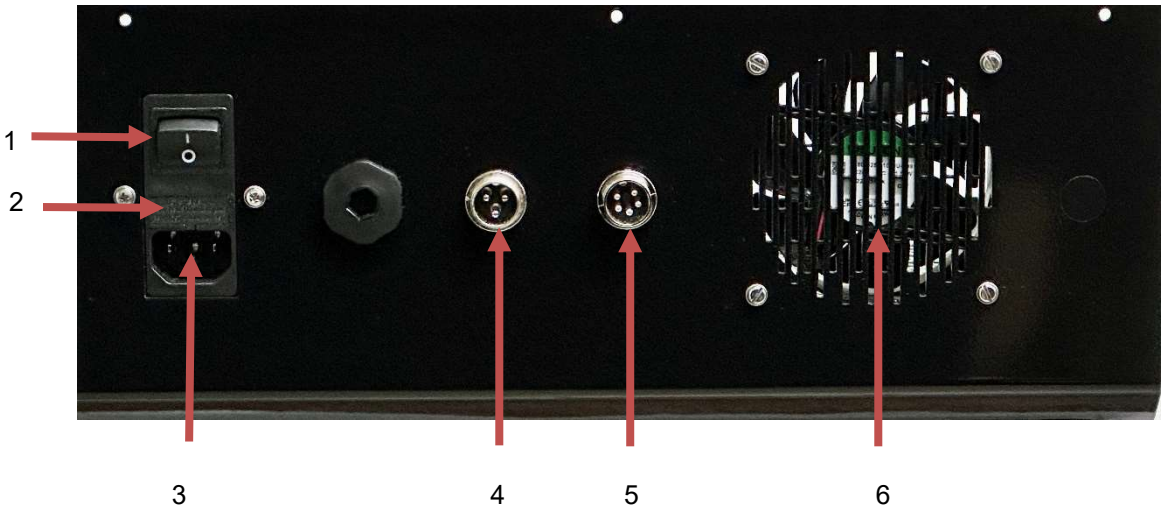
4.2- DESCRIPTION OF THE FRONT PANEL (photo a).

TO



A- digital reader
1- Anticlockwise rotation direction key
2- Clockwise direction key
3- Full key
4- Start /Stop key
5- Decrease key
6- Increase key
7- Programming switch (located between head and membrane keyboard)

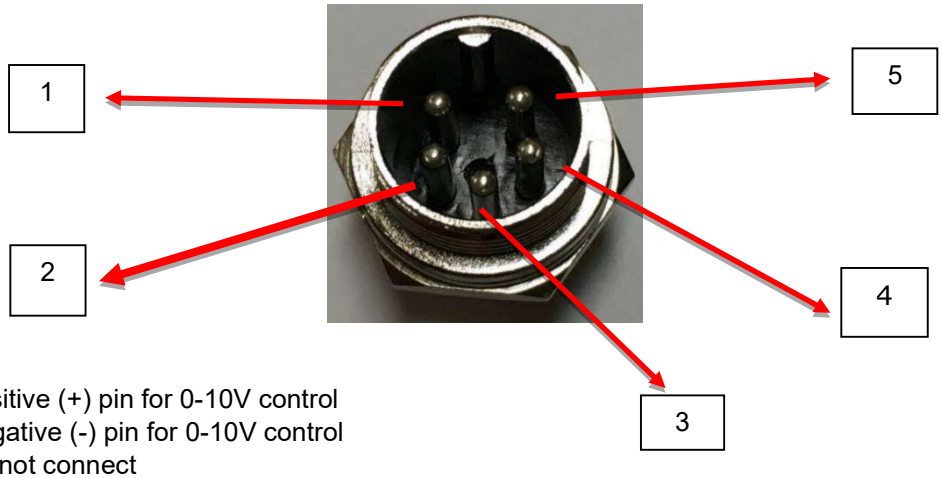
4.3- DESCRIPTION OF THE BACK PANEL (photo b).



1- Main ON/OFF switch
2- Fuse holder box
3- Take food
4- Voltage-free pedal input
5- 0-10V and 4-20 mA signal input
6- Fan

5 PIN CONNECTOR (0-10V / 4-20 mA) nº5 (photo b).

CONNECTION 0-10V and 4-20 mA

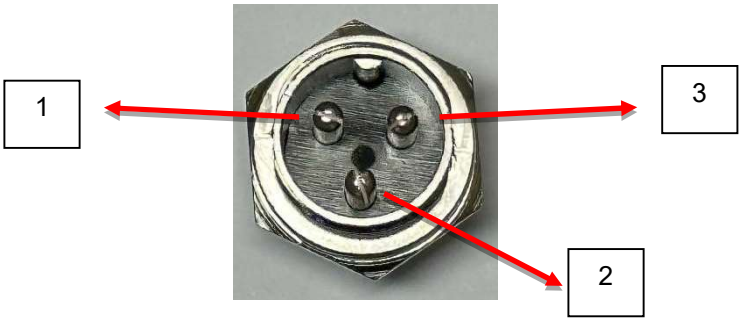


1- Positive (+) pin for 0-10V control
2- Negative (-) pin for 0-10V control
3- Do not connect
4- Positive (+) pin for 4-20 mA control
5- Negative (-) pin for 4-20 mA control

WARNING: Do not use the two inputs (0-10 V and 4-20 mA) simultaneously. It may cause malfunction or breakdown.

3 PIN CONNECTOR (Voltage-free open contact) nº4 (photo b).

ON/OFF CONNECTION (PEDAL)



1- Pin for voltage- free output connection (NO). Pump off.
2- Not connected, DO NOT USE.
3- Pin for voltage- free output connection (NO). Pump off.

If we physically join pins 1 and 3, the pump will start working.

5- START UP

Make sure that the mains voltage is between 110 and 230 V.
Connect the power cable to the rear plug and to the mains.
Consult the indicative flow table and install the appropriate tube.
See tips in the section on Changing tubes and Description of heads.
Select the desired function.

OPERATING MODES.

Available modes:

A- Pumping Mode.

B- Ramp Mode.
Programming.
Access to use of the Ramp.

C- Cyclic Dosing Mode.
Programming.
Access to use of Cyclic Dosing

D- Pedal dosing mode.
Programming.
Access to the use of Pedal Dosing.

· Pumping Mode.

This mode is used to work with the pump continuously, to transfer liquids.
If the pedal is connected, as long as it is pressed, the head will work, if it is released, the head will stop.

1- Activate the rear switch nº1 (photo a) O/1.
2- Activate the front switch nº7 (photo a), it will illuminate blue and the display will turn on .
3- Select the engine speed in % by pressing the decrease or increase keys #5 or #6 (photo a).
4- If it is necessary to change the direction of rotation, press keys nº1 or nº2 (photo a).
5- Press key nº4 (photo a) Start / Stop to start pumping. To stop pumping use the same key number 4 (photo a).
If we have the pedal connected, we can start pumping by pressing key nº4 (figure a) or by keeping the pedal pressed. Working with the pedal, the pump will stop when we stop pressing the pedal.
6- The equipment can be programmed so that if there is a power outage, when it is restored it will continue to operate at the programmed speed. To program this function and at the speed at which it should resume operation, press key nº4 (photo a) for 5 seconds. Its pilot light will flash and with keys nº5 or 6 (photo a) we will enter the speed at which we want it to operate if there is a power outage and it is restored, it will be memorized by simply pressing key nº4 (photo a) Start / Stop.

To facilitate loading, purging or cleaning tasks, press key 3 (photo a) Full. The speed will increase to the maximum progressively and we will see how it increases on the display up to 99. Pressing the Full key again will restore the programmed speed, lowering the display to said speed.

· Ramp Mode.

This working mode consists of achieving an increase or decrease in the speed of the head, from an initial value to a final value for a set time.
If the first value is less than the final value, there will be an increase, otherwise, if the programmed initial speed is greater than the final one, there will be a decrease.
The time we can program for the ramp is from 1 minute to 99 minutes.

Programming:

1- Activate the rear switch nº1 (photo a) O/1.
2- Keep keys nº2 and nº3 pressed (photo a) while activating the front switch nº7 (photo a). It will remain illuminated in blue and the yellow LED of key nº2 (photo a) will flash intermittently. The value on the screen indicates the programmed time for the ramp in minutes. Range: 1 to 99 minutes
3- If you wish to modify, press keys nº5 or nº6 (photo a) to set the new time.
4- Press key nº4 (photo a) Start / Stop to memorize the chosen value.
5- The initial speed of the ramp will then appear on the screen.
6- If you wish to modify, press keys nº5 or nº6 (photo a) to configure the new value of the initial speed in %
7- Press key nº4 (photo a) to memorize the chosen value.
8- The final speed of the ramp will then appear on the screen.
9- If you wish to modify, press keys nº5 or nº6 (photo a) to configure the new value of the final speed in %
10- Press key nº4 (photo a) to memorize the chosen value.
11- So that all the ramp parameters are memorized, press the front switch nº7 (photo a), the blue light and the equipment display will turn off.

Access to use of the Ramp:

From the previous position in which switch no. 7 (photo a) has the blue light off, to access the ramp mode and be able to work with the programmed ramp, you must keep key no. 2 (photo a) pressed while the front switch is activated nº7 (photo a). The blue light will turn on, the yellow LED of key 3 (photo a) will turn on and the display will show the initial speed of the ramp in % and the ramp will start. On the display we will see how the speed increases until reaching the programmed final speed in the time we have programmed.
All keys will remain inactive during the process.
At the end of the ramp, the head will stop. If we want to make another ramp, press any key.
To exit the ramp function, press front switch nº7 (photo a). The blue light and the display will turn off , and the pump will remain on standby waiting to work in the mode we choose.

· Cyclic Dosing Mode.

This work mode is used to be able to work with the pump running for a running time and stopping for a stop time, thus cyclically until we stop the equipment.
It is normally used to fill a fixed volume of several containers, having a stop time to be able to pass the end of the tube from one container to another.
The time that we can program, both on and off, is from 1 second to 99 seconds.
Before starting programming, we must do a series of tests to check what volume we want to dose, to know how long the pump should run and at what speed to achieve said volume.

Programming:

1- Activate the rear switch nº1 (photo a) O/1.
2- Keep keys nº1 and nº3 pressed (photo a) while activating the front switch nº7 (photo a). It will remain illuminated in blue and the yellow LED of key nº1 (photo a) will flash intermittently. The value on the screen indicates the running time in seconds.
   Range: 1 to 99 seconds
3- If you wish to modify, press keys nº5 or nº6 (photo a) to configure the new running time in seconds.
4- Press key nº4 (photo a) Start / Stop to memorize the chosen value.
5- The stop time will then appear on the screen.
6- If you wish to modify, press keys nº5 or nº6 (photo a) to configure the new stop time value in seconds.
7- Press key nº4 (photo a) to memorize the chosen value.
8- The engine speed in % will then appear on the screen.
9- If you wish to modify, press keys nº5 or nº6 (photo a) to configure the new speed value in %
10- Press key nº4 (photo a) to memorize the chosen value.
11- So that all the cyclic dosing parameters are memorized, press the front switch nº7 (photo a), the blue light and the equipment display will turn off.

Access to Cyclic Dosing:

From the previous position in which switch no. 7 (photo a) has the blue light off, to access the cyclic dosing mode and to be able to work with the programmed cyclic dosing, you must keep key no. 1 (photo a) pressed while operating the front switch no. 7 (photo a). The blue light will turn on, the yellow LED of key nº2 photo a) will turn on and the display will show the programmed dosing time and the cycle will start. On the display we will see how the time decreases until it reaches zero, then the stop time will appear and will decrease to zero, cyclically until we stop the equipment.
All keys will remain inactive during the process.
To exit the cyclic dosing function, press the front switch nº7 (photo a). The blue light and the display will turn off, and the pump will remain on standby waiting to work in the mode we choose.

· Dosing mode with pedal.

This work mode is used to be able to work with the pump running for a running time when we press the pedal and stopping when the time reaches zero.
It is normally used to fill a fixed volume of several containers, having control by means of the pedal when the head is started.
The time that we can program is from 1 second to 99 seconds.
Before starting programming, we must do a series of tests to check what volume we want to dose, to know how long the pump should run and at what speed to achieve said volume.

Programming:

1- Activate the rear switch nº1 (photo a) O/1.
2- Keep keys nº1 and nº3 pressed (photo a) while activating the front switch nº7 (photo a). It will remain illuminated in blue and the yellow LED of key nº1 (photo a) will flash intermittently. The value on the screen indicates the running seconds. Range: 1 to 99 seconds
3- To modify, press keys nº5 or nº6 (photo a) to configure the new running time.
4- Press key nº4 (photo a) Start / Stop to memorize the chosen value.
5- The stop time will then appear on the screen.
6- If you want to work with the pedal, press keys #5 or #6 (photo a) to set the stop time value to 0 seconds.
7- Press key nº4 (photo a) to memorize the chosen value.
8- The engine speed in % will then appear on the screen.
9- To modify, press keys nº5 or nº6 (photo a) to configure the new speed value.
10- Press key nº4 (photo a) to memorize the chosen value.
11- So that all the cyclic dosing parameters are memorized, press the front switch nº7 (photo a), the blue light and the equipment display will turn off.

Access to dosing with pedal.

Connect the pedal to the rear three-pin connector #4 (photo b).
From the previous position in which switch No. 7 (photo a) has the blue light off, to access the pedal dosing mode and be able to work with the programmed dosage, you must keep key No. 1 (photo a) pressed while operating the front switch no. 7 (photo a). The blue light will turn on and the programmed dosing time will be shown on the display .
When we press the pedal, the time will begin to decrease until it reaches zero and the programmed dosage will be carried out. When it reaches zero, the head will stop until we press the pedal again.

You have to press the pedal, not hold it down.

All keys will remain inactive during the process.
To exit the pedal dosing function, press the front switch nº7 (photo a). The blue light and the display will turn off . The pump will remain on standby waiting to work in the mode we choose.

NOTE:

While using the 0-10V and subsequent 4-20mA analog input, the ramp and cyclic dosing modes are not accessible.
The pedal connection is active during use of the pedal pump and cycle function.
When using the 0-10V / 4-20mA regulation, regulation keys 5 and 6 remain inactive.

ANTI-DRIP SYSTEM
Programming the anti-drip system

1- Turn off the pump using the front switch (7)
2- Keep the Full (3) and Start (4) keys pressed while starting the pump by pressing the front switch (7)
3- The LEDs for keys 1 and 2 will light up intermittently.
4- A value appears on the screen (A) indicating the degree of anti-drip retreat on a scale from 0 to 40.
5- Using keys 5 and 6, select the desired value and once obtained, validate it by pressing the Star /Stop key (4).

The anti-drip is applicable in manual, cyclic and pedal modes. Not applicable for ramps

6- CHANGE OF TUBES

Press the OFF switch. Extract the tube according to the instructions described in the “Description” and “Heads” section.

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When the new tube is installed, it must be centered over the rollers to prevent the rotor from pinching it.

The CF-4r and CCF heads have a spring-loaded retainer on the sides where the peristaltic tube enters and exits that holds the tube in position.

In general, new tubes can lengthen during the first 30 minutes of operation. If this occurs, they must be tightened again to avoid unexpected breakage. To detect elongation or insufficient fixation of the tube to the head, it is useful to conveniently mark the tube with a marker.

Because the friction of the tubes with the rollers increases with the diameter of the tubes, the minimum adjustable speed increases the larger the diameter of the tube.

It is not advisable to use the lowest observed speed, even if the motor starts, since at any moment it can stop and cause the regulation circuit to overheat, which could break down if it remains in this situation for a long time. It is preferable to slightly increase the minimum speed observed.

When using two CF heads at the same time, it may be necessary to limit the diameter of the tubes to be used, especially with high hardness tubes.

The pump supply and discharge pipes can have any wall thickness, but not the pipe installed in the head, whose wall must be 1.6mm.

The silicone tubes supplied with each pump are medical/food grade according to FDA and USP standards, autoclavable at 120º C, with peristaltic use range up to 80º C and medium duration.

Other materials available are:

The most mechanically resistant tubes are PHARMA, TYGON L ®, TYGON A-60-C ®, TYGON A-60-G ® and, of medium duration, SILICONE and VITON, but durability also depends largely on the chemical nature of the tube. pumped liquid, pressure, existing temperature and naturally the engine revolutions.

Proper choice of tube inner diameter avoids the demand for higher revolutions of the peristaltic pump motor with a small diameter tube and decreased tube life.

THE AVAILABLE MATERIALS ARE:

PHARMA

Autoclavable multiple times.
Sterilizable by ETO and Gamma **.**
Food-medical grade, USP class VI, 21CFR 177.2600 and FDA. Not hemolytic.
Excellent resistance to chemicals.
ISO 10993. Low permeability and good abrasion resistance.
Long duration.
Use temperature, -51ºC to 132ºC .
Beige.

SILICONE

Autoclavable .
The most versatile tube. Platinum Cure quality silicone .
Average duration.
Medical/Food Grade. Excellent biocompatibility.
Maximum temperature. 140ºC.
Translucent.

TYGON A-60-C ®

Autoclavable multiple times.
Food grade.
Long duration.
Resistant to acids, alkalis, oxidizing agents.
Use temperature: -59ºC to 135ºC.
Beige.

TYGON A-60-G ®

Autoclavable
Compatible with Ozone, UV light and disinfectants .
Great resistance to fatigue and abrasion.
Resistant to acids, alkalis and alcohols.
Use temperature -59ºC to 135ºC.
Black color.

VITON ®

Autoclavable
Suitable for acids and non- acetonic solvents .
Maximum temperature 300ºC.
Black color.

7- ORDERING INFORMATION

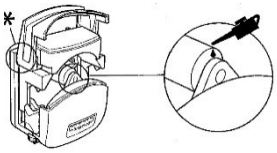
Code ▼	engine rpm	Head	Article
1.9747.40	330	CF-4r	Complete peristaltic pump
1.9740.02			Foot switch (pedal).

Tubes and other elements for peristaltics see pages 15 to 18

8- MAINTENANCE-SPARE PARTS

Before proceeding with any examination or repair of the device, it is necessary to disconnect the mains socket.
All initiatives must be carried out by qualified personnel to avoid greater harm.

Entrust your device to a technical service authorized by *DINKO Instruments.*



The engine and its block do not require lubrication, so they do not have maintenance.
The rotor bearings are self-lubricating, but it is advisable to lubricate them lightly with silicone grease ref. 8.0030.03 or similar from time to time next to the rollers, especially in the CF heads if they have been washed. *Also grease the lever to prevent wear. See Figure

The head tube must be replaced periodically in a systematic manner to avoid the inconvenience of breaking it while the pump is in full operation.

Code	- Description
1.0078.01	CF-4r head
1.0078.XX	Complementary head - request code
1.0060.30	Main control circuit.
1.8093.21	Power supply 100-24.
1.9740.02	Foot switch.
1.0080.01	Engine 330 rpm.

Calibrated tube codes 1.6mm wall, 1 meter

Tube ▼ / internal Ø ►	0.5mm	0.8mm	1.6mm	3.2mm	4.0mm	4.8mm	6.4mm
Pharma		1.8801.08	1.8801.16	1.8801.32		1.8801.48	1.8801.64
Tygon A-60-C ®			1.8740.16	1.8740.32			
Tygon A-60-G ®			1.8750.16			1.8750.48	1.8750.64
Silicone	1.8760.05	1.8760.08	1.8760.16	1.8760.32	1.8760.40	1.8760.48	1.8760.64
Tygon L®			1.8770.16	1.8770.32		1.8770.48	1.8770.64
Viton®		1.8790.08	1.8790.16	1.8790.32		1.8790.48	1.8790.64

Figure 2 shows the connectors used for the connections corresponding to tubes with an internal diameter of 0.5 and 0.8 mm.

Figure 2

Stainless steel capillary tube connector for 0.5mm tube. Code 1.0077.23*
Stainless steel capillary tube connector for 0.8mm tube. Code 1.0077.26*

*Bag of 10 units

Important: The head tubes should be lightly greased with silicone grease to extend their life and facilitate starting at low rpm.

Silicone Grease, 50g for lubricating peristaltic tubes. Code 8.0030.03

9- ACCESSORIES

9.1 Scale for calibration of flow rates and dosages .

Reproducibility 0,1 g. Capacity 600g. Code 1.9812.02

To measure the dosed quantity in the Calibration process of peristaltic pumps, it is very effective to use a precision scale with digital reading.

has a density of “1” there will be no difference between grams and milliliters. Otherwise, calculate the density by weighing a quantity of the liquid with the help of a test tube, for example, 25 ml, previously weighing the test tube on the balance.

Divide the weight indicated on the digital reader of the scale in grams by the milliliters contained in the test tube to obtain the density according to the relationship,

D= M / V.

There is always the option to Calibrate the pump directly based on weight instead of volume.

Characteristics:

♦ Mono digital reading plate, with highly visible backlit LCD screen.

♦ Easy use and great robustness with ABS casing and airtight, moisture-proof membrane keyboard

♦ Stainless steel plate, 157x128mm ♦ External auto calibration ♦ Measurement units: grams, pounds and ounces

♦ Continuous tare up to 600 g ♦ Power supply 230V 50/60Hz ♦ Non-slip rubber feet

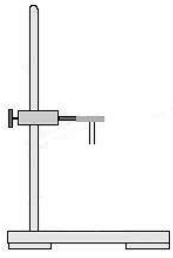
♦ Working temperature: from +5ºC to +40ºC. Maximum use humidity, 85% RH

9.2 Graduated cylinder, 25 ml. Code 1.9808.20

9.3 Silicone Grease, 50g. Lubrication of peristaltic tubes. Code 8.0030.03

9.4 Foot support. Code 1.8003.08

Useful as a support for the dosing tube/tip. Foot: 150 x 70cm. Bar, height 70cm. Sliding support for dispensing tip.



CONNECTORS FOR PERISTALTIC TUBES

9.5 Reducing Connectors - Splice/Equal Ends, Polypropylene

For tubes with 1.6/3.2 mm ID. Code1.0080.15
For tubes with 3.2/4.8 mm ID. Code 1.0080.18
For tubes with 4.8/6.4 mm ID. Code 1.0080.05
For tubes with 6.4/8 mm ID. Code 1.0080.14
For tubes with 8/12.7mm ID. Code 1.0080.20

9.6 Straight connector for splice/reducer, polypropylene

Straight connector / reducer Ø 4-5-8 to 7-10-12mm. Code 1.0120.31

9.7 Y-shaped connectors, polypropylene

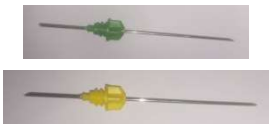
Y shape connector, 6mm. either. Code 1.0120.26
Y shape connector, 8mm. eithher. Code 1.0120.48
Y shape connector, 10mm. either. Code 1.0120.32
Y shape connector, 12mm. either. Code 1.0120.33

9.8 316 stainless steel tube connectors - Splicing and dosage

Straight splice 40 mm length
Tube for peristaltic tubes 0.5 and 0.8 mm Ø, 25 Units. Code 8.0056.14
Tube for peristaltic tubes 1.6 mm Ø, 25 Units. Code 8.0056.06
Tube for peristaltic tubes 3.2 mm Ø, 25 Units. Code 8.0056.08
Tube for peristaltic tubes 4.8 mm Ø, 25 Units. Code 8.0056.10
Tube for peristaltic tubes 6.4 mm Ø, 25 Units. Code 8.0056.12

Dosage 130 mm length with a bevel.

Dosing tube for peristaltic tubes 0.5 and 0.8 mm Ø, 10 Units. Code 8.0056.15
Dosing tube for peristaltic tubes 1.6 mm Ø, 10 Units. Code 8.0056.07
Dosing tube for peristaltic tubes 3.2 mm Ø, 10 Units. Code 8.0056.09
Dosing tube for peristaltic tubes 4.8 mm Ø, 10 Units. Code 8.0056.11
Dosing tube for peristaltic tubes 6.4 mm Ø, 10 Units. Code 8.0056.13



Length 38mm
Micro-tube 0.8 mm OD, 10 Units. Code 1.0077.23
Micro-tube 0.9 mm OD, 10 Units. Code 1.0077.26

Clamping flange P. Code 1.0120.01
Clamping flange G. Code 1.0120.12

9.9 Anti floats 304 stainless steel for suction tubes

For peristaltic tubes with 1.6 and 3.2 mm inner diameter. Code1.0303.10
For peristaltic tubes with an inner diameter of 4.8 mm. Code 1.0303.11
For peristaltic tubes with an inner diameter of 6.4 mm. Code 1.0303.12
For peristaltic tubes with an inner diameter of 8.0 mm. Code 1.0303.13
For peristaltic tubes with an inner diameter of 9.6 mm. Code 1.0303.14
For peristaltic tubes with an inner diameter of 12.7 mm. Code 1.0303.15

9.10: Stainless steel dosing tubes with non-return valve

For 3.2 and 4.8 mm Ø tubes int . Stainless steel tip 4 mm OD 1mm TW. Code 1.0302.10
For 4.8 and 6.4 mm Ø tubes int . Stainless steel tip 6 mm OD 1mm TW. Code 1.0302.11
For 6.4 and 8 mm Ø tubes int . Stainless steel tip 8 mm OD 1mm TW. Code 1.0302.12
For 8 and 9.6 mm Ø tubes int . Stainless steel tip 10 mm OD wall 1mm TW. Code 1.0302.13

10- CHANGING FUSES

The fuse holder box is part of the power supply base located at the back of the pump. See Figure.

Main switch

Fuse holder box

power base

Pry with a screwdriver between the central part of the fuse holder box and the top part of the power supply base to remove the fuse holder box. The box remains attached without being completely removed. There are two fuses.

Press the box inwards to restore its original position.
Remember that you have already used the spare fuse.

11- FLOW TABLES

Indicative regulation intervals for each tube diameter

Code	rpm	Head	0.5m	0.8m	1.6m	3.2m	4.0m	4.8m	6.4mm	Tube Ø
1 **.9747.40**	330	CF-4r	0.5-7.0	1.3-18	7.5-79	20-257	32-404	75-600	130-1100	

Approximate values without outlet backpressure with water under normal temperature conditions.

12- WARRANTY

12.1 DURATION:

The warranty is established for a period of 1 year from the date of commissioning of the device as long as the warranty card is returned to us within 8 days following said commissioning.
Without this condition the guarantee will not be valid.

12.2 SCOPE OF WARRANTY:

The guarantee is given against manufacturing and material defects for an average of 40 hours of work per week. The guarantee is reduced proportionally to the increase in working hours.

Repairs will be carried out in our factory. Otherwise the warranty will only include the replacement of defective elements .

DINKO will not be responsible for transportation costs, nor will it assume responsibility for the consequences caused by the immobilization of the device .

The free replaced parts remain our property, reserving the right to request their return, free of shipping to our home.

Repairs or replacement of parts during the warranty period do not extend the initial warranty.

Our liability is limited to the attached warranty and not to possible accidents to people or other things.

Any alteration of the device by the user voids the warranty.

13- “CE” DECLARATION OF CONFORMITY

DINTER SA *DINKO Instruments* c/ Encarnació , 123-125 / 08024- Barcelona

Declares that the articles mentioned in the attached list, to which this declaration refers, comply with the essential safety requirements of the applicable European Directive:

- Low Voltage Directive Directive D2006/95/EEC of December 12 , 2006

- Essential requirements of Annex I of the Machinery Directive 2006/42/CEE of May 17 from 2006

Electromagnetic Compatibility Directive
December 15 , 2004

- Safety for electrical measurement, control and laboratory devices. Requirements relating to EMF. EN 61326

- Safety rules for electrical measurement, control and laboratory devices. Part I. General regulations EN 61010-1

However, the user must observe the assembly and connection instructions indicated in the technical instruction catalogues.

Name	J oan A. Bravo	Josep X. Sensada
Post:	Technical Director	Responsible for Quality
Signature		

Model: D-25Vplus Peristaltic Pump. Code 1.9747.40

OTHER *DINKO APPARATUS* / *OTHER DINKO APPARATUS*

- Blenders-Homogenizers

- Colorimeters

- Conductivity Meters

- Dosing Pumps

- Extractor for meat analysis

- Heating Plates

- Infrared Stoves

- Kits for water analysis

- Magnetic Stirrers

- Metallic block heaters

- Microscopes

- Nephelometers

- Orbital Shakers

- Oximeters

- Peristaltic Pumps

- pH-meters

- Photometers

-Respirometers

- Rod Stirrers

- Rotary Stirrers

- Sand Baths

- Spectrophotometers

- Temperature Controllers

- Timers / *Timers*

-Trichinoscope - TriquiVisor

- Turbidity Meters

- Turn dishes

- Vacuum Pumps