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!! Smith & Nephew Kinetc διεκδικεί το δικαίωμα να προβάλει τα επόμενα τεχνικά απορριμματικά!!

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## SUMMARY

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Manual No: 46786228 - Updated 29 June 2000
KINETEC Centura – Series 1

KINETEC and Centura are trademark of Smith & Nephew.
DESCRIPTION

The KINETEC Centura is a upper extremity PASSIVE mobilization device enabling the following movements:

- Extension 20°  Flexion 180°
- Adduction 20°  Abduction 160°
- Internal Rotation 60°  External Rotation 90°
- Synchronized Abduction + Rotation
  Adduction 20°  Abduction 160°
  Internal Rotation 30°  External Rotation 90°

**Indications**

- Total shoulder replacement.
- Repeated dislocation of the humerus.
- Rotator cuff injury.
- Upper humerus fractures.
- Scapula fractures.
- Acromioplasty.
- Capsulotomy.
- Arthrolysis.
- Synovectomy for Rheumatoid Arthritis.
- etc....

**Clinical Benefits**

- Breaks the cycle of trauma, inflammation and the loss of range of motion.
- Prevents joint stiffness.
- Speeds the recovery of post-operative range of motion.
- Maintains the quality of the articular surface.
- Reduces pain and edema.
- Promotes articular cartilage healing.
- Reduces hospitalization time.
- Reduces the need for pain medication.

**Contraindications**

- Unstable fractures.
- Spastic paralyses.
- Uncontrolled infection.
DESCRIPTION

ELECTRICAL CONNECTION

KINETEC Centura is a type B class I device.
Before connecting the device to the power supply, check
that the mains voltage matches that shown on the plate
(100-240 V~ / 50-60 Hz) below switch ON (2)

Connect the power supply cable (1)

IMPORTANT

Check that the electrical socket is in good condition and is suitable for the splint power supply cord. The latter complies with current standards and has a grounding socket. The plug may be connected to any standard socket. The socket must however have a grounded pin.
To connect the power supply, only use the original cable supplied with the machine.
Check that the cables remain free around the device so that they do not get damaged.

The cables (motors and hand control) can be plugged in any of the connectors

Starting the unit

Switch on (2).
While the unit begins an auto diagnostic, the display shows the following:

Your KINETEC Centura is ready to be used

SAFETY

The physician defines the protocol and ensures that the KINETEC Centura is used in adherence with the readjustments, sessions, durations and frequency of use.
The patient must know the start and reverse function on the hand control. The hand control must be accessible to patient and operator. See page 5.
KINETEC Centura complies with Directive 93/42 CEE amending 73/23 CEE.

EXPLOSION HAZARD:
KINETEC Centura is not designed for use in the presence of flammable anesthetics.

In case of electromagnetic interference with other devices move the device.
KINETEC Centura is in compliance with standards in force (IEC 601-1 2)
electromagnetic compatibility standard for medical devices.

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Page 3
DESCRIPTION • COMPONENTS

KINETEC Centura consists of the following components:

1. Chair
2. Frame
3. Wheels
4. Transport handle
5. Arm rest knobs
6. Arm rest
7. Hand control support

8. Locking of the right/left sliding
9. Locking of the up/down sliding
10. Chair locking lever
11. Locking of the abduction motor
12. Abduction motor
13. Shoulder depth sliding lock

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Page 4
DESCRIPTION

Abduction associated with rotation splint

14 – Arm length setting lock
15 – 90° elbow splint
16 – 90° elbow splint lock
17 – Rotation motor
18 – Rotation motor lock
19 – Forearm length setting lock
20 – Forearm slider
21 – Right/left bean swivel lock
22 – Forearm splint

Abduction or flexion splint

18 – Swiveling splint support lock
23 – Swiveling splint support
24 – Elbow flexion setting lock
25 – Arm splint
26 – Arm splint lock
27 – Forearm length setting lock

Horizontal Abduction splint (available on Centura 5)

28 – Horizontal abduction column
29 – Arm length setting lock
30 – Elbow splint support lock
31 – Elbow support older
32 – 90° elbow splint lock
33 – Forearm length setting lock
34 – Forearm slider
1 - Supply cable connector switch
2 - Fuse
3 - ON/OFF switch
4 - Hand control lock switch
5 - Defect or power light
6 - Motor or hand control connectors
7 - Hand control location for transport
8 - Hand control

9 - Liquid-crystal display
10 - Flexion/extension
11 - Abduction/adduction
12 - Rotation
13 - Abduction/adduction synchronized with rotation
14 - Lower limits setting
15 - Upper limits setting
16 - Increase / decrease
17 - START
18 - STOP
19 - FORCE
20 - SPEED
21 - PAUSE
22 - TIMER
23 - PROGRAM access
24 - Horizontal abduction
ASSEMBLY & TRANSPORT

Base assembly

Remove all the components from their packaging.
Position locking lever (3) in an extended position.
Position the chair (1) on the base (2) with the back of the chair at the wheel and push down on the locking lever (3) to secure it in place.

Place the elevation motor (4) on right or left, depending on the limb be moved.

The other components to be used depend on the selected movement.

Unit transport

For easy transport of the unit, it features 2 wheels (5) and a handle (6).

Place the arm support as close as possible to the chair to limit the overall dimensions and help balance the unit.

Place your foot as indicated to balance the unit.

You can adjust the height of the handle with knob (7).
USE OF THE HAND CONTROL

Locking the hand control setting

The hand control allows the patient to control the machine as appropriate.

The switch (4) has 3 positions:

1. LOCKED POSITION (1)
   The operational settings can be read and the START/STOP/REVERSE function operated.

2. UNLOCKED POSITION (2)
   All adjustments are possible.

3. HALF-LOCKED POSITION (4)
   It is possible to switch the program and modify the upper and lower movement limits. The START/STOP/REVERSE function is always accessible.

Double locking:

Simultaneously press the keys to lock the hand control.

⚠️ The display reads LOCK. To unlock the hand control, simultaneously press the same keys.

The display reads UNLOCK.

You cannot change the parameters, if you try the display reads:

LOCK 1: if locked with only the switch (4)
LOCK 2: if only double locked
LOCK 12: if locked with the switch (4) and double locked.

We recommend that you lock the hand control when you give it to the patient.

START/STOP/REVERSE function

As with all KINETEC systems, KINETEC Centura is equipped with a START/STOP/REVERSE function.

When the unit is running, the display reads RUN.

Press the key of the hand control. The movement stops.

The display reads STOP.

Press the key of the hand control. The movement starts in the opposite direction and the display reads RUN.

Caution:

For optimum safety, always give the hand control to the patient before starting the system.
USE OF THE HAND CONTROL

Reset time function
This function allows one to read the running time since the last resetting of the counter.

<table>
<thead>
<tr>
<th>Beginning</th>
<th>Keys to press</th>
<th>Display</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>To stop the unit</td>
<td>stop</td>
<td></td>
<td>Check if the locking switch is in the following position.</td>
</tr>
<tr>
<td>Press simultaneously on the 2 keys</td>
<td>limit, limit</td>
<td></td>
<td>The display indicates the running time since the last resetting.</td>
</tr>
<tr>
<td>To reset the counter, press the key</td>
<td>limit</td>
<td></td>
<td>The counter is now reset.</td>
</tr>
<tr>
<td>Or After 5 seconds, the reset function switches off and the running time remains in the memory</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

How to choose a movement
First switch the machine off stop and put the switch in the position in order to change the movement.

You can select a movement by pressing the appropriate button. The LED is on. When a movement is first selected, the system returns to the original parameters of the movement (default settings).

Default settings:

<table>
<thead>
<tr>
<th>Abduction</th>
<th>Flexion/Extension</th>
<th>Rotation</th>
<th>Abduction + Rotation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower limit</td>
<td>30°</td>
<td>30°</td>
<td>0°</td>
</tr>
<tr>
<td>Upper limit</td>
<td>90°</td>
<td>100°</td>
<td>60°</td>
</tr>
<tr>
<td>Speed</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Load</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Extension pause</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Flexion pause</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Timer</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Possible values for each parameter:

<table>
<thead>
<tr>
<th>Abduction</th>
<th>Flexion/Extension</th>
<th>Rotation</th>
<th>Abduction + Rotation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower limit</td>
<td>20° to 155°</td>
<td>20° to 175°</td>
<td>-60° to 85° extern</td>
</tr>
<tr>
<td>Upper limit</td>
<td>25° to 160°</td>
<td>25° to 180°</td>
<td>-55° to 90° extern</td>
</tr>
<tr>
<td>Speed</td>
<td>1 to 5 (from 30° to 120° per minute)</td>
<td>1 to 6</td>
<td>0 to 900 seconds (15 minutes)</td>
</tr>
<tr>
<td>Load</td>
<td>1 to 6</td>
<td></td>
<td>0 to 900 seconds (15 minutes)</td>
</tr>
<tr>
<td>Extension pause</td>
<td>0</td>
<td></td>
<td>0 to 900 seconds (15 minutes)</td>
</tr>
<tr>
<td>Flexion pause</td>
<td></td>
<td></td>
<td>No time (00H00) to 24H00</td>
</tr>
<tr>
<td>Timer</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## USE OF THE HAND CONTROL

### How to adjust the parameters of single movements

<table>
<thead>
<tr>
<th>Beginning</th>
<th>Keys to press</th>
<th>Display</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>To stop the unit</td>
<td><img src="image" alt="stop" /></td>
<td><img src="image" alt="display" /></td>
<td>Check if the locking switch is in the following position.</td>
</tr>
<tr>
<td>To choose the movement</td>
<td><img src="image" alt="select" /></td>
<td><img src="image" alt="display" /></td>
<td>The display shows the new movement selected and the default settings of the upper and lower limits of this movement.</td>
</tr>
<tr>
<td>Or</td>
<td><img src="image" alt="select" /></td>
<td><img src="image" alt="display" /></td>
<td></td>
</tr>
<tr>
<td>Or</td>
<td><img src="image" alt="select" /></td>
<td><img src="image" alt="display" /></td>
<td></td>
</tr>
<tr>
<td>To display the lower limit of the movement</td>
<td><img src="image" alt="lim" /></td>
<td><img src="image" alt="display" /></td>
<td>The value blinks.</td>
</tr>
<tr>
<td>To change the lower limit if necessary</td>
<td><img src="image" alt="lim" /> or <img src="image" alt="lim" /></td>
<td><img src="image" alt="display" /></td>
<td>The new value blinks.</td>
</tr>
<tr>
<td>To validate the new value, press another key or wait more than 3 seconds</td>
<td><img src="image" alt="lim" /></td>
<td><img src="image" alt="display" /></td>
<td>While the value blinks press the <img src="image" alt="lim" /> or <img src="image" alt="lim" /> key to change if necessary.</td>
</tr>
<tr>
<td>Or to display pause</td>
<td><img src="image" alt="pause" /></td>
<td><img src="image" alt="display" /></td>
<td>The pause value in upper limit of movement blinks.</td>
</tr>
<tr>
<td>To change pause value in upper limit of movement if necessary</td>
<td><img src="image" alt="pause" /> or <img src="image" alt="pause" /></td>
<td><img src="image" alt="display" /></td>
<td>The new pause value in upper limit of movement blinks.</td>
</tr>
<tr>
<td>To validate and display the pause value in lower limit of movement</td>
<td><img src="image" alt="pause" /></td>
<td><img src="image" alt="display" /></td>
<td>The pause value in lower limit of movement blinks.</td>
</tr>
<tr>
<td>To change the pause value in lower limit of movement if necessary</td>
<td><img src="image" alt="pause" /> or <img src="image" alt="pause" /></td>
<td><img src="image" alt="display" /></td>
<td>The new pause value in lower limit of movement blinks.</td>
</tr>
<tr>
<td>To validate the new value press another key or wait more than 3 seconds. The display shows the selected movement.</td>
<td></td>
<td><img src="image" alt="display" /></td>
<td>The unit is ready to start with the new parameters.</td>
</tr>
</tbody>
</table>
USE OF THE HAND CONTROL

How to set the synchronized movement parameters

<table>
<thead>
<tr>
<th>Beginning</th>
<th>Keys to press</th>
<th>Display</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>To stop the unit</td>
<td>stop</td>
<td></td>
<td>Check if the locking switch is in the following position:</td>
</tr>
<tr>
<td>To select the combined movement</td>
<td>abd</td>
<td></td>
<td>The indication “ABD” blinks and the display shows the values for the abduction movement. To change it, proceed as for a single movement.</td>
</tr>
<tr>
<td>To press a second time on the key</td>
<td></td>
<td></td>
<td>The indication “ROT” blinks and the display shows the values for the rotation movement. To change it, proceed as for a single movement.</td>
</tr>
</tbody>
</table>

Synchronization rules:
- The degrees of rotation are lower than or equal to the degrees of abduction.

- 1° of abduction means 1° of rotation.

- When the degrees of rotation are lower than the degrees of abduction, the synchronization applies to the upper degrees of the movement.

Example: abduction from 30° to 100° rotation from 50° to 90°

<table>
<thead>
<tr>
<th>30°</th>
<th>50°</th>
<th>100°</th>
<th>90°</th>
</tr>
</thead>
</table>

60° start the synchronization

Comments:
- Speed, load, pauses and timer are the same for both the movement components. The setting is the same as for a single movement.
- Pauses can be set at the lower and/or the upper limits of the abduction movement.
- You will have successive displays of abduction movement limits, or associated rotation movement, by repeatedly pressing the synchronized movement button.
- You cannot change the settings while the machine is running.
USE OF THE HAND CONTROL

Using Programs

The KINETEC Centura allows you to store up to 16 programs, including the type of movement, ROM, speed, load, pauses and timer.

The original parameter values of the program are empty. These values can be modified and recorded at any time (see ‘How to enter a program’ p 14).

To select a program:

<table>
<thead>
<tr>
<th>Beginning</th>
<th>Keys to press</th>
<th>Display</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>To stop the unit</td>
<td>stop</td>
<td></td>
<td>Check if the locking switch is in the following position:</td>
</tr>
<tr>
<td>To access the program mode</td>
<td>program</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To change the program if necessary</td>
<td>+ or -</td>
<td></td>
<td>The program number blinks.</td>
</tr>
<tr>
<td>To exit and validate the selected program</td>
<td></td>
<td></td>
<td>The new program number blinks.</td>
</tr>
<tr>
<td>To exit without validation of selected program</td>
<td>stop</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Start the unit</td>
<td></td>
<td></td>
<td>Back to the starting parameters.</td>
</tr>
</tbody>
</table>

Comments:
- The values show in the ‘Display’ column are examples. They actually depend on the stored programs.
- The current movement parameters can be changed while using that program but no data will be stored in the original program. See the programming mode (p 14) to modify programs.
## USE OF THE HAND CONTROL

Reading the values of a program, example SPEED

<table>
<thead>
<tr>
<th>Beginning</th>
<th>Keys to press</th>
<th>Display</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>To stop the unit</td>
<td>stop</td>
<td></td>
<td>Check if the locking switch is in the following position:</td>
</tr>
<tr>
<td>To access the program mode</td>
<td>program</td>
<td></td>
<td>The program number blinks.</td>
</tr>
<tr>
<td>To change the program if necessary</td>
<td>△ or ▽</td>
<td></td>
<td>The new program number blinks.</td>
</tr>
<tr>
<td>To read the speed value</td>
<td>speed</td>
<td></td>
<td>Displaying the speed value.</td>
</tr>
<tr>
<td>After 15 seconds or after pressing on another key</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To exit and validate the selected program</td>
<td></td>
<td></td>
<td>The current parameters have been recorded in program 3.</td>
</tr>
<tr>
<td>Start the unit</td>
<td></td>
<td></td>
<td>The value change at the speed of the movement.</td>
</tr>
</tbody>
</table>

Comments:

- The values showed in the 'Display' column are examples. They actually depend on the stored programs.

- The current movement parameters can be changed while using that program but no data will be stored in the original program. See the programming mode (p 14) to modify programs.
### USE OF THE HAND CONTROL

#### How to modify programs: PROGRAM MODE:

<table>
<thead>
<tr>
<th>Beginning</th>
<th>Keys to press</th>
<th>Display</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>To switch off the unit</td>
<td></td>
<td>![Image]</td>
<td>Check if the locking switch is in the following position.</td>
</tr>
<tr>
<td>To press the two keys at the same time to switch the unit on</td>
<td>![Image] ![Image]</td>
<td>![Image]</td>
<td>Welcome text during 3 seconds.</td>
</tr>
<tr>
<td>Then</td>
<td></td>
<td></td>
<td>The program number blinks.</td>
</tr>
<tr>
<td>To change the program if necessary</td>
<td>![Image] or ![Image]</td>
<td>![Image]</td>
<td>The new program number blinks.</td>
</tr>
<tr>
<td>To choose the movement</td>
<td>![Image]</td>
<td>![Image]</td>
<td>The display indicates the selected movement, the program number blinks again.</td>
</tr>
<tr>
<td>Or</td>
<td>![Image]</td>
<td>![Image]</td>
<td></td>
</tr>
<tr>
<td>Or</td>
<td>![Image]</td>
<td>![Image]</td>
<td></td>
</tr>
<tr>
<td>Or</td>
<td>![Image]</td>
<td>![Image]</td>
<td></td>
</tr>
<tr>
<td>To display the lower limit of the movement</td>
<td>![Image] limit</td>
<td>![Image]</td>
<td>The value blinks.</td>
</tr>
<tr>
<td>To change the lower limit of the movement if necessary</td>
<td>![Image] or ![Image] limit</td>
<td>![Image]</td>
<td>The new value blinks.</td>
</tr>
<tr>
<td>To validate the new value, press another key</td>
<td>![Image] limit</td>
<td>![Image]</td>
<td>The value blinks. Press the ![Image] or ![Image] key to change if necessary.</td>
</tr>
<tr>
<td>Or display pauses</td>
<td>![Image]</td>
<td>![Image]</td>
<td>The pause value in upper limit of movement blinks.</td>
</tr>
<tr>
<td>To change pause value in upper limit of movement if necessary</td>
<td>![Image] or ![Image]</td>
<td>![Image]</td>
<td>The new pause value in upper limit of movement blinks.</td>
</tr>
</tbody>
</table>
## USE OF THE HAND CONTROL
How to modify programs PROGRAM MODE (continued)

<table>
<thead>
<tr>
<th>Beginning</th>
<th>Keys to press</th>
<th>Display</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>To validate and display the pause lower limit of movement</td>
<td></td>
<td></td>
<td>The pause value in lower limit of movement blinks.</td>
</tr>
<tr>
<td>To change the pause lower limit of movement if necessary</td>
<td>△ or ▽</td>
<td></td>
<td>The new pause value in lower limit of movement blinks.</td>
</tr>
<tr>
<td>To validate and display of the combined rotation setting</td>
<td></td>
<td></td>
<td>The program number blinks and the display indicates the rotation values combined with abduction.</td>
</tr>
<tr>
<td>To change the upper limit of the movement</td>
<td>+ or -</td>
<td></td>
<td>The value blinks.</td>
</tr>
<tr>
<td>To change the upper limit if necessary</td>
<td>△ or ▽</td>
<td></td>
<td>The new value blinks.</td>
</tr>
<tr>
<td>To validate and display the lower limit of the movement</td>
<td>△ or ▽</td>
<td></td>
<td>The value blinks.</td>
</tr>
<tr>
<td>To change the lower limit if necessary</td>
<td>△ or ▽</td>
<td></td>
<td>The new value blinks. (see page 11 for more information about combined movement).</td>
</tr>
<tr>
<td>To record the program 10</td>
<td></td>
<td></td>
<td>The program 10 has been recorded and the display indicates the next program so you can change another program.</td>
</tr>
<tr>
<td>Then</td>
<td></td>
<td></td>
<td>The program 10 has been cancelled and the display indicates the next program so you can change another program.</td>
</tr>
<tr>
<td>OR</td>
<td></td>
<td></td>
<td>To use the modified program see page 12.</td>
</tr>
<tr>
<td>To cancel the program</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To exit program mode, switch off and switch on the unit</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
USE OF THE HAND CONTROL

Comments:

- When a program has been deleted, the display shows [a symbol for deletion].
- The values shown in the 'Display' column are examples. They actually depend on the stored programs.

Program table:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timer</td>
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<tr>
<td>Status</td>
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<td>Status</td>
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<tr>
<td>Load</td>
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<tr>
<td>Speed</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Upper limit</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Lower limit</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Page 16
USE OF THE HAND CONTROL

How to define the upper and lower movement limits

**At the start of a session**

The MANUAL MODE is a way to set within the tolerance of a patient at the beginning of a session. Proceed as below:

<table>
<thead>
<tr>
<th>Beginning</th>
<th>Keys to press</th>
<th>Display</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switch the unit on</td>
<td>O1</td>
<td>![Image]</td>
<td>Check if the locking switch is in the following position</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To select the MANUAL MODE for upper limits by continually holding pressure on the key</td>
<td>+ continuous press</td>
<td>![Image]</td>
<td>The unit is moving to the upper limit of the movement.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To set the pain level when reached, immediately press</td>
<td>– limit</td>
<td>![Image]</td>
<td>The new upper value limit of the movement is recorded.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To select the manual mode for lower limits</td>
<td>– continuous press</td>
<td>![Image]</td>
<td>The unit is moving to the lower limit of the movement</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To set the pain level when reached, immediately press</td>
<td>+ limit</td>
<td>![Image]</td>
<td>The new lower value limit of the movement is recorded.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To start the session with the new movement limits</td>
<td>![Image]</td>
<td>![Image]</td>
<td>The angle display changes with current movement.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Specific rules for synchronized movements**

- You can only change the upper limit of the movement through the manual mode and only beyond the synchronization point.

**Comments:**

- The values shown in the 'Display' column are examples. They actually depend on the stored programs.
USE OF THE HAND CONTROL

- During the session

The BY-PASS MODE is a way to record the pain threshold of a patient during a session.

<table>
<thead>
<tr>
<th>Beginning</th>
<th>Keys to press</th>
<th>Display</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>The unit is running</td>
<td>start</td>
<td>![Display Image]</td>
<td>The angle display changes with current movement. Check if the locking switch is in the following position: ![Position Image] or ![Position Image].</td>
</tr>
<tr>
<td>To select the BY-PASS MODE</td>
<td>+</td>
<td>![Display Image]</td>
<td>The unit exceeds the recorded upper limit.</td>
</tr>
<tr>
<td>To set the new pain level when reached, immediately press</td>
<td>-</td>
<td>![Display Image]</td>
<td>The new upper value limit of the movement is recorded.</td>
</tr>
<tr>
<td>To select the BY-PASS mode for lower limits</td>
<td>-</td>
<td>![Display Image]</td>
<td>The unit is moving to the lower limit of the movement.</td>
</tr>
<tr>
<td>To set the new pain level when reached, immediately press</td>
<td>+</td>
<td>![Display Image]</td>
<td>The new lower value limit of the movement is recorded.</td>
</tr>
<tr>
<td>Continue the session with the new movement limits</td>
<td></td>
<td>![Display Image]</td>
<td>The angle display changes with current movement.</td>
</tr>
</tbody>
</table>

Specific rules for synchronized movement:
- You can only change the upper limit of the movement through the by-pass mode and only beyond the synchronization point.

Comments:
- The values shown in the 'Display' column are examples. They actually depend on the stored programs.

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INSTRUCTIONS FOR USE
How to use the pads

COMPONENTS
The following pads and straps (labeled at left) are included in the pad kit:
a. elbow pad
b. wrist pad
c. hand strap
d. biceps pad

- Abduction/adduction
- Rotation
- Synchronized abduction/adduction with rotation

SETTING UP THE MACHINE
Each setup requires only some of the pads, as follows:
- Set-up for abduction/adduction requires pads a, b, and c
- Set-up for rotation requires a, b, and c.
- Set-up for synchronized abduction/adduction with rotation requires a, b, and c.
- Set-up for flexion/extension requires b, c, and d.

Attach the pads and straps to the CPM machine as follows:
a. Elbow pad—Position it in the elbow support with the seam distal and the straps and D-rings toward the elbow support. Thread the straps and D-rings through the slots in the elbow support.
b. Wrist pad—Position it on the wrist support with the strap and D-ring toward the wrist support. Thread the strap and D-ring through the slots in the wrist support.
c. Hand strap—Turn the hand strap so the rod is up. With the hook material on the strap facing up, thread the D-ring end of the strap under the rod.
d. Biceps pad—Position it on the biceps support with the strap and D-ring toward the biceps support. Thread the strap and D-ring through the slots in the biceps support.

After patient has been placed in the supports, secure straps by threading them through the D-rings and securing the hook closures. Be sure the straps are snug but not so tight that they impair circulation.

The pads are intended for single-patient use only.

Pads for Kinetec® Centura® Shoulder CPM Machine:
5315-0130
INSTRUCTIONS FOR USE

Adjustments for ABDUCTION/ADDUCTION with fixed EXTERNAL ROTATION

The KINETEC Centura provides motion from 20° to 160° of abduction.

The rotation position can be adjusted between 60° and 90°.

Parts needed
- Chair
- Abduction rotation splint
- Hand control

Assembling the parts

A
Loosen the knob (1) and slide the motor support (2) to the right or the left.
Plug in the hand control.

B
Assemble the abduction motor (3) and tighten the screw (4).
Plug in the motor.

Use the color code to assemble the elbow splint (6) (red for right, blue for left). The assembly is secure when you hear a CLICK.

Use the color code to assemble the forearm splint (7). Tighten the knob (8).

The KINETEC Centura is shown assembled for a left shoulder mobilization.

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INSTRUCTIONS FOR USE

Patient set up

Make sure the straps are clean.
Put the unit in the position that is the most comfortable for the patient.

Position the patient in the chair in a comfortable position and supporting the affected arm.

Slide the arm supports toward the patient and put the arm in the supports.
Secure pads.

Adjust the lengths.

a - arm
b - forearm.

Adjusting the shoulder joint axis

c - Vertical adjustment:
  • Loosen the 2 knobs (1).
  • With the handle (2), adjust the height of the entire mechanism.
  • Tighten the 2 knobs (1).

d - Side to side adjustment:
  • Loosen the knob (3).
  • Slide the entire mechanism.
  • Tighten the knob (3).

e - Scapula plan choice
  • Loosen the knob (4).
  • Rotate the arm support.
  • Tighten the knob (4).
  • Adjust the arm rest.

Starting the unit:

• Adjustment of the rotation position:
  • Press and find the right position with the MANUAL MODE (see page 17).

• Choice of the abduction/adduction motion:
  • Press and adjust your parameters (see page 10).
  • Or select a program (see page 12).
INSTRUCTIONS FOR USE

Adjustments for ABDUCTION/ADDUCTION with fixed ELBOW EXTENSION / FLEXION

The KINETEC Centura provides motion from 20° to 160° of abduction.

During this motion the elbow flexion settings are fixed.

Parts needed:
- Chair
- Abduction or flexion splint
- Hand control

Assembling the parts:

A. Loosen the knob (1) and slide the motor support (2) to the right or the left. Plug in the hand control.

B. Assemble the abduction motor (3) and tighten the screw (4). Plug in the motor.

C. Use the color code to assemble the rotation motor (red for right, blue for left). The assembly is secure when you hear a click.

D. Use the color code to assemble the elbow splint (7). Tighten the knob (6).

E. Position arm splint (8). The assembly is secure when you hear a click.

F. The KINETEC Centura is shown assembled for left shoulder mobilization.

Smith & Nephew
INSTRUCTIONS FOR USE

Patient set up

Make sure the straps are clean
Put the unit in the position that is the most comfortable for the patient

Position the patient in the chair in a comfortable position and supporting the affected arm
Slide the arm supports toward the patient and put the arm in the supports
Secure pads

Adjust the lengths.

a - arm
b - forearm

Adjusting the shoulder joint axis

c - Vertical adjustment:
- Loosen the 2 knobs (1).
- With the handle (2), adjust the height of the entire mechanism.
- Tighten the 2 knobs (1)

d - Side to side adjustment:
- Loosen the knob (3)
- Slide the entire mechanism
- Tighten the knob (3)

e - Scapula plan choice:
- Loosen the knob (4)
- Rotate the arm support
- Tighten the knob (4)
- Adjust the arm rest

Starting the unit

- Adjustment of the elbow flexion position

- Unscrew the knob (6) and adjust the flexion as appropriate.

- Choice of the abduction/adduction motion:

- Press and adjust your parameters (see page 10)

- Or select a program program (see page 12).

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INSTRUCTIONS FOR USE

Adjustments for ABDUCTION/ADDITION with ASSOCIATED ROTATION

The KINETEC Centura provides motion from 20° to 160° of abduction associated with 120° of rotation in maximum.

Parts needed
- Chair
- Abduction with associated rotation splint
- Hand control

Assembling the parts

A
Loosen the knobs (1) and slide the motor support (2) to the right or the left
Plug in the hand control

B
Assemble the abduction motor (3) and tighten the screw (4)
Plug in the motor

C
Use the color code to assemble the rotation motor (red for right, blue for left)
The assembly is secure when you hear a ‘click’. Plug in the motor

D
Use the color code to assemble the elbow splint (6). The assembly is secure when you hear a ‘click’

E
Use the color code to assemble the forearm splint (7). Tighten the knob (8)
The KINETEC Centura is shown assembled for left shoulder mobilization

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INSTRUCTIONS FOR USE

Patient set up

Make sure the straps are clean
Put the unit in the position that is the most comfortable for the patient

Position the patient in the chair in a comfortable position and supporting the affected arm.

Slide the arm supports toward the patient and put the arm in the supports.
Secure pads.

Adjust the lengths:
- a - arm
- b - forearm

Adjusting the shoulder joint axis

c – Vertical adjustment:
  - Loosen the 2 knobs (1).
  - With the handle (2), adjust the height of the entire mechanism.
  - Tighten the 2 knobs (1).
d – Side to side adjustment:
  - Loosen the knob (3).
  - Slide the entire mechanism
  - Tighten the knob (3)
e – Scapula plan choice
  - Loosen the knob (4)
  - Rotate the arm support
  - Tighten the knob (4).
  - Adjust the arm rest.

Starting the unit

- Choice of the abduction/adduction associated with rotation motion

- Press [ ] and adjust your parameters (see page 11).

- Or select a program [ ] (see page 12).

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INSTRUCTIONS FOR USE

Adjustments for EXTERNAL ROTATION motion

The KINETEC Centura provides motion from 60° of internal rotation to 90° of external rotation.

During this motion the abduction settings are fixed.

Parts needed
- Chair
- Abduction rotation splint
- Hand control

Assembling the parts

A

1

2

Loosen the knob (1) and slide the motor support (2) to the right or the left. Plug in the hand control.

B

3

4

Assemble the abduction motor (3), and tighten the screw (4). Plug in the motor.

C

6

Use the color code to assemble the elbow splint (6). The assembly is secure when you hear a 'click'.

D

8

Use the color code to assemble the forearm splint (7). Tighten the knob (8).

The KINETEC Centura is shown assembled for left shoulder mobilization.
INSTRUCTIONS FOR USE

Patient set up

Make sure the straps are clean
Put the unit in the position that is the most comfortable for the patient

Position the patient in the chair in a comfortable position and supporting the affected arm.
Slide the arm supports toward the patient and put the arm in the supports.
Secure pads.

Adjust the lengths:
a - arm
b - forearm.

Adjusting the shoulder joint axis

c - Vertical adjustment
  - Loosen the 2 knobs (1).
  - With the handle (2), adjust the height of the entire mechanism.
  - Tighten the 2 knobs (1)
d - Side to side adjustment:
  - Loosen the knob (3)
  - Slide the entire mechanism
  - Tighten the knob (3)
e - Scapula plan choice
  - Loosen the knob (4)
  - Rotate the arm support
  - Tighten the knob (4)
  - Adjust the arm rest.

Starting the unit

Adjustment of the abduction position:
  - Press and find the right position with the MANUAL MODE (see page 17)

Choice of the rotation motion:
  - Press and adjust your parameters (see page 11).

  - Or select a program (see page 12).

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INSTRUCTIONS FOR USE

Adjustments for EXTENSION / FLEXION

The KINETEC Centura provides motion from 20° to 180° of flexion during this motion the elbow flexion settings are fixed.

Parts needed
- Chair
- Abduction or flexion splint
- Hand control

Assembling the parts

A
1
2
Loosen the knob (1) and slide the motor support (2) to the right or the left. Plug in the hand control.

B
3
4
Assemble the abduction motor (3) and tighten the screw (4). Plug in the motor.

C
5
Use the color code to assemble the rotation motor (red for right, blue for left). The assembly is secure when you hear a click.

D
6
7
Use the color code to assemble the elbow splint (6). Tighten the knob (7).

E
8
Position arm splint (8). The assembly is secure when you hear a click.

The KINETEC Centura is shown assembled for left shoulder mobilization.

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INSTRUCTIONS FOR USE

Patient set up

Make sure the straps are clean
Put the unit in the position that is the most comfortable for the patient

Position the patient in the chair in a comfortable position and supporting the affected arm.

Slide the arm supports toward the patient and put the arm in the supports.
Secure pads

Adjust the lengths:
a - arm
b - forearm

Adjusting the shoulder joint axis

c - Vertical adjustment
• Loosen the 2 knobs (1).
• With the handle (2), adjust the height of the entire mechanism.
• Tighten the 2 knobs (1).
d - Side to side adjustment:
• Loosen the knob (3).
• Slide the entire mechanism.
• Tighten the knob (3).
e - Shoulder depth adjustment:
• Loosen the knob (4).
• Slide the entire mechanism.
• Tighten the knob (4).
f - Scapula plan choice
• Loosen the knob (5).
• Rotate the arm support
• Tighten the knob (5).

• Adjust the arm rest.

Starting the unit

• Choice of flexion/extension:

- Press and adjust your parameters (see page 10)
- Or select a program (see page 12)
ACCESSORIES

Arm rest

Transport bag
PRODUCT INFORMATION

MAINTENANCE

After 2,000 hours of operation, KINETEC Centura requires a few lubrication and maintenance operations (lubrication of the joints, pointer stops and ball screws). The need for maintenance is indicated by display of the message SERV MOTOR when the system is switched on. Despite that warning, you can continue to use your KINETEC by pressing START, but you should contact your nearest KINETEC technician to have the maintenance operations conducted as soon as possible.

TROUBLESHOOTING

A spare parts list and technical catalog are available to you on request from your KINETEC distributor.

If, after connecting the power supply cable to the power supply and switching on KINETEC Centura:

- The display does not indicate any information:
  - Check that the electrical socket is live using another device.
  - Replace the fuse(s) of the connector with fuses of the same type and caliber: 2 fuses T 750 mA 250V (6.3 x 32) (KINETEC order: 4610007434).
  - If the display still does not indicate any information, contact your nearest KINETEC technician.

If, after switching on your KINETEC:

- Your KINETEC does not work and the display indicates 50 STOP 25 115.
  - Press START again.
- Your KINETEC still does not function:
  - Contact your nearest KINETEC technician.
- Your KINETEC does not function and the display indicates:
  - ANGULAR POS: angle measurement function failure,
  - or NO MOVEMENT: no movement,
  - or BAD WAY: motor rotation failure,
  - or LOAD MAXI: abnormal consumption,
  - or POWER SUPPLY: power failure.

Contact your nearest KINETEC technician if the same message is displayed after having switched the device off, then on, and started it by pressing START.

CLEANING

Before conducting any cleaning operation, SWITCH OFF the unit and disconnect the power supply.

Use a DISINFECTANT (PROPANOL/ISOPROPANOL or ALDEHYDE-based solution). Spray the disinfectant on the SURFACES (plastic shells and metal components).
PRODUCT INFORMATION
TECHNICAL SPECIFICATIONS

Product
Weight: 22 Kg (48lb)
Sprint dimensions: 56x100x76cm / 22"x39"x30"
Angular limits: see page 2
Speeds: from 30 to 120/min
Patient height: from 1.40 to 1.90m
4'7" to 6'3"

Electricity
Power supply: 100-240 V~
Frequency: 50-60 Hz
Power consumption: 50 VA
Device of type B class I
IP 20
Fuse 7.5A 6.3x32mm
KINETEC order: 4610007434

Environment
- Storage/transport conditions:
  - Temperature: -40 to 70°C / -40 to 160°F
  - Relative humidity up to 90%
- Operating conditions:
  - Room temperature: 10 to 40°C / 50 to 105°F
  - Relative humidity: up to 80%

SYMBOLS USED

| TYPE B device (protection against electric shocks) | Lower limit |
| Caution (consult the accompanying documents) | Upper limit |
| STOP (power off) | Flexion movement |
| ON (power on) | Rotation movement |
| Start movement | Abduction movement |
| Stop movement | Combined movement |
| Program access | Hand control locked |
| Speed | Hand control unlocked |
| Timer | Hand control half locked |
| Force | Switch on LED and detect signal when the LED blinks |
| Pause | Alternative current |
| Increase | |
| Decrease | |

WARRANTY
The KINETEC warranty is strictly limited to the replacement free of charge or repair in the plant of the component or components found to be defective.
KINETEC guarantees its joint passive mobilization systems for 1 year against all defects of manufacture from the date of purchase by the consumer.
KINETEC is the only organization able to assess the application of the warranty to its systems.
The warranty will be considered null and void if the device has been used abnormally or under conditions of use other than those indicated in the user's manual.
The warranty will also be considered null and void in the event of deterioration or an accident due to negligence, inappropriate surveillance or inappropriate maintenance, or due to transformation of the equipment or an attempt to repair the equipment.