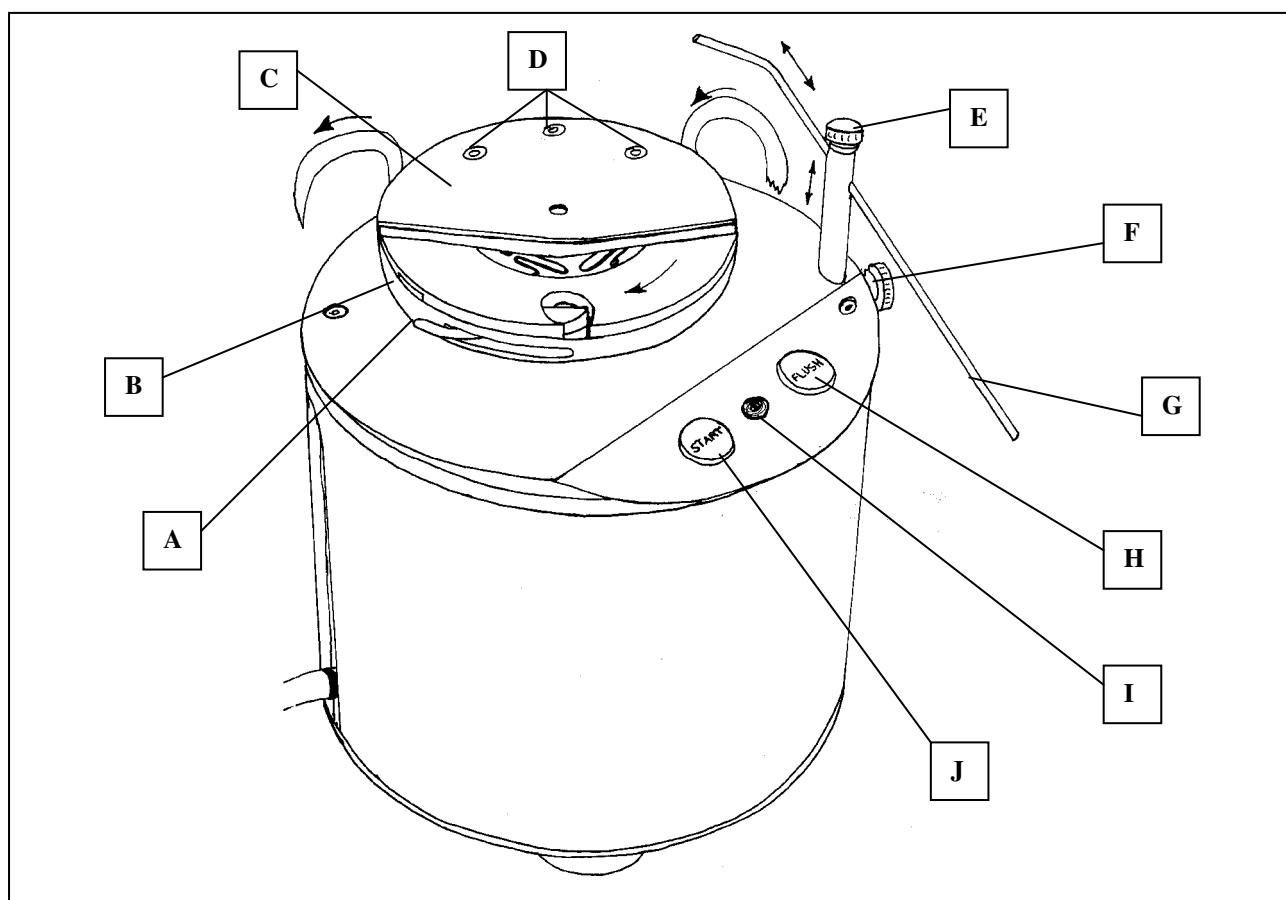


OPERATOR MANUAL

SIPPERPUMP

TYPE: P/N OD-SIPPER-12



- A - Lock for the roller track
- B - Roller track
- C - Upper plate
- D - M 5 unbraco screw
- E - Screw for adjusting uptake tube
- F - Screw for adjusting height of uptake tube
- G - Uptake tube
- H - "FLUSH" button for flush programme
- I - Pump action light
- J - "START" for starting pump followed by autostart of photometer

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GENERAL

IMPORTANT!

For proper use of the sipper pump please read the following very carefully.

If the pump does not function properly after having adhered to the procedures described in the trouble shooting section please contact the supplier

Please note that the pump is not intended for and must not be used for infusion or other means of direct contact with patients.

The pump is controlled via two button (Start and Flush) placed on top of the unit. Current condition is shown by the lamp placed between the two buttons.

The operating time (s) of the different functions can be set via the pump control programme on the connected PC.

Via menus in this programme the fixed times for Aspiration, Pause and Flush can be changed and stored.

The Start and Flush functions can also be activated via external contacts on a Mini DIN plug.

The photometer is automatically activated from the pump via a 3.5 mm standard jack plug.

Start

When pressing **Start** following action takes place:

1. The pump starts and runs for a set number of seconds (max. 300 sec.).
2. When the pump stops a delay for a set number of seconds is activated (max. 300 sec).
3. Upon end of the delay-time the photometer is activated with a start pulse via 3.5 mm Jack "OUT" (J4).

Flush

When pressing **Flush** following action takes place:

1. Pump is started and runs for a set number of seconds (max. 300 sec.).

Emergency stop

1. Pressing one of the buttons "FLUSH" or "START" during the pump cycle will stop the pump immediately and the unit returns to the pre-START status called "READY"

Showing pump action

- | | |
|--------------------------------|-----------------------|
| 1. Ready | Constant green light |
| 2. Pump runs (Start activated) | Flashing green light |
| 3. Pause | Flashing red light |
| 4. Pump runs (Flush activated) | Flashing yellow light |

Installation

Upon receipt check the pump possible transport damages and check that the specs for current and power comply with local settings.

Press the 12 volt DC power supply into the pumps 12 volt DC mains socket.

Temperature around the unit must meet the required (0 - 40°C).

Connections

The pump is connected to the power outlet to the photometer and to the PC.

None of the signal leads must be more than 3 metres.

The nine pole D-sub (J3), have to be covered with a cap, or connected to the PC.

Tubing

The best pump tubing is silicone rubber tubing with a wall thickness of 0,8 - 1,0 mm and max. 5 mm outer diameter. All tubes designed for peristaltic pump can be used in the pumphead as long as the dimensions are as stated above.

Calibrated pump tubing produced specifically for peristaltic pump give the best performance.

Mounting of the pump tubing

Turn the rollertrack lock (A) and draw the roller track (B) out of the channel by means of the handle. (See page 1).

Place the pump tubing in position in the channel, and then press the roller-track (B) in position in the channel and lock the roller-track by means of the handle (A).

When using tubing with an inner diameter less than 1.0 mm the tubing is pulled approx. 5 mm out at the tube holder. This ensures that the tubing is correctly in place.

Correct roller pressure and fixation of the tubing is automatic.

Technical data - hardware:

Roller speed: approx 120 rpm.

Temperature: 0 - 40 °C

Power supply: 100 to 240 50/60 Hz. 15 W.

Pump unit: 12 volt DC

Dimensions: Ø 155 x H 160

Weight: 1,7 kg.

Outside diameter: Ø 96 mm

Roller diameter: Ø 60 mm

Max. pump pressure: 1,5 kg/cm² (15 meter VS)

Type: 105.B.1 with 2 pressure rollers. For tubing to max. ID 3 mm. Wall thickness 0,8 - 1,0 mm.

Tube I.D. mm	0,5	1,0	1,5	2,0	2,5	3,0
ml per sec.	0,060	0,222	0,500	0,888	1,400	2,000

TROUBLE SHOOTING

If pump does not work check following:

1. Check powersupply according to specs.
2. Check cables and connections; check if connected equipment is ON
4. Check for faults in motor, pcb or gear.
5. Check for obstruction of tubing and check for foreign bodies between the pump-wheel and roller-track.

Uneven and unstable flow.

1. Poor quality of tubing (see tubing page 4).
2. Compressed tubing (worn out tubing).
3. Faulty roller wheel.
4. The roller wheel press is out of alignment.
5. Rollers are stuck (lubricate with thin oil).
6. The roller wheel press is stuck due to dirt.
(see De-mounting pump channel page 6, 7).

Tubing "travels" through pump

1. Wrong tubing quality (see tubing page 4).
2. Dirt between tubing holder and tubing.
3. Tubing holder is stuck due to dirt.
(see maintenance page 5 pt. 2-4).

Tube breakage

1. In case of tube breakage and liquid spill disassemble and clean the pump channel
(see De-mounting pump channel page 6).
2. Upon spill of hazardous and/or corrosive liquids disassemble and thoroughly clean components.

IMPORTANT: Disconnect from power outlet before any servicing.

Maintenance

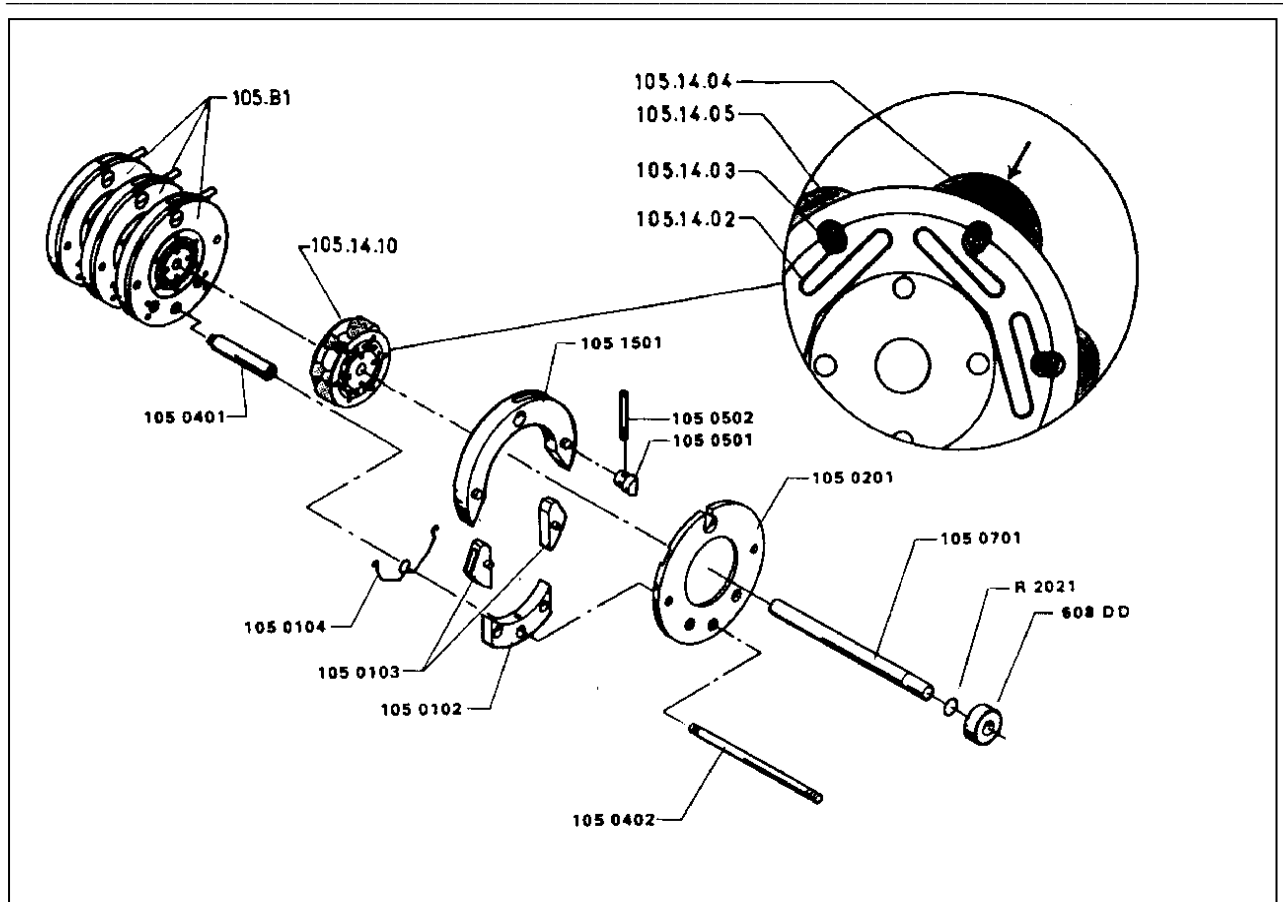
1. Bearings of the pump, the motor and the gearbox are permanently lubricated and will need no maintenance
2. Frequently check if tube holders 105.01.03 can move freely
3. Spring 105.01.04 should be able to press tube holders 105.01.03 flush with the outer edge of the assembly without tubes in place
4. If tube holder 105.01.03 is stuck or difficult to remove clean assembly
(See De-mounting pump channel page 6).

De-mounting of pump channel

1. Dismantel the pump channel by unscrewing the screws (D) by means of a M 3 unbraco key (see page 1).
2. Plate (C) is removed from the channel
3. The complete channel can now be removed from pump unit. After removing the guide bushes 113.06.02 the channel will be completely separated. **OBSERVE:** Avoid tools that might scratch the components.
4. Check and clean the roller wheel.
5. Check if pressure roller and lead roller move easily in their bearings.
6. When force is applied on the pressure roller the spring should easily be able to press the roller out again.
7. All moveable components are lubricated with thin oil.
8. Check and clean all other parts of the pump channel.
9. All components except the roller are cleaned in warm soap water.

Mounting the pump channel

1. The pump channel is placed on the front plate ensuring that all components fit.
2. If there, after mounting the channel, are obstructions to place the roller-track in the channel, the centre screw is tightened slightly more than the two other screws.
3. Try if tube holders 105.01.03 can be moved easily back and forth.



Pump Channel TYPE 105.B1

SIPPER SETUP PC-SOFTWARE

INSTALLATION

Set-up.

If software is supplied, do as follows:

- Choose **Start, Run** and find the: Setup.exe
- Set-up runs the programme
- Follow guidelines on the screen
- If appropriate change path to run-time, see below

Set-up suggests installation in **C:\SIPPER**, and if appropriate installation of run-time system in **C:\CVIRTE**. These paths can be changed during the installation

If appropriate the run-time system can be placed under the Sipper path: **C:\SIPPER\CVIRTE**

During installation a folder is installed on the Program Start menu by name of **Sipper System**. In this folder are two programmes:

1. Sipper System. Set-up for pump parameters
2. Uninstall Sipper System to remove Sipper System from the PC

If appropriate the Sipper System icon can be copied to the Desktop or into a special photometer folder

SETUP OF PUMP PARAMETERS

Connecting the Sipper pump

Connect a O-modem cable (see details below) between the Sipper Pump 9-pole D-Sub plug and a free COM-port on the PC. During the installation the defaults to COM2:

Programming the pump parameters

1. Switch on the Sipper pump and check connection of communication cable
2. Start Sipper Set-up programme
3. On the screen a panel is now shown. If everything is OK and the Sipper pump is connected, 3 time values with each a green button are shown
4. If during start or when activating the **Refresh all** button one or more error messages appear the Sipper pump is not connected properly. Check which COM port the cable is connected to and choose if necessary another port under **Tools, Communication Set-up** and activate **Refresh all** a couple of times. If connection then is established the timing of the pump is displayed and all the buttons turn green. If this is not successful then contact a technician to check the function of the COM port on the PC and have the technician check the interrupt settings
5. Insert new time settings in the panels. Button colour changes to yellow
6. Update the time settings by activating the **Update** button. If everything is OK the colour changes to green.
7. Check that all parameters are updated by activating the **Refresh all** button and all should turn green with the current time settings displayed in the appropriate fields.

Version.

Under **Help, About Sipper System** the version numbers for the PC set-up programme and for the Sipper Pump are displayed.

If connection is faulty **Not On Line** is displayed for the Sipper System.

Help.

No additional help is included with the system

End the set-up programme

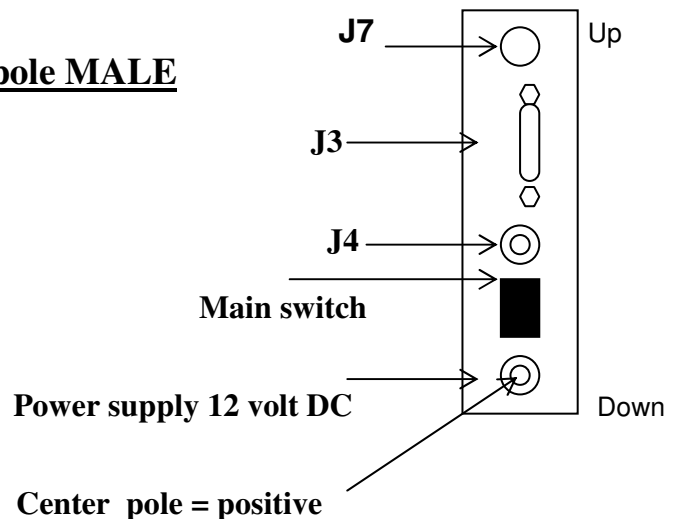
The programme is terminated as usual for Windows programmes by clicking upper right hand corner of the screen, or via the menu bar under **File, Exit Sipper Set-up**.

TECHNICAL SPECIFICATIONS FOR EKSTERNAL "IN" / "OUT" CONNECTIONS

PLUGS

RS-232 communication (J3): D-Sub 9 pole MALE

<u>Pin</u>	<u>Description</u>	<u>Type</u>
1		
4		
2	Rx Data	"IN"
3	Tx Data	"OUT"
5	Signal ground.	
6		
7		
8		
9		



Comments:

The RS-232 line is connected as DTE. When connecting to a PC COM port use a shielded O-modem cable.

For communication to the pump 9600 Baud and standard Windows drivers, COM1 .. COM4 are used. The programme defaults by activation of the COM-port in question to the current communication parameters and additional set-up is not required.

If communication is not working properly the most likely problems may be:

- The Sipper pump is not switched ON.
 - Cabling is not correct.
 - COM port either not or wrongly connected in the PC cabinet.
 - COM port not configured correctly (fx. conflicts with installed modem-board.).
 - COM port named wrongly.
-

External control (J7): 3-pole MINI DIN female.

<u>Pin</u>	<u>Description</u>	<u>Type</u>
1	Signal Ground	
2	External Flush	"IN"
3	External Start	"IN"

Electrical specifications:

- Function is activated by connecting "IN" to Signal Ground. Kontakten **skal være potentialfri !**
- By inactive contact the "IN" is ca. 10 .. 15V through 5,6 K ohm.
- Please note that the contact must be specified to work at a power of ca. 2 mA.
- **NO EXTERNAL POWER SUPPLIES MUST BE CONNECTED TO THE CONTROL "IN".**

Photometer control (J4): 3.5 mm "Mono" Jack.

<u>Pin</u>	<u>Description</u>	<u>Type</u>
Mantel	Photometer Read COM	Signal return
Centerpin	Photometer Read	output, open collector NPN transistor

Electrical specifications for open collector NPN "OUT":

- The signals form this plug are galvanically separated form the pump Signal Ground.
- The emitter on the NPN transistor emitter is connected to the Signal return.
- Photometer **Read** is activated by activating the NPN collector to **Read Com** with a pulse of ca. 0.5 sec.
- The "OUT" must have an external *pull up* through a suitable resistor, see below.
- Collector current, max. 10 mA
- Collector power, max. 24 V
- Max. collector-Emitter saturation power 1V

SPARE PARTS

105.B.1	Single channel 2 roller complete.
105.00.05	Roller track complete type "B".
105.01.02	Distance piece
105.01.03	Tube holders (1 set.)
105.01.04	Spring.
105.02.01	Locks and mounting plate.
105.14.02	Pressure spring 0,9 mm
105.14.03	Shaft for pressure roll
105.14.04	Pressure roll
113.05.01	3,5 mm jack to 3,5 mm jack.
113.05.02	"O"-modemkable 9-pole D sub both ends
113.05.03	Softwareprogramme for Windows
113.06.02	Guide bushes 1 set (3 pcs.).
113.06.01	Upper plate.
113.06.03	Fitting for pump wheel
113.06.04	Uptake tube
113.06.05	Pump wheel
113.08.10	Rubber foot
113.08.01	Push button (1 set)
113.10.02	Print complete 12 volt version
113.12.01	Motor complete 12 volt DC

LIMITED WARRANTY FOR SIPPERPUMP

Provided there are errors and/or deficiencies on this unit please make use of the limited warranty included with the unit.

WARRANTY PERIOD

This warranty is valid for 36 months from documented date of purchase.

SCOPE OF WARRANTY

Supplier is responsible for correcting any deficiencies in the unit arising from production and/or from material used in production, provided these deficiencies are detected during normal use of the unit.

The unit must be transferred to the manufacturer or to the supplier stating the date of purchase and the serial number of the unit. It is the customers responsibility that the unit is properly packaged for transportation.

Warranty does NOT cover shipment damages occurring due to inadequate or faulty packaging.

Warranty repair is supplied without any additional cost to the customer. Repair in the period of warranty does NOT invoke extension of the current warranty period or start of a new warranty period.

Following warranty repair the unit is shipped to the customer at the cost of the supplier.

THE WARRANTY DOES NOT COVER:

Faulty equipment or damages having occurred by wrongly handling, misuse, failing to perform preventive maintenance as described in this manual, water leakage, erroneous installation or connection, by fire, accident, lightning, extraordinary variations in power supply or other electrical irregularities as fuses in the supply net as well as repair or other dismantling of the unit performed by other than the manufacturer or the supplier without written permission of either of the two.

DATE OF PURCHASE:

STAMP:

INVOICE NO:

TYPE/SERIAL NUMBER:

DK: EU-OVERENSSTEMMELSESERKLÆRING



UK: EU-DECLARATION OF CONFORMITY

OLE DICH

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erklærer på eget ansvar, at følgende produkter:
declare on own responsibility that the following products:

Peristaltic pump type: P/N OD-SIPPER-12

som er omfattet af denne erklæring, er i overensstemmelse med følgende standarder:
covered by this declaration, are in conformity with the following standards:

EN61326-1:2006, EN61010-1:2010

i.h.t. bestemmelserne i direktiv:
according to conformity in directive:

Maskindirektivet / Machinery Directive: (89/392/EEC) 2006/42/EEC

EMC-direktivet / EMC Directive: (89/336/EEC) 2004/108/EEC

WEEE 2002/96/EEC

Dette produkt er klassificeret som elektrisk og elektronisk udstyr. Når tiden er inde til at bortskaffe dette produkt, bedes de sørge for at gøre dette i overensstemmelse med det Europæiske direktiv om affald af elektrisk og elektronisk udstyr (WEEE) og i henhold til de lokale love, der relaterer til dette direktiv.

For yderligere oplysninger om WEEE-direktivet bedes De besøge www.fellowesinternational.com/WEEE

This Product is classified as Electrical and Electronic Equipment. Should the time come for you to dispose of this product please ensure that you do so in accordance with the European Waste of Electrical and Electronic Equipment (WEEE) Directive and in compliance with local laws relating to directive.

For more information on the WEEE Directive please visit www.fellowesinternational.com/WEEE

Adm. Direktør / Managing Director

Leif Magnussen Hvidovre, 17-05-2013.