LabTec® Methadone Dispenser

Installation, Operation & Maintenance Instructions Manual

Parker

ENGINEERING YOUR SUCCESS.

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Precautions

READ this manual BEFORE operating or servicing this equipment.
FOLLOW these instructions carefully.
SAVE this manual for future reference.
DO NOT allow untrained personnel to operate, clean, inspect, service or tamper with this equipment.
ALWAYS DISCONNECT this equipment from the power source before cleaning or performing maintenance.
CALL PARKER for parts, information and service.

	**WARNING**
	DISCONNECT ALL POWER TO THIS UNIT BEFORE INSTALLING, SERVICING, CLEANING OR REMOVING THE FUSE. FAILURE TO DO SO COULD RESULT IN BODILY HARM AND/OR PROPERTY DAMAGE.
	**CAUTION**
	OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC SENSITIVE DEVICES.
	**WARNING**
	ONLY PERMIT QUALIFIED PERSONNEL TO SERVICE THIS EQUIPMENT. EXERCISE CARE WHEN MAKING CHECKS, TEST AND ADJUSTMENTS THAT MUST BE MADE WITH POWER ON. FAILING TO OBSERVE THESE PRECAUTIONS CAN RESULT IN BODILY HARM.
	**WARNING**
	FOR CONTINUED PROTECTION AGAINST SHOCK HAZARD, CONNECT TO PROPERLY GROUNDED OUTLET ONLY. DO NOT REMOVE THE GROUND PRONG.
IF the power cord is lost or damaged, contact Customer Service to obtain a new one. Do not replace it on your own	

Précautions

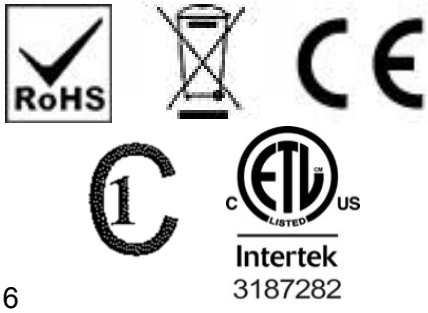
LISEZ ce manual AVANT de faire fonctionner ou d'entretenir cet équipment.
SUIVEZ attentivement ces instructions.
CONSERVEZ ce manuel pour future référence.
NE LAISSEZ PAS du personnel non qualifié utiliser, nettoyer, inspecter, entretenir, réparer ou manipuler cet équipement.
DÉBRANCHEZ TOUJOURS cet équipement de la source de courant avant de nettoyer ou d'exécuter l'entretien.
APPELEZ PARKER pour pièces détachées, renseignements et entretien.

	**⚠ ATTENTION** DÉBRANCHEZ TOUT COURANT DE CETTE UNITÉ AVANT DE FAIRE L'INSTALLATION, D'EFFECTUER L'ENTRETIEN, LE NETTOYAGE OU AVANT DE RETIRER LE FUSIBLE. NE PAS OBSERVER CES PRÉCAUTIONS RISQUERAIT DE CAUSER DES BLESSURES CORPORELLES OU/ET D'ENDOMMAGER L'ÉQUIPEMENT.
	**⚠ PRUDENCE** SOYEZ PRUDENT LORSQUE VOUS MANIPULEZ DES APPAREILS SENSIBLES À L'ÉLECTROSTATIQUE.
	**⚠ ATTENTION** ONLY PERMIT QUALIFIED PERSONNEL TO SERVICE THIS EQUIPMENT. EXERCISE CARE WHEN MAKING CHECKS, TEST AND ADJUSTMENTS THAT MUST BE MADE WITH POWER ON. FAILING TO OBSERVE THESE PRECAUTIONS CAN RESULT IN BODILY HARM.
	**⚠ ATTENTION** POUR ASSURER UNE PROTECTION CONTINUE CONTRE UNE DÉCHARGE ÉLECTRIQUE, BRANCHEZ UNIQUEMENT SUR UNE PRISE CORRECTEMENT RELIÉE Á LA TERRE. NE RETIREZ PAS LA FICHE DE TERRE.

SI le cordon d'alimentation est perdu ou endommagé, contactez le service clientèle pour en obtenir un nouveau. No le remplacez pas par vous-même.

Table of Contents:

Standards:



- EN 61326-1:2006, Class B
- EN 6100-3-2:2006
- EN 6100-3-3:1995 +A1:2001 +A2:2006
- EN 61010-1 Issued: 2001/03/01
- Conforms to UL STD 61010-1:2012 Ed.3+R:29Apr2016
- Certified to: CAN/CSA-C22.2 No 61010-1-12:2012 Ed.3+U1:U2

Installation & Start-Up:

Installation of the LabTec™ System must be carried out only by trained personnel in accordance with the relevant regulations and this operations manual.

Make sure that the technical specifications and input ratings of the LabTec™ are observed. See “LabTec™ Specifications”.

The protection provided by this equipment may be impaired if the LabTec™ is used in a manner inconsistent with this manual or for purposes not specified by the manufacturer.

Maintenance & Cleaning:

The LabTec™ Methadone requires routine daily maintenance. The pump head in particular requires daily flushing with an approved cleaning solution and distilled water for trouble free operation. This is especially true with flavored methadone solutions. Please read the section on Cleaning Procedures.

To remove dust, dirt and stains, the outer surfaces of the LabTec™ may be wiped using a soft, non-fluffing cloth moistened with water. If required, you may also use a mild detergent or 2-propanol.

Introduction:

You will find the LabTec™ Methadone System easy to use and easy to calibrate. The state- of-the-art hardware and software design of the LabTec™ allows you to control measure and document your dispensing processes. With proper maintenance, the LabTec™ System will provide many years of excellent service and performance.

Please read the following instructions carefully!

Inspections: Remove the products carefully from the shipping container. Check the contents against the purchase order to verify that all parts are included and undamaged.

Please do the inspection now, even if the products are not used immediately. Many carriers must receive damage claims within seven days of delivery. Please retain all packing material so unit may be shipped safely, if necessary.

Customer Service: Parker customer service: If assistance is required, please contact us at:

Parker Hannifin Manufacturing Ltd
Bioscience Division – EMEA
Durham Road
Birtley, Co. Durham
DH3 2SF, England
phone +44 (0)191 4105121
fax +44 (0)191 4105312
email: bioscience.emea@parker.com
www.parker.com/bioprocessing

Parker Hannifin Corporation
Bioscience Division – N.A
2340 Eastman Avenue
Oxnard, California, USA 93030
toll free: 877 784 2234
phone: +1 805 604 3400
fax: +1 805 604 3401
email: bioscience.na@parker.com
www.parker.com/bioprocessing

Parker customer service personnel will be able to serve you more efficiently if you have the following information:

- Serial number and model name of the equipment
- Installation procedure being used
- Concise list of symptoms
- List of operating procedures and conditions in use when problem arose

Warranty

Country specific information can be found at: www.parker.com/termsandconditions

LabTec Maintenance

Factory based preventative maintenance is recommended on an annual basis.

Contact your Territory Manager or Parker Technical support to obtain a TSP Number and pricing on this procedure.

Specifications:

Mechanical:

- **Dimensions:** Width: 5.75 in (14.6 cm); Height: 8.5 in (21.3 cm); Depth: 11in (27.9 cm)
- **Weight:** 14 lbs (6.4kg)
- **Enclosure:** Aluminum / Steel; Corrosion Resistant, Recessible Handle
- **Pump Head:** RH1CKC Piston Head, max stroke of 0.10 ml, set at approx. 0.05 ml/stroke.
- **Flow Rate:** 160 ml/min for US systems, 290 ml/min for overseas systems.
- **Motor:** 3400 RPM, Optically encoded and servo controlled.

Electrical:

- **Power:** 90 - 264 V~ , 47-63 Hz, 150 VA, listed Class 2 switching power supply; double fused: 1A-T, 250V (CE: IR35A 250V ~).
- **Battery:** CR1220, used to support the internal clock only, not user serviceable.
- **Motor:** 3400 RPM at 24V ⎓ , 3.8 Amperes, Variable Pump Speed optically encoded, servo- controlled motor.
- **I/O Ports:**
  - "**Printer",** Female DB9 connector for data collection with Printer or PC.
  - "**S1",** Male DB9 connector, Not utilized on LabTec Methadone. Do not remove the cover.
  - **"S2",** Male DB9 connector, Not utilized on LabTec Methadone. Do not remove the cover.
  - **"S3",** Male DB9 connector, Not utilized on LabTec Methadone. Do not remove the cover.
  - **"External I/O",** Female DB37 connector, Not utilized on LabTec Methadone.
  - **"V"**, Female DB15 connector, Not utilized on LabTec Methadone.
  - **"Temperature",** 2 pin Conxall connector, Not utilized on LabTec Methadone.
  - **"P1, P2, P3"**, RJ11 connectors, Not utilized on LabTec Methadone.
  - **"USB",** USB-A connector, for RS-232 data collection with a PC. Driver on enclosed CD.
  - **"Ethernet",** RJ-45 connector, Not utilized on LabTec Methadone.
- **Display:** Two line LCD, 20 characters each, back-lit.
- **Data Entry:** Membrane keyboard with auditory feedback.

Software:

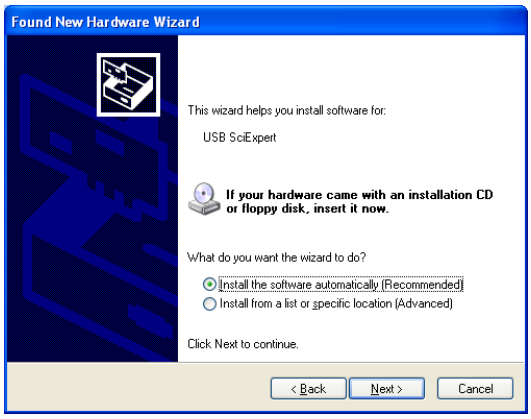
- Main Menu with the following operational modes:
- **Serial Mode:** Normal Methadone dispensing mode, implemented upon power up.
- **Volume Mode:** Not used for Methadone dispensing.
- **Weight Mode:** Not used for Methadone dispensing.
- **Setup:** Selection of user preferences and interface options.
- **Manual:** Simple pump control, on/off and rate, no alarms.

Environmental:

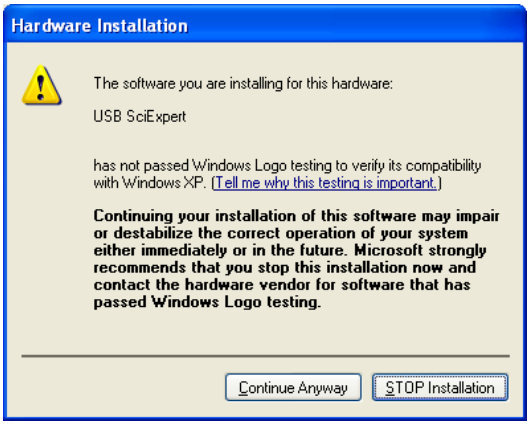
- Temperature range: 4 to 40° C.
- Altitude: up to 2000 Meters
- Indoor, dry environments only, clean-up is wipe down only. (IP 20)
- Relative humidity: 0-95%
- Voltage fluctuations +/- 10%
- Pollution degree: 2

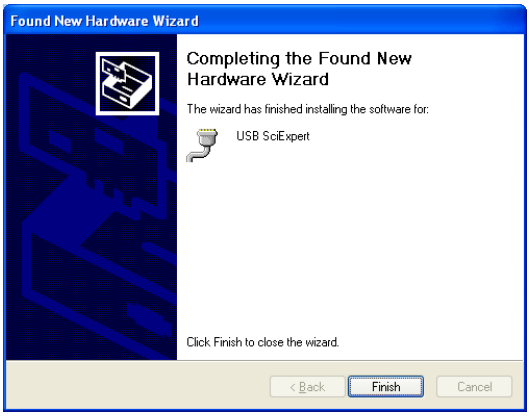
Installation of the USB Driver:

Upon connecting the LabTec to the PC via a USB cable, the following “New Hardware Wizard” window appears. Select ‘No, not at this time” and click “Next”. The second screen appears:



Insert the CD containing the LabTec Operating Manual into the PC, choose “Install the software automatically” and click “Next”. The following screen appears:



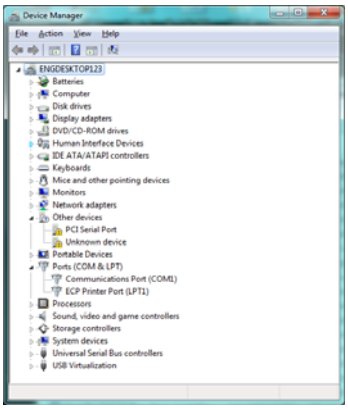


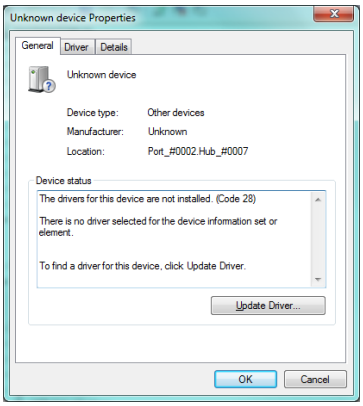
Choose “Continue Anyway”, and the driver will finish loading, allowing you to communicate with the LabTec via the assigned Com Port.

By opening Windows Device Manager and clicking on the + for Ports, you can determine the Com Port assigned to the LabTec. It will be listed as “USB SciExpert”. (COM8 as shown)

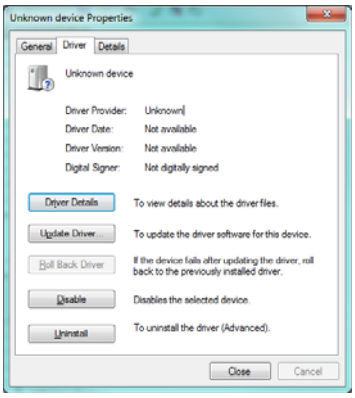
Windows 7 and 8 users often will not have the “New Hardware Wizard” run properly, and the driver will not be installed. When this occurs:

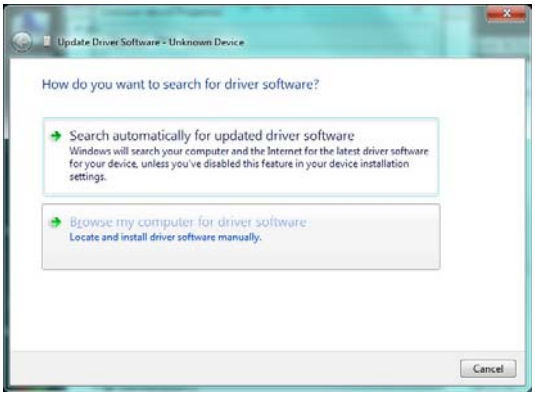
1. Open Device Manager and look under Other Devices for “Unknown Device” or similar and double-click on that device.



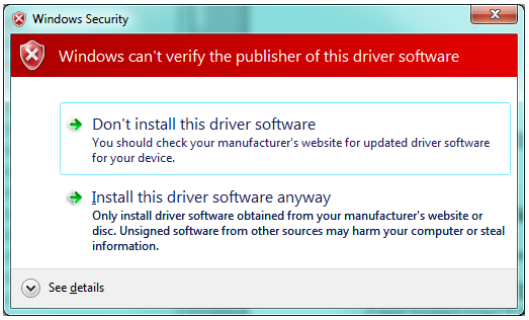


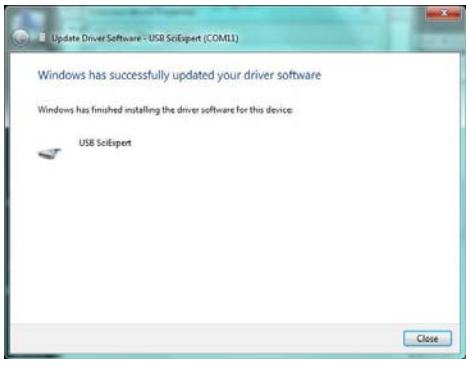
2. Click on “Update Driver” on that screen or on the Driver Tab. Click on “Browse my computer” on the next screen and browse to the CD drive that contains the LabTec Manual and click on OK.





3. As mentioned earlier you will get a security warning about windows verification for the driver. Click on Install anyway and the installation will finish properly.





- Please review Device Manager at completion of this process to confirm the COM port assigned to the LabTec, now listed under Ports as “USB SciExpert”.

- **Windows 10 will automatically create a “USB Serial Port” for the pump, no drivers are needed!**

Quick Start: “Dispensing Methadone”

Equipment: The following is needed to get started:

Parker P/N	Description	Quantity
200-METH-1342	LabTec Methadone Dispenser, FM-520	1
090-158	USB Cable, A/B Style	1
400-001M	316SS Sinker, small	1
400-216	#16 Tygon Tubing (one package)	50 ft
400-410	Stand and Clamps for Tubing	1
400-492	Dispensing Tip	1
	Methadone container and cups	

Setup:

A. Unpack all components, visually identify and inspect for damage.

B. At the Dispensing Window, place the Methadone container to the far left, the LabTec to the right, and the Stand and Clamps furthest to the right.

C. Connect the LabTec to the PC using the USB cable (P/N 090-158) may be used. The driver is found on the thumb drive as this manual for all except Windows 10 users. Windows 10 will recognize this as a USB Serial Device automatically.

D. Plug in and power up the LabTec.

E. Remove the short piece of tubing installed in the pump for shipping, and retain it for use at when sending the system in for maintenance, or for storage purposes.

F. Cut two pieces of the Tygon tubing. Make one long enough to go from the bottom of your Methadone container to the input of the pump head, on the lower left. Insert the sinker in the Methadone end of the tubing, and connect the other end to the head by loosening the compression nut, inserting the tubing as far as it will go, and tightening the nut.

G. Cut the other piece long enough to go from the output of the pump head on the upper right to the clamp at the dispensing location. Install one end in the pump head as before, and insert a dispensing tip at the other end, and clamp it in place above the cup location.

H. The LabTec is ready for use with your Clinical Software. Use the software to Prime the system, check for leaks, and check the Calibration.

LabTec Methadone Dispenser: Overview

The LabTec Methadone Dispenser provides high precision, high accuracy, and programmable Methadone dispensing capability. The LabTec utilizes an optically encoded, servo-controlled motor, assuring a highly reproducible pump performance. The LabTec system comes with an RH1CKC piston pump head (Parker P/N: 080-402) which is powered by 3400 RPM motor (Parker P/N: 010-017-2).

The LabTec has been used for many years on a nationwide and now international basis, and provides long term accurate service in the dispensing of Methadone and the control of inventory in the clinic when properly maintained and calibrated.

PumpSense™: Pump Overload Protection

When Methadone is allowed to dry inside the piston pump head, the LabTec software will recognize this condition and go into a stand-by mode, the pump motor is turned off and the following message is displayed:

CHECK PUMP HEAD
Press Any Key

Before continuing with your pumping application, immediately replace the methadone container with your cleaning solution, press the A button twice to return to the normal screen and try dispensing again. If this works, run the solution for at least 2 minutes before flushing and returning to normal operations. If the situation continues, contact Parker Customer Service for assistance. The PumpSense™ feature has been implemented as a failsafe device to protect your pump head and motor from permanent damage.

NOTE: Parker has implemented a LabTec preventative maintenance and loaner program. Send in your LabTec unit to Parker for pump head cleaning and seal replacement. The service also includes functional test, calibration as well as a written performance validation. The typical turn-around time for LabTec repairs is 10 business days. You can rent a LabTec loaner from Parker while your unit is being serviced.

Contact your Parker TM or Technical Support at 805-604-3400 To obtain the appropriate form and TSP number prior to shipping your unit in for service.

Part A: LabTec™ Methadone Hardware:

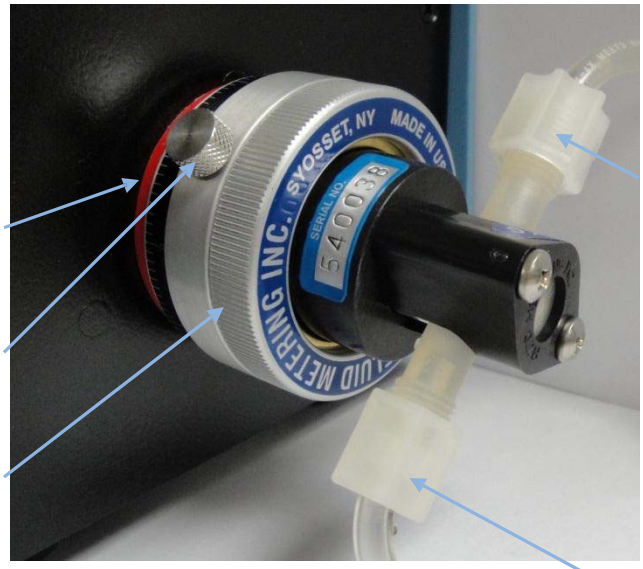
1.0 Hardware Overview:

The LabTec has been designed to automate routine dispensing of Methadone from the 0.5 ml to 30 ml range, or the equivalent of 5 to 300 mg of Methadone as used in the United States. The LabTec allows you to easily calibrate the unit at 200 mg (100 mg for the older powder blue units) and does an excellent job of helping your clinical software maintain accurate inventories. Refer to the calibration instructions later in this manual.

2.0 Pump Head/Motor:

The LabTec™ Methadone Dispenser comes with a 3400 RPM, optically encoded, servo-controlled motor and a RH1-CKC piston pump head. Materials of construction: the pump body is made of Kynar, the piston and cylinders are made of ceramic. Both Kynar and ceramic are inert materials and do not interact/react with Methadone. The head is equipped with a vernier style adjustment that makes calibration easy.

NOTE: It is critical that the head be kept clean when not in use. This cannot be emphasized enough to the clinical staff. Most Methadone in use is flavored, containing sugar and other ingredients that will crystallize inside the head and cause it to freeze up, yielding the “Check Pump Head” error mentioned above. Please refer to the cleaning procedures section of this manual.



Red ring; Stationary

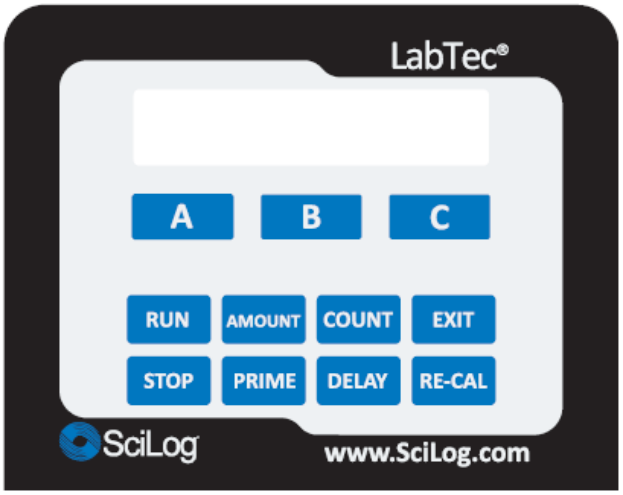
Set Screw; Do not loosen!

Silver textured ring; Used to make adjustments during Calibration

Outlet Port

Inlet Port

3.0 Front Panel: Data Entry and Display



The front panel consists of a user interface, which includes an alphanumeric display and a membrane keypad to select operational modes and alarm settings. The display is a two line, 20 character each, liquid crystal display (LCD). The display is backlit to allow easy viewing over a wide range of lighting conditions.

The lower line on the LCD is used to signify the function of the “soft keys” marked “A”, “B” and “C”. The “soft key” current labels are displayed in the lower line of the LCD. If you press these keys, then the function displayed above it will be performed.

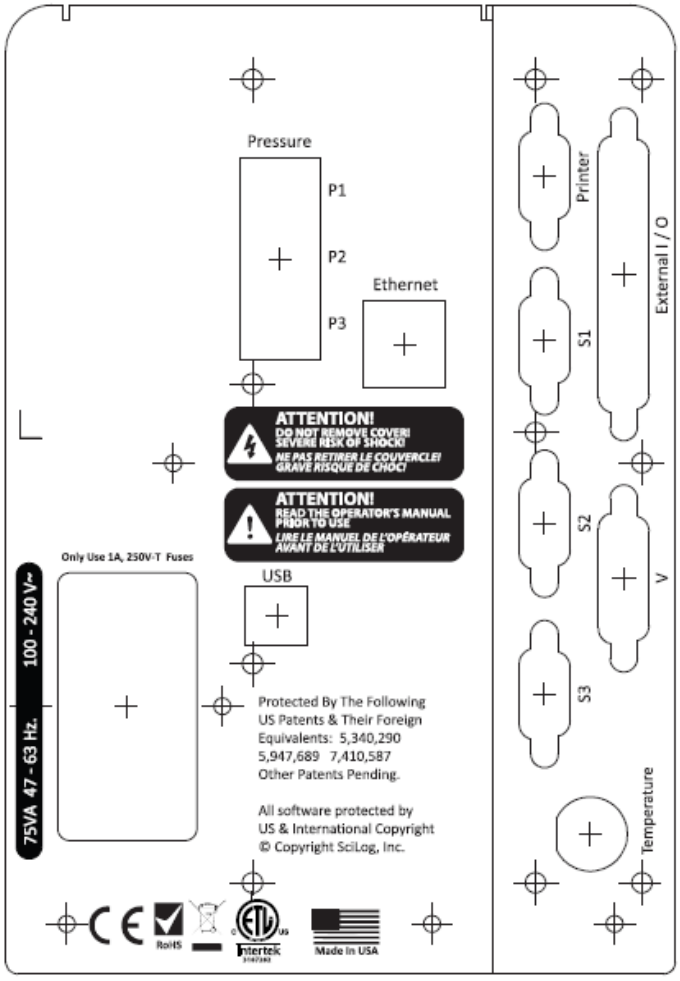
The main keypad consists of eight “hard” keys whose function does not change. These keys are used for basic control and programming of the LabTec.

The A B and C keys along with the Exit button are the only ones used in normal operation. Pressing any key will take one out of Serial Mode, the mode used with this unit.

If the unit displaying something other than **“Serial CW 160 ml/m”** on the top line, press the Exit button to reach **“Mode Select Serial”,** and then press C to select, and A to execute to return to the proper screen.

Two LED’s are also on the front panel, just to the left of the main keypad. These indicate the current pump status. A green light indicated the pump is in motion; the red light indicated that the pump has stopped.

4.1 Back Panel: Interface Options



The LabTec back panel provides interfacing ports for:

- **Parker Printer (P/N: 080-095) or PC RS-232 connection:** Female DB9, labeled “Printer”.
- **Electronic Scale:** Male DB9, labeled “S1, S2 and S3” are not utilized in the LabTec Methadone. Please do not remove the covers.
- **Foot Switch (P/N: 080-059):** Male DB37, Labeled “External I/O”. Not utilized in the LabTec Methadone unit.
- **SciPres Disposable Pressure Sensors:** 3 RJ11 jacks, one for each pressure sensor. Labeled “P1, P2, P3”. The LabTec Methadone does not use these sensors. (Do not connect the LabTec to a telephone system.)
- **SciTemp Disposable Temperature Sensor:** Conxall 2 pin connector. Labeled “Temperature”. Also not used by the LabTec Methadone unit.

4.1 **PRINTER PORT:** The LabTec Methadone can be connected to a PC for control by the clinical software in use. An RS-232 Serial Cable (P/N 080-073) is used for this connection. Alternatively, a USB cable (090-158) may be used.

4.2 **SCALE PORTS:** Not normally used by the LabTec Methadone unit. The male DB9 ports labeled "S1", "S2" and "S3" are RS-232 ports for electronic scales. For the LabTec, only S1 is used. (Please do not remove the covers on the unused ports.) This port allows you to interface with a number of different electronic scales: i.e. Mettler, Ohaus, and Sartorius top-loading scales. The following scale cables are required:

- **Mettler:** PGS, PM, Viper Models: P/N: 080-067PGS
- **Ohaus:** GT, "Precision Advanced", "Explorer", "Voyager" Models: P/N: 080-066
- **Ohaus:** IP Series High Capacity: P/N: 080-067
- **Ohaus:** Adventurer Pro Series: P/N: 080-067PGS
- **Sartorius:** Most Series Scales: P/N: 080-068

In the LabTec Setup: Scale mode, select the scale manufacturer; the LabTec will automatically implement the correct communications parameters. **Check that the proper communications parameters are also implemented in the scale being used.**

4.3 **PRESSURE SENSOR PORTS:** The LabTec Methadone unit does not make use of these jacks or Sensors.

4.4 **TEMPERATURE PROBE PORT:** The LabTec Methadone unit does not make use of these jacks or Sensors.

4.5 **VALVE V PORT:** Not used in conjunction with the LabTec Methadone.

4.6 **USB PORT:** Used for connection to a PC, providing a Com Port. Can be used for data communication as an alternative to the Printer port. The USB driver is included on the CD that contains this manual.

4.7 **ETHERNET PORT:** Not utilized by the LabTec Methadone Unit.

4.8 **EXTERNAL I/O CONNECTOR:** Not utilized by the LabTec Methadone Unit.

Parts List: LabTec Methadone Dispenser Accessories:	
400-001M	316SS Sinker: Prevents tubing from getting stuck to the inside of Methadone reservoir
400-216	Tygon Tubing: ¼ OD x 50 feet, tubing fits into RH1-CKC pump head.
400-410	Stand & Clamps: holds dispensing end of tubing.
400-492	Dispensing Tip (Fits Tygon tubing #400-216 above.)

Call Parker Sales at 805-604-3400 for a pricing on these items, or to re-order.

5.0 LabTec Cleaning & Maintenance: RH1-CKC Pump Head

NOTE: It is critical that the head be kept clean when not in use. This cannot be emphasized enough to the clinical staff. Most Methadone in use is flavored, containing sugar and other ingredients that will crystallize inside the head and cause it to freeze up if not removed well at the end of the shift, yielding a "Check Pump Head" error and stopping the dispensing process.

Cleaning the Pump Head:

Parker strongly recommends the use of a 50:50 mixture of **distilled water** and **isopropyl alcohol** (IPA) (final concentration of 35-40%) for cleaning purposes. Alternatively, an Alconox soap solution may be used. (www.alconox.com) If Alconox is used, heat the solution when mixed to be sure it is fully dissolved. **It may also be heated prior to cleaning.**

This solution must be pumped through the pump head for at least two (2) minutes or until the cleaning solution appears clear at the discharge port of the pump. Stop the pump and leave the cleaning solution in your pump head, or remove it and follow up with a rinse of **distilled water**. Do not remove the tubing from the solution reservoir until you are ready to prime the pump with Methadone the following day.

Do not leave Methadone in the pump head overnight. Preventive maintenance is very valuable and ensures a long operational pump life.

NOTE: Never use tap water for flushing, the water "hardness" associated with most tap water supplies will cause the pump head to "freeze", i.e. the pump head becomes inoperable.

NOTE: If the LabTec Methadone unit is not used frequently or is to be stored for an extended period of time, use the cleaning procedure outlined above then fill a 12" piece of tubing with cleaning solution or distilled water, and connect the tubing between the pump inlet and outlet. Turn the pump on and run in Manual Mode at 100% for a brief period to ensure the pump head is filled with cleaning solution. If stored for more than 30 days, repeat this process once a month. This simple procedure prevents the pump head from drying out and thus remains operable for a long time.

These cleaning procedures work for all versions of the LabTec Methadone pumps.

The following Calibration Procedure on the next page is used for the new (Dark Blue) units.

For the older (Powder Blue) units, the procedure is the same except please calibrate only at 100 mg.

Call Parker Tech Support at 805-604-3400 if additional assistance is required.

6.1 LabTec Methadone Calibration: RH1-CKC Pump Head

Routine calibration checks and adjustments are commonplace and easy to perform. They keep your system running at its best and your inventory accurate. If assistance is needed, call Parker Tech Support at 805-604-3400.

Equipment needed:

A calibration tool to accurately measure volume or weight.

a. Good: a 25 ml graduated cylinder (glass, not plastic!);

b. Better: a 20 ml Volumetric flask (also glass);

c. Best: a balance with 0.1-gram resolution or better. (All calibration will be done with water in this scenario.)

d. Larger graduated cylinders, syringes, or medicine cups are not recommended due to inherent lack of accuracy.

If using a) or b) above, please read them level, and at the bottom of the meniscus as shown:

Procedure:

A. Gather your calibration vessel. This can be a 20 ml volumetric flask, a 25 ml graduated cylinder or a balance with a 0.1 gm resolution or better.

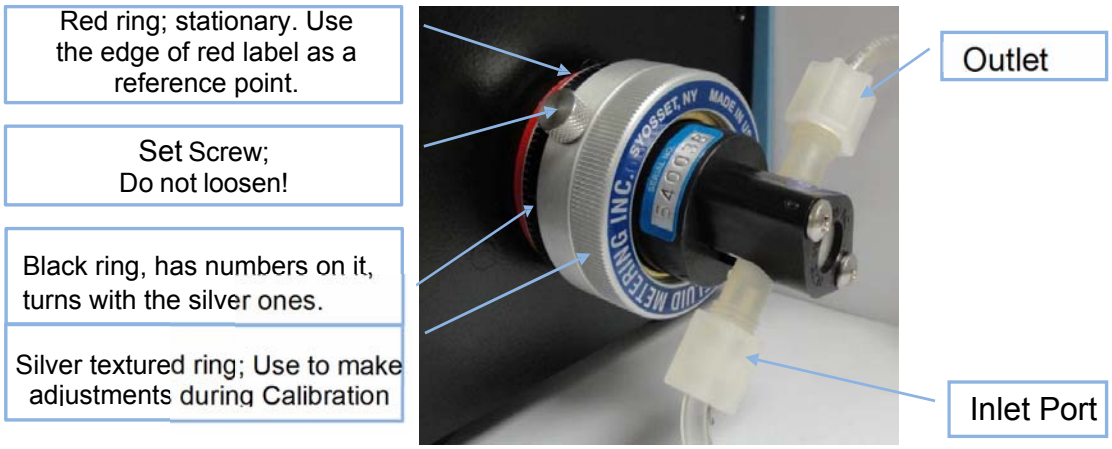
B. Enter the Calibration section of your clinical software and instruct the pump to dispense 200 mg. (This is equivalent to a 20 ml volume.) (Older, powder blue units, use 100 mg / 10 ml)

C. Measure the volume dispensed, and adjust the pump head accordingly:

a. Referring to the image below, if the dispense is over, turn the textured collar clockwise (right) to reduce the volume.

b. Using the edge of the red label at the top as a reference point, turn it 2-4 of the small marks on the Black ring at a time.

c. If the dispense is under, turn the collar counter-clockwise (left) to increase the volume.



d. After adjustment, perform 2-3 more dispenses at 200 mg to confirm, re-adjust as needed.

e. Once satisfied with the results, Calibration is complete, return to dispensing.

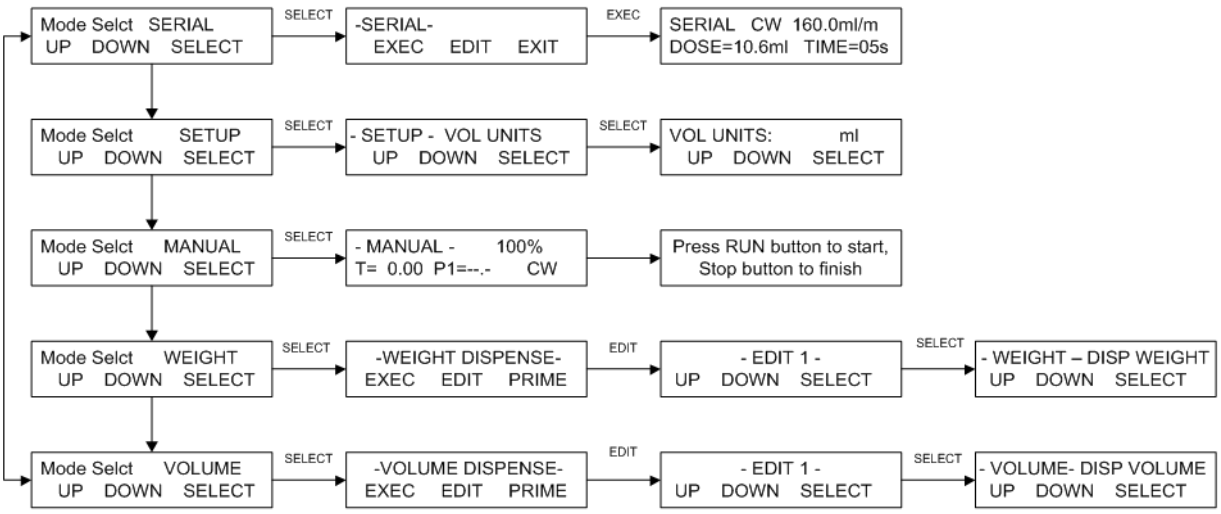
Tubing:

#16 (1/4” OD x 1/8” ID) Food Grade Tygon tubing is normally used in this system. It can be purchased from Parker Customer Service in boxes of 50 ft. (PN 400-216)

When asked, we recommend replacing the entire tubing set once every 6 months, and when doing so, cut both pieces a foot longer than needed. (This can be done more frequently if the clinic wishes to.) This allows you to remove the tubing from the pump once a month and cutting of the last 2” of it that has been trapped inside the head. The tubing does swell over time in these conditions and will cause under-dispensing issues resulting in problems with the calibration and accuracy of the dispensing at the end of the day.

Part B: LabTec™ Methadone Software

1.0 MAIN MENU



Part B: LabTec™ Methadone Software:

1.0 Software Overview: Main Menu

The LabTec has three (3) dispensing modes, namely, Serial, Volume and Weight, of which only the Serial mode is used by clinics in normal use. This is a special version of the standard LabTec designed for this particular application.

The Volume mode described is used only to attempt to free a stuck head as described later in the Troubleshooting section.

The main menu of the LabTec Methadone consists of **four (4) operational modes** as shown on the previous page. By using the **"Up"** and **"Down"** keys, one can readily scroll through the main menu. Press the **"Select"** key to enter a chosen operational mode, i.e. **SERIAL.** By pressing the **"Select"** key the first level submenu is entered, which provides access to the **"Exec"** and **"Edit"** functions. In the **"Edit"** submenu, the parameters for the application are selected.

SERIAL: In the Serial mode, the LabTec is connected to PC running clinical software that sends commands to the pump in the background. These commands are explained later in the manual.

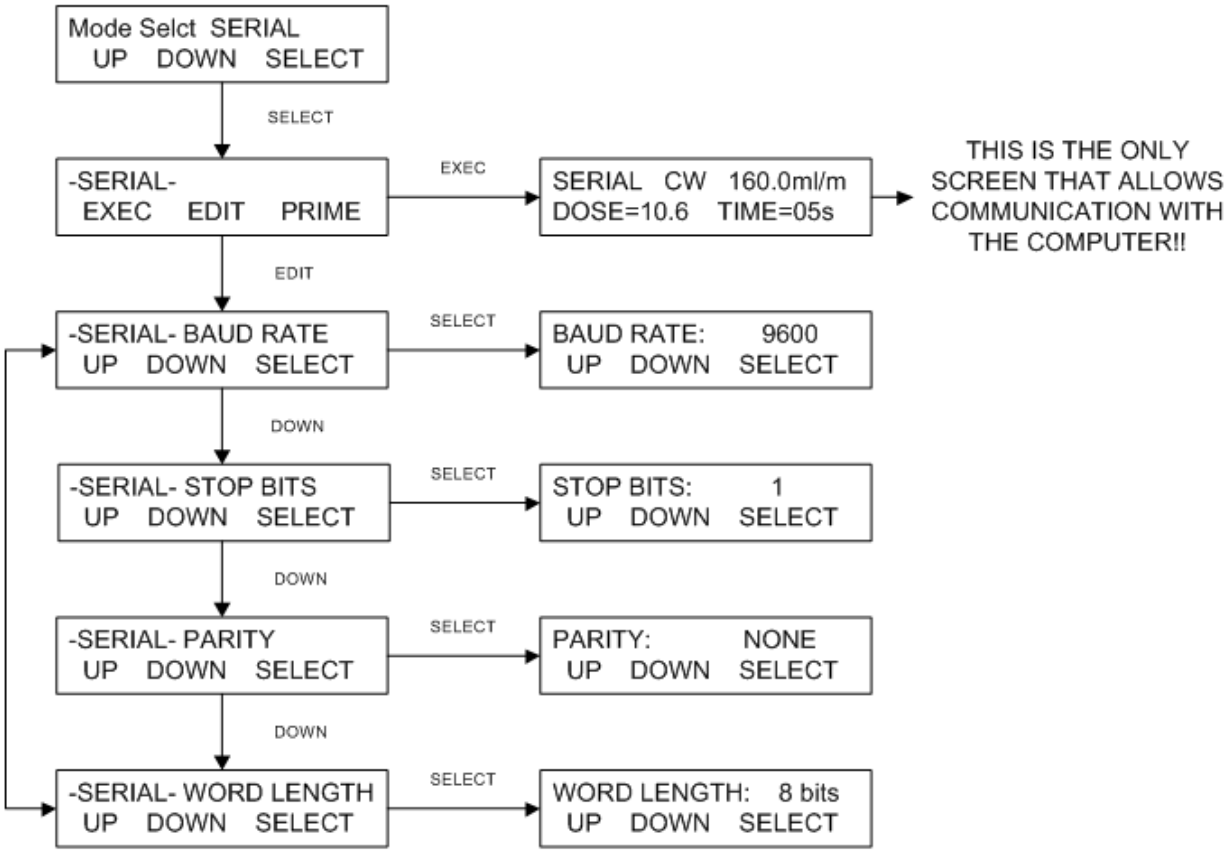
VOLUME: THIS MODE IS NOT USED OTHER THAN TO ATTEMPT TO FREE A STUCK HEAD. CALL PARKER TECH SUPPORT IF YOU NEED TO IMPLEMENT THIS. IT WILL NOT REPLACE THE SERIAL MODE IF THE COMPUTER IS DOWN.

WEIGHT: THIS MODE IS NEVER USED IN THE CLINICAL SETTING.

MANUAL: Allows manual pump speed control. This mode can be used to confirm the function of the pump head, or for manual cleaning of the head.

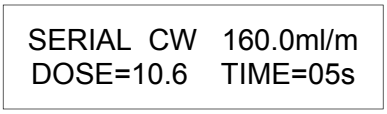
SETUP: This operational mode allows selection of various user preferences and interface options. The unit comes properly configured and ready to use. Call Parker Tech Support of assistance with Setup Mode is required.

2.0 SERIAL MODE:



2.0 Serial Mode

Summary: Serial Mode is the default mode for the LabTec Methadone unit, and upon power-up the Serial Mode operational screen should be displayed, as shown below.



The unit takes commands from the clinical software on the connected computer and executes them. It talks back to the computer as well, telling the computer what it has done, and upon request, its status.

Referring to the menu on the facing page, if the unit is not displaying the above screen, press the EXIT button several times until “Mode Select: Serial” is displayed, press “Select” and if needed, “Exec” on the next screen. This makes the pumps ready to go.

Edit Submenu:

Baud Rate: Default = 9600

Stop Bits: Default = 1

Parity: Default = None Word Length: Default = 8 bits.

Deviation from these settings will cause communication issues, generating errors on the computer. Please do not change these values unless instructed by Parker Tech Support or that of your clinical software provider!

RS-232 Command Set:

The LabTec Methadone has a fixed command set used by the clinical software in the background.

Communication of these ASCII commands is done via RS-232 and the PC Com Port. An RS-232 Cable (080-073) or USB Cable (090-158) that connects to either the Printer Port or the USB Port on the rear of the LabTec Methadone unit is required.

The following settings are needed for proper RS-232 communication, and can be tested using any Telnet program that may be available. (HyperTerminal, IVTFree, etc) For the programmer, this is useful so the talkback from the pump can be viewed.

Baud Rate:	9600 bps
Stop Bits:	1
Parity:	None
Word Length:	8 bits
Flow Control:	None

Command List:

Each command must be followed by a carriage return and line feed character:

A **ABORT:** this stops the dispensing cycle immediately.

Vxxx **VOLUME** to be dispensed. This is a three digit value. For example, send V050 for 5.0 ml (50 mg), V100 for 10.0 ml (100 mg). The dispensing cycle runs in the current pump direction.

Wxxxx **WEIGHT** to be dispensed. This requires a connection between the pump and a balance. This is a four digit value. For example to dispense 2.00 grams, send W0200.

X **REPEAT:** begins another dispensing cycle for the current dispense volume or weight.

F **FORWARD:** sets the current pump direction to clockwise, CW will be displayed.

R **REVERSE:** sets the current pump direction to counter-clockwise, CCW will be displayed.

P **PRIME:** primes the system by running forward for a programmed time interval “T”.

E **EMPTY:** empties the system by reversing the flow back to the bottle for a programmed time interval “T”.

Cxx **COMMAND:** sets the Prime/Empty time to a value between 1-99. This must be a two digit number.

T **TIME:** current time interval for the Prime/Empty cycle.

S **STATUS:** the system reports its status.

3.0 Volume Mode:

Call Parker Technical Support before attempting to use this mode. It is not designed in any way to replace the Serial Mode normally used. This is only used to assist in freeing a stuck pump head.

4.0 Manual Mode:

Summary: In the Manual Mode the LabTec Methadone can be manually operated. The pump speed can be set in terms of % motor speed while the pump is running. Just press the “Amount” key, make the appropriate adjustment, and press “Select”.

Press the RUN key to run, and the STOP key to stop the pump. Pressing EXIT leaves this mode and returns to the Mode Select Menu.

Troubleshooting:

When this occurs:	Check the following:	Possible Solution:
When “Check Pump Head” error occurs with your piston head.	1. When was the last time you had the head serviced?	1. If you believe the head is stuck due to being dried out, you can try wetting it by placing alcohol in the upper tubing overnight.
	2. Are you pumping a gritty solution, or one that can crystallize if allowed to dry out?	2. If it still won’t turn, contact Parker to arrange an RGA to send your pump in for service.
Help! It occurred in the middle of the day, and can’t afford to stop dispensing.	1. Press the “A” button twice to clear the error and return to regular screen.	1. Send alternating Prime and Empty or Flush commands, repeating the “A” button presses each time the error occurs. This “rocks” the head back and forth and may get it running again.
		If this gets the unit running again, immediately run cleaning solution through the head for a minimum of two minutes before dispensing again.
	2. If unable to do #1 above,	Call Parker Tech Support to get assistance using Volume Mode to try to loosen the pump.
When your piston pump head seems to turn and the motor runs, but no fluid flows.	Either the piston is broken, or the coupler is loose.	Contact Parker for tech support or to arrange for service for your pump and RGA#

Call Parker Technical Support if assistance is required. 805-604-3400 or 608-338-7645

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