One Intelligent Blood/Fluid Warmer
High Performance and Low Maintenance
Pediatric Disposable Set
• Aliquot fluid administration
• Cost effective
• Reduces priming volume

Standard Flow Disposable Set
• Responsive to changes in flow rates
• Able to warm at higher flow rates
• Cost effective

High Flow Disposable Set
• Auto-venting bubble trap
• Fluid volume capacity
• Cost effective

Dry heat means No water. No risk of water-related infection.

The Range in the Ranger™ System

KVO

6,000 mL/hr

9,000 mL/hr

30,000 mL/hr

Pediatric Disposable Set
Low Flows
• Aliquot fluid administration
• Cost effective
• Reduces priming volume

Standard Flow Disposable Set
Moderate Flows
• Responsive to changes in flow rates
• Able to warm at higher flow rates
• Cost effective

High Flow Disposable Set
High Flows
• Auto-venting bubble trap
• Fluid volume capacity
• Cost effective

Fast
• Quickly adapts to changes in flow rates: KVO to 30,000 mL/hr.
• Disposable sets slide easily into the warming unit — and they only fit in one direction, so set up is hassle-free.
• Highly conductive aluminum heating plates disperse heat immediately, handling sudden changes in flow rates with ease.
• The 3M™ Ranger™ system cleaning tool makes maintenance quick and simple.

Functional
• Dry heat technology disperses heat evenly, eliminating potentially dangerous hotspots and overheating of fluids.
• The Ranger system’s software monitors temperature four times each second and adjusts the heat level to maintain a 41°C setpoint. The result: fast, accurate heat control.
• Sophisticated temperature maintenance and monitoring means that alarm conditions in normal operating mode are rare. If the system functions outside of normal temperature range, redundant audible/visible alarms notify users immediately.

Flexible
• The Ranger system maintains safe temperatures across the flow path — from stopped flow to 30,000 mL/hr.
• Economical and easy-to-use disposable sets handle the full range of fluid warming needs.
  • Pediatric/Neonate (KVO - 6,000 mL/hr)
  • Standard Flow (KVO - 9,000 mL/hr)
  • High Flow (KVO - 30,000 mL/hr)
One Intelligent Blood/Fluid Warmer

1 Integrated handle for easy transport
2 Compact, space-saving design
3 Large, easy-to-read temperature display
4 Audible/visible over-and under-temperature alarms
5 Highly conductive aluminum plates for maximum heat transfer and no hotspots
6 Inexpensive, simple-to-use disposable warming sets
7 Convenient over-temperature test function
8 Built-in IV pole clamp for secure hold

To learn more about the remarkable Ranger blood/fluid warming system, please contact your 3M Patient Warming representative or call Customer Service at 1-800-733-7775.

www.rangerfluidwarming.com
**Warming Unit – # 24500**
Set point temperature: 41°C
Flow rates: KVO – 30,000 mL/hr
Over temperature primary setpoint = 43°C
Over temperature secondary setpoint = 44°C
Power: 100-120VAC
Weight: 7 lbs. 7 oz.
Dimensions: 7.5”w × 4.5”h × 10”d

**Pressure Infusors – # 90032**
Pressure: 300 mmHg maximum
dynamic operating pressure
Weight: 15.5 lbs.
Dimensions: 13”w × 17”h × 10”d
Case quantity: 2
Use with: Power Pack (#90033), wall or canned air, IV pole mountable

**Power Pack – # 90033**
Power: 110-120VAC
Pressure Setting: 300 mmHg
Weight: 6 lbs.
Dimensions: 6”w × 7”h × 7”d
Case Quantity: 1 each
For use with: Pressure Infusor (# 90032)
IV pole mountable

**Off-set IV pole and base – # 90068 / 90069**
Height: Adjustable from 73.5” to 110”
Weight: 35 lbs.
Diameter: 28” Base, 5 wheels
Units per box: 1 unit
For use with: Pressure Infusor (# 90032) and Power Pack (# 90033)

**Filter Accessory High Flow Disposable Set* – # 90029**
To be used as a replacement filter with Ranger high flow disposable sets
Priming Volume: 64 mL
Filter: Replaceable 150 micron filter

**Cleaning Tool Accessory – # 90030**
To be used for cleaning surface of Ranger warming unit heater plates.
Use: Disposable
Case quantity: 12 cleaning tools/case

**Pediatric/Neonate Disposable Set* with Fluid Aspiration Port # 24450**
Flow rates: KVO – 6,000 mL/hr
Priming volume: 20 mL
Components: Heat exchanger, bubble trap with air aspiration port, fluid aspiration port, 24” patient line

**Standard Flow Disposable Set* – # 24200**
Flow rates: KVO – 9,000 mL/hr
Priming volume: 39 mL
Components: Heat exchanger, needleless injection port, bubble trap, 30” patient line

**Standard Flow Disposable Set with Needleless Air Aspiration Port* – # 24240**
Flow rates: KVO – 9,000 mL/hr
Priming volume: 44 mL
Components: Heat exchanger, bubble trap with air aspiration port, fluid aspiration port, 60” patient line

**Standard Flow Disposable Set with Extension Disposable Set* – # 24250**
Flow rates: KVO – 9,000 mL/hr
Priming volume: 44 mL
Components: Heat exchanger, needleless injection port, extension: Luer connected 30” extension set on 30” patient line

**High Flow Disposable Set with Patient Line* – # 24355**
Flow rates: KVO – 30,000 mL/hr
Priming volume: 150 mL
Components: Heat exchanger, 2 IV spikes, drip chamber with 150 micron filter, needleless injection port, auto-venting bubble trap, 60” patient line
Filter: Replaceable 150 micron filter
Drip rate: 20 drips per mL

**High Flow Disposable Set* – # 24365**
Flow rates: KVO – 30,000 mL/hr
Priming volume: 65 mL
Components: Heat exchanger, auto-venting bubble trap

**High Flow with Extension Disposable Set* – # 24370**
Flow rates: KVO – 30,000 mL/hr
Priming volume: 89 mL
Components: Heat exchanger, auto-venting bubble trap, 48” patient line

*All disposable sets and set accessories:
Pressure infusion: Up to 300 mmHg maximum dynamic operating pressure
Material: Latex-free
Case quantity: 10 disposable sets/case
Sterile: ETO
Use: Single use only