

BeneFusion eSP (TCI)

Syringe Pump

Data Sheet



Physical Specifications

Weight	≤ 1.6kg
Size	≤ 257x 150 x73mm
Screen	3.5 inch touchscreen TFT color LCD, 200x400 pixels
Brightness	1-8 levels, adjustable
Display	Drug name, Effect-site concentration (Ce), Current rate, Target concentration (Cpt/Cet), Plasma concentration (Cp), Awake time, TCI trend, Extension button

Parameters Specifications

Accuracy	± 1.8%
Mode	TCI Mode, TIVA Mode, Rate mode, Dose Mode, Dose Time Mode, Time mode, Sequential Mode, Intermittent Mode, Loading Dose Mode, Ramp Mode, Micro-infusion Mode
PK model	Marsh: Propofol; Plasma/Effect Site; Schnider: Propofol; Plasma/Effect Site; Kataria (Pedia): Propofol; Plasma; Paedfusor (Pedia): Propofol; Plasma; Elefeld: Propofol; Plasma/Effect Site; Cortinez: Propofol; Plasma; Minto: Remifentanyl; Plasma/Effect Site Elefeld: Remifentanyl; Plasma/Effect Site Gepts: Sulfentanyl; Plasma/Effect Site Maitre: Alfentanyl; Plasma/Effect Site
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, adjustable
Accumulated volume	0.00 ml - 99999.99 ml
KVO	0.01 to 50ml/h; increment: 0.01ml/h
Purge rate	0.01-2300ml/h
Bolus rate	0.01-2300ml/h (automatic or manual)
Occlusion detection	50-1125mmHg (15 levels selectable, respectively are 50, 150, 225, 300, 375, 450, 525, 600, 675, 750, 825, 900, 975, 1050, 1125mmHg) default is 450mmHg; 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
Auto-lock time	1 - 5 minutes selectable; ON/OFF switchable
Drug library	Up to 5000 drugs; 50 categories; support color-coding drug name

History log	Up to 3500 records
Volume collection	Available in 4 methods: 24H total, current total, period, timing volume
DERS (Dose Error Reduction System)	Available; definition of dose limits; automatic alarms when reaching dose limits

Syringes

Compatibility	1/2/3/5/10/20/30/50/60ml; automatic recognition of syringe size
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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
	Low: KVO Running/ Battery in Use/ Battery Error/CMS/eGW Disconnected/ Standby Time Expired/ Dock Connection Interrupted/ System Time Error/ Relay Invalid Soon/ Time Near End/ Reminder/ Low Battery/ Syringe Near Empty
Sound volume	1-8 levels selectable, default is level 4
Reminder	1-5 minutes selectable; ON/OFF switchable

Connectivity

Communication	Wireless
USB	Support drug library import, patient information loading, patient data export, history record export, calibration data import/ export
Multifunctional connector	RS232; nurse call connector; DC adapter
Integration	Synergy with patient monitor Connect with BeneFusion nCS infusion central station Connect with BeneVision Central Monitoring System

Battery

Operating time	≥ 5 hours at 5ml/h (≥ 11 hours at 5ml/h for smart battery)
Charging time	≤ 5 hours to full capacity (≤ 6 hours for smart battery)

Power Supply

	Voltage 100-240 V~; frequency 50/60Hz; current 0.5-0.21A
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Work Environment

Temperature	5-40°C for operating; -30-70 °C for storage
Relative humidity	15-95% 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, IP33
Stackability	Supported with stack rack, maximum of 3 pumps can be stacked

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