ICU Medical 300 Series

P300 Volumetric Infusion Pump

Technical Specifications

Device Classification

- CE Certificate: MDD93/42/EEC–IIb
- EU Classification: IIb

Legal Manufacturer

Medima Sp. z o.o.

Product Description

The P300 volumetric infusion pump is part of the ICU Medical Series 300 platform, which includes the S300 syringe pump (with its two variants for TCI and PCA), the DS300 housing system, dedicated consumables and the safety software to reduce administration errors.

The P300 device can be used either in standalone mode or in a modular system, which includes multiple devices that are connected via a docking station. These docking stations can connect 2, 4, 6 or 8 pumps via a single power cable, depending on the model you choose.

General Pump Specifications	
Feature	Description
Intended use	P300 volumetric infusion pumps are used for: › Accurate intravenous and intra-arterial infusions › Parenteral and enteral nutrition › Blood and blood-derivatives administration Can be used in various clinical environments, including transportation, general profile wards, intensive care units, neonatology and paediatric units, operation theatres and postoperative wards, as well as medical rescue wards.
Infusion modes	Continuous, Intermittent, Profile, Ramp-up/Ramp-down
Pump mechanism	Peristaltic with two valves, pressurising and compensating fingers
Anti-free-flow system	Integrated into the set through the FFPC (free-flow protection clamp) and in the pump
Dimensions (cm)	288 x 115 x 196 (W x H x D)
Weight (kg)	2.39
Display	3.2” high contrast and resolution colour display with touchscreen
Keypad	Alphanumeric keypad for quick programming and titration of infusion parameters
Accuracy	› ± 5% according to EN 60601-2-24 › Mechanical accuracy: ± 0.5%
Patient weight and body surface area (BSA)	› Patient weight: 0.1–300 kg › BSA: 0.1 m² –4.5 m²
Priming	Automatic or manual
Set loading	Guided by clear instructions and drawings displayed on the screen
Standby	Configurable from 00:01 to 24 hours
User interface	Common user interface for all infusion pumps: The following information is available on the main screen: › Drug name / Dilution / Dose done / Remainder info › Dose or flow rate. If infusion is programmed in Dose rate, equivalent in mL/h will be displayed as well. › Volume infused vs Volume limit › Battery charge level indicator: Touch to check the battery status summary (full in, empty in, status %) › ETTA bar: visible when time is less than 60 minutes › Infusion indicator: blinking during infusion › Infusion pressure and selected occlusion level indicator (horizontal bar) › Drug limits available only if drug library is on the pump (vertical bar)

Feature	Description
Units	mL/h, µg/kg/min, mcg/kg/min, µg/kg/h, mcg/kg/h, mg/kg/min, mg/kg/h, µg/min, mcg/min, µg/h, mcg/h, mg/min, mg/h, IU/h, Eq/h, kJ, J, kcal, cal, mol, mmol, kIE, IE, mIE, kIU, IU, mIU, Eq, mEq, µEq, g, mg, µg, mcg, ng, mL, L It's also possible to create custom units by combining the previous units, patient data (kg, m^2) and time units (min, h, day).
Drug search	You can scroll through the entire list to the selected medication using the arrows, or you can simply use the alphanumeric keypad to filter by keying a few letters of the desired medication.
Tall man lettering	Variable character size functionality is provided to differentiate between medications with similar-sounding names (e.g., dopamine and dobutamine). This simple measure can help to significantly improve clinical risk management.
Log events	Up to 2,000 infusions NOTE: An infusion represents a set of events. These can occur during any activity performed by an operator during programming. The total number of events that can be stored in the pump is 10,000. Once the available capacity is reached, new events will replace the oldest ones, which will be lost.
Power supply	100–240 V AC, 50/60 Hz, max. 20 VA 12.4–15.5 V DC, max 1 A
Battery	Ni-MH, battery capacity: 2,000 mAh Work time: 15 hours @ 25 ml/h; 5 hours @ 1,200 ml/h Full charging time: 90% ≤ 3 hours, 100% ≤ 5 hours Replacement for a new one: If all requests for battery tests have been accepted by the user, recommended replacement is every 3 years.
Pole clamp	Rotating pole clamp that allows pumps to be connected to vertical stands or horizontal rails
Safety standards	Type CF, defibrillation resistance Class II
IP	IP22
Operating conditions	+5°C ~ +40°C, max. humidity 90%
Transport conditions	-20°C ~ +50°C, max. humidity 95%
Communication ports	RS232C, transmission rate 115kbit/s. Optical connector to communicate with docking station Wi-Fi module
Auto-on	Pump is going to switch on as soon as consumable is loaded in the pump without turning pressing any hard key.
Preventive maintenance	2 years

Delivery Specifications

Feature	Description
Flow rate	› 0.1–99.99 mL/h with 0.01 mL/h increments › 100–999.9 mL/h with 0.1 mL/h increments › 1,000–1,200 mL/h with 1 mL/h increments
Infusion volume	0.1–20,000 mL with 0.1 mL increments
Time	1 min–200 h
Bolus	› Rate: 0.1–1,200 mL/h › Volume: 0.1–500 mL › Automatic (with volume preselection) and manual bolus
KVO	› 0.1–20 mL/h but not higher than primary rate › Increments: 0.1 mL/h
Dose done option	Possibility to configure the behaviour of your infusion once dose is completed: KVO, Continue, Stop. This option is available during infusion setup and running infusion.

Safety Features

- Large dosing change: Ability to detect significant changes in infusion flow/dose rate
- Keyboard lock
- Duplicated digit: Helps prevent errors that may arise from accidentally entering the same digit twice
- Pump security via password
- Configurable dedicated display colour (purple or orange) for enteral feeding
- Colour coding for alarms and limits
- Drug activity control: This feature is recommended for drugs with a limited half-life and is measured in hours and minutes (h:min). The countdown begins when a syringe or set is installed in the pump. The pump will activate a Drug Not Active alarm if the defined time is exceeded, although infusion may still continue. This feature can be configured using the User Toolbox.
- Rapid pressure drop: Informs the user of any sudden drop in pressure before the pressure threshold is reached.
- Anti-bolus function minimises the occlusion bolus by withdrawing fluid from the administration set until an acceptable pressure level is achieved. This function also resets the counter for the administered drug volume or dose, and it activates automatically when the Occlusion alarm is triggered, or shortly after the alarm is confirmed. This feature can be configured using the User Toolbox.
- Possibility to create a drug library with limits using User Toolbox

Safety Features	
Feature	Description
Safety software	› Up to 40 CCAs, up to 40 drug categories › Up to 5,000 dosing procedures › Up to 10 fixed and 1 variable concentrations for each drug dosing procedure › Drug labelling for infusions outside the drug library › Default values for selected parameters › Soft and hard limits of infusion parameters › Advisory notes › Upload of a drug library without infusion interruption
Alarms	› Infusion pump alarms provide an audible and clear (no codes) visual indication and are prioritised (high, medium, low). › For a complete list of available alarms and reminders, please refer to the user manual.
Alarms volume	Programmable alarm volume with 9 different levels
Air in line	› The sensitivity of the air sensor can be configured through the alarm settings to detect individual air bubbles from 10 to 500 µl. › The system is also capable of detecting accumulated air (configurable from 0.25 to 1.5 mL) over a period of 15 minutes, generating an alarm for maximum accumulated air.
Pressure bar	The pressure horizontal bar displays patient pressure compared to the pre-established distal pressure limit. The colour of the bar (green, orange, red) indicates how close we are to the distal occlusion alarm.
Distal occlusion	12 levels (75–900 mmHg). Each level is 75 mmHg.
Occlusion pre-alarm	Configurable via the User Toolbox. The pre-alarm is calculated as a percentage of the distal occlusion alarm and generates a medium-priority alarm that does not interrupt the infusion and allows intervention to resolve any potential issues.
Prealarm sensitivity	Configurable via User Toolbox to meet hospital protocols
Occlusion alarm limits	Possbility to customise soft and hard limits for occlusion to meet different clinical needs

Advanced Features

- Secondary infusion (piggyback): Allows the current infusion (primary infusion) to pause while starting the infusion of another solution (secondary infusion). This eliminates the need to terminate the primary infusion or disconnect the administration set from the pump. This feature may be configured using the User Toolbox.
- Automatic start: Allows for the automatic initiation of infusion on a second pump as soon as the Dose Done or Empty Syringe alarm is triggered on the first pump. This feature reduces the risk of interruption in drug infusion during therapies where continuity is crucial or when immediate delivery of another medication is necessary. This function can pair both volumetric pumps and syringe pumps as long as they're placed within a docking station and may be configured using the User Toolbox.
- Bolus supply support system reduces the bolus infusion rate to prevent the occurrence of distal occlusion alarms. This option can be configured using the User Toolbox.
- ETTA bar: The horizontal colour bar, known as the ETTA (Estimated Time to Act) bar, is located above the displayed rate value. It visually indicates the remaining time for medical personnel to initiate the required action, visible when time is less than 60 minutes.
- Nighttime mode: enable the possibility to adapt the device to day and night conditions. Using User Toolbox users can schedule brightness and non-critical alarm volume levels depending on the time of day.

Ordering Information	
Product Code	Description
31030002	P300 Volumetric infusion Pump

ALWAYS READ THE LABEL AND FOLLOW THE DIRECTIONS FOR USE

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human connections

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