

# 500 I /IA Syringe Pump

## Function and Features

- Awarded with ISO13458:2003(TUV Germany)and CE Certification (CE0197)
- All standard syringes of 10ml, 20ml、 50ml are compatible. The Machine diagnoses the syringe size automatically, and with a simple syringe specification setting, the syringe pump can guarantee an accurate and safe injection.
- Unique function of bedside injection supervision which makes patients and their relatives as well as nurses more assured.
- Excellent injection function and operation. Even small-volume injection is accurate.
- Double CPU system ensures safe and reliable injection process.
- Driven by precision step motor, no pulsating waves shall occur during even low-rate injection.
- Accurate and sensitive pressure sensor detects occlusion pressure accurately.
- Alarms are given in case of malfunction or operation error and the machine stops operation automatically.



## Technical Parameters of 500I /IA Syringe pump

Applicable Syringes	All brands of stand syringes:		Weight	<3.0kg
	500I	10ml,20ml,50ml	Dimension	3801×901×80mm(lengthw×idthh×ei ght)
	500IA	1ml,5ml,10ml	Power supply	AC100V~240V, 50/60HZ
Accuracy	±3%		Fuse	T2AL 250V
Injection rate	10ml:0.1~100ml/h 20ml:0.1~200ml/h 50ml:0.1~500ml/h		Maximum Power consumption	25VA, run for 4h after being charged.
	1ml:0.1~10ml/h 5ml:0.1~50ml/h 10ml:0.1~100ml/h		Battery	Rechargeable lithium Polymer battery,7.4V,1600mAh
			Battery recharge	When the pump is connected to the AC power supply, turn on the power and the battery will automatically recharge (about 8-14 hours to recharge fully.)
Accumulated volume	0.1ml~999.9ml		Electrical safety	Comply with the requirement of IEC60601-1;1996
Increment	0.1ml/h		Electromagnetic compatibility	Comply with the requirement of IEC60601-2;2006
Bolus rate	500I	The fastest rate of the size of syringe in use	Shell material	ABS plastic
	500IA	No bolus	Classification	Class II, Type BF
Displayed information	Rate, accumulated injection volume, Syringe size, battery capacity, bed No., AC power indicator, battery charge indicator		Operating conditions	Environment temperature 5~45°C.air pressure 86kPa~106kPa, relative humidity<80%
Alarm functions	Over, Near, Occlusion, low battery, syringe disengaged, No AC power supply, Serious low battery		Storage conditions	Environment temperature -40°C~55°C, air pressure 50kPa ~106kPa, relative humidity <95%
			Applied standards	IEC60601-1: 2005 IEC60601-2-24: 1998 IEC60601-1-2: 2006 ISO780-1997 ISO15223: 2000 ISO7886-1: 1993 ISO / IEC: Guide No. 37<Consumer Goods Usage Instructions>

## 500II Syringe Pump

### Function & Features

- | Three kinds of modes: Rate Mode, Time Mode, Body Weight Mode.
- | Double CPU, making the process of injection safer and more reliable.
- | Accurate and sensitive pressure sensor detecting occlusion pressure accurately.
- | Injection time, dose, solution can be checked during the process of injection.
- | Precision step motor. There is no pulsating wave even during low-rate injection.
- | KVO rate can be selectable according to concrete requirements from 0.1ml/h to 5ml/h.
- | Excellent injection operation. The accuracy will be ensured even at small-volume injection.
- | Unique injection supervision system ensures the safe injection and reduces the nurse's workload.
- | Accept all standard syringes of 5ml, 10ml, 20ml, 30ml and 50ml. It will self-diagnose and display the syringe size and set parameter automatically in the form of menu.
- | Alarm is given when there is malfunction or operation error, and the machine stops running automatically.
- | Save the preset volume automatically when there is unpredictable switch off, ensuring the accuracy of injection volume.

### Technical parameters of 500II Syringe pump

Applicable syringes	All brands of standard syringes: 5ml,10ml,20ml,30ml,50ml	Weight	<3.0kg
Accuracy	± 2%	Dimension	380×190×180mm
Injection increment	0.1ml	Power supply	AC100~240V, 50/60Hz
Occlusion value	40kPa~160kPa	Fuse	T2AL250V~
Injection rate	5ml: 0.1 ml/h -100ml/h    30ml: 0.1 ml/h -600ml/h 10ml: 0.1 ml/h -200ml/h    50ml: 0.1 ml/h -1500ml/h 20ml: 0.1 ml/h -400ml/h	Maximum power consumption	25W, can run for 4h after being recharged
Accumulated injection volume	0.1ml~9999.9ml	Battery	Rechargeable lithium polymer battery, 7.4V, 1600mAh
Modes of operation	Selectable: Rate mode, Time mode, Body Weight mode	Battery recharge	When the pump is connected to the AC power supply, turn on the power and the battery will automatically recharge (about 8~14 hours to recharge fully.)
Time mode	Volume limit: 0.1~999.9ml    Time: 1~2000 minutes	Electrical safety	Comply with the stipulation of IEC60601-1: 1996
Body weight mode	Drug limit:0.1~999.9mg, Solution limit:0.1~999.9ml, Weight: 0.1~300.0kg, Dose: 0.1~9999.9 mg/kg/h, ug/kg/min	Electromagnetic compatibility	Comply with the stipulation of IEC60601-1-2: 2006
Displayed information	Rate, volume limit, accumulated injection volume, syringe size, pressure value, battery capacity, unit of medical dosage, bed No., AC power indicator, battery charge indicator, drug name, bolus rate	Shell material	ABS plastic
Alarm function	OVER, NEAR, Occlusion, Low battery, Syringe disengaged, No AC power supply, serious low battery	Classification	Class II ,Type BF
KVO rate	0.1ml/h-5.0ml/h (selectable)	Operating conditions	Environment temperature 5°C ~40°C, air pressure 80kPa ~106kPa, relative humidity <80%
Bolus rate	5ml: 100ml/h 10ml: 200ml/h 20ml: 400ml/h 30ml: 400ml/h-600ml/h 50ml: 400ml/h-1500ml/h	Storage conditions	Environment temperature -40°C~55°C, air pressure 50kPa ~106kPa, relative humidity <95%
		Applied standards	IEC60601-1: 2005 IEC60601-2-24: 1998 IEC60601-1-2: 2006 ISO780-1997 ISO15223: 2000 ISO7886-1: 1993 ISO / IEC: Guide No. 37<Consumer Goods Usage Instructions>

## 500III Double-channel Syringe Pump

### Features and Functions:

- Double-channel(multi-channel), sub-rate injection.
- Four kinds of injection modes: Rate mode, Time mode, Body Weight mode, Link mode.
- Innovative design of outer appearance gives a strong sense of science and technology.
- Double CPU makes the process of injection safer and more reliable.
- The use of TFT color LCD makes the screen display more remarkable.
- Digital menu, easy operation; functions fully meet the clinical demand.
- Integrative pump device makes more smooth operation and easier installation and maintenance.
- Brand-new STM32 ARM-Cortex M3 platform, optimized circuit design, operation rate more fast and stable.
- Ample and user-friendly indicator information; accurate and complete alarm information to ensure safe injection.
- Unique wireless infusion supervision function, achieving accurate infusion and synchronization infusion supervision to patients.



### Technical Parameters of 500III Double-channel Syringe Pump

Max. injection rate	1500ml/h(Different injectors have different maximum rate.)	Accumulated volume	0.1ml~999.9ml
Max. size of outer shell	320 mm×200 mm×110 mm(length×width×height)	Injection accuracy	±3% ( up to ±1% after calibration.)
Applicable injectors	5cm, 10cm, 20cm, 30cm, 50ml	Injection increment	0.1ml/h
Battery	AC 100~240V,50/60Hz	Volume limit	0.1ml~999.9ml
Battery recharge	Rechargeable Lithium Polymer battery, 7.4V, 1600mA	Classification	Class II , Type BF
Max. power consumption	Single-channel works for continuous 5 hours at the rate of 25ml/h after fully recharged; double-channel works for continuous 3 hours at the rate of 25ml/h after fully recharged.		
Range of flow rate	5ml injector: 0.1ml/h~100ml/h      10ml injector: 0.1ml/h~200ml/h 20ml injector: 0.1ml/h~400ml/h      30ml injector: 0.1ml/h~600ml/h 50ml injector: 0.1ml/h~1500ml/h		
Bolus rate	5ml injector: 100ml/h      10ml injector: 200ml/h 20ml injector: 400ml/h      30ml injector: 400~600ml/h (adjustable) 50ml injector: 400~1500ml/h(adjustable)		
Alarm information	Near completion, completion, OCCL., injector off, low voltage, No AC Power supply, communication error, link abnormal, pump stuck, reading error of the parameters, etc.		
Mode selection	1. Rate mode    2. Time mode    3. Body Weight mode    4. Link mode		
Rate mode	Rate: 0.1ml/h~1500.0ml/h(Max. value depends on injector specification)		
Time mode	Volume: 0.1ml~999.9ml      Time: 1min.~2000 min.		
Body Weight mode	Weight: 0.1kg~300.0kg    drug: 0.1mg~999.9mg    volume: 0.1ml~999.9ml Dose: 0.1~1500.0 (restricted to unit, drug, solution, weight and injector) Unit: mg/kg/h, ug/kg/min		
OCCL. value	40Kpa~160Kpa, display the voltage status and the pressure value.		
KVO rate	Adjustable range: 0.1ml/h~5.0ml/h(adjustable: 0.1ml/h per each segment, press “0” to cancel KVO function.)		

## 500III Multi-channel Syringe Pump

### Features & Functions:

- Four-channel(multi-channel), sub-rate injection.
- Four kinds of injection modes: Rate mode, Time mode, Body Weight mode, Link mode.
- Innovative design of outer appearance gives a strong sense of science and technology.
- Double CPU makes the process of injection safer and more reliable.
- The use of TFT color LCD makes the screen display more remarkable.
- Digital menu, easy operation; functions fully meet the clinical demand.
- Integrative pump device makes more smooth operation and easier installation and maintenance.
- Brand-new STM32 ARM-Cortex M3 platform, optimized circuit design, operation rate more fast and stable.
- Ample and user-friendly indicator information; accurate and complete alarm information to ensure safe injection.
- Unique wireless infusion supervision function, achieving accurate infusion and synchronization infusion supervision to patients.



### Technical Parameters of 500III Multi-channel Syringe Pump

Max. injection rate	1500ml/h(Different injectors have different maximum rate.)	Accumulated volume	0.1ml~999.9ml
Max. size of outer shell	320 mm×200 mm×110 mm(length×width×height)	Injection accuracy	±3% ( up to ±1% after calibration.)
Applicable injectors	5cm, 10cm, 20cm, 30cm, 50ml	Injection increment	0.1ml/h
Battery	AC 100~240V,50/60Hz	Volume limit	0.1ml~999.9ml
Battery recharge	Rechargeable Lithium Polymer battery, 7.4V, 1600mA	Classification	Class II , Type BF
Max. power consumption	Single-channel works for continuous 5 hours at the rate of 25ml/h after fully recharged; double-channels works for continuous 3 hours at the rate of 25ml/h after fully recharged.		
Range of flow rate	5ml injector: 0.1ml/h~100ml/h      10ml injector: 0.1ml/h~200ml/h 20ml injector: 0.1ml/h~400ml/h      30ml injector: 0.1ml/h~600ml/h 50ml injector: 0.1ml/h~1500ml/h		
Bolus rate	5ml injector: 100ml/h      10ml injector: 200ml/h 20ml injector: 400ml/h      30ml injector: 400~600ml/h (adjustable) 50ml injector: 400~1500ml/h(adjustable)		
Alarm information	Near completion, completion, OCCL., injector off, low voltage, No AC Power supply, communication error, link abnormal, pump stuck, reading error of the parameters, etc.		
Mode selection	1. Rate mode    2. Time mode    3. Body Weight mode    4. Link mode		
Rate mode	Rate: 0.1ml/h~1500.0ml/h(Max. value depends on injector specification)		
Time mode	Volume: 0.1ml~999.9ml      Time: 1min.~2000 min.		
Body Weight mode	Weight: 0.1kg~300.0kg    drug: 0.1mg~999.9mg    volume: 0.1ml~999.9ml dose: 0.1~1500.0 (restricted to unit, drug, solution, weight and injector) Unit: mg/kg/h, ug/kg/min		
OCCL. value	40Kpa~160Kpa, display the voltage status and the pressure value.		
KVO rate	Adjustable range: 0.1ml/h~5.0ml/h(adjustable: 0.1ml/h per each segment, press “0” to cancel KVO function.)		

## 500III B Multi-channel Syringe Pump

### Features & Functions:

- Multi-channel(Six-channel), sub-rate injection.
- Four kinds of injection modes: Rate mode, Time mode, Body Weight mode, link mode.
- Innovative design of outer appearance gives a strong sense of science and technology.
- Double CPU makes the process of injection safer and more reliable.
- The use of TFT color LCD makes the screen display more remarkable.
- Digital menu, easy operation; functions fully meet the clinical demand.
- Integrative pump device makes more smooth operation and easier installation and maintenance.
- Brand-new STM32 ARM-Cortex M3 platform, optimized circuit design, operation rate more fast and stable.
- Ample and user-friendly indicator information; accurate and complete alarm information to ensure safe injection.
- Unique wireless infusion supervision function, achieving accurate infusion and synchronization infusion supervision to patients.



### Technical Parameters of 500III B Multi-channel Syringe Pump

Max. injection rate	1500ml/h(Different injectors have different maximum rate.)	Accumulated volume	0.1ml~999.9ml
Max. size of outer shell	320 mm×200 mm×110 mm(length×width×height)	Injection accuracy	±3% ( up to ±1% after calibration.)
Applicable injectors	5cm, 10cm, 20cm, 30cm, 50ml	Injection increment	0.1ml/h
Battery	AC 100~240V,50/60Hz	Volume limit	0.1ml~999.9ml
Battery recharge	Rechargeable Lithium Polymer battery, 7.4V, 1600mA	Classification	Class II , Type BF
Max. power consumption	Single-channel works for continuous 5 hours at the rate of 25ml/h after fully recharged; double-channels works for continuous 3 hours at the rate of 25ml/h after fully recharged.		
Range of flow rate	5ml injector: 0.1ml/h~100ml/h      10ml injector: 0.1ml/h~200ml/h 20ml injector: 0.1ml/h~400ml/h      30ml injector: 0.1ml/h~600ml/h 50ml injector: 0.1ml/h~1500ml/h		
Bolus rate	5ml injector: 100ml/h      10ml injector: 200ml/h 20ml injector: 400ml/h      30ml injector: 400~600ml/h (adjustable) 50ml injector: 400~1500ml/h(adjustable)		
Alarm information	Near completion, completion, OCCL., injector off, low voltage, No AC Power supply, communication error, link abnormal, pump stuck, reading error of the parameters, etc.		
Mode selection	1. Rate mode    2. Time mode    3. Body Weight mode    4. Link mode		
Rate mode	Rate: 0.1ml/h~1500.0ml/h(Max. value depends on injector specification)		
Time mode	Volume: 0.1ml~999.9ml      Time: 1min.~2000 min.		
Body Weight mode	Weight: 0.1kg~300.0kg    drug: 0.1mg~999.9mg    volume: 0.1ml~999.9ml dose: 0.1~1500.0 (restricted to unit, drug, solution, weight and injector) Unit: mg/kg/h, ug/kg/min		
OCCL. value	40Kpa~160Kpa, display the voltage status and the pressure value.		
KVO rate	Adjustable range: 0.1ml/h~5.0ml/h(adjustable: 0.1ml/h per each segment, press “0” to cancel KVO function.)		

# 500IIC Multi-channel Syringe Pump



## Features & Functions:

- Eight-channel(multi-channel), sub-rate injection.
- Four kinds of injection modes: Rate mode, Time mode, Body Weight mode, Link mode.
- Innovative design of outer appearance gives a strong sense of science and technology.
- Double CPU makes the process of injection safer and more reliable.
- The use of TFT color LCD makes the screen display more remarkable.
- Digital menu, easy operation; functions fully meet the clinical demand.
- Integrative pump device makes more smooth operation and easier installation and maintenance.
- Brand-new STM32 ARM-Cortex M3 platform, optimized circuit design, operation rate more fast and stable.
- Ample and user-friendly indicator information; accurate and complete alarm information to ensure safe injection.
- Unique wireless infusion supervision function, achieving accurate infusion and synchronization infusion supervision to patients.

## Technical Parameters of 500IIC Multi-channel Syringe Pump

Max. injection rate	1500ml/h(Different injectors have different maximum rate.)	Accumulated volume	0.1ml~999.9ml
Max. size of outer shell	320 mm×200 mm×110 mm(length×width×height)	Injection accuracy	±3% ( up to ±1% after calibration.)
Applicable injectors	5cm, 10cm, 20cm, 30cm, 50ml	Injection increment	0.1ml/h
Battery	AC 100~240V,50/60Hz	Volume limit	0.1ml~999.9ml
Battery recharge	Rechargeable Lithium Polymer battery, 7.4V, 1600mA	Classification	Class II, Type BF
Max. power consumption	Single-channel works for continuous 5 hours at the rate of 25ml/h after fully recharged; double-channels works for continuous 3 hours at the rate of 25ml/h after fully recharged.		
Range of flow rate	5ml injector: 0.1ml/h~100ml/h      10ml injector: 0.1ml/h~200ml/h 20ml injector: 0.1ml/h~400ml/h      30ml injector: 0.1ml/h~600ml/h 50ml injector: 0.1ml/h~1500ml/h		
Bolus rate	5ml injector: 100ml/h      10ml injector: 200ml/h 20ml injector: 400ml/h      30ml injector: 400~600ml/h (adjustable) 50ml injector: 400~1500ml/h(adjustable)		
Alarm information	Near completion, completion, OCCL., injector off, low voltage, No AC Power supply, communication error, link abnormal, pump stuck, reading error of the parameters, etc.		
Mode selection	1. Rate mode   2. Time mode   3. Body Weight mode   4. Link mode		
Rate mode	Rate: 0.1ml/h~1500.0ml/h(Max. value depends on injector specification)		
Time mode	Volume: 0.1ml~999.9ml      Time: 1min.~2000 min.		
Body Weight mode	Weight: 0.1kg~300.0kg    drug: 0.1mg~999.9mg    volume: 0.1ml~999.9ml dose: 0.1~1500.0 (restricted to unit, drug, solution, weight and injector) Unit: mg/kg/h, ug/kg/min		
OCCL. value	40Kpa~160Kpa, display the voltage status and the pressure value.		
KVO rate	Adjustable range: 0.1ml/h~5.0ml/h(adjustable: 0.1ml/h per each segment, press “0” to cancel KVO function.)		