

# BeneFusion SP3

Syringe Pump

Data Sheet



## Physical Specifications

|            |                                                                                                                                                                 |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Weight     | < 1.8 kg                                                                                                                                                        |
| Size       | 340 x 125 x 135mm                                                                                                                                               |
| Screen     | 3.0" LCD monochrome screen,<br>240 x 128 pixels                                                                                                                 |
| Brightness | 1-8 levels, adjustable                                                                                                                                          |
| Display    | infusion rate, VTBI, total volume, pressure<br>limit & status, drug name, remaining time,<br>alarm status, battery status, size of<br>syringe, brand of syringe |

## Parameters Specifications

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Accuracy            | ≤ ±2%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Mode                | Rate Mode, Body Weight Mode, Time<br>Mode, Intermittent Mode, Sequential Mode,<br>Loading Dose Mode, Micro-infusion Mode,<br>TIVA Mode and Ramp Mode                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Flow rate           | 0.1-2000ml/h                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Increment           | The minimum increment is 0.01ml/h                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Preset volume(VTBI) | 0.1-9999ml (increment: 0.1ml)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Preset time         | 00:00:01-99:59:59, adjustable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Standby time        | 00:01-99:59                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Accumulated volume  | 0.1-9999 ml                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| KVO                 | 0.1-30ml/h, default is 0.5 ml/h                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Purge rate          | 0.1-2000ml/h                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Bolus rate          | 0.1-2000ml/h (automatic or manual)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Occlusion detection | 14 Levels are adjustable, respectively<br>are (75, 150, 225, 300, 375, 450, 525,<br>600, 675, 750, 825, 900, 975 and 1050)<br>mmHg<br>4 units of pressure selectable:<br>mmHg/kPa/bar/psi, default is mmHg                                                                                                                                                                                                                                                                                                                                                                                           |
| Anti-bolus          | unexpected bolus reduced when the<br>occlusion occurs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Dose rate units     | ug/kg/min, ug/kg/h, ug/kg/24h,<br>mg/kg/min, mg/kg/h, mg/kg/24h,<br>g/kg/min, g/kg/h, ng/kg/min, ng/kg/h,<br>mU/kg/min, mU/kg/h, U/kg/min, U/kg/h,<br>U/kg/24h, kU/kg/min, kU/kg/h, EU/kg/min,<br>EU/kg/h, mmol/kg/min, mmol/kg/h,<br>mol/kg/min, mol/kg/h, kcal/kg/min,<br>kcal/kg/h, kcal/kg/24h, mEq/kg/min,<br>mEq/kg/h, mIU/kg/min, mIU/kg/h,<br>IU/kg/min, IU/kg/h, kIU/kg/min, kIU/kg/h,<br>ug/min, ug/h, mg/min, mg/h, g/min, g/h,<br>ng/min, ng/h, mIU/min, mIU/h, IU/min,<br>IU/h, mol/min, mol/h, mmol/min, mmol/h,<br>kcal/min, kcal/h, mEq/min, mEq/h,<br>kIU/min, kIU/h, kU/min, kU/h, |

|                   |                                                                            |
|-------------------|----------------------------------------------------------------------------|
| Auto-lock time    | EU/min, EU/h, U/min, U/h<br>1 - 5 minutes selectable; ON/OFF<br>switchable |
| Drug library      | up to 200 drugs; ON/OFF switchable                                         |
| History log       | up to 2000 records                                                         |
| Volume collection | available in 4 methods: 24H Total, Current<br>Total, Period, Timing        |

## Syringes

|               |                                                              |
|---------------|--------------------------------------------------------------|
| Compatibility | 5/10/20/30/50/60ml;<br>automatic recognition of syringe size |
|---------------|--------------------------------------------------------------|

## Alarms

|              |                                                                                                                                                                                                                                                                                                                                                                                |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type         | audible and visual alarm                                                                                                                                                                                                                                                                                                                                                       |
| 3 Levels     | High: occlusion / no battery / VTBI<br>complete / syringe empty / no syringe /<br>KVO finish / system error/ syringe<br>disengaged;<br><br>Medium: system abnormal / standby time<br>expired;<br><br>Low: reminder/ low battery/ syringe near<br>empty/time near end/No AC power/<br>communication interrupted/ KVO<br>running/ infusion interrupted/ parameter<br>unconfirmed |
| Sound volume | 1-8 levels selectable, default is level 4                                                                                                                                                                                                                                                                                                                                      |
| Reminder     | 1-5 minutes selectable; ON/OFF<br>switchable                                                                                                                                                                                                                                                                                                                                   |

## Battery

|                |                                                                                 |
|----------------|---------------------------------------------------------------------------------|
| Operating time | ≥ 6 hours at 5ml/h (standard), ≥ 12 hours<br>at 5ml/h(optional)                 |
| Charging time  | ≤ 5 hours to full capacity (standard)<br>≤ 10 hours to full capacity (optional) |

## Interface

RS232; nurse call connector; DC adapter

## Power Supply

voltage 100-240 V~ ; frequency 50/60Hz;  
current 0.4-0.14A

## Work Environment

|                                          |                                                     |
|------------------------------------------|-----------------------------------------------------|
| Temperature                              | 5-40°C for operating; -20-60 °C for<br>storage      |
| Relative humidity                        | 15-95% for operating; 10-95% for storage            |
| Atmosphere pressure                      | 57-106 kPa for operating; 50-106 kPa for<br>storage |
| Level of resistance<br>to water and dust | IP34                                                |

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