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The Quantum™ is a Game-Changing innovation that has succeeded in closing a critical capability gap previously left exposed by other commercial off-the-shelf fluid warmers currently fielded. Size, weight, performance, and ease of use are no longer collective barriers to the delivery of whole blood in far forward and near POI casualty management.

LIFEWARMER™ **Quantum™** *Blood & Fluid Warming System*

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The Quantum™ exceeds all healthcare and logistical requirements for the delivery of warmed blood or fluids across the defined spectrum of care. The system consists of unique thermal administration sets that incorporate sensing elements with an integrated heating system that does not disrupt the fluid path. With advanced intelligence throughout the system, the lightweight Controller modulates and moderates the energy flow to the integrated heating elements to ensure consistent normothermic fluid delivery to the casualty. The 44V battery is the smallest in category,

able to rapidly adjust power distribution based on the temperature and flow rate of the input fluid. This creates a highly efficient system capable of previously unrealized performance optimizations. The Quantum™ system has an operational weight of just 22 total ounces yet can deliver two units of 39°F (4°C) Whole Blood (WB) at 100mL/min with an output temperature of 100.4°F (38°± 2°C) with only a 24 second warm-up period. The Quantum Blood and Fluid Warmer provides the Tactical Health Care Professional with significant technological overmatch in the fight to eliminate preventable combat death.

LIFEWARMER™ Quantum™ IV Fluid & Blood Warming System

- **Lightweight** The Quantum™ has the lightest operational weight of any portable blood & fluid warming system (Total Operational Weight: 22 oz)
- **Powerful** Warms two units of 39°F (4°C) refrigerated whole blood at 100mL/min+ on a single charge
- **Compact** Fewest components to carry (three)
- **Fast** Warm-up time of only 24 seconds
- **Intuitive** The thermal transfusion/infusion set looks, handles, and sets up/primes like any conventional IV set
- **Safe** Tested safe for blood, blood products & IV solutions
- **Effective** The system is plug-and-play for ease of setup under stressful conditions such as tactical field care (only two connection points, with no plug orientation or set-up order requirements – system status constantly visible at a glance)
- **Complete** Does not require additional standard transfusion or infusion set – all other warmers do
- **Tactical** Only system FDA cleared allowing easy disable of audible alerts to protect operators in combat



QUANTUM™ COMPLETE SYSTEMS

OPTION	ITEM #	NSN #
Quantum System	35-0006	6515-01-693-7810
Trainer System*	35-0029	----

OPERATIONAL CAPABILITIES

IV FLUIDS From a **single battery charge**, capable of warming **1700 mL** of **68°F (20°C)**

IV fluids to an output temperature of **100.4°F (38±/- 2°C)**. Warm up time: **24 seconds**.

Delivery Flow rate: **200mL/min**.

COMPLETE QUANTUM SYSTEM CONTENTS:

1 x Quantum™ Charger

1 x Quantum™ Battery

1 x Quantum™ Controller

2 x TTS-B Thermal Transfusion Set - Blood
(Blood, blood products & IV solutions)

SPECIFICATIONS

Rx ONLY

Total Operational Weight: 22 oz.
(Quantum™ Controller, Battery & TTS-B)

Battery: 16 oz.

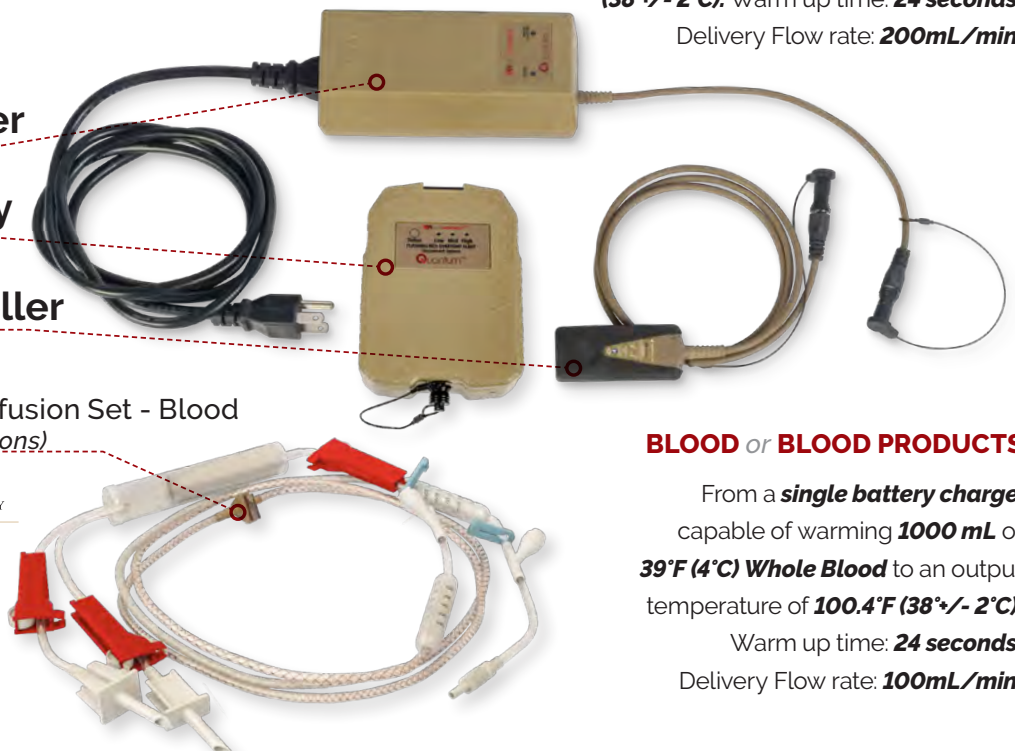
Controller: 3 oz.

Battery Charger: 22 oz.

Controller Cover: 0.23 oz.

Thermal Transfusion Set (TTS-B): 2.7 oz.

TTS-B Drip Rate: 20 gtts/ml



BLOOD or BLOOD PRODUCTS

From a **single battery charge**, capable of warming **1000 mL** of **39°F (4°C) Whole Blood** to an output temperature of **100.4°F (38±/- 2°C)**.

Warm up time: **24 seconds**.

Delivery Flow rate: **100mL/min**.

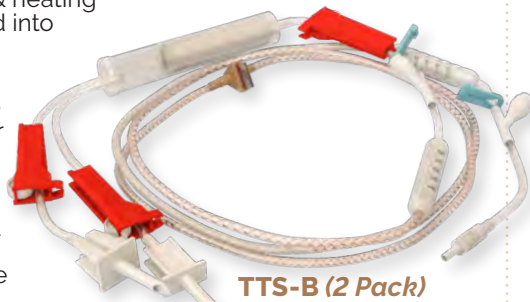
TTS-B Thermal Transfusion Set

- Compatible with whole blood, component therapy (including FDP), colloids, and isotonics
- Similar size and weight to traditional IV tubing
- Intelligent sensing & heating elements integrated into the walls of the tubing set
- No disruption to the fluid path or laminar flow of the fluid
- Easy bi-directional connection to the Quantum Controller
- 20 gtts/mL drip rate

SPECIFICATIONS

Rx ONLY

TTS-B package (each): 6.5 in. x 11 in.
Tubing Length: 80 in.
TTS-B Wgt (each): 2.6 oz
Packaged Wgt (2 TTS-B & box): 11 oz



TTS-B (2 Pack)

OPTION	ITEM #	NSN #
TTS-B	35-0005	6515-01-695-4444
Trainer Tubing	35-0028	---

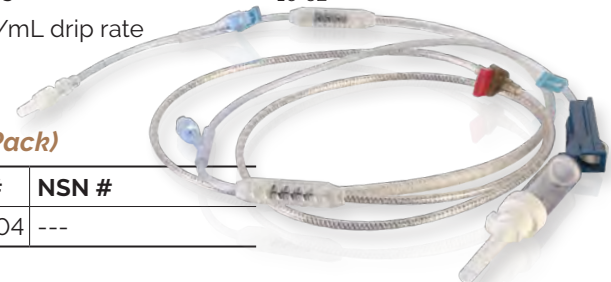
TIS Thermal Infusion Set

- Similar size and weight to traditional IV tubing
- Intelligent sensing and heating elements integrated into the walls of the tubing set
- No disruption to the fluid path or laminar flow of the fluid
- Easy bi-directional connection to the Quantum Controller
- Compatible with standard IV fluids such as colloids and isotonics
- 20 gtts/mL drip rate

SPECIFICATIONS

Rx ONLY

TIS packaged (each): 6.5 in. x 11 in.
Tubing Length: 80 in.
Weight: TIS (each): 2.1 oz
Packaged (2 TIS & box): 10 oz



TIS (2 Pack)

ITEM #	NSN #
35-0004	---



'Retain a ready charge by keeping Battery plugged into Charger. Always re-charge after each use, even if not fully discharged.'

Quantum™ BATTERY

- Designed for the tactical environment- water resistant, subdued color, and the option to disable the audible alarm
- 44V Lithium-Polymer Battery
- Intelligent, state-of-the-art battery technology senses charge demand and will charge as needed but never overcharge*
- Status button to check charge state at any time

Quantum™ HARDCASE

SPECS

L 10.63 in.
x W 9.63 in.
x D 6.73 in.
Weight: 3.22 lb.



- Rugged hard case designed to protect your Quantum from dust, dirt, and moisture
- Features pressure relief valve for automatic pressure equalization
- Custom laser cut high density foam holds components securely in place
- Flexible storage capacity for multiple batteries, controllers and thermal tubing sets

QUANTUM™ HARDCASE

ITEM #	NSN #
35-0008	---

QUANTUM™ BATTERY

ITEM #	NSN #
35-0001	---

SPECIFICATIONS

H 4.5 in. x W 3.25 in. x D 1.25 in.
Weight: 16 oz.

Quantum™ CONTROLLER

- Moderates the energy flow from the Quantum Battery to the Thermal Tubing
- Designed for ease of connecting and durability
- Colored LED lights constantly show during administration of blood/fluid to show status
- Lightweight & durable
- IP53 rated for dust & water resistance with jacket



Replacement cover is also available

- Minimum service life - 1000 insertions/removals

SPECIFICATIONS

Controller Body: W 1.25 in. x H 3 in. x D 0.75 in.
Controller Total Length: 51.25 in.
Weight (Controller only): 2.5 oz.
Packaged Weight: 5 oz.

QUANTUM™ CONTROLLER

OPTION	ITEM #
Controller	35-0003
Trainer Controller*	35-0027
Cover (Replacement)	35-0010

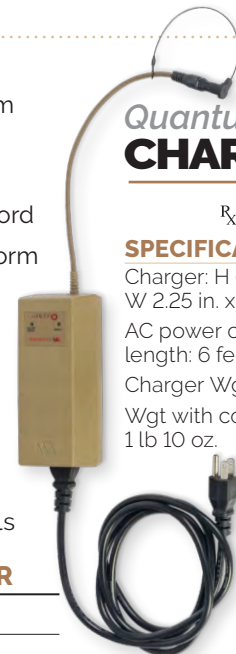
- Fully charge the Quantum Battery in <90 minutes
- Smart, safe charging
- Includes 6 ft AC power cord
- Colored LED lights to inform the user of charging and battery status
- IP 22 rated for dust and water resistance
- 100V to 264V AC input; 50Hz, 60Hz
- Minimum service life- 2500 insertions/removals

Quantum™ CHARGER

Rx ONLY

SPECIFICATIONS

Charger: H 6 in. x W 2.25 in. x D 1.75 in.
AC power cord length: 6 feet
Charger Wgt: 1 lb 4 oz.
Wgt with cord: 1 lb 10 oz.



QUANTUM™ CHARGER

ITEM #	NSN #
35-0002	---

Quantum™

Field Blood Transfusion Kit

- Comprehensive kit designed for use with the Quantum™ Blood & Fluid Warming System allowing rapid, consistent normothermic field blood transfusion in far forward and near point of injury (POI) prehospital casualty management.
- Includes the Quantum™ Thermal Transfusion Set - (Blood) that incorporates an integrated heating system that does not disrupt the fluid path
- Equipped with Donor/Recipient Modules to verify blood types of the donor and recipient
- Also allows collecting of blood samples from the donor for additional surveillance testing



QUANTUM™ FIELD BLOOD TRANSFUSION KIT CONTENTS:

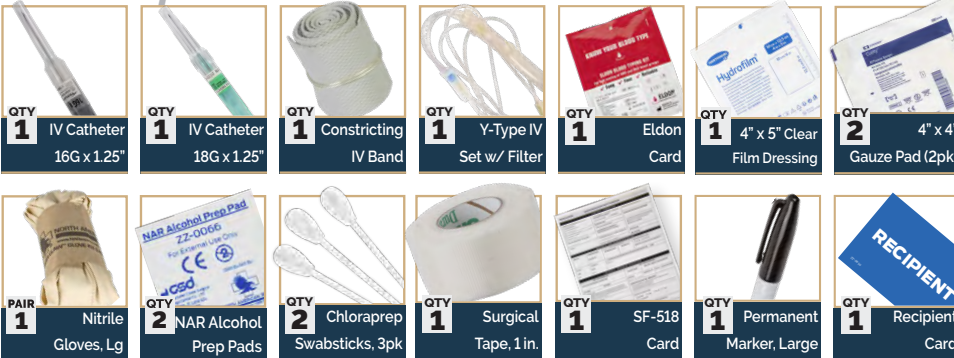


Each Donor Module Kit contains:



All the needed supplies to allow the user to rapidly perform a field blood transfusion as outlined in the **Joint Theater Trauma System Clinical Practice Guidelines**

Each Recipient Module Kit contains:



SPECIFICATIONS ^{Rx ONLY}
 L 10 in. x W 7 in. x D 2.5 in.
 Weight: 1.09 lb

QUANTUM™ FIELD BLOOD TRANSFUSION KIT

ITEM #	NSN #
83-0028	---

Q.U.I.C.K. Quantum Ultimate Intensive Resuscitation Carry Kit



The Quantum™ System includes a charger that is not intended to be packed in the nylon pouch during deployment

- The lightest operational weight of any portable blood & fluid warming system (Total Operational Weight: 22 oz)
- Warms two units of 39°F refrigerated whole blood at 100mL/min+ on a single charge
- Warm-up time of only 24 seconds
- The thermal transfusion/infusion set looks, handles, and sets up/primes like any conventional IV set
- Tested safe for blood, blood products and IV solutions
- The system is plug-and-play for ease of setup under stressful conditions such as tactical field care (only two connection points, with no plug orientation or set-up order requirements system status constantly visible at a glance)
- Does not require additional standard transfusion or infusion set – all other warmers do
- Only system FDA cleared allowing easy disable of audible alerts to protect operators in combat

SPECIFICATIONS

Rx ONLY

Battery: 16 oz.
 Controller: 3 oz.
 Thermal Transfusion Set (TTS-B): 27 oz.
 TTS-B Drip Rate: 20 gtt/s/ml
 Charger: 22 oz.
 Total Operational Weight: 22 oz.
 (Controller, Battery & TTS-B)
 Dimensions: L 8 in. x W 5.25 in. x D 4 in



Q.U.I.C.K. CONTENTS:



Q.U.I.C.K. Advanced also contains:



Q.U.I.C.K. Kits:

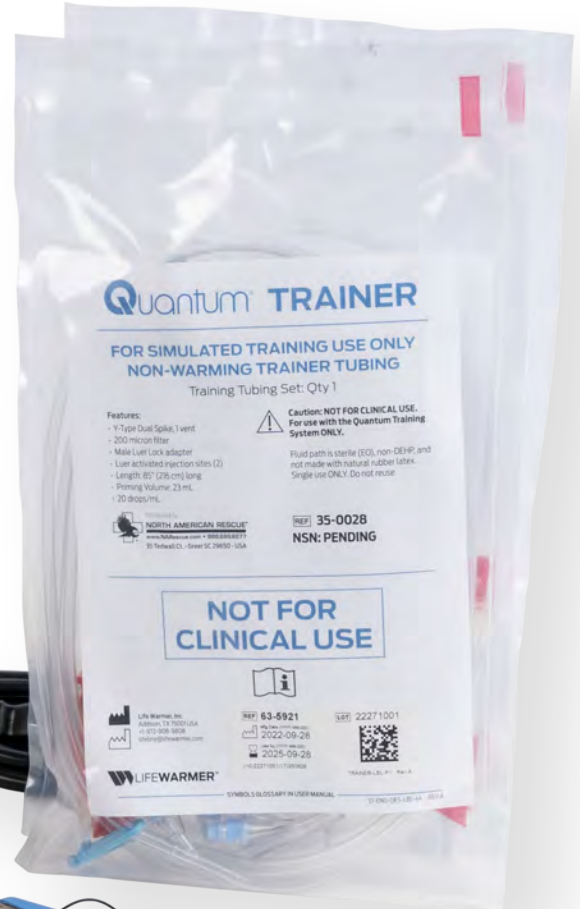
OPTION	ITEM #	NSN #
Basic	35-0026	---
Advanced	35-0025	---
Bag Only	35-0024	

LIFEWARMER
Quantum™ Blood & Fluid Warming
TRAINER SYSTEM

The Quantum™ Trainer System is designed to facilitate training and practice in treatment simulations utilizing blood, IV solutions, or other training aids. This innovative trainer enables users to familiarize themselves with the essential steps involved in preparing and operating the Quantum™ Blood and Fluid Warming System.

The Quantum™ Trainer Tubing Set is a component for use with the Quantum Trainer System ONLY. It is designed for non-warming training purposes and does not contain any heating elements. With its user-friendly design, users can confidently practice the setup process, fluid container placement, and connection techniques, simulating a real-life scenario.

The Quantum™ Trainer Controller is specifically designed for use with the Quantum Trainer System ONLY. It provides students with the simulated experience of using the Quantum system for warming IV fluids and blood without actually heating. Lights on the Quantum Trainer Controller unit behave like the real unit to familiarize users with the LED indicators when in real world use. The lights flash blue during the 24 second warm up time and then shift to solid green indicating that fluids would have achieved the proper temperature.



CONTENTS: //



- Allows medical trainers to thoroughly instruct personnel on the proper use of the Quantum™ Blood and Fluid Warming System
- Designed for non-warming training purposes
- NOT FOR CLINICAL USE

SPECIFICATIONS

Dimensions:
 Trainer Tubing Package: W 6.5 in . x L 11 in. (ea.)
 Tubing Length: 85 in.
 Controller Body: W 1.25 in. x H 3 in. x D 0.75 in.
 Controller Total Length: 51.25 in.

Weights:
 Trainer Tubing Set: 2.7 oz.
 Trainer Controller: 2.5 oz.
 Trainer Controller (Pkgd): 5 oz.
 Battery: 16 oz. | Charger: 22 oz.
 Total Trainer Operational Weight: 22 oz.

QUANTUM™ TRAINER SYSTEM & COMPONENTS

OPTION	ITEM #
Trainer System	35-0029
Trainer Tubing	35-0028
Trainer Controller	35-0027

PELICAN™ GOLDEN HOUR CONTAINERS

Safely deliver whole blood and blood supplies from anywhere in the world — to where they need it most.

Utilizing Thermal Isolation Chamber System (TIC™) technology and vacuum insulation panels, the Pelican™ Golden Hour family of containers will keep the payload isolated from exposure to extreme temperatures with a tight, protective thermal seal for a pre-determined temperature range and duration.

MOBILE SERIES

- Ultra-light storage and transport of four units of whole blood
- Maintains 2°C - 8°C for 72 hours or more
- Dismount for up to 12 hours without external power
- Capacity: 2L



ONE-V

- Ultra-light storage and transport of 0.50 liters of whole blood
- Keep blood cool for up to 48 hours, regardless of weather conditions
- Dismount for up to 12 hours without external power
- Reusable, rugged design for easy cleaning and replacement

ONE-F SLEEVE

- Ultra-light storage and transport of 0.50 liters of whole blood
- Keep blood cool for up to 48 hours, regardless of weather conditions
- Reusable, rugged design for easy cleaning and replacement



▲ More info at NARescue.com

MEDIC

- Stores 2 liters of whole blood
- Keep blood cool for 24 hours under extreme conditions, up to 3 days under optimal conditions
- Reusable carrier mounts on medic's kit
- GMC pouch includes accessory storage options



SPECIFICATIONS

Mobile Series

W 9.25 in. x D 8.25 in. x H 8 in.
Weight: 7.8 lbs

One-V

W 6 in. x D 5 in. x H 8 in..
Weight: 2 lbs

One-F Sleeve

W 4.5 in. x D 4.5 in. x H 9.25 in.
Weight: 2.2 lbs

Medic

W 14 in. x D 9 in. x H 6 in.
Weight: 6 lbs.

PELICAN™ GOLDEN HOUR CONTAINERS

COLOR	NAME	ITEM #	NSN #
Tan	Mobile Series	35-0019	---
Marine	Mobile Series	35-0018	---
Desert	Mobile Series	35-0017	---
Mtc	One-V	35-0016	---
Tan	One-F Sleeve	35-0015	---
Mtc	Medic	35-0014	---

PRODUCTS

WITH A MISSION®

No need to wrestle
with **CAPACITY** vs.
CAPABILITY
anymore...



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