QinFLOW
NO MORE COLD BLOOD & FLUIDS

Warrior lite Hybrid

(Q2301S0000 & Q2310S0000)*

Battery and AC powered blood & IV fluid warmer designed for emergency departments, trauma units and integrated healthcare systems. The Warrior lite Hybrid delivers non-compromising warming performance, simplicity of operation, and seamless transition between AC and battery modes. It effectively addresses trauma and medical emergency resuscitation protocols, inter- and intra-facility transports, mass casualty events, and more

* lite and Extra Power battery, respectively

July 2024 | Version 2.0

Key Benefits:

- **Simple to Operate:** Fail-safe assembly; one-button operation that minimizes the likelihood of human errors and enables consistent care in mass casualty event
- **Hybrid Power Source:** Equipped with both battery and AC Power Supply Module, the Warrior lite Hybrid is uniquely positioned to address blood and IV warming needs across the entire continuum of emergency care. Seamless transitions between both operating modes
- **Immediate Warming:** Warm fluids in less than 11 seconds
- **At Any Input Temperature**: Even at 4˚C / 39˚F fluid input temperature
- **Even At High Flow Rates:** Up to 180ml/min for the full warming range (4˚C - 38˚C / 39.2˚F - 100.4˚F)
- **Unmatched Handling of Push-Pull / Bolus / Intermittent Resuscitation Method:** Fast reaction to flow changes and superb intermittent flows handling (e.g. hand pump, syringe, etc.)
- **Highly Efficient Technology**: 3-5 liters of warmed fluids with a single Extra Power battery
- **Highest Regulatory Envelope:** IEC 60601-1-12 certified and MIL-STD 461G RE102 & RS103 compliant (battery mode)
- **Mountable:** To pole, rail or stretcher
- **Communicative:** Built-in LED display
- **No Calibration**: No need for periodic calibration
- **Zero Maintenance:** 5 years between service cycles

- **Patent-Protected Smart Warming Technology:** Microprocessor-controlled smart warming technology that measures fluids temperature 100s of times a second and automatically adjusts warming to maintain 38˚C / 100.4˚F output
- **Safe Technology:** Gradual warming; real-time temperature sensing with auto-adjustments and visual indications; aluminum free (heat exchanger using medical grade stainless steel)
- **Field Proven Technology:** In clinical use since early 2014 with hundreds of end users and >100K field utilizations
- **Affordable Consumables:** Cost effective consumable design
- **One Consumable Unit Fits All Warrior Products**
- **Continuum of Emergency Care:** Consumable unit fits all blood and IV fluid protocols and can be used across the entire continuumof emergency care, simplifying patient handoff between emergency settings and reducing costs

For more information: info@qinflow.com
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(Q2310S0000 & Q2301S0000)

Performance:	
Set-Point Temperature	38°C (±2°C) / 100.4°F (±3.6°F)
Warming Time	Less than 11 sec
Minimum Delivery Rate	KVO or 2 ml/min
Maximum Delivery Rate at 4°C/39.2°F Input[1] [2]	• **AC mode and Extra Power battery:** 180 ml/min • **lite battery:** 170 ml/min
Maximum Delivery Rate at 20°C/68°F Input[1] [2]	• **AC mode and Extra Power battery:** 270 ml/min • **lite battery:** 250 ml/min
Capacity at 4°C/39.2°F Input	• **lite battery:** up to 1.3 liters • **Extra Power battery:** up to 3 liters • **AC mode:** Unlimited
Capacity at 20°C/68°F Input	• **lite battery:** up to 2.5 liters • **Extra Power battery:** up to 5 liters • **AC mode:** Unlimited
Physical Characteristics:	
Dimension	• **lite battery:** 8.4 x 8.8 x 11.5 cm | 3.3" x 3.46" x 4.52" • **Extra Power battery:** 10.5 x 8.8 x 11.5 cm | 4.13" x 3.46" x 4.52" • **AC:** 22 × 12.5 × 10 cm | 8.66" x 4.92" x 3.93"
Weight	• **lite battery:** 0.8 kg / 1.76 lb • **Extra Power battery:** 1.1 kg / 2.4 lb • **AC:** 1.46 kg / 3.22 lb
Electrical Characteristics:	
Battery Characteristics	• **lite battery:** Rechargeable, Li-ion, 18.0V, 3.0Ah, 54.0Wh • **Extra Power battery:** Rechargeable, Li-ion, 18.0V, 5.5Ah, 99.0Wh
Battery Charging Input Voltage	• **lite battery:** 100-240 VAC | 50-60 Hz | Max 1.0 A • **Extra Power battery:** 100-240 VAC | 50-60 Hz | Max 2.0 A
Electrical Specifications	100-240VAC 50-60Hz; 2.2-5.3A
Target Regulatory Envelope:	
Certifications	CE, FDA & Health Canada
IEC	• IEC 60601-1 • IEC 60601-1-2:2014 (EMC standard 4th edition) • IEC 60601-1-12 (battery mode)
Compliance	• EN1789 (battery mode) • MIL-STD 461G RE102 & RS103 (battery mode)
Environmental Specifications:	
Storage Conditions	-20°C to 70°C (-4°F to 158°F) & 93% RH
Operating Conditions	-5°C to 50°C (23°F to 122°F) & 90% RH
Atmospheric Pressure/Altitude	• Battery operated: 549 to 1,060 hPa / -400 to 4,572 meter (-1,312 to 15,000 ft) • AC operated: 700 to 1,060 hPa / -400 to 3,200 meter (-1,312 to 10,499 ft)
Ingress Protection (IP)	• Battery: IP56 • AC: IP22

Core Components:

Base Unit (QIF03-BUA1000)
Hosts the control module and user indications. Connects with the battery or AC power supply module and the Disposable Unit

Power Supply Module (QIF-ACL10000)
Medical-grade power supply module in a dedicated case

lite (QIF03-BTA1000) or **Extra Power** (QIF03-BTA2000) **Battery**
Rechargeable Li-ion battery

Disposable Unit:

Compact Disposable Unit (QPORT0500)
Compact sterile disposable unit

Charging Components:

For lite Battery:

- Chargers: FY2101000, MASCOT2240Li5C, or MASCOT2541Li5C
- Adapter: QIF03-CHA1001
- 12/24V Charger: MASCOT2544Li5CLT

For Extra Power Battery:

- Chargers: FY2102000, MASCOT2541Li5C
- Adapter: QIF03-CHA1002
- 12/24V Charger: MASCOT2544Li5CEP

Mounting (QIF03-MUA1000)
Mounting option to pole, rail or stretcher

Extension Cable (QIF-CBL00019)
To extend the connection between the base unit and the disposable unit

Soft Carrying Bag (QIF03-SBG2000)

Online Training:

[1] Using standard IV kit and a 14G catheter. Blood products' flow rate may differ due to their viscosity. Output temperature and volume may differ based on ambient temperature, flow rate and battery condition.
[2] This document is based on EU-approved spec. The product is not yet cleared for distribution in the USA.

Note: the information provided in the Instructions For Use (IFU) shall govern in case of conflict .This document is adjusted to CE approvals; for exact specifications of the USA-cleared version, please refer to the relevant IFU or contact your QinFlow representative.

°C	=	degree in Celsius	cm	=	centimeter	hPa	=	hecto Pascal (100 Pascal)	Kg	=	kilogram
°F	=	degree in Fahrenheit Standard	DU	=	Disposable Unit	HxWxL	=	Height x Width x Length	KVO	=	Keep Vein Open
"	=	Inch	EN	=	European Norms	IEC	=	International Electrotechnical Commission	lb	=	Libra (Pound)
AC	=	Alternate Current	FDA	=	Federal Drug Administration	IFU	=	Instructions for Use	MIL-STD	=	Military Standard
BU	=	Base Unit	Ft	=	Feet	IP	=	Ingress Protection rating	ml/min	=	milliliter per minute
CDU	=	Compact Disposable Unit	g	=	gram	IV	=	Intravenous	RH	=	Relative Humidity

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