**Warming Unit – Model 24507**

Set Point Temperature: 41°C  
Flow Rates: KVO – 30,000 mL/hr  
Alarms (audible and visual): Over-temperature primary setpoint: 43°C  
Over-temperature secondary setpoint: 44°C  
Device Rating: 110 VAC / 220-240 VAC  
Weight: 3.3 kg (7.4 lb)  
Dimensions: 19w x 11h x 25d cm  
(7.5 x 4.5 x 10 in)

**Pressure Infusor – Model 90083**

Pressure: 300 mmHg maximum  
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 ports, 152cm (60 in) patient line, auto-venting bubble trap  
Filter: Replaceable 150 micron filter  
Drip Rate: 20 drips per mL

**Power Pack – Model 90031**

Device Rating: 220-240 VAC  
Pressure: 2.7 kg (6 lb)  
Flow Rates: KVO – 30,000 mL/hr  
Priming Volume: 12 mL  
Components: Heat exchanger, auto-venting bubble trap

**Off-Set IV Pole & Base – Model 90068 / 90069**

Height: Adjustable from 186-279 cm (73.5 to 110 in)  
Weight: 15.8 kg (35 lb)  
Diameter: 71cm (28 in) Base, 5 wheels  
Use: With pressure infusor (Model 90083), IV pole mountable

**Filter Accessory High Flow Disposable Set* – Model 90029**

To be used as a replacement filter with Ranger high flow disposable sets.  
Priming Volume: 64 mL  
Filter: 150 micron filter

**Cleaning Tool Accessory – Model 90030**

To be used for cleaning surface of Ranger warming unit heater plates.  
Use: Disposable  
Case Quantity: 12 cleaning tools/case

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*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: EO  
- Use: Single use only

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1. Department of Health - The “never events” list 2011/12; 22 Air embolism  

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**High Flow Flow Disposable Set** – Model 24355

Flow Rates: KVO – 30,000 mL/hr  
Priming Volume: 89 mL  
Components: Heat exchanger, 2 IV spikes, drip chamber with 150 micron filter, needleless injection ports, 152cm (60 in) patient line, auto-venting bubble trap  
Filter: Replaceable 150 micron filter  
Drip Rate: 20 drips per mL

**Paediatric/Neonate Disposable Set* with fluid aspiration port – Model 24450**

Flow Rates: KVO – 6,000 mL/hr  
Priming Volume: 20 mL  
Components: Heat exchanger, bubble trap with air aspiration port, fluid aspiration port, 60cm (24 in) patient line

**Standard Flow Disposable Set** – Model 24200

Flow Rates: KVO – 9,000 mL/hr  
Priming Volume: 39 mL  
Components: Heat exchanger, bubble trap, needleless injection port, 76cm (30 in) patient line

**Standard Flow Disposable Set with needleless air aspiration port** – Model 24240

Flow Rates: KVO – 9,000 mL/hr  
Priming Volume: 44 mL  
Components: Heat exchanger, bubble trap with air aspiration port, fluid aspiration port, 152cm (60 in) patient line

**Standard Flow Disposable Set with Extension** – Model 24250

Flow Rates: KVO – 9,000 mL/hr  
Priming Volume: 44 mL  
Components: Heat exchanger, bubble trap, needleless injection port  
Extension: Luer connected  
152cm (60 in) with extension set on patient line
High Flow Set

Designed to handle KVO to 30,000 mL/hr, the High Flow set is used for those cases where large volume infusion is anticipated. The High Flow set can be used as a gravity flow system or with pressure infusion up to 300 mmHg and includes a drip chamber with a 150-micron blood filter.
When rapidly infusing fluid, it is important to guard against air embolism. Ranger high flow sets are equipped with a clinically proven auto-venting bubble trap, capable of venting up to 3,000 cc of air per minute without interrupting flow.

**Model 24355**

The 24355 set is a complete blood/fluid delivery system, containing both administration and patient line components, making it ideal for trauma situations.

- **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, 60 in. patient line, auto-venting bubble trap
- **Filter:** Replaceable 150 micron filter
- **Pressure Infusion:** Up to 300 mmHg
- **Material:** Latex-free
- **Case Quantity:** 10 disposable sets/case
- **Sterile:** ETO
- **Use:** Single use only

**Model 24365**

The 24365 set is designed for the customer who wants the added safety of an auto-venting bubble trap. The set can be used in standard flow and high flow applications, allowing the customer to tailor the upstream/administration set and downstream/patient line components.

- **Flow Rates:** KVO - 30,000 mL/hr
- **Priming Volume:** 65 mL
- **Components:** Heat exchanger, auto-venting bubble trap
- **Pressure Infusion:** Up to 300 mmHg
- **Material:** Latex-free
- **Case Quantity:** 10 disposable sets/case
- **Sterile:** ETO
- **Use:** Single use only

**Model 24370**

The 24370 set is designed for the customer who wants the added safety of an auto-venting bubble trap. The set can be used in standard flow and high flow applications, allowing the customer to tailor the upstream/administration set components.

- **Flow Rates:** KVO - 30,000 mL/hr
- **Priming Volume:** 89 mL
- **Components:** Heat exchanger, auto-venting bubble trap, 48 in. patient line
- **Pressure Infusion:** Up to 300 mmHg
- **Material:** Latex-free
- **Case Quantity:** 10 disposable sets/case
- **Sterile:** ETO
- **Use:** Single use only
3M™ Ranger™
Pressure Infusion System

The Ranger system pressure infusor is designed for use with the Ranger warming unit and Ranger high flow disposable sets. The pressure infusor can accept 500 cc to 1,000 cc solution bags and includes a fitting to connect to the Ranger Power Pack air compressor. The Ranger system pressure infusor provides pressure up to 300 mmHg.

**Pressure Infusor**
Model 90083
- Pressure: 300 mmHg
- Weight: 7.0 kg (15.5 lb)
- Dimensions: 33w x 43h x 25d cm (13 x 17 x 10 in)
- Case Quantity: 2 infusors on mounting bracket
- Use: With 500 to 1,000 mL solution containers
  - For use with power pack (Model 90031), IV pole mountable

**Off-Set IV Pole & Base**
Model 90068 / 90069
- Height: Adjustable from 186-279 cm (73.5 to 110 in)
- Weight: 15.8 kg (35 lb)
- Diameter: 71 cm (28 in) Base, 5 wheels
- Case Quantity: 1 each
- Use: For use with pressure infusor (Model 90083) and power pack (Model 90031)

**Power Pack**
Model 90031
- Device Rating: 220-240 VAC
- Pressure Setting: 300 mmHg
- Weight: 2.7 kg (6 lb)
- Dimensions: 13w x 18h x 25d cm (5 x 7 x 10 in)
- Case Quantity: 1 each
- Use: With pressure infusor (Model 90083), IV pole mountable

**Warming Unit**
Model 24507
- Set Point Temp: 41°C
- Flow Rates: KVO - 30,000 mL/hr
- Alarms: Over-temperature primary setpoint: 43°C (audible and visual)
  - Over-temperature secondary setpoint: 44°C
- Device Rating: 110 VAC / 220-240 VAC
- Weight: 3.3 kg (7.4 lb)
- Dimensions: 19w x 11h x 25d cm (7.5 x 4.5 x 10 in)
- Leakage Current: Meets regulatory standards for leakage current