

BeneFusion uSP(TCI)

Syringe Pump

Data Sheet



Physical Specifications

Weight	≤ 1.7kg (with normal battery, without pole clamp) Pole clamp ≤ 0.15kg
Size	≤ 252x 118 x134mm
Screen	3.5 inch capacitive touchscreen, TFT color LCD, 320x480 pixels
Brightness	1-8 levels, adjustable
Display	Support large font view (customized information: flow rate, dose rate, VTBI, remaining time etc.); patient information, infusion information, alarm information, system status information
Syringe loading	Bolus GUARD: avoid accident bolus to patient when syringe loading
User friendly and portable	
Wall/bed rail Attachment	
Infusion indicator	
Screen lock, password protected maintenance setting	

Parameters Specifications

Accuracy	± 1.8%
Mode	Rate mode, Dose Mode, Time mode, Dose Time Mode, Sequential Mode, Intermittent Mode, Loading Dose Mode, Ramp Mode, Micro-infusion Mode, TIVA Mode Optional: TCI Mode
Flow rate	0.01-2300ml/h
Increment	0.01ml/h (0.01-99.99ml/h); 0.1ml/h (100.0-999.9ml/h); 1ml/h (1000-2300ml/h)
Preset volume (VTBI)	0.01 ml - 9999.99 ml, increment: 0.01ml
Preset time	00:00:01-99:59:59
Accumulated volume	0.00 ml - 99999.99 ml, increment: 0.01ml
KVO	0.01 to 5.0ml/h; increment: 0.01ml/h
Purge rate	0.01-2300ml/h
Bolus rate	0.01-2300ml/h (automatic or manual)
Bolus volume	0.01 ml to the maximum volume of current syringe
Occlusion detection	50-1125mmHg, support 1mmhg increment Default 15 levels, default 450 mmHg Customized alarm levels Pre-alarm: an alert will pop out when the pressure is going up Auto-restart: On/Off, restart the infusion when the pressure that caused the occlusion alarm is reduced. 4 units of pressure selectable: mmHg/kPa/bar/psi
Anti-bolus	Unexpected bolus reduced when the occlusion occurs
Dose rate units	ng/kg/min, ng/kg/h, ng/kg/24h, ug/kg/min, ug/kg/h, ug/kg/24h, mg/kg/min, mg/kg/h, mg/kg/24h, g/kg/min, g/kg/h, g/kg/24h, mU/kg/min, mU/kg/h, mU/kg/24h, U/kg/min, U/kg/h, U/kg/24h, kU/kg/min, kU/kg/h, kU/kg/24h, EU/kg/min, EU/kg/h, EU/kg/24h, mmol/kg/min, mmol/kg/h, mmol/kg/24h, mol/kg/min, mol/kg/h, mol/kg/24h, mcal/kg/min, mcal/kg/h, mcal/kg/24h, cal/kg/min, cal/kg/h, cal/kg/24h, kcal/kg/min, kcal/kg/h, kcal/kg/24h, mEq/kg/min, mEq/kg/h, mEq/kg/24h
PK model	Propofol: Marsh: Plasma/Effect Site Schnider: Plasma/Effect Site Kataria (Pedia): Plasma Paedfusor (Pedia): Plasma Remifentanyl: Minto: Plasma/Effect Site Sulfentanyl: Gepts: Plasma/Effect Site Alfentanyl:

TCI infusion display

Maitre: Plasma/Effect Site

Initial induction dose
Initial induction rate
Initial induction volume
Time of induction
Initial maintenance rate
Patient age
Patient Length/height
Patient gender
Patient weight
Body Mass Index
Drug model being used
Decrement time
Decrement concentration
Elapsed time

Exit TCI option

Remember last TCI selection

Auto-lock time	1 - 5 minutes selectable; ON/OFF switchable
History log	Up to 5000 records
Volume collection	4 methods: 24H total, current total, period, timing volume, support history rate review

Para. Memory

Previous therapy parameters will be loaded

Drug library

Up to 5000 drugs, support color- coding drug name

DERS (Dose Error Reduction System)

Optional; definition of dose limits; automatic alarms when reaching dose limits

Syringes

Compatibility

OEM calibrated syringes
2/3/5/10/20/30/50/60ml;
Automatic recognition of syringe size

Alarms

Type

Audible and visual alarm

2 Levels

High: Occlusion/ Syringe empty/ Syringe Disengaged/ Plunger Grippers Error / Battery Depleted/ VTBI Complete/ KVO Finish/ Relay Invalid/ System Error/ No Syringe, etc.

Low: KVO Running/ Battery in Use/ Battery Error/CMS/eGW Disconnected/ Standby Time Expired/ System Time Error/ Relay Invalid Soon/ Time Near End/ Reminder/ Low Battery/ Syringe Near Empty, etc.

Sound volume

1-8 levels selectable, default level 4

Reminder

1-5 minutes selectable; ON/OFF switchable

Mute alarm temporarily 2 minutes

Connectivity

Communication USB

Wired/wireless
Support drug library import, patient information loading, patient data export, history record export, calibration data import/export
RS232, nurse call connector, DC adapter, etc.

Multifunctional connector (optional) Integration

Connect with BeneVision Central Monitoring System (CMS)
Connect with BeneFusion nCS infusion central station
Support HL7 protocol
Available (optional)

Relay

Battery

Operating time

≥ 6.5 hours at 5ml/h, ≥ 4 hours at 125ml/h (≥ 12.5 hours at 125ml/h for smart battery)

Charging time

≤ 5 hours to full capacity (≤ 6 hours for smart battery)

Automatically charged when the unit is connected to a live A.C. supply
Battery automatically provide operate when AC power is disconnected
AC power/Battery indicator.

Over-charging and over-discharging protection

Power Supply AC: voltage 100-240 VAC; frequency 50/60Hz;
current 0.30-0.13A
DC: 10 VDC to 16 VDC, 2.0A to 1.3A

Work Environment

Temperature	5-40°C for operating; -20-60 °C for storage
Relative humidity	15-95°C for operating; 10-95% for storage
Atmosphere pressure	57.0-107.4 kPa for operating; 16.0-107.4 kPa for storage
Classification	Type CF, Class I, IP44
Disinfection	Support 49 types of detergents
Transfer	Support ambulance transfer

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