THE TOP IN QUALITY
for all areas of healthcare

# TOP SYRINGE PUMP TOP-S500


THE NEW STANDARD

# Proposal of a simple and easy-to-use SYRINGE PUMP


## Japan's lightest SYRINGE PUMP

35% lighter than before, making it even easier to use.

*The general name is the value as of July 2020 for "injection tube infusion pump".
*Portable insulin infusion pump (injection tube infusion pump) Patient management Painless infusion pumps (injection tube infusion pumps) are excluded.

## Step-by-step operation from left to right

A series of operations can be perform from turning on the power to starting

### When an abnormality occurs, you will be notified by light in addition to sound.

When an alarm occurs, the cause part lights up in red, making it easier to find the cause part.


ed smoothly
liquid feeding.

## Inflow can be changed while continuing injection

You can change the inflow without stopping the injection.

## Battery driven

It can be driven by dry batteries even in an environment where power cannot be secured in the event of a disaster.

## Guide light

The fast forward, start, and stop key lights prompt you for the next step.


## Smooth and clean shape

It has a shape with less unevenness and grooves for easy regular cleaning.

## Fast forward forced setting

After setting the syringe,if fast-forwarding to fill the gap has not been performed, it is possible to restrict the start of infusion.

*The factory setting is OFF.

## Specification

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| Brand name | TOP syringe pump TOP-S500 |
| Type | TOP-S500 |
| Power supply | AC power supply: AC100 - 240V 50/60Hz<br>Internal battery : Li-ion Battery, rechargeable DC3.6V 3250mAh<br>Type : BP-A6LG<br>Continuous use time approximately ten hours (in the state that, however, completely charged new internal battery at 5mL/h setting)<br>Alkali dry cell : Four size AA battery form alkali dry cells<br>Continuous use time approximately ten hours (with thealkali dry cell which, however, is new at 5mL/h setting) |
| Consumption electric current | 0.3A |
| Use syringe | 5, 10, 20, 30, 50mL syringe |
| Syringe brand | TOP, TERUMO, NIPRO, JMS, B-D, B Braun, 1% Diprivan Injectionkit note - kit (20mL, 50mL), the syringe that have been registered |
| Flow rate setting range | 0.10-150mL/h (5mL syringe)<br>0.10-300mL/h (10mL syringe)<br>0.10-400mL/h (20mL syringe)<br>0.10-500mL/h (30mL syringe)<br>0.10-1200mL/h (50mL syringe)<br>0.10-1200mL/h (1% Diprivan Injection-kit 20mL .50mL)<br>0.10-99.99mL/h: 0.01mL/h step<br>100-1200mL/h: 1mL/h step |
| Volume limit range | Setting none, 0.1-999.9mL (0.1mL step) |
| Total volume range | 0.0-999.9mL (0.1mL step) |
| Infusion accuracy * | Mechanical precision : ±1%<br>Precision including syringe: ±3%<br>(precision after, in flow rate 1.0mL/h or more, having transfused it more than one hour of one hour) |
| Purge flow rate | 150mL/h (5mL syringe)<br>300mL/h (10mL syringe)<br>400mL/h (20mL syringe)<br>500mL/h (30mL syringe)<br>1200mL/h (50mL syringe)<br>1200mL/h (1% Diprivan Injection-kit 20mL .50mL) |
| Bolus flow rate | 150mL/h (5mL syringe)<br>300mL/h (10mL syringe)<br>400mL/h (20mL syringe)<br>500mL/h (30mL syringe)<br>1200mL/h (50mL syringe)<br>1200mL/h (1% Diprivan Injection-kit 20mL .50mL) |
| Quantity of bolus | 0.1-5.0mL (5mL syringe)<br>0.1-10.0mL (10mL syringe)<br>0.1-20.0mL (20mL syringe)<br>0.1-30.0mL (30mL syringe)<br>0.1-50.0mL (50mL syringe)<br>0.1-50.0mL (1% Diprivan Injection-kit 20mL .50mL)<br>(0.1mL step) |
| Bolus accuracy * | ±3% (however, at the 0.1-3.3mL setting ±0.1mL) |
| Occlusion detection pressure * | SL (special low): 30 ± 20kPa<br>L (low): 50 ± 20kPa<br>Among M(): 70 ± 30kPa<br>H (high): 90 ± 30kPa |
| Alarm | High priority: Occlusion *, syringe empty *, Infusion complete *, Battery empty , Power loss, malfunction *, Syringe barrel clamp, syringe plunger clamp, Syringe barrel flange<br>Low priority: No action, No battery, Low battery , low volume, Infusion complete pre-alarm, Flow rate is not set, Volume limit is not set, flow rate> volume limit, flowrate soft limit<br>Informati on signal: Sensor check, Power supply switched, Maintenance timer, shock detection |
| Special features | Auto power OFF :During internal power supply drive, be cut off automatically approximately three minutes later when we just leave you unattended after no action (Low priority)occurred.<br>Repeat alarm : Alarm sound occurs again when we leave you unattended for approximately two minutes without removing an alarm state after silence in various alarm.<br>Standby : Invalidate no action (Low priority)temporarily.<br>Key-lock : Invalidate key operation transfusing.<br>KVO : After infusion complete of the volume limit,transfuse it in the KVO flow rate which we set for thrombosis.<br>Change rate during infusion : Can change flow rate without terminating an infusion.<br>Bolus : Can inject bolus in an infusion.<br>Maintenance timer : A screen promoting periodic maintenance is displayed when it reaches during the period when we set it.<br>Automatic brightne ss reshuffling : Change brightness of the indication depending on neighboring brightness automatically. (when it became dark, lower brightness)<br>Syringe brand change : Can change syringe brand.<br>Decimal second place indication reshuffling : Can change indication of the decimal second place of the flow rate. |

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| Special features | Operation tone setting : Can set presence or absence of operationtone.<br>Wait tone setting : Can set presence or absence of wait tone.<br>Alarm sound setting : Can set volume of the alarm sound.<br>Occlusion setting : Can set occlusion detection level.<br>Operation history : Can verify that operation history (running out of /, purge, initiation, termination, bolus of the power supply containing,flow rate change, alarm). (greatest: 800)<br>Time setting : Can set the time (year, month, day, time, share).<br>Priming volume addition setting : Can set it whether you add quantity of purge to total volume.<br>Purge forced setting : Can set it whether it prevents an infusion from starting when we do not forward syringe after fitting.<br>Volume limit setting : Can set it whether you validate volume limit setting.<br>Change rate during infusion setting : Can set it whether you validate a flow rate change transfusing.<br>Bolus setting : Can set it whether you validate bolus.<br>Power supply switc hed release setting : Can set it whether you remove Power supply switched (information signal) automatically.<br>KVO flow rate setting : Can set KVO flow rate.<br>Syringe brand setting : Can limit syringe brand to use.<br>Flow rate soft limit setting : Can set flow rate soft limit (lower limit value to receive heads up of the setting flow rate) of each syringe size.<br>Flow rate hard limit setting : Can set flow rate hard limit (upper limit level of the setting flow rate) of eachsyringe size.<br>Maintenance timer setting : Can set the days before Maintenance timer occurring.<br>Lighting check : A lamp all; can verify that lighting state by turning on.<br>Flow rate check : Can verify that movement an infusion.<br>Occlusion check : Can verify that occlusion detection.<br>Shock detection : Verify that we detected impact, date and time, and can reset it.<br>User syringe registration : Can register the syringe which is not registered with this product.<br>History data transmission of a message : Can send operation history data to a PC.<br>Infusion complete pre-alarm setting : Can set a development timing of the Infusion complete pre-alarm (Low priority).<br>Alarm sound lower limit setting : Can set the lower limit of the alarm sound which we can set by a menu.<br>History elimination : Can remove operation history.<br>Set it at shipment : Can change the setting except the password to the setting at shipment.<br>Password change : Can change a password to enter the administrator mode.<br>External communication : Can monitor the movement situation of this product. |
| Terms of use | Ambient temperature: 5-40 degrees Celsius<br>Relative humidity: 20-90% (however, the thing without the dewcondensation)<br>Ambient pressure: 70 - 106kPa |
| Transportation andStorage condition | Ambient temperature: - 10-45 degrees Celsius<br>Relative humidity: 10-90% (however, the thing without the dewcondensation)<br>Ambient pressure: 50 - 106kPa |
| Durability period | Six years [self-certification using TOP corporation data]<br>However, durability period when we changed designated maintenance and inspection and expendable supplies |
| Classification | The classification by the protective pattern for the electric shock:Class II and internally powered equipment A classification of the applied parts by the protective degree for the electric shock: Type CF applied part The protection class by the outer fence: IP34 |
| Dimensions | 360 (width) *110 (height) *135 (depth) mm * movable range does not include it |
| Weight | Approximately 1.3kg |
| Accessories | AC power cable :one<br>Operation guide, Administrator manual : for each one copy |
| Material used | Case, Syringe plunger slider : ABS (Acrylonitrile Butadiene Styrene)<br>Syringe plunger clamp lever,: Syringe plunger clamp arm, Syringe barrel clamp : POM (polyacetal) resin<br>Drive Shaft : Stainless steel<br>Syringe barrel detection switch : Silicone rubber<br>Operation indicator : PC (polycarbonate) resin<br>Operation panel : Polyester film |

* Essential performance: Performance to greatly influence the security of the patients when we do not work according to specifications.

## Option

### TOP PoleClamp Type CS


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