Specifications: M800



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Syringe Pump

M800(Not CE Marked)



Physical Characteristics

Dimensions:	290mm×146.5mm×77.5mm(L*W*H)
Weight	≤1.55 kg (Including battery)
Screen Size:	3.5” Capacitive touch screen TFT LCD with Auto-Brightness Adjustment
Classification:	Type CF, Defibrillation-proof, Class I

Operating Conditions

Temperature:	5~40°C
Humidity:	15%~95%
Power requirement:	100-240V~, 50/60Hz
Battery Type:	Rechargeable Lithium-ion battery
Battery Capacity:	2200mAh
Battery Recharging Time:	No more than 6h to full charge when powered off
Battery performance:	Up to 10 hours of continuous working (at 5ml/h)
Working modes:	Rate mode, Time mode, Weight mode, Intermittent mode, First dose mode, Sequential mode, Micro mode, Ramp mode, Dose Time mode

Indicators

Hardware Indicators:	Battery status indicator: Charging, Battery in use, Battery low/depleted AC Power indicator Alarm Light bar indicator
On-Screen Indicators:	Dynamic Pressure System (DPS) Infusion related information: Selected drug, Mode, Left Vol, Volume, Rest Time, Injection Rate, Alarm status, Battery status, Syringe brand and size Running(Infusion status) bar

Interface

AC power input

Multipurpose Jack that connects to an expansion cable

Dynamic Pressure System (DPS)

Display:	DPS indicator displayed as pie chart with dynamic pressure segment limits for occlusion alarm
Selectable patient types:	Neonatal, Pediatric, or Adult use
Pressure Levels:	Level 1~16 selectable depending on patient type
Neonatal:	Level 1-7 50, 75, 150, 225, 300, 375, 450mmHg
Pediatric:	Level 6-11 375, 450, 525, 600, 675, 750mmHg
Adult:	Level 7-16 450, 525, 600, 675, 750, 825, 900, 975, 1050, 1125mmHg

Ergonomics

Space-saving:	Stackable and allows docking with other units of M800 or ME900 in any desired combination onto an MX8900 Workstation. Each bracket allows slotting of 1~4 pumps. Stackable height: only put out 4,8,12 working station with 2 towers up to 24.

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Not all configurations are available worldwide, please refer to the local region for detailed information

Mounting Solutions:	Allows for mounting through a pole clamp for either stationary use on a bed rail or portability through the use of a trolley (TC800).
Portability:	Accommodates a carrying handle that supports up to 4 times the weight of 12 pumps, creating an easy to pick up and carry workstation. For stacked pumps, a trolley solution is available.

Modes:

Rate Mode, Time Mode, Weight Mode, Sequential Mode, First Dose Mode, Micro Mode, Ramp Mode, Dose Time Mode, Intermittent Mode, PCA Mode.

Rate mode setting range

Parameters:	Drug type selection, Time, Dose rate and Volume to be infused (VTBI) can be set to automatically calculate the remaining parameter
2/3ml	0.10ml/h~90.00 ml/h Step: 0.01 ml/h
5ml	0.10ml/h~150.00 ml/h Step: 0.01 ml/h
10ml	0.1ml/h~300.0ml/h Step:0.1ml/h
20ml	0.1ml/h~600.0ml/h Step:0.1ml/h
30ml	0.1ml/h~1200.0ml/h Step:0.1ml/h
50/60ml	0.1ml/h~2000.0ml/h Step:0.1ml/h
Volume Range:	0.10~9999.99ml; Step: 0.01ml
Injection Accuracy:	0.10<Rate<1.00ml/h, Accuracy≤ ±5% Rate>1.00ml/h, Accuracy≤ ±1.8%
Mechanical Precision:	≤ ±1%
Unit selection	ml/h, g/h, mg/h, ug/h, ng/h, g/kg/h, mg/kg/h, ug/kg/h, ng/kg/h, g/kg/min, mg/kg/min, ug/kg/min, ng/kg/min , U/kg/min, U/kg/h, KU/kg/min, KU/kg/h, IU/kg/min, IU/kg/h

Time mode setting range

Parameters:	Drug type selection, Time, Dose rate and Volume to be infused (VTBI) can be set to automatically calculate the remaining parameter
Time range:	00:00:01~99:59:59(h: m: s); Step: 1s
Volume range:	0.10~9999.99ml; Step: 0.01ml

Weight mode setting range

Parameters:	The patient's Weight, Drug type selection, Drug Concentration, Dose rate, Volume to be infused (VTBI) can be set and the Injection rate is automatically calculated according to the parameters set above.
Weight range:	0.10~500.00kg; Step: 0.01kg
Volume range:	0.10~9999.99ml; Step: 0.01ml
Drug concentration setting range:	0.001~9999.999ml; Step: 0.001ml; Unit: g/ml, mg/ml, ug/ml, ng/ml, U/ml, IU/ml, KU/ml
Dose rate setting range:	0.001~999.999; Step: 0.001; Unit: ng/kg/h, ug/kg/h, mg/kg/h, IU/kg/h, IU/kg/min,ug/kg/min, mg/kg/min, ng/kg/min, g/kg/h, g/kg/min, KU/kg/min, KU/kg/h, U/kg/min, U/kg/h.

Intermittent mode setting range

Parameters:	Drug type selection, Intermittent Volume (Intmt. Vol.), Intermittent Rate (Intmt. Rate), Keep Rate, Interval and Volume to be infused (VTBI) can be set. Intermittent Mode can be set to auto-loop.
2/3ml	0.10ml/h~90.00 ml/h Step: 0.01 ml/h
5ml	0.10ml/h~150.00ml/h Step: 0.01ml/h
10ml	0.10ml/h~300.00ml/h Step: 0.01ml/h
20ml	0.10ml/h~600.00ml/h Step: 0.01ml/h
30ml	0.10ml/h~1200.00ml/h Step: 0.01ml/h
50/60ml	0.10ml/h~2000.00ml/h

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	Step: 0.01ml/h;
Volume range	0.10~9999.99ml; Step: 0.01ml
Interval time range:	00:00:01~99:59:59(h: m: s); Step: 1s
Keep Rate range	0.001~999.999; Step: 0.001; Unit: g/kg/h, mg/kg/h, ug/kg/h, g/kg/min, mg/kg/min, ug/kg/min

Ramp mode setting range:

Parameters:	Drug type selection, Total Time, Up Time, Down Time and Volume to be infused (VTBI) can be set to automatically calculate the Steady Rate. The rates below refer to the values in which the automatically calculated steady rate may not exceed.
2/3ml	0.10ml/h~90.00ml/h Step: 0.01ml/h
5ml	0.10ml/h~150.00ml/h Step: 0.01ml/h
10ml	0.10ml/h~300.00ml/h Step: 0.01ml/h
20ml	0.10ml/h~600.00ml/h Step: 0.01ml/h
30ml	0.10ml/h~1200.00ml/h Step: 0.01ml/h
50/60ml	0.10ml/h~2000.00ml/h Step: 0.01ml/h;
Volume range:	0.10~9999.99ml; Step: 0.01ml
Time (Total time, Up time, Down time) range:	00:00:01~99:59:59(h: m: s); Step: 1s

Sequential mode setting range:

Parameters:	Drug type selection, Time, Dose rate and Volume to be infused (VTBI) can be set for each sequence to automatically calculate the remaining parameter and display a total VTBI.
Sequences:	Up to 10 sequences per pump.
2/3ml	0.10ml/h~90.00ml/h Step: 0.01ml/h
5ml	0.10ml/h~150.00ml/h Step: 0.01ml/h
10ml	0.10ml/h~300.00ml/h Step: 0.01ml/h
20ml	0.10ml/h~600.00ml/h Step: 0.01ml/h
30ml	0.10ml/h~1200.00ml/h Step: 0.01ml/h
50/60ml	0.10ml/h~2000.00ml/h Step: 0.01ml/h;
Volume range:	0.10~9999.99ml; Step: 0.01ml
Time range:	00:00:01~99:59:59(h: m: s); Step: 1s

Micro mode setting range

Parameters:	Drug type selection, Time, Dose rate and Volume to be infused (VTBI) can be set to automatically calculate the remaining parameter
Volume range:	0.10~1000.00ml; Step: 0.01ml
Rate setting range:	0.10~100.00ml/h; Step: 0.01ml;
Time range:	00:00:01~99:59:59(h: m: s); Step: 1s

First Dose mode setting range:

Parameters:	Drug type selection, Main time, Main rate, Main volume, First time, First rate and First volume can be set.
2/3ml	0.10ml/h~90.00ml/h Step: 0.01ml/h
5ml	0.10ml/h~150.00ml/h Step: 0.01ml/h
10ml	0.10ml/h~300.00ml/h Step: 0.01ml/h
20ml	0.10ml/h~600.00ml/h Step: 0.01ml/h
30ml	0.10ml/h~1200.00ml/h Step: 0.01ml/h
50/60ml	0.10ml/h~2000.00ml/h Step: 0.01ml/h;
Volume range:	0.10~9999.99ml; Step: 0.01ml
Time range:	00:00:01~99:59:59(h: m: s); Step: 1s

Dose Time mode setting range:

Parameters:	Drug type selection, Drug Concentration, Time and Volume to be infused (VTBI) can be set to automatically calculate the

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	Injection rate. The rates below refer to the values in which the automatically calculated Injection rate may not exceed.
2/3ml	0.10ml/h~90.00ml/h Step: 0.01ml/h
5ml	0.10ml/h~150.00ml/h Step: 0.01ml/h
10ml	0.10ml/h~300.00ml/h Step: 0.01ml/h
20ml	0.10ml/h~600.00ml/h Step: 0.01ml/h
30ml	0.10ml/h~1200.00ml/h Step: 0.01ml/h
50/60ml	0.10ml/h~2000.00ml/h Step: 0.01ml/h;
Volume range:	0.10~9999.99ml; Step: 0.01ml
Drug concentration setting range:	0.001~9999.999ml; Step: 0.001ml; Unit: g/ml, mg/ml, ug/ml, ng/ml, U/ml, IU/ml, KU/ml
Time range:	00:00:01~99:59:59(h: m: s); Step: 1s

PCA mode setting range:

Drug concentration:	0.001~9999.999; minimum increment: 0.001;
Loading dose:	0.01~20.00mL;minimum increment: 0.01mL/h;
Loading rate:	0.10~100.00mL/h; minimum increment: 0.01mL/h;
PCA dose:	0.01~20.00mL; minimum increment: 0.01mL;
PCA rate:	0.10~100.00mL/h; minimum increment: 0.01mL/h;
Lockout time:	1~60min; minimum increment: 1min.
1H-Limit:	0.01~20.00mL; minimum increment: 0.01mL;
4H-Limit:	0.01~60mL; minimum increment: 0.01mL.

Bolus injection setting range:

Bolus Rate:

2/3ml	0.10ml/h~90.00 ml/h Step: 0.01 ml/h (Default: 90.00ml/h)
5ml	0.10ml/h~150.00 ml/h Step: 0.01 ml/h (Default: 150.00ml/h)
10ml	0.1ml/h~300.0ml/h Step: 0.01ml/h (Default: 300.00ml/h)
20ml	0.1ml/h~600.0ml/h Step: 0.01ml/h (Default: 400.00ml/h)
30ml	0.1ml/h~1200.0ml/h Step: 0.01ml/h (Default: 600.00ml/h)
50/60ml	0.1ml/h~2000.0ml/h Step: 0.01ml/h (Default: 1500.00ml/h)

Bolus Preset Volume:

2/3ml	0.10 ml ~2.00 ml Step: 0.01 ml
5ml	0.10 ml~5.00 ml Step: 0.01 ml
10ml	0.1 ml~10.00 ml Step: 0.01 ml
20ml	0.1 ml~20.00 ml Step: 0.01 ml
30ml	0.1 ml~30.00 ml/h Step: 0.01 ml
50/60ml	0.1 ml~50.00 ml Step: 0.01ml

Injection Accuracy

Rate=0.10~1.00ml /h	≤ ±5%
Rate>1.00ml/h	≤ ±1.8%
Mechanical precision:	≤±1% (The percentage error between the specified motion distance and the actual motion distance in the full stroke of the syringe pump)

Drug Library and Information Management:

Drug Library:	Up to 5000 drug types can be registered. (Default 60 types)
Dose Error Reduction System:	A Dose Error Reduction System (DERS) can be programmed with different parameters for soft and hard limits for individual drugs to minimise drug programming errors.
Patient Information	A patient information management system is inbuilt that allows for patient

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Management:	information input and recording.
Patient Type:	Adult, Neonatal, Paediatric selectable
Other information:	Name, Patient ID, Bed No., DOB, Height, Weight, Age, Sex, Blood type, BSA, BMA, Doctor in Charge

Alarms:

Alarm pressure level:	P1 to P16
Alarm volume:	Max: 65db (At 1m distance) Min: 45db (At 1m distance)
Occlusion Alarm:	Range: 150~975mmHg (P1-P12) Accuracy: ±15% or ±75mmHg, whichever is greater Default setting: 525mmHg (P6) Unit: mmHg, kPa, bar, psi
Supported Alarm Types:	Occlusion alarm, Completion alarm, KVO Completion alarm, Purging completion alarm, Purging near completion alarm, Syringe detection alarm, System error alarm, Idle alarm, Low battery alarm, Depleted battery alarm, Disconnected battery alarm, Abnormal pressure alarm, Near completion alarm, Disconnected power supply alarm, Communication/network error alarm, Piston column abnormality alarm, Syringe clamp abnormality alarm, Syringe bracket abnormality alarm, Control board error alarm, Main motor speed abnormality alarm, Main motor directional abnormality alarm, Main motor slave drive directional abnormality alarm, Main motor slave driver speed abnormality alarm, Slave driver 24V power supply abnormality alarm, Slave driver communications error alarm.

Features

Startup guidance and syringe installation:	Syringe installation procedure displayed upon device startup in the event where a syringe is not installed. Syringe size is automatically detected and syringe brand selection will be displayed upon syringe installation.
Syringe selection parameters:	With auto syringe identification function. Brands selectable upon syringe installation: Shuangge, Jierui, B-D (2/3ml, 5ml, 10ml, 20ml, 30ml, 50/60ml) Supports up to 3 user-defined custom syringe brands.
Ingress Protection:	IP33
KVO (Keep Vein Open) range:	0.10~5.00ml/h; (KVO will last for 30 minutes, then an alarm will sound) Step:0.01ml/h
Infusion history：	Up to 2000 records. Records any system changes, alarms and actions taken.
Night mode	Automatic adjustment of volume and screen brightness
Purging:	Manual and automatic selectable
Software Update:	Via USB port
No operation time settings:	1~5min (step: 1min)
Continuous Titration:	Allows editing of injection rate for ongoing infusions without the need to stop any currently ongoing infusions.
Others:	Automatic screen lock, Standby mode, Occlusion sensor, Patient data input, Automatic pressure release, Syringe calibration function, Startup syringe installation guidance.

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