

# BeneFusion eSP

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	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

## 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)
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, 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

## Syringes

Compatibility 1/2/3/5/6/10/12/20/30/35/50/60ml, 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

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

Sound volume 1-8 levels selectable, default is level 6  
Reminder 1-5 minutes selectable, ON/OFF switchable

## 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 100-240 V~, frequency 50/60Hz, current 0.5-0.21A

## 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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P/N: ENG-BeneFusion eSP Datasheet-210285x2P-20201125

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