### 1. Key Recommendations for operational use

<table>
<thead>
<tr>
<th></th>
<th>Infusion Device</th>
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</table>
| 1 | • Volumetric pump for the delivery of intravenous medications  
    • Preferred choice for accurate fluid administration  
    • Weight 1.2kg  
    • NiMH rechargeable battery will provide approximately 4 hours at rate of 100ml/hr.  
    • Clean with hospital standard detergent wipes |  |

<table>
<thead>
<tr>
<th></th>
<th>Symbology</th>
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</table>
| 2 | • On/Off key  
    • Door open key  
    • Start/Stop key  
    • Bolus key  
    • Clear and/or back key  
    • OK key  
    • Keypad with arrows  
    • Initiation of Auto-programming order |  |

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<tr>
<th></th>
<th>Administration Set</th>
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</table>
| 3 | • Use the Infusomat Space Safe Set Standard Luer lock line only:  
    - infusion is by a linear peristaltic pumping mechanism applied to the infusion tubing  
    • Check the infusion site frequently  
    • **Do not use for blood administration**:  
    - blood sets differ since they incorporate a 200 micron filter within the drip chamber  
    - ScotSTAR does not stock specific blood giving administration sets |  |

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<tr>
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<th>Loading Administration Set</th>
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### Basic Infusion
- Press (power button) to switch pump on and wait for until self test is finished.
- Press (open door) to open door. Insert the infusion line from right to left.
- Insert the two hole clip of the IV set in the line guide fixation.
- Route the line straight to the finger pump element and click in the clips.
- Insert the green free flow protection clamp of the IV set into the opened aperture, until the opening lever locks in and the Anti-free flow clamp closes the line (flashing free flow warning LED goes off).
- Make sure the line has good contact with the surface of the pressure sensors.
- Guide the line through the line inlets of the housing at both ends of the line.
- Close the door by pressing firmly in the middle of the operating unit.

### Basic Operation
- **Setting a rate:**
  - Use arrow keys to highlight the rate setting.
  - Enter rate in mls/hr.
  - Press “OK” to confirm.
- **Setting a volume to be infused (VTBI):**
  - Use arrow keys to highlight VTBI.
  - Enter a VTBI in mls.
  - Press “OK” to confirm.
  - Press start.
  - Scrolling arrows on the screen and the green LED indicate that the pump is running.
- **Delivering a bolus with a preset volume:**
  - The pump must be running in order to deliver a bolus.
  - Use the “<” arrow key to access the set bolus option.
  - Press the bolus key to access the bolus screen.
  - Use the arrow keys to set a bolus volume.
  - The time to deliver the set amount of bolus will be displayed next. This time can be extended if needed. Press OK.
  - Press the bolus key to commence bolus delivery.
  - Bolus rate is set at 1000 mls/hr.
  - The pump reverts back to the main screen once the bolus has been delivered.
  - The bolus can be stopped at any time by pressing OK.
### Removing Administration Set

- Press stop
- Ensure roller clamp is closed
- Disconnect set from patient
- Open the door with and confirm ‘yes’ to open door:
  - door will open followed by an audible bleep.
  - pull the door all the way open
- Press the opening lever to unload the set

### Alarms

- **Device and operating alarms are red:**
  - red alarms are critical and require immediate attention
  - a red alarm will stop the current infusion
- **Pre-alarm, hint alarm and reminder alarms are yellow:**
  - warn the user that intervention will be required soon
  - press the OK key to acknowledge and mute
- Flashing battery symbol indicates less than 1 hour battery capacity remaining

### Storage

- House pumps in their specific charging unit when not in use
- To release from the charging unit, turn the circular handle anti-clockwise

### Battery Maintenance

- An automatic internal battery maintenance programme occurs every 30 days:
  - “Battery Maintenance?” message will appear on the display
  - Press to confirm then answer *Yes* with to “Confirm Battery Maintenance?”
  - The battery maintenance cycle takes 12 hours - do not use during this time.
  - attach a label to the pump to indicate battery maintenance is in progress
- Only 1 pump should be on maintenance at any time.

### Competency

- Clinicians should ensure that they have completed a self-assessment OR been assessed competent to use this

### Common Problems

- The air in line sensor has a thin membrane covering the sensor which can easily be damaged causing the Infusomat to constantly alarm air in line
- If the user does not press hard enough when closing the door this results in the clamp mechanism not managing to ‘grab’ the door:
  - this causes the Infusomat to lock the door closure mechanism essentially locking the door open
  - go through the door opening procedure (even though the door is already open) to fix
### Special Functions

- **Dose rate calculations:**
  - enables calculation of dose rate
  - access special functions menu and use arrow keys to highlight and access dose rate calculation menu
  - select unit of concentration using arrow keys
  - enter concentration and confirm with OK
  - enter volume (ml) and confirm with OK
  - enter patient weight (Kg) and confirm with OK
  - select dose prescription using arrow keys and confirm OK
  - press start: the rate will be automatically calculated and displayed at the bottom of the screen

### EC145 brackets

- A specific section for the volumetric **BRAUN INFUSOMAT** pump is located on the shelves in Hangar B, Glasgow.
- Remove Pip pin and disengage extended syringe pump section.
- Attach Infusomat section to bracket and replace Pip pin.
## 2. Document History

<table>
<thead>
<tr>
<th>Reference Number</th>
<th>EG007</th>
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<tbody>
<tr>
<td>Version</td>
<td>1</td>
</tr>
<tr>
<td><strong>Writing group (Chair in bold)</strong></td>
<td></td>
</tr>
<tr>
<td>Jim Henderson</td>
<td>Paramedic</td>
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<tr>
<td>Stephen McGloin</td>
<td>Medical Physics</td>
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<tr>
<td>Graham Percival</td>
<td>General Manager</td>
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<tr>
<td><strong>Jimmi Ronaldson</strong></td>
<td><strong>Advanced Retrieval Practitioner</strong></td>
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<tr>
<td><strong>Associate Medical Director</strong></td>
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<tr>
<td>Andrew Inglis</td>
<td></td>
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<tr>
<td><strong>Date issued</strong></td>
<td>5th October 2018</td>
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<tr>
<td><strong>Date for review</strong></td>
<td>October 2021</td>
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### Distribution

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<tr>
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<th>EMRS West</th>
<th>EMRS North</th>
<th>Paediatric</th>
<th>Neonatal</th>
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<tbody>
<tr>
<td>ScotSTAR</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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</table>

| Referring centres via service websites | X |
| BASICS Scotland | X |
| Medic 1 | X |
| Tayside Trauma Team | X |
| Rural GPs Association of Scotland | ✓ |
| SAS Air Ambulance Division | ✓ |
### 3. Scope and purpose

- **Overall objectives:**
  The Infusomat Space Volumetric Infusion Pump System is intended for use in adults and children for the delivery of parenteral fluids and medications. This guideline is aimed as a cognitive aid. For further information, consult the current user manual:


- **Statement of intent:**
  This guideline is not intended to be construed or to serve as a standard of care. Adherence to guideline recommendations will not ensure a successful outcome in every case, nor should they be construed as including all proper methods of care or excluding other acceptable methods of care aimed at the same results. The ultimate judgement must be made by the appropriate healthcare professional(s) responsible for clinical decisions regarding a particular clinical procedure or treatment plan. Clinicians using this guideline should work within their skill sets and usual scope of practice.

- **Feedback:**
  Comments on this guideline can be sent to: scotamb.CPG@nhs.net

- **Equality Impact Assessment:**
  Applied to the ScotSTAR Clinical Standards group processes.

- **Guideline process endorsed by the Scottish Trauma Network Prehospital, Transfer and Retrieval group.**