中红医疗
ZHONGHONG PULIN

MedRena

For better infusion

UniFusion SP50 Pro Syringe Pump



Safety

- High accuracy: ±2%
- Anti-bolus function
- DERS(Drug Error Reduction System)
- IP level: IP34
- 11 hours battery back-up time



Friendliness

- 4.3" colour touch screen
- Intuitive operation system
- Antomatic calibration
- Stackable design

CE 0197

NMPA
National Medical Products Administration

TÜVRheinland CERTIFIED

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Physical Specifications

Weight	1.7kg
Size	242.5mm(L)*111mm(D)*126.5mm(H)
Screen	4.3-inch TFT full-color touch screen
Handle	Standard foldable handle
Stackable	Free stack between pumps without any auxillary tools
Brightness	1-10 levels adjustable
Sound volume	1-10 levels adjustable
Infusion Display	**Large font display:** key infusion parameter clearly visible 5 meters away **System Information:** Syringe brand, Syringe size, Lock screen status, Name of drug selected, Battery capacity remaining **Infusion information:** Rate, VTBI, Remaining time, Total volume infused, Real-time occlusion pressure, Alarms, etc. **Touchscreen button:** Start/ top, Bolus/Purge, Menu

Parameters Specifications

Accuracy	Rate≥1ml/h, accuracy±2%
Mechanical accuracy	±1%
Mode	8 infusion modes (Rate mode, Time mode, Body-weight mode, Drug library mode, Ramp up/down mode, Loading dose mode, Sequence mode, TIVA mode)
Flow rate range	0.1-1500ml/h (minimun step is 0.01ml/h)
Flow rate	Syringe size 2ml: (0.1-100)ml/h Syringe size 5ml: (0.1-150)ml/h Syringe size 10ml: (0.1-300)ml/h Syringe size 20ml: (0.1-600)ml/h Syringe size 30ml: (0.1-900)ml/h Syringe size 50/60ml: (0.1-1500)ml/h
Minimum flow rate increment	0.1ml/h(0.1-99.99ml/h) 0.1ml/h(100-999.9ml/h) 1ml/h(1000-1500ml/h)
Bolus	**Bolus type:** manual bolus, automatic bolus **Bolus range:** Syringe size 2ml: (0.11-100)ml/h Syringe size 5ml: (0.11-150)ml/h Syringe size 10ml: (0.11-300)ml/h Syringe size 20ml: (0.11-600)ml/h Syringe size 30ml: (0.11-900)ml/h Syringe size 50/60ml: (0.11-1500)ml/h
Bolus preset volume	Min: 0.1ml, Max: Specification of syringe size used
VTBI	0. 01-9999.99ml, minimun step is 0.01ml
Total Volume Infused	0. 00-9999.99ml, minimun step is 0.01ml
KVO rate	0. 00-5. 0ml/h(default 1ml/h)
Purge rate	Syringe size 2ml：100ml/h Syringe size 5ml：150ml/h Syringe size 10ml：300ml/h Syringe size 20ml：600ml/h Syringe size 30ml：900ml/h Syringe size 50/60ml：1500ml/h
Conc.unit (concentration unit)	ng/min, ng/h, ng/kg/min, ng/kg/h, ug/min, ug/h, ug/kg/min, ug/kg/h, mg/min, mg/h, mg/kg/min, mg/kg/h, g/min, g/h, g/kg/min, g/kg/h, U/min, U/h, U/kg/min, U/kg/h, IU/min, IU/h, IU/kg/ min, IU/kg/h, KU/min, KU/h KU/ kg/min, KU/kg/h, IE/min, IE/h, IE/kg/min, IE/kg/h, mol/min, mol/h, mol/kg/ min, mol/kg/h, mmol/min, mmol/h, mmol/kg/min, mmol/kg/h, kcal/min, kcal/h, kcal/kg/ min, kcal/kg/h
Dose rate unit	ng/ml, ug/ml, mg/ml, g/ml, U/ml, IU/ml, KU/ml, IE/ml, mol/ml, mmol/ml, kcal/ml
Micro mode range	Precise infusion control for newborns, special drugs, small-dose administration etc. 2ml Syringe size: (100)ml/h 5ml Syringe size: (100-150)ml/h 10ml Syringe size: (100-300)ml/h 20ml Syringe size: (100-600)ml/h 30ml Syringe size: (100-900)ml/h 50/60mSyringe size: (100-1500)ml/h
Time	1min-99hrs59min
Occlusion detection	Level: 1-12 levels selectable, default level 8: 600 mmHg Range:75mmHg-900mmHg 4 pressure units selectable: mmHg, kPa, PSI, Bar
Anti-bolus	Motor automatically reverse while the IV tube with high pressure. Automatic drop line pressure to reduce bolus impact after occlusion.
Records	More than 5, 000 history records
Treatment records	No less than 20 treatment records, one-click selection of historical treatment records for quick infusion initiation
Drug library	No less than 2, 000 drugs
Screen lock	Screen lock methods: manual, automatic Auto-lock time 15s-30 minutes selectable; Lock screen can be set to be turned off
Night Mode	After turning on this mode switch, night mode will automatically turn on or off at the set time
Standby mode	Range: 00: 01s－99hrs: 59min

Syringe

Applicable syringe size	2/3ml, 5ml, 10ml, 20ml, 30ml, 50/60ml Can store no less than 20 syringe brands
Syringe Recognition Function	Automatic recognition of syringe size after calibration

Alarms

Type	Picture, sound, text, light to show the alarm information in a variety of ways
Alarm Levels	**3 levels** **High:** VTBI infused, Syringe empty, Pressure high, Battery empty, No battery, No power supply, KVO finished, Systerm error **Middle:** Pressure near threshold, Pressure drop, Standby time expired, Check syringe, Occlusion pre alarm, Drug dose limits exceeded **Low:** VTBI near end, Syringe near empty, Battery nearly empty, No battery inserted, Battery in use, Pump idle alert
Pump Idle Alert	2min, 5min, 10min, 15min, 20min, 30min

Connectivity

Communication	Wired/wireless
USB	Support drug library import, Data export, Software upgrade, brand import, Nurse call
Wireless	WiFi module(optional)
IrDA	IrDA module(optional)
Relay	Available(optional)
DERS (Dose Error Reduction System)	Standard
DPS	Occlusion pre alarm and pressure drop alarms(Standard)
Connectivity to HIS/ CIS/ other 3rdparty platform	Supported
Titration	Standard
Optional accessories	DC power cord, Protective cover

Battery

Operating time	Specification: 7.4V 2500mAh Standard: 5.5hrs, optional: 11hrs(@5ml/h)
Charging time	Standard: ≤2.5hours, optional: ≤5 hours
Power supply	AC: 100-240V, 50/60Hz DC: 12V, 2A
Electric protection	Class I
Ingress protection	IP34

Working Environment

Operating	Temperature: 5-40°C Humidity: 15-95%, no-condensable Atmospheric pressure: 57-106kpa
Transport & Storage	Temperature: -20-55°C Humidity: 10-95%, no-condensable Atmospheric pressure: 50-106kpa