



THE TOP IN QUALITY  
for all areas of healthcare

# TOP SYRINGE PUMP TOP-5530

On-site Clinical Capabilities



A syringe pump with outstanding capabilities and ease of use in the clinical setting, whether on the general ward or when administering an anesthetic.



TOP Drug Library Manager™

# Specifications

Description	TOP Syringe Pump TOP-5530	
Model	TOP-5530 C	
Power Supply	AC power supply : AC100-127V±10% 50/60Hz (for 100V Area) AC200-240V±10% 50/60Hz (for 200V Area)	
	DC power supply : DC12V±5% (type : ST55-4)	
	Internal battery : DC3.6V 1500mAh Ni-MH (type : BP-55) Battery life is approximately 12 hours (at flow rate of 5 mL/h using new battery in fully recharged state)	
Input Current	Alkaline battery : Uses four LR6 type, AA size alkaline batteries DC 6V Battery life is approximately 24 hours (at flow rate of 5 mL/h using new batteries)	
	AC power supply : 0.1A (for 100V Area)、0.05A (for 200V Area)	
	DC power supply : 0.4A	
Applicable Syringe	TOP, TERUMO, NIPRO, JMS, B-D, MONOJECT(except 50mL syringe), and B. BRAUN syringes, plus one additional syringe registered by user per syringe size (10mL, 20mL, 30mL, and 50mL) 1% Diprivan Injection-kit 20mL, 50mL	
Flow Rate Range	0.1~300.0mL/h (10mL syringe) 0.1~400.0mL/h (20mL syringe) 0.1~500.0mL/h (30mL syringe) 0.1~1200.0mL/h (50mL syringe) 0.1~1200.0mL/h (1% Diprivan Injection-kit 20mL・50mL) (settings adjustable in 0.1 mL/h increments) Factory default value: 150.0mL/h	
Agent Range	0.1~1000.0mg	
Solution Range	0.1~1000.0mL	
Weight Range	0.1~300.0kg	
KVO Rate Range	0.01 - 99.99 µg/kg/min 0.01 - 99.99 mg/kg/h	
Bolus Rate	300.0 mL/h (10 mL syringe) 400.0 mL/h (20 mL syringe) 500.0 mL/h (30 mL syringe) 1200.0 mL/h (50 mL syringe, 1% Diprivan Injection-kit 20 mL, 50 mL)	
Bolus Volume	mL: 0.1-50.0 mL (0.1 mL steps) µg: 0.1-50000.0 µg (0.1 µg steps) mg: 0.1-5000.0 mg (0.1 mg steps)	
Purging	Approximately 330mL/h (TOP 10mL syringe) Approximately 620mL/h (TOP 20mL syringe) Approximately 740mL/h (TOP 30mL syringe) Approximately 1200mL/h (TOP 50mL syringe)	
KVO Rate Range	0.1~5.0mL/h (0.1mL/h step) Factory default value:0.1mL/h	
Volume Limit Setting	0.1~1000.0mL	
Total volume display range	0.0~1000.0mL	
*Infusion Accuracy	Mechanical accuracy : ± 1% Accuracy including the syringe : ± 3%	*For at least one hour of infusion at flow rate of at least 1.0mL/h.
*Occlusion Detection	Can be set to any of four levels High : 93 ± 33 kPa (700 ± 250 mmHg/0.95 ± 0.34 kgf/cm²) Middle : 67 ± 27 kPa (500 ± 200 mmHg/0.68 ± 0.27 kgf/cm²) Low : 40 ± 20 kPa (300 ± 150 mmHg/0.41 ± 0.2 kgf/cm²) Very low : 20 ± 10 kPa (150 ± 75 mmHg/0.2 ± 0.1 kgf/cm²) *When using TOP syringe (50mL) for TOP syringe pump	
Overload Detection	Approximately 20N (2.0 kgf) or more : (10 mL syringe) Approximately 40N (4.0 kgf) or more : (20 mL syringe) Approximately 55N (5.5 kgf) or more : (30 mL syringe) Approximately 80N (8.0 kgf) or more : (50 mL syringe)	
Alarms / Warnings	High priority alarm	*Occlusion, Overload, *Infusion complete, Power off, Power loss, *Malfunction, Operation reminder, Syringe barrel clamp disengaged, Syringe plunger disengaged, Syringe barrel flange disengaged
	Low priority alarm	Low volume, No battery, Low battery
	Information signal(warning)	Sensor Check, No rate, No volume limit, Set value check, Infusion complete(KVO), Maintenance timer, Standby mode, Power supply switched, Bolus cancel, Software limit, Hardware limit

Functions	<b>Auto power off</b> : During battery operation, when the pump is left for three minutes with infusion stopped or in an alarm state, the buzzer sounds. When the buzzer has been left sounding for three minutes, the power shuts off automatically.	
	<b>Alarm reminder</b> : Unless the cause of an alarm is collected within two minutes after the operator presses the Silence key, the alarm will sound again to remind the operator of the problem.	
	<b>Power supply switch alarm</b> : An alarm will sound when the AC power supply has stopped and the unit has switched over to battery operation.	
	<b>KVO function</b> : After the volume limit is reached, infusion is performed at the set KVO rate for thrombus prevention.	
	<b>Standby function</b> : The Remainder alarm can be temporarily reset.	
	<b>Buzzer setting</b> : Presence/absence of wait tone and operation tone can be specified.	
	<b>History function</b> : The history of infusion start/stop, alarm generation, change of flow rate while infusion is under way, power on/off can be checked.	
	<b>Key lock function</b> : During infusion, places the system in the Key Lock state. In the Key Lock state, all keys except the Power, Light and Silence keys are disabled.	
	<b>Syringe brand limit function</b> : Selectable syringe brands can be limited.	
	<b>Volume limit display switching function</b> : Whether volume limit is displayed can be specified.	
Operating Conditions	<b>Battery refresh function</b> : Performs refresh operation in order to maintain the battery performance.	
	<b>Maintenance timer function</b> : When the preset timing has been reached, a screen to prompt regular inspection is displayed.	
	<b>Flow rate upper limit value setting function</b> : Flow rate upper limit value can be set.	
	<b>User syringe registration function</b> : A syringe not registered to this machine can be registered.	
	<b>Drug Library Functions</b> : Makes the previously registered drug information and settings available.	
	Ambient temperature : 5~40°C Relative humidity : 20~90% (noncondensing) Atmospheric pressure : 70~106kPa	
	Ambient temperature : ~20~45°C Relative humidity : 10~95% (noncondensing) Atmospheric pressure : 50~106kPa	
	6 years [Based on self certification using TOP corporation data] assuming inspection and maintenance are carried out as indicated and consumable parts are replaced as needed.	
	Classification by the form of protection against electric shock : Class II □, Internal powered equipment Classification of attaching part by the degree of protection against electric shock : Type CF ▢ Classification by the degree of protection against harmful entry of water : IPX2 (Drip proof)	
	T0.2AL (for 100V Area), T0.1AL (for 200V Area)	
Classification	320mm (Width) × 90mm (Height) × 160mm (Depth)	
	Approximately 2.0 kg	
	AC power cable, Operation Guide - - - - - 1	
	Case : ABS (Acrylonitrile Butadiene Styrene) Syringe barrel clamp, Syringe plunger slider : Glass fiber-reinforced Polycarbonate (30%) Operation panel : Polyester film LED Cover : Methyl methacrylate polymer	
	T0.2AL (for 100V Area), T0.1AL (for 200V Area)	
	320mm (Width) × 90mm (Height) × 160mm (Depth)	
	Approximately 2.0 kg	
	AC power cable, Operation Guide - - - - - 1	
	Case : ABS (Acrylonitrile Butadiene Styrene) Syringe barrel clamp, Syringe plunger slider : Glass fiber-reinforced Polycarbonate (30%) Operation panel : Polyester film LED Cover : Methyl methacrylate polymer	
	T0.2AL (for 100V Area), T0.1AL (for 200V Area)	
Service Life	320mm (Width) × 90mm (Height) × 160mm (Depth)	
	Approximately 2.0 kg	
	AC power cable, Operation Guide - - - - - 1	
	Case : ABS (Acrylonitrile Butadiene Styrene) Syringe barrel clamp, Syringe plunger slider : Glass fiber-reinforced Polycarbonate (30%) Operation panel : Polyester film LED Cover : Methyl methacrylate polymer	
	T0.2AL (for 100V Area), T0.1AL (for 200V Area)	
	320mm (Width) × 90mm (Height) × 160mm (Depth)	
	Approximately 2.0 kg	
	AC power cable, Operation Guide - - - - - 1	
	Case : ABS (Acrylonitrile Butadiene Styrene) Syringe barrel clamp, Syringe plunger slider : Glass fiber-reinforced Polycarbonate (30%) Operation panel : Polyester film LED Cover : Methyl methacrylate polymer	
	T0.2AL (for 100V Area), T0.1AL (for 200V Area)	
Composition	320mm (Width) × 90mm (Height) × 160mm (Depth)	
	Approximately 2.0 kg	
	AC power cable, Operation Guide - - - - - 1	
	Case : ABS (Acrylonitrile Butadiene Styrene) Syringe barrel clamp, Syringe plunger slider : Glass fiber-reinforced Polycarbonate (30%) Operation panel : Polyester film LED Cover : Methyl methacrylate polymer	
	T0.2AL (for 100V Area), T0.1AL (for 200V Area)	
	320mm (Width) × 90mm (Height) × 160mm (Depth)	
	Approximately 2.0 kg	
	AC power cable, Operation Guide - - - - - 1	
	Case : ABS (Acrylonitrile Butadiene Styrene) Syringe barrel clamp, Syringe plunger slider : Glass fiber-reinforced Polycarbonate (30%) Operation panel : Polyester film LED Cover : Methyl methacrylate polymer	
	T0.2AL (for 100V Area), T0.1AL (for 200V Area)	
Essential performance	320mm (Width) × 90mm (Height) × 160mm (Depth)	
	Approximately 2.0 kg	
	AC power cable, Operation Guide - - - - - 1	
	Case : ABS (Acrylonitrile Butadiene Styrene) Syringe barrel clamp, Syringe plunger slider : Glass fiber-reinforced Polycarbonate (30%) Operation panel : Polyester film LED Cover : Methyl methacrylate polymer	
	T0.2AL (for 100V Area), T0.1AL (for 200V Area)	
	320mm (Width) × 90mm (Height) × 160mm (Depth)	
	Approximately 2.0 kg	
	AC power cable, Operation Guide - - - - - 1	
	Case : ABS (Acrylonitrile Butadiene Styrene) Syringe barrel clamp, Syringe plunger slider : Glass fiber-reinforced Polycarbonate (30%) Operation panel : Polyester film LED Cover : Methyl methacrylate polymer	
	T0.2AL (for 100V Area), T0.1AL (for 200V Area)	

\* Essential performance : Critically affects the safety of patients if it is not operated according to specifications. (IEC/EN 60601-2-24)

## TOP Corporation

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