ONE STOP SHOWROOM FOR HOSPITAL & HEALTHCARE PRODUCTS.



# Syringe Pump

**USER MANUAL** 



# 

Alarm light

Name	Function	
LCD screen	Display information	
AC light	Light on when connect with AC power	
Alarm light	Flasher when alarm	
Up	Change parameters	
Down	Change parameters	
_8	Select interface	
™aht	Select interface	
Back	Save settings, back to main interface, check parameters when running.  Long-press, it will come into time calendar set interface and software version number interface.	
Set	Short press could select parameters to change when stop, Long press could go into senior parameter setting interface. It could save after changing the parameters.	
Power	Turn on: press for 2 seconds.  Turn off: Press for 5 seconds.  packlight: click to display.	
Start	Install the syringe, set all parameters, then press it to start injection.	

<sup>\*</sup> Carrying Warranty at Rajkot Office only on site warranty not provided free of cost.
\* Due to constant upgradation design, price and features are subject to change any time without prior notice.



LCD screen

www.westernsurgical.in Email : westernsurgical@gmail.com Ph. : +91-281-2232871 / 2243159

Right

AC light

	In senior setting interface, to set the syringe parameters again, press it to unlock	
Stop	Press it to stop injection, and stop alarm.	
Silence	Press it to close and open the sound.	
Bolus	When stop, press two times then press until starting empty, release it to stop empty.  When running, press it then the white color of rate font will become red, press up and down to set flow rate, long-press to start bolus, release to stop bolus to restore its original speed.	
Clear	When stop, press it to clear accumulated volume to zero.	
Pressure bar	Pressure syringe, avoid syringe disengaged	
Clutch button	Press it to move the piston. Release it, then it can't move, only move with motor.	
Power connector	Connect with power line.	
Clamp	Fix syringe pump on IV poles	
Ruler	Set syringe length, measure syringe length	

# **Product Operation Instructions**

# 1, Basic operation steps

#### First step: Lock clamp

- (1) Take syringe pump
- (2) Take clamp and 4 pieces M4 philips head screws.
- (3) Equipped with a Phillips screwdriver by user
- (4) Lock clamp as show on follow picture.





\* Carrying Warranty at Rajkot Office only on site warranty not provided free of cost.
\* Due to constant upgradation design, price and features are subject to change any time without prior notice.

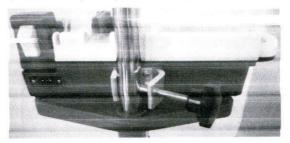


Western Surgical

#### agend step: fix the syringe pump

the syringe pump in the suitable place for patient use

2. Lock the clamp on IV poles or on the pallet.



### Third step: connect with AC power

1. Insert the power cord into the injection pump power socket.



#### Warning:

- Suitable for AC100v-240v~, 50Hz/60Hz voltage range.
- Only use AC power line provided with accessories.

#### Fourth step: power on



2 seconds to power on, display welcome interface, then go into rate model

interface automatically.

#### Caution:

Western Surgical

- Power light on, connect with AC power normally.
- Self check when power on, then it can check if it is normal.
- Only connect with AC power when syringe pump power on, then the battery can be charged.

# Fifth step: install syringe

\* Carrying Warranty at Rajkot Office only on site warranty not provided free of cost. \* Due to constant upgradation design, price and features are subject to change any time without prior notice.



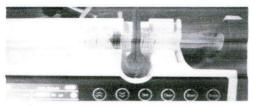
www.westernsurgical.in Email: westernsurgical@gmail.com

Ph.: +91-281-2232871 / 2243159



- 1, Pull the syringe pressure bar to the upper, then loose after left rotating 90 degrees.
- 2. Press clutch button, drag the piston to the right position, install the syringe filled with solutions into groove.
- 3. Pull the syringe pressure bar to the upper, then loose after rotating to the syringe, LCS screen will display the syringe size.





#### Warning:

Check no bubbles in the syringe.

#### A Carefully

Syringe circle edge must stuck in syringe installation groove.

# Sixth Step: select mode or adjust rate

1, In mode interface, press





to select syringe mode.

After select mode, press



to set the parameters, the setting parameters will become





change the value. Long press or short press can

change the value. After finish, press



2, Parameter save function automatically. If no need to change parameters. It can use the same parameters as last setting

\* Carrying Warranty at Rajkot Office only on site warranty not provided free of cost.
\* Due to constant upgradation design, price and features are subject to change any time without prior notice.

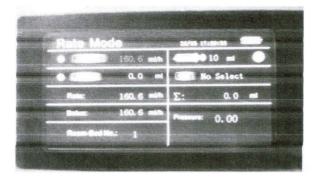


www.westernsurgical.in Email: westernsurgical@gmail.com

Ph.: +91-281-2232871 / 2243159







#### Seventh step: clear accumulated volume

1, Only in stop status, it can use accumulated volume clear function.

2, In any modes, press accumulated volume will become zero, and start accounting again.

#### Eighth step: start injection

- Make sure install syringe correctly, and check if the syringe size shown on the screen is the same with actual one.
- 2, All parameters are set, then it can start injection.
- s, Make sure the syringe needle connect with patient well.



to running. The screen will display injection progress





#### Notice:

- If no need to accumulate previous injection volume, press clear before start, clear previous accumulated volume to zero.
- \* Carrying Warranty at Rajkot Office only on site warranty not provided free of cost.
  \* Due to constant upgradation design, price and features are subject to change any time without prior notice.



In running status, only read the accumulated volume, can't clear the accumulated volume.

#### Ninth step: injection completion

- 1, When solution is about to finish, alarm light flicker, LCD screen display" near completion" with alarm to remind user completion.
- 2. When syringe empty or finish the preset volume, syringe pump will stop injection and alarm indicator will light on, LCD will display "injection completion" with alarm to remind user completion.
- syringe pump will stop alarm and alarm indicator will go out, LCD will not display "injection completion", alarm clear up.



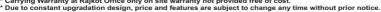


#### Notice:



Tenth step: turn off

\* Carrying Warranty at Rajkot Office only on site warranty not provided free of cost.











3-5 seconds with beeps, it will from slow to fast. Then leave hold to off.

# 2, Purge operation

1 After power on. in stop status of any interface, press two times and hold, the device will go into purge status. Leave hold button will stop bolus.

Purge rate as below chart:

Syringe size	Purge rate
5 ml	100 ml/h
10 ml	200 ml/h
20 ml	400 ml/h
30 ml	600 ml/h
50 ml	1500 ml/h

2, During running in any modes, press



, the flow rate will become red, then adjust

bolus rate by





After change the bolus rate, press and hold

Bolus

n ac

into bolus status. Leave hold to return to previous injection status.



#### Notice:

- Bolus will not influence any alarm function.
- Bolus injection volume will be calculated to accumulated volume during running.

# 3, Change syringe brand and calibration syringe length

- Warning
- Factory setting is calibrated by "double-dove" brand syringe. User can calibrate other
- \* Carrying Warranty at Rajkot Office only on site warranty not provided free of cost.
  \* Due to constant upgradation design, price and features are subject to change any time without prior notice.



brands syringe parameters according to follow methods.

# First step: measure syringe length

- 1. Push the syringe piston to the bottom.
- 2. Put the calibrating syringe on the scale to measure the length of this syringe( mm), and record the length, the accuracy of this length will make sure syringe accuracy.



#### Notice:

Different size syringe's scale should be accordance with user manual.

0 scale align(50ml syringe: 50ml in the position of 0 scale. 30ml syringe: 30ml in the position 10ml syringe: 10ml in the 20ml syringe: 20ml in the direction of 0 scale. of 0 scale. 5ml syringe: 5ml in the direction of 0 scale) direction of 0 scale.

#### Second step: fix syringe

1, Install the syringe on the syringe pump, push the piston to the left side, press bar should close tightly to syringe.

#### Notice:

In order to guarantee the accuracy, must make the syringe stuck in the groove.

# Third Step: change syringe brand and set syringe length

1 In stop status, long press



into senior parameters setting interface. When syringe

brand become red, press





to select user defined syringes. Then press



to save and go into setting syringe length.

2, Select one syringe sixe to calibrate(5ml, 10ml, 20ml, 30ml, 50ml), when the font become red,



Western Suraical



to unlock, then press





to input previous calibrating length.

\* Carrying Warranty at Rajkot Office only on site warranty not provided free of cost.

\* Due to constant upgradation design, price and features are subject to change any time without prior notice.



www.westernsurgical.in Email: westernsurgical@gmail.com Ph.: +91-281-2232871 / 2243159

© Copyright Reserved by : Western Surgical - Rajkot.





3. If need to calibrate other size, press



4. If no need to set other parameters, press



to save and back to main interface.



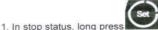




#### Notice:

Any size syringes must calibrate firstly, then work in normal, otherwise it will show (parameter error), may cause inaccuracy of injection.

# 4. Further parameter setting



to senior parameter setting interface.



to select setting parameters, when font become red, press



\* Carrying Warranty at Rajkot Office only on site warranty not provided free of cost.

\* Due to constant upgradation design, price and features are subject to change any time without prior notice.







to save, if no need to set other parameters,



to save and exit

All kinds parameters for user reference:

Parameters	Setting range
Syringe brand	Double-dove, user-defined A, user-defined B
Syringe length	0.1-150.0mm
KVO	0-5.0ml/h
Pressure value	High, Middle, low
Bed No.	1-999
Backlight time	0-10min
Language	Chinese, English
Pressure value range	0.04-0.16
ressure coefficient value	0.14-0.21

# 5, Set time and date

1, In status mode, long press









to select parameters to change, when font





to change value, finally press



\* Carrying Warranty at Rajkot Office only on site warranty not provided free of cost.
\* Due to constant upgradation design, price and features are subject to change any time without prior notice.

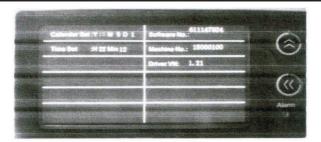


www.westernsurgical.in Email: westernsurgical@gmail.com

Ph.: +91-281-2232871 / 2243159



© Copyright Reserved by : Western Surgical - Rajkot.



# 6, Operation parameters view

1, In any mode working interface, short press



to read relative parameters.



# 7, Mode parameter setting

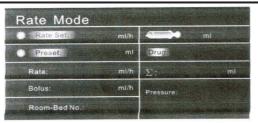
- 1, Mode: rate mode, time mode and body weight mode.
- 2, Parameters to set:

Mode	Parameters to set	Remark
Rate mode	Rate (ml/h)	Preset volume could be set by yourself
Time mode	Time (min)	Preset time could be set by yourself
	Solution amount (ml)	
Body weight mode	Body weight (kg)	Preset volume could be set by yourself
	Drug amount (mg)	
	Solution amount (ml)	
	Dosage (mg/kg/h) or (ug/kg/h)	

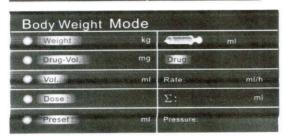
\* Carrying Warranty at Rajkot Office only on site warranty not provided free of cost.
\* Due to constant upgradation design, price and features are subject to change any time without prior notice.



www.westernsurgical.in Email: westernsurgical@gmail.com







#### Notice:

- Parameter setting must be in effective range, otherwise it will show parameter error.
- The flow rate in mode parameter setting interface is calculated automatically, can not set
- Body weight mode flow rate formula Flow rate = dosage × body weigh ×solution amount/ drug amount( mg/kg/h) Flow rate= 60×dosage×body weight ×solution amount/ drug amount×1000(ug/kg/min)

# 3. Software version query

1, In stop status, long press



to auery, press



to second page to view software

code machine code and driver version etc

\* Carrying Warranty at Rajkot Office only on site warranty not provided free of cost.









return back to main interface.



# 9. Battery charge

- 1. Connect with power cord, AC light on, syringe pump will charge automatically with power on, after full charge, it will stop charging automatically.
- 2, Unplug the power cord, AC light off, battery will supply electricity for syringe pump, when low battery, it will alarm for low voltage to remind user of charging immediately, if syringe pump is working, it must stop injection and can't inject again without AC power connected, the alarm can disappear after connect with AC power. If low battery for a while, screen will flicker and power off immediately.

#### Warning:

Charge the battery with power on.

#### Notice:

- When battery is running out, it need at least 8 hours to full charge.
- Battery is consumption part, must replace after exhaustion...
- If long time no use for this product, please charge and discharge the battery every 3 month, in case of any damage for battery.

#### Product service

#### Alarm and elimination

	Main reason	Solution
Near completion	Syringe is going to empty	Press stop button, stop injection and eliminate alarm.

<sup>\*</sup> Carrying Warranty at Rajkot Office only on site warranty not provided free of cost. \* Due to constant upgradation design, price and features are subject to change any time without prior notice.



www.westernsurgical.in Email: westernsurgical@gmail.com

Ph.: +91-281-2232871 / 2243159

Injection completion	Syringe is empty	Press stop button, stop injection and eliminate alarm.
Injection	1.Injection circuit block	Press stop button, stop injection and eliminate alarm, remove injection circuit block then start injection.
occlusion	2.Blocking sensitive is too high	Reset occlusion level
	3.fault with syringe pump sensor	Contact manufacturer to maintain
	1. Very low voltage	Charging battery with Ac power connected
Low battery	2.The age of battery or a fault syringe pump charging circuit	Contact manufacturer to maintain
Syringe	1.syringe disengaged or not installed well	Reinstall the syringe
disengaged	2.wrong with syringe pump potentiometer	Contact manufacturer to maintain
Parameters error	1.parameter's setting error for syringe pump	Calibrate all kinds syringes
Flow rate parameter error	Parameter setting error in all	Reset parameters
Motor failure	Problem with motor running	Contact manufacturer to maintain
Communicati on error	CPU data communication error	Contact manufacturer to maintain
*Carrying Warranty at Rajkot Office only on site warranty not provided free of cost.  *Due to constant upgradation design, price and features are subject to change any time without prior notice.  *WWW.westernsurgical.in  Email: westernsurgical@gmail.com  Ph.: +91-281-2232871 / 2243159		

© Copyright Reserved by : Western Surgical - Rajkot.

Western Surgical

#### 7.3 WARRANTY CERTIFICATE

western surgical product is warranted to be free from electrical and mechanical defects in material and workmanship, under normal use. The western surgical product must not have been moved from the site of original installation. A new or remanufactured part to replace the defective part will be provided without charge for the part itself, through an authorized western surgical service dealer. The replacement part assumes the unused portion of the warranty.

#### WESTERN SURGICAL WILL NOT BE RESPONSIBLE FOR:

- 1. Damage or repairs required as a consequence of faulty installation or application by others.
- 2 Damage repairs or needed as consequence misapplication. negligent handling. improper servicing. unauthorized alteration, or improper operations.
- 3 Failure to start due to voltage conditions, blown fuses, open circuit breakers or other damages due to the inadequacy or interruption of electrical service
- 4 Damage as a result of floods, winds, fires, lightning, accidents, corrosive atmosphere, or other conditions beyond the control of western surgical
- 5. Parts not supplied or designated by western surgical.

Date of Installation	Installed By
Model No.	Serial No.
Warranty Period	
Name of Doctor & Address :	

Customer Sign. With Stamps

Marketed By: Western Surgical Sign. With Stamps

# **No Claim Warranty:**

Western Suraical

- 1) Any Defect Throught Power Supply
- 2) Any Physical Damage
- 3) Under Warranty Standby Unit Not Provide
- 4) Under Warranty When Company Send Parts or Machine we Imidiat send to Buyer.
- \* Carrying Warranty at Rajkot Office only on site warranty not provided free of cost.



Dt.: 9-10-2018

# **OUR OTHER PRODUCTS RANGE**



Carrying Warranty at Rajkot Office only on site warranty not provided free of cost.

WESTERN SURGICAL

# Western Surgical

AN ISO 9001: 2008 & ISO 13485: 2015 AC 2012 CERTIFIED COMPANY

"Happy Home", 1st Floor, 23, Karanpara,

B/h. S.T. Bus Stand, Kanak Road,

Rajkot-360 001. Ph.: +91 281-2232871/2243159

Mo.: +91 98250 69069 - +91 98250 45997

Email: westernsurgical@gmail.com Email: info@westernsurgical.in

\* www.westernsurgical.in \*
© Copyright Reserved by : Western Surgical - Rajkot.

