

## ANNEX 01

### 1. Infusion Pump

**Model Classification:** Volumetric pump: CF, Defibrillation-proof, protection class I

**Quantity:** 20

**Specifications;**

<b>Delivery Rate</b>	<p><b>Volume preselection:</b></p> <ul style="list-style-type: none"> <li>• 0.1- 99.99 ml in increments of 0.01ml</li> <li>• 100.0 - 999.0 ml in increments of 0.1ml</li> <li>• 1000 – 99999 ml in increments of 1ml</li> </ul>
<b>Bolus parameters</b>	<ul style="list-style-type: none"> <li>• Bolus volumes: 0.1 – 99.9/500ml</li> <li>• Bolus delivery rate: 1 – 999ml/h</li> <li>• Interval times: max 99h 59min</li> </ul>
<b>KVO-rate</b>	<ul style="list-style-type: none"> <li>• Delivery rate <math>\geq</math> 10 ml/h: KVO-rate 3 ml/h</li> <li>• Delivery rate <math>&lt;</math> 10 ml/h: KVO-rate 1 ml/h</li> <li>• Delivery rate <math>&lt;</math> 1 ml/h: KVO-rate = set rate (default setting 0.1ml/h)</li> </ul>
<b>Function spectrum</b>	<ul style="list-style-type: none"> <li>• Delivery volume pre-setting: 0.1-9999.9ml</li> <li>• Time pre-selection: max 99h 59min</li> <li>• Automatic calculation of the delivery rate: based on volume and time pre-selection</li> <li>• Dose calculation: automatic calculation of the delivery rate, ml/h based on the entry of the drug concentration in conjunction with the desired dosage, selectable in microgram, mg, IE, mmol, body weight and time-based, e.g.mg/kg/min</li> <li>• Standby pause: max 24h, set values remain stored</li> <li>• History: times-based storage of 350 actions for therapy analysis</li> </ul>
<b>Display</b>	<ul style="list-style-type: none"> <li>• Delivery rate, current infusion, infused volume/time, dose</li> <li>• Mains / Battery operation, battery capacity</li> </ul>
<b>Safety system</b>	<ul style="list-style-type: none"> <li>• Deactivation of drip control in conjunction with volume pre-selection</li> <li>• Flow clamp: prevent free flow when pump door is open</li> <li>• Air detector: Minimizes the risk or air detection</li> <li>• Selectable occlusion alarm pressure setting: 0.6/1.2bar</li> <li>• Date lock: keys are blocked</li> <li>• Visual and acoustic alarms with interruption of pump operation: signals delivery failure in case of system defects, pressure alarm, stand-by alarm, battery alarm</li> <li>• Staff call connection</li> </ul>
<b>History Protocol</b>	<ul style="list-style-type: none"> <li>• 3000 last history entries 100 events for system diagnose</li> </ul>

<b>Mains/Battery operation</b>	<ul style="list-style-type: none"> <li>• Voltage 230V AC – 50Hz</li> <li>• Battery operating time: Minimum 10 h</li> </ul>
<b>Warranty</b>	<ul style="list-style-type: none"> <li>• Minimum 12months</li> </ul>
<b>Standards</b>	<ul style="list-style-type: none"> <li>• Must comply with CE standards</li> </ul>
<b>Accessories</b>	<ul style="list-style-type: none"> <li>• Original Administration sets for the pump model – 500pcs for each unit</li> <li>• Provide user and technical manuals</li> </ul>

## 2. Syringe Infusion Pump

**Model classification:** Defibrillation-proof: CF equipment, Protection class II, IIb

**Quantity:** 20

### Specifications;

<b>General</b>	<ul style="list-style-type: none"> <li>• Moisture protection IP 22 (fluid protection for horizontal usage)</li> <li>• Syringe Selection</li> <li>• 2/3, 5,10,20 and 50/60 ml</li> <li>• User-specific configuration possible</li> <li>• Delivery rate</li> </ul> <p><b>Volume preselection:</b></p> <ul style="list-style-type: none"> <li>• - 99.99 ml in increments of 0.01 ml</li> <li>• 100.0 – 999.0 ml in increments of 0.1 ml</li> <li>• 1000 – 9999 ml in increments of 1 ml</li> </ul> <p><b>Rate increments:</b></p> <ul style="list-style-type: none"> <li>• -99.99 ml/h in increments of 0.01ml/h</li> <li>• 100.0 – 999.9 ml/h in increments of 1 ml</li> </ul> <p><b>Accuracy of bolus infusion:</b></p> <ul style="list-style-type: none"> <li>• +/-2%</li> </ul> <p><b>Bolus delivery rate:</b></p> <ul style="list-style-type: none"> <li>• 1 – 1800ml/h</li> <li>• Function spectrum</li> <li>• Delivery volume pre-setting: 0.1 – 9999.9 ml</li> <li>• Time pre-selection: 00:01-99:00 hr.</li> <li>• Automatic calculation of the delivery rate: based on volume over time</li> </ul>
<b>Delivery</b>	<ul style="list-style-type: none"> <li>• Syringe type / size, Deliver rate, current infusion, infused volume, pressure alarm, alarm sources, mains/battery operation capacity</li> </ul>

	<ul style="list-style-type: none"> <li>• Drug Library with capacity to up to 1200 drug names, including therapy data, information and up to 10 concentrations per drug to be stored in 30 different categories.</li> <li>• Safety systems</li> <li>• Automatic recognition of syringe size / fixation.</li> <li>• Occlusion alarm pressure limits selectable: 0.3/0/1.2bar</li> <li>• Automatic reduction of the bolus volume following pressure alarm</li> <li>• Date lock – Keys are blocked</li> <li>• Pre – alarms: 3min before syringe is empty, 30 mins before battery is discharged</li> <li>• System alarm signal a defect / delivery failure</li> <li>• Staff call connection</li> <li>• PC connectivity to transfer the data in PFD with required accessories and software.</li> <li>• RS232 or Service plugs if required</li> </ul>
<b>Mains/Batter operation</b>	<ul style="list-style-type: none"> <li>• Voltage 100 ... 240V AC ~ 50/60Hz</li> <li>• External Voltage: 11 ... 16V DC via Connection lead SP 12 V or via Space station</li> <li>• Li-ion, NiMH battery – rechargeable</li> <li>• Battery operating time: Minimum 10 h at &lt;10ml/h</li> </ul>
<b>Warranty</b>	<ul style="list-style-type: none"> <li>• Minimum 12 months</li> </ul>
<b>Standards</b>	<ul style="list-style-type: none"> <li>• Must comply with CE standards</li> </ul>
<b>Accessories</b>	<ul style="list-style-type: none"> <li>• Original Administration set for the pump model – 500 pcs for each unit</li> <li>• User and Technical manual</li> </ul>