Solutions for Interventional Imaging
Accutron® HP-D
The precise multi-talent for angiography

The perfect companion for your advanced imaging procedures
- Single injection mode for Road Mapping
- Multiple injection mode for navigation checks
- Wireless interface to angiographic systems
- Contrast dose counter

Designed for C-Arm Cone Beam CT sequences
- Contrast media injections and saline flush
- Adjustable contrast media concentration by simultaneous injection
- Multiple phase X-ray delays and auto-hold function
- Multiple phase injection profiles to reduce star artefacts

Optimized for Flat Detector CT imaging
- Dedicated CT mode for IV injections
- Automatic adjustment of maximum pressure
- Multiple phase injection profiles

Improved venous explorations
- Combine contrast and saline phases
- Total contrast dose reduced without affecting image quality

Stay mobile
- Perfect match for Hybrid ORs
- Stand-alone battery operated injector with wireless capacity
- Comprehensive touch screen control on injection unit

Injection parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum injection volume</td>
<td>2 x 200 ml</td>
</tr>
<tr>
<td>Partial injection volume</td>
<td>1 – 200 ml, programmable in 1 ml increments</td>
</tr>
</tbody>
</table>
| Flow rate of the two injection units | Angio-Mode: 0.1 – 30 ml/s, programmable in 0.1 ml/s increments  
CT-Mode: 0.1 – 10 ml/s, programmable in 0.1 ml/s increments  
alternatively, input of flow rate or phase duration       |
| Maximum injection pressure      | Angio-Mode: 83 bar (1200 psi), programmable from 5 to 83 bar (73 to 1200 psi) in 1 bar increments  
CT-Mode: 21 bar (305 psi), programmable from 5 to 21 bar (73 to 305 psi) in 1 bar increments |
| Rise time                       | 0.1 – 10 s, programmable in 0.1 ml/s increments                                                                                       |
| Number of phases                | 1 to 3                                                                                                                                     |
| Injection delay                 | 0 – 255 s, programmable in 0.1 ml/s increments                                                                                       |
| Phase delay                     | 0 – 255 s, programmable in 0.1 ml/s increments                                                                                       |
| X-ray delay                     | Angio-Mode: 0 – 255 s, programmable in 0.1 ml/s increment  
CT-Mode: 0 – 255 s, programmable in 0.1 ml/s increments, with acoustic signal        |

Technical data

Mechanical design
- Swivelling injection unit on a mobile column stand
- Secured injection position at an angle of about 15° below horizontal (detected by a built-in inclination sensor), tilt vertically upwards to vent the system
- Hand switch to control the injection
- Total weight: 48 kg

Power supply
- Operation is independent of the mains supply thanks to high output rechargeable batteries.
- Input voltage charger: 100 – 240 V, 50 – 60 Hz

Injection profiles
- 60 profiles can be stored in each Angio and CT mode

Filling of injection syringes
- Automatic filling via menu with volume input or manual filling with variable speed
- Filling speed: 1 – 4 ml/s
- Optimized high-pressure tube systems with check valves
- Automatic volume adjustment
- Keep-IV-Open function to keep patency of IV access
- Saline flush function
- Pressure jacket detection
Accutron® HP-D – Consumables

We recommend the following consumables:

- **ELS 200 ml syringe, QFT**
  - Article number: 31 6025-000
  - Residual volume: 1.5 ml
  - At 83 bar only usable with pressure sleeve!

- **ELS 200 ml syringe**
  - Article number: 31 6026-000
  - At 83 bar only usable with pressure sleeve!
  - Packing unit: 50 pieces/carton – 1,500 pieces/pallet

- **SP 227 vented spike, luer lock**
  - Article number: 31 9095-100
  - Filling volume: 0.4 ml
  - Packing unit: 200 pieces/carton - 11,200 pieces/pallet

- **HSD 525 suction tube**
  - Article number: 31 5080-000
  - Length: 100 cm
  - Inner diameter: 2.7 mm
  - Filling volume: 0.3 ml 3-way stop cock, 6.0 ml tube + spike
  - Packing unit: 50 pieces/carton

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Application example:

- **2 x 200 ml**
  - Article number: 31 6025-000
  - 83 bar

- **2.2 m**
  - Article number: 31 7187-000
  - 3-way stop cock, 6.0 ml tube + spike

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**HSD 525 suction tube**

<table>
<thead>
<tr>
<th>Pressure side</th>
<th>Length</th>
<th>Filling volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>CM-Side</td>
<td>218 cm</td>
<td>4.25 ml</td>
</tr>
<tr>
<td>NaCl-Side</td>
<td>218 cm</td>
<td>4.28 ml</td>
</tr>
</tbody>
</table>

- Packing unit: 25 pieces/carton
Accutron® HP
The mobile all-rounder

**Injection parameters**

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<td>Maximum injection volume</td>
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| Flow rate of the two-injection units | Angio-Mode: 0.1 – 10 ml/s, programmable in 0.1 ml/s increments  
CT-Mode: 0.1 – 10 ml/s, programmable in 0.1 ml/s increments  
alternatively, input of flow rate or phase duration |
| Maximum injection pressure        | Angio-Mode: 83 bar (1200 psi), programmable from 5 to 83 (73 to 1200 psi)  
bar in 1 bar increments  
CT-Mode: 21 bar (305 psi), programmable from 5 to 21 (73 to 305 psi)  
in 1 bar increments |
| Number of phases                  | 1 to 3                                             |
| Injection delay                   | 0 – 255 s                                          |
| Phase delay                       | 0 – 255 s                                          |
| X-ray delay/Scan delay            | Angio-Mode: 0 – 99 s, CT-Mode: 0 – 99 s           |

**Technical data**

- **Mechanical design**
  - Swivelling injection unit on a mobile column stand
  - Secured injection position at an angle of about 15° below horizontal  
(detected by a built-in inclination sensor), 0° vertically upwards to vent the system
  - Hand switch to control the injection
  - Total weight: 41 kg

- **Power supply**
  - Operation is independent of the mains supply thanks to high output rechargeable batteries.
  - Input voltage charger: 100 – 240 V, 50 – 60 Hz
  - Power consumption charger: < 300 VA
  - Emergency power supply (option)

- **Injection profiles**
  - 60 profiles can be stored in each Angio and CT mode

- **Filling of injection syringes**
  - Automatic filling via menu with volume input or manual filling with variable speed
  - Filling speed: 1 – 4 ml/s
  - Optimized high-pressure tube systems with check valves

**Ideal for interdisciplinary departments**

- Stand alone battery operated injector with wireless capacity
- Can be easily transferred to another room
- Intuitive self-learning user interface

**For Angiography and CT**

- One injector for two imaging modalities
- Dedicated Angiography mode for trans-catheter injection
- Dedicated CT mode for IV injections

**Roadmap-Mode and Multiple-Mode**

- Control your injections with the pedal or the handswitch
- Single mode for DSA Roadmapping
- Multiple-Mode for Fluoroscopy

**Available wireless or with power supply, ceiling mount and table mount**

- Find the configuration that matches your room
- Wireless touch screen remote control (option)
- Wireless interface to C-Arms (option)

**Stable flow rate at high pressure**

- Pressure limits settings for each injection mode
- Real time pressure monitoring
- FAST: Flowrate Adjustment Software
Injection parameters

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| Maximum injection pressure      | Angio-Mode: 83 bar (1200 psi), programmable from 5 to 83 (73 to 1200 psi) bar in 1 bar increments  
CT-Mode: 21 bar (305 psi), programmable from 5 to 21 bar (73 to 305 psi) in 1 bar increments |
| Number of phases                | 1 to 3 |
| Injection delay                 | 0 – 255 s |
| Phase delay                     | 0 – 255 s |
| X-ray delay/Scan delay          | Angio-Mode: 0 – 99 s, CT-Mode: 0 – 99 s |

Technical data

- **Mechanical design**
  - Secured injection position at an angle of about 15° below horizontal (detected by a built-in inclination sensor)
  - Tilt vertically upwards to vent the system
  - Hand switch to control the injection
  - Total weight: 24 kg

- **Power supply**
  - Input voltage charger: 100 – 240 V, 50 – 60 Hz

- **Injection profiles**
  - 60 profiles can be stored in each Angio and CT mode

- **Filling of injection syringes**
  - Automatic filling via menu with volume input or manual filling with variable speed
  - Filling speed: 1 – 4 ml/s
  - Optimized high-pressure tube systems with check valves
Injection parameters

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Technical data

- **Mechanical design**
  - Secured injection position at an angle of about 15° below horizontal (detected by a built-in inclination sensor), tilt vertically upwards to vent the system
  - Hand switch to control the injection
  - Total weight: 13.5 kg

- **Power supply**
  - Input voltage charger: 100 – 240 V, 50 – 60 Hz

- **Injection profiles**
  - 60 profiles can be stored in each Angio and CT mode

- **Filling of injection syringes**
  - Automatic filling via menu with volume input or manual filling with variable speed
  - Filling speed: 1 – 4 ml/s
  - Optimized high pressure tube systems with check valves

Article number: HP890
Accutron® HP ceiling mount

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**Technical data**

- **Mechanical design**
  - Secure injection position at an angle of about 15° below horizontal (detected by a built-in inclination sensor),
  - Tilt vertically upwards to vent the system
  - Hand switch to control the injection
  - Total weight: 14.5 kg
- **Power supply**
  - Input voltage charger: 100 – 240 V, 50 – 60 Hz
- **Injection profiles**
  - 60 profiles can be stored in each Angio and CT mode
- **Filling of injection syringes**
  - Automatic filling via menu with volume input or manual filling with variable speed
  - Filling speed: 1 – 4 ml/s
  - Optimized high pressure tube systems with check valves

Article number: HP837
Accutron® HP Consumables
We recommend the following consumables

ELS 200 ml syringe, QFT
Residual volume: 1.5 ml
At 83 bar only usable with pressure sleeve!

ELS 200 ml syringe
At 83 bar only usable with pressure sleeve!
Packing unit: 50 pieces/carton – 1,500 pieces/pallet

SP 227 vented spike, luer lock
Filling volume: 0.4 ml
Packing unit: 200 pieces/carton - 11,200 pieces/pallet

HS 224 RA patient line
Inner diameter: 1.8 mm
Rotating Adapter
Braided PU tube

HS 224/100 RA, length: 100 cm, filling volume: 2.5 ml 31 5100-000
HS 224/120 RA, length: 120 cm, filling volume: 3.1 ml 31 5126-000
HS 224/150 RA, length: 150 cm, filling volume: 3.9 ml 31 5136-000
HS 224/180 RA, length: 180 cm, filling volume: 4.6 ml 31 5135-000
Packing unit: 50 pieces/carton

HSD 525 suction tube
Length: 100 cm
Inner diameter: 2.7 mm
Filling volume: 0.3 ml 3-way stop cock, 6.0 ml tube + spike
Packing unit: 50 pieces/carton

HP 150 RA patient line PVC-flex
Inner diameter: 1.5 mm
Rotating Adapter
Length: 150 cm
Filling volume: 2.7 ml
Packing unit: 50 pieces/carton