

BioFusion P500 Series

P500/P500 Neo/P500 Ex/P500 Pro Volumetric Pump



Physical Specifications(P500/P500 Neo/P500 Ex/P500 Pro)

Size	215mm×153mm×75mm (L×W×H)
Weight	≤1.80kg
Screen	6.9 inch TFT LCD capacitive touchscreen
Resolution	280×1424 pixels
Brightness	1-10 levels adjustable
Display	Patient information, Alarm information Infusion status, system status
Ingress protection	IP33
Power supply	AC input 100-240V, 50/60Hz, 0.43-0.22A DC input (from the Dock) 15VDC, 1.7A

Parameters Specifications

Accuracy	Infusion rate error $\leq \pm 5\%$ Bolus volume error $\leq \pm 5\%$, or $\pm 0.02\text{ml}$ (whichever is the greater) KVO error $\leq \pm 5\%$ Drop rate accuracy $\leq \pm 10\%$
Flow rate setting	Range 0.10ml/h ~ 2350ml/h Resolution: 0.01 ml/h (0.10 ~ 99.99) ml/h 0.1ml/h (100.0 ~ 999.9) ml/h 1ml/h (1000 ~ 2350) ml/h
Bolus volume	0.10 ~ 99.99 ml/h
Occlusion detection	15 levels selectable: 50, 150, 225, 300, 375, 450, 525, 600, 675, 750, 825, 900, 975, 1050, 1125mmHg). Occlusion alarm error: Level 1: 50^{+170}_{-25} mmHg Other levels: $\leq \pm 145\text{mmHg}$ or $\pm 20\%$ (Whichever is the greater)
Max. infusion pressure	No more than 1350mmHg
Single air detection	BioFusion P500: 7 levels available, (respectively are 25, 50, 100, 200, 400, 600, 800 ul) BioFusion P500 Pro, BioFusion P500 Neo, BioFusion P500 Ex: 8 levels selectable, (repectively are 15, 25, 50, 100, 200, 400, 600, 800ul)
Accumulated air bubble	7 levels available: 100, 200, 400, 500, 600, 800, 1000ul reached by accumulated air in 15 min
Maximum volume (single fault conditions)	$\leq 0.5\text{ml}$
KVO rate	0.10~30.00ml/h, increment 0.01ml/h
Time set range	00:00:01 ~ 99:59:59 (h:min:sec) increment 1s
VTBI set range	0.10~9999.99ml, increment 0.01ml
Infused volume display range	0.00~99999.99ml, increment 0.01ml
Range of drop rate	1~400dot/min
Weight set range	0.1 to 499.0kg Units: kg,lb
Dose rate	Set range: 0.001~99999 Units:X/min, X/h, X/24h, X/kg/min, X/kg/h, X/kg/24h,in which X represents ng, ug, mg, g, mU, U, kU, EU, mmol, mol, mcal, cal, kcal, and mEq

Drug Amt.	Setup range 0.001~99999 Units: ng, ug, mg, g, mU, U, kU, EU, mmol, mol, mcal, cal, kcal, and mEq
Volume	Set range: 0.1~9999.99ml
Concentration	Setup range 0.001~9999.99 Units: ng/ml, ug/ml, mg/ml, g/ml, mU/ml, U/ml, KU/ml, EU/ml, mmol/ml, mol/ml, mcal/ml, cal/ml, kcal/ml, mEq/ml
Defibrillation protection	Recovery time: < 1s (after defibrillation)
Drug management (option)	
Drug library	Supports a customizable drug library of up to 5000 drug profiles, 30 categories, 20 types color-coding drug names. (No default drug list is preloaded)

Auto lock protection

Screen lock protection	Non-infusion state: Default 3 min. 1min, 2min, 3min, 4min, 5min,and off selectable. Infusion state: Default 30s. 15s, 30s,1min, 2min, 3min, 4min, 5min, and off selectable.
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Alarm

Type	Audible and visual alarm
Levels of alarm	High: Air in line/ Accumulated air/ Empty/ Drop error/ Upstream occlusion/ downstream occlusion / No infusion tube/infusion tube error/ No drop sensor/ No battery/ VTBI complete/ KVO finish/ Relay invalid/ System error/ Middle: Near Occlusion/ CMS Disconnected/ Low: KVO Running/ No Battery/ Battery Error/ No External Power Supply/ Low battery/ Standby Time Expired/ Dock Connection Interrupted/ System time error/ Relay Invalid Soon/ Reminder/ infusion near complete

Reminder setting	Non-operation state:Default 2min. 1 min, 2min, 3min, 4min, 5min, and off selectable.
Sound volume	0-10 levels selectable, default is level 2 Off and 0-30 minutes Near End Time selectable

Connectivity

Communication	Wired/Wireless
USB	Support drug library import, patient data import/export, history record export, calibration data import/export
Multifunctional adapter	RS232, nurse call connector, DC adapter
Protocol	IEEE 802.11 a/b/g/n
Modulation mode	DSSS, OFDM, DBPSK, DQPSK, CCK, QAM
Operating frequency	2.4GHz: 2.412 ~ 2.484GHz 5GHz: 4.915 ~ 5.925GHz
Data security	Standard: WPA-PSK and WPA2-PSK Encryption: TKIP and AES
Delay time of network disconnection alarm	$\leq 14\text{s}$
Integration	Connect with Drop sensor module, BioFusion infusion central station, P series & G series patient monitor, UM series urine monitor

Battery

Type	Lithium Battery, 11.1VDC, 3100mAh
Operating time	≥ 8 hours at 25ml/h ≥ 3 hours at 2350ml/h
Charge time	≤ 4 hours when the pump is off ≤ 8 hours when the pump is on
Shutdown delay	At least 30min at a rate of 25ml/h after the first low battery alarm

Storage

Patient history data	P500	More than 5000 events
	P500 Neo	More than 6000 events
	P500 Ex	More than 8000 events
	P500 Pro	More than 10000 events

Working Mode

Common modes	Rate mode, Time mode, Micro mode, Weight mode, Sequence mode, Loading dose mode, Intermittent mode, Ramp mode, Dose time mode, and Drip mode.
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Work Environment

Temperature	5-40°C for operating, -20-60 °C for storage
Relative humidity	15-95% for operating, 10-95% for storage
Atmosphere pressure	57.0-107.4 kPa for operating, 16.0-107.4 kPa for storage
Classification	Class I, Type CF
Stackability	Supported with Infusion Supervision System and Handle. Maximum of 12 pumps can be stacked with a Infusion Supervision System Maximum of 3 pumps can be stacked with a handle

*Specifications subject to change without prior notice.

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