

# BeneFusion eSP

Syringe Pump



## 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	Infusion status (drug name, major infusion parameters, real-time pressure status) System status information (alarm information, infusion mode, battery status, relayed status, syringe brand or bed number)
Indicator on the door	Infusion status indicator
Self-test	Support self-test when switch on
Application	General drug administration

## Parameters Specifications

Accuracy	≤ ±1.8%
Mode	Rate mode, Dose Mode, Dose Time Mode, Time mode, Sequential Mode, Intermittent Mode, Loading Dose Mode, Ramp Mode, Micro-infusion Mode Optional: TIVA Mode, PCA Mode, 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
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) Revert to original infusion after bolus
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 ADULT: 250-900 mmHg PAEDS:150-250 mmHg Pre-alarm: an alert will pop out when the pressure is continuously going up Auto-restart: On/Off, restart the infusion when the occlusion pressure 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
Auto-lock time	1 - 5 minutes selectable, ON/OFF switchable
Drug library	Up to 5000 drugs, 30 categories, support color-coding drug name
History log	Up to 3500 events

Volume collection	Available in 4 methods: 24h total, current total, period, timing volume, supports history rate review
DERS (Dose Error Reduction System)	Available, definition of dose limits, automatic alarms when reaching dose limits
Memory	Support parameter memory function

## Syringes

Compatibility	1/2/3/5/6/10/12/20/30/35/50/60ml, Automatic recognition of syringe size
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## Alarms

Type	Audible and visual alarm, with silencing feature
2 Levels	High: Occlusion/ Syringe Empty/ Syringe Disengaged/ Plunger Grippers Error/ Battery Depleted/ VTBI Complete/ KVO Finish/ Relay Invalid/ System Error/ No Syringe

	Low: Extension Line Detached/ 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
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Sound volume	1-8 levels selectable, default is level 6
Reminder	1-5 minutes selectable, ON/OFF switchable, for no flow rate / zero flow rate etc.

## Connectivity

Communication	Wired/wireless
USB	Support drug library import, patient data import/export, history record export, calibration data import/export
Multifunctional connector	RS232, nurse call connector, DC adapter
Integration	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 100-240V~, 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, universal pole clamp available

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