



# ESB-2102

## SYRINGE PUMP



### APPLICATIONS

1. Continuous Micro-infusion in ICU and CCU.
2. Maintenance therapy micro-infusion and blood transfusion in premature infants and neonates.
3. Injections of hormones.
4. Continuous injection of anesthetics.
5. Injection of oxytocics.
6. Injection of anticoagulants during dialysis and extracorporeal blood circulation.
7. For anti cancer drugs.

### FEATURES

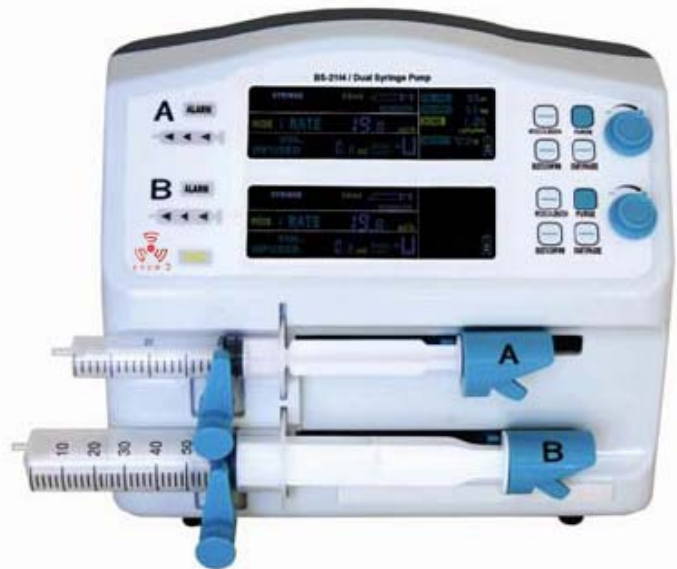
Can be used with any standard of syringe	Identify the specifications of syringe automatically
Three work modes	Can be set at any of three levels of limit pressure
Can be set at any of three levels of alarm volume	Audible and flashing alarms
Purge	RS232 interface
Clue for mistake operations	AC power and battery
KVO	Unique colour LCD

### SPECIFICATIONS

APPLICABLE SYRINGE	Any standard of syringe with 10ml, 20ml (30ml) and 50ml (60ml )		
ACCURACY	± 2% (after correct calibration)		
DELIVERY RATE RANGE	50ml (60ml):	0.1ml/h~1800.0ml/h	(0.1ml/h step)
	20ml (30ml):	0.1ml/h~800.0ml/h	(0.1ml/h step)
	10ml:	0.1ml/h~400.0ml/h	(0.1ml/h step)
TIME MODE	SOL. VOL.: 0.1~999.9ml (0.1ml step)		
	TIME: 1~1999min (1min step)		
BODY WEIGHT MODE	SOL. VOL.: 0.1~999.9ml (0.1ml step)		
	DRUG MASS: 0.1~999.9mg (0.1mg step)		
	DOSE: 0.01~99.99ug/kg/min (0.01ug/kg/min step) 0.01~99.99mg/kg/h (0.01mg/kg/h step)		
	WEIGHT: 0.1~300kg(0.1kg the least step)		
ALARMS	Near empty, Syringe empty, Volume complete (a volume limit has been set), Occlusion, Syringe loose, Operation error, Low battery and other device failures.		
VOLUME LIMIT RANGE	0~1999.9ml (0.1ml step)		
TOTAL VOLUME RANGE	0.1~1999.9ml (0.1ml step)		
PERGE RATE	50ml (60ml):	1800.0ml/h	20ml (30ml): 800.0ml/h 10ml: 400.0ml/h
KVO RATE	1ml/h		
POWER SOURCE	Ac power supply:AC 100 to 240V ±10%,50/60Hz; Internal Li Battery: 11.5V, 2000mAh. Battery life with continuous operation is approx. 8 hours (when using a new, full charges battery and running at 5ml/h with any standard of syringe)		
POWER CONSUMPTION	≤25VA		
SHOCK PROTECTION	Class 1, Type BF		
DIMENSION	280mm*160mm*130mm		
NET WEIGHT	Approx. 3.5kg		
OPERATING CONDITIONS	Ambient temperature: -10~40° C		Relative humidity:20~90%
STORAGE CONDITIONS	Ambient temperature: -10~55° C		Relative humidity:10~90%
ACCESSORIES	AC power line, Operation manual		

# ESB-2104

## DOUBLE SYRINGE PUMP



### APPLICATIONS

1. Continuous Micro-infusion in ICU and CCU.
2. Maintenance therapy micro-infusion and blood transfusion in premature infants and neonates.
3. Injections of hormones.
4. Continuous injection of anesthetics.
5. Injection of oxytocics.
6. Injection of anticoagulants during dialysis and extracorporeal blood circulation.
7. For anti cancer drugs.

### FEATURES

<b>2 Syringe Drive Systems</b>	Delivery drugs independently and cooperatively for one or two patient without any influence on each other.
<b>2 Operation Mode</b>	1. Flow rate controlled infusion mode (with avoidpuois mode) 2. Volume and Time Controlled Inf
<b>7 Flow Rate Units for options</b>	ml/h, mg/h, ug/h, mg/kg/h, mg/kg/min, ug/kg/h, ug/kg/min. ----Free from artificial conversion.
<b>Bolus Infusion</b>	300 ml/h
<b>Wide Range Flow Rate</b>	0.1~600 ml/h (20ml syringe); 0.1~1200ml/h (50 or 60 ml syringe).
<b>Special Excessive Pressure Alarm</b>	According the need of clinic, adjust the pressure alarm to improve the safety of infusion.
<b>Intellengent LCD Display</b>	A graphic display shows the trajectory of the estimated plasma and effect site drug concentration over time.
<b>Data sharing with PC</b>	RS-232 Interface enables the history data to be transmitted from pump to PC.

### SPECIFICATIONS

<b>Syringe Available</b>	20 ml Syringe ..... 50(60)ml syringe Automatically Identify the Syringes Volume.
<b>Flow Rate</b>	20 ml syringe : 0.1~600ml/h / 50(60)ml syringe: : 0.1~1200ml/h
<b>Accuracy</b>	±3% (capacity>2.0ml,flow rate >1.0ml/h, after pre-filling)
<b>7 Audible and flashing alarms</b>	1. Syringe disengaged, 2. Empty of syringe, 3. Occlusion, 4. Near empty of syringe, 5. End of infusion, 6. AC Power-failed, 7. Low voltage
<b>Display</b>	40×180 pixel LCD Screen with convenient operation interface.
<b>Operating conditions</b>	Ambient temperature: 5 #~40 # / Relative humidity (RH): ≤80% Power supply: AC 220 V±22V 50 Hz ±1Hz; DC Battery: 12V battery can use for 3 hours after charged for more than 10 hours. Atmospheric pressure: 860~1060hPa
<b>Dimension &amp; Weight</b>	Dimension (mm): 300×200×270 / Weight (kg): 3.5
<b>Safety Classification</b>	Class II & BF (internal battery)



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