



# SYRINGE PUMP SP-510



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# SELECTIONS FOR VARIOUS MODE OF INFUSION

## Volume Limit Setting and KVO Mode

Target Infused Volume can be settable. If an actual infused volume reaches the target volume, SP-510 automatically changes the flow rate to the lowest speed (KVO Mode) to prevent blood clot in the tube.

## Dose Rate Mode (Automatic Calculation of Flow Rate)

Flow rate is calculated automatically by inputting Administration Dose Rate, Patient's Body Weight, Drug Volume and Fluid Volume in Dose Rate Mode.

## Titration Mode (Changing Flow Rate or Bolus Shot without pause of infusion)

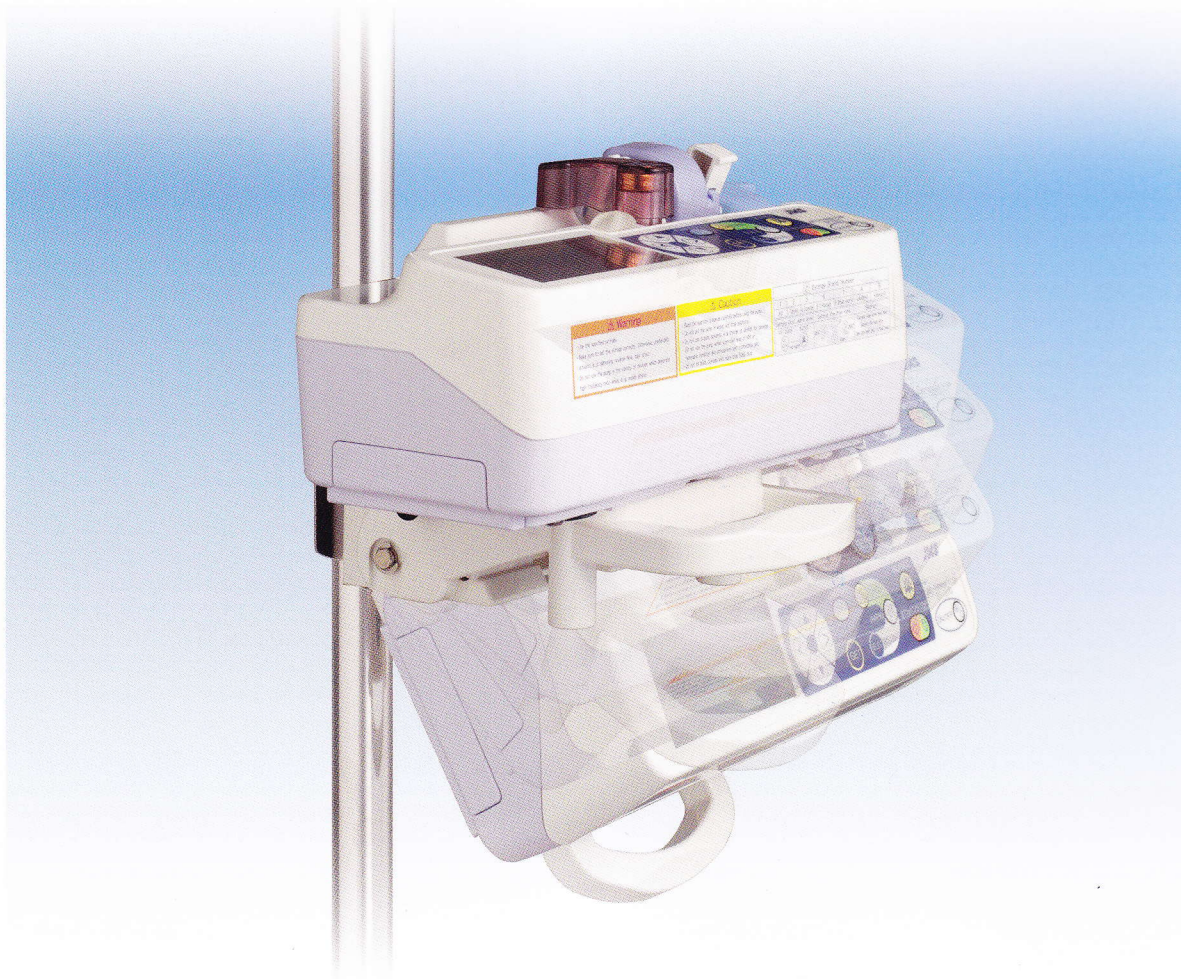
Flow rate can be changed or Bolus shot can be conducted without pause of infusion.

## Standby Mode

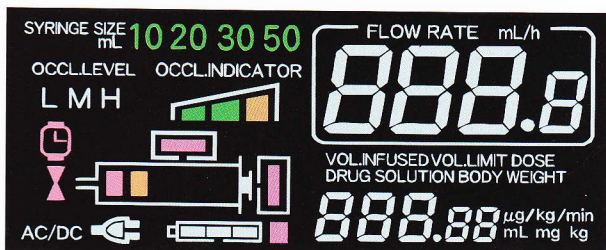
Reminder alarm can be cancelled by entering Standby Mode.

\*Normally, Reminder alarm occurs 115 seconds after no operation is conducted.

The angle of SP-510 can be adjusted in four steps with the movable pole clamp.



## HIGH VISIBILITY



**OCCL INDICATOR**  
 20% of Occlusion Alarm Level: The 1st bar lights  
 60% of Occlusion Alarm Level: The 2nd bar lights  
 80% of Occlusion Alarm Level: The 3rd bar lights

### ● Large Four-Color LCD

Decimal figure is indicated with smaller size in order to avoid miss-setting.

### ● Graphical Alarm Display

Alarm condition is indicated graphically.

### ● In-Line Pressure Monitor

In-line pressure is monitored continuously. The trend can be checked before the occlusion alarm occurs.

### ● Operation Lamp

The status of SP-510 can be observed easily from a distance.



## HIGH SAFETY

### ● Introducing TWIN CPU

The condition of SP-510 is monitored continuously by its twin CPU.

### ● Complying EMC Standard and International Safety Standard for Infusion Pump

SP-510 complies with EMC Standard, IEC60601-1-2:2001(\*1), and Infusion Pump Standard, IEC60601-2-24:1998(\*2).

### ● High Drip-proofness

SP-510 complies with IPX4 (Drip-proof against splashing from all directions).

### ● Safety Measure for Leakage Current

SP-510 can be used without ground securely for its safety measure for leakage current.

(\*1)Medical electrical equipment—Part 1-1: General requirements for basic safety and essential performance—Collateral standard: Electromagnetic compatibility—Requirements and tests

(\*2)Medical electrical equipment Part 2: Particular requirements for the safety of infusion pumps and controllers

## COMPACT & LIGHT DESIGN



### ● Space-saving Size 262x110x130mm(WDH)

### ● Lightweight 1.8kg

## JMS SYRINGE PUMP SP-510 SPECIFICATIONS

Syringe	Usable syringe brand	JMS, Terumo, BD Precise and BD Plastipak, B.Braun Omnifix, 2 Voluntary Syringes (*)
	Usable syringe size	10, 20, 30 and 50 mL
Flow Rate	Flow rate range	0.1 - 200.0 mL/h (10mL Syringe), 0.1 - 350.0 mL/h (20mL Syringe) 0.1 - 450.0 mL/h (30mL Syringe), 0.1 - 800.0 mL/h (50mL Syringe)
	Rate steps	0.1 mL/h step
	Accuracy	Mechanical: within 1%, with JMS syringe: within 3% (Accuracy per every hour after one hour-use with brand-new JMS syringe under a flow rate of 1.0mL or more)
	Total volume display range	0.1 to 999.9 mL (resetable)
	Rapid flow rate	Approx.200 mL/h (10mL syringe), Approx.350 mL/h (20mL syringe) Approx.450 mL/h (30mL syringe), Approx.800 mL/h (50mL syringe)
Special Functions	Dose rate function (Automatic calculation of flow rate)	Selectable (Flow rate is calculated automatically from the following four items) -Settable Range of Each Item- Administration Dose Rate: 0.01 to 99.99 µg/kg/min Body Weight: 0.1 to 300.0 kg Drug Volume: 0.1 to 999.9 mg Fluid Volume: 0.1 to 999.9 mL
	Titration function	Selectable
	Bolus without pausing	Selectable
	Auto infusion after rapid function	Selectable
	Volume limit setting and KVO	Selectable (KVO rate: 0.1mL/h)
	Flow rate setting range limit function	Selectable (0.1 - 9.9 mL/h or 0.1 - 99.9 mL/h)
	Switch operation sound function	Selectable
Standby function	Selectable	
Pressure Monitor	Occlusion alarm level	3 levels are selectable (20 - 140kPa) L: 40±20 kPa, M: 70±20 kPa, H: 110±30 kPa
	In-line pressure indicator	3 levels indicators
Alarm		Occlusion, Low Battery (30min before run out and 5min before run out), Near Empty, End, Syringe Disengaged, Plunger/Clutch Disengaged, Reminder, Realarm, AC Power Cord Detached, Operation Evasion, System Error
Battery	Internal power source	Rechargeable Battery or Alkali Dry Cell Unit (4 x size AA batteries, Option)
	Rechargeable battery	Rechargeable Nickel Metal-Hydride Battery Life: about 4 hours (fully charged new battery for more than 15 hours used with a flow rate of 5.0ml/h)
	Battery indicator	3 levels indicators
Operational Condition		Ambient Temperature: 10 to 40°C Relative Humidity: 30 to 85% (No condensation without direct sunlight)
Storage Condition		Ambient Temperature: -10 to 45°C Relative Humidity: 30 to 95% (No condensation without direct sunlight)
Power Source		AC100 to 120V, 50/60Hz / AC200 to 240V, 50/60Hz
Maximum Power Consumption		12 VA
Option		Operation/Alarm history function, External output function, Alarm terminal, Alkali dry cell unit
Classification		Class II, Internal Battery Type CF, IPX4 (drip proof)
Dimensions		262(W)×110(D)×130(H)mm
Weight		Approx. 1.8kg

(\*) should be within the specified dimensions set by JMS



<http://www.jms.cc>

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