Slip-on arms for clamp  
**T 411 xx, T 401 xx**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>T 102 UVP</td>
<td>Block Arms with vulcollan lining underslung version</td>
</tr>
<tr>
<td>T 102 UH</td>
<td>Block Arms with hydraulic equilibration underslung version</td>
</tr>
<tr>
<td>T 102 VP</td>
<td>Block Arms with vulcollan lining</td>
</tr>
<tr>
<td>T 103 A</td>
<td>Bale Arms</td>
</tr>
<tr>
<td>T 103 AG</td>
<td>Bale Arms gripping nap strap coated</td>
</tr>
<tr>
<td>T 103 R</td>
<td>Pipe arms for picking up big bags</td>
</tr>
<tr>
<td>T 105 A</td>
<td>Drum Arms for handling of cylindrical steel drums - rubber coated</td>
</tr>
<tr>
<td>Variant 1</td>
<td></td>
</tr>
<tr>
<td>T 105 A</td>
<td>Dual swivel arms for picking up round loads</td>
</tr>
<tr>
<td>Variant 2</td>
<td></td>
</tr>
<tr>
<td>T 106 A</td>
<td>Rotating Roll Arms – mechanically turnable</td>
</tr>
<tr>
<td>T 106 AH 90°</td>
<td>Rotating Roll Arms – hydraulically turnable up to 90°</td>
</tr>
<tr>
<td>T 106 AH 180°</td>
<td>Rotating Roll Arms – hydraulically turnable up to 180°</td>
</tr>
</tbody>
</table>
# Operating Manual

## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Introduction</td>
<td>4</td>
</tr>
<tr>
<td>1.1 Working with this manual</td>
<td>4</td>
</tr>
<tr>
<td>1.2 Warning notes and symbols</td>
<td>4</td>
</tr>
<tr>
<td>2. Design</td>
<td>5</td>
</tr>
<tr>
<td>2.1 Model</td>
<td>5</td>
</tr>
<tr>
<td>2.1.1 T 102 UVP, T 102 UH, T 102 VP</td>
<td>5</td>
</tr>
<tr>
<td>2.1.2 T103 A, T 103 AG, T103R, T 105 A</td>
<td>6</td>
</tr>
<tr>
<td>2.1.3 T 106 A, T 106 AH 90°, T 106 AH 180°</td>
<td>9</td>
</tr>
<tr>
<td>2.2 Proper use of the equipment</td>
<td>10</td>
</tr>
<tr>
<td>2.3 Improper use</td>
<td>11</td>
</tr>
<tr>
<td>3. Maintenance and servicing</td>
<td>11</td>
</tr>
<tr>
<td>3.1 General</td>
<td>11</td>
</tr>
<tr>
<td>3.2 Significant modification</td>
<td>11</td>
</tr>
<tr>
<td>3.3 Schedule for routine maintenance and lubricants</td>
<td>11</td>
</tr>
<tr>
<td>3.3.1 T 102 UVP, T 102 UH, T 102 VP</td>
<td>12</td>
</tr>
<tr>
<td>3.3.2 T 103A, T 103 AG, T 103R, T 105 A variant 1 and 2</td>
<td>13</td>
</tr>
<tr>
<td>3.3.3 T 106 A</td>
<td>15</td>
</tr>
<tr>
<td>3.3.4 T 106 AH 90°</td>
<td>16</td>
</tr>
<tr>
<td>3.3.5 T 106 AH 180°</td>
<td>17</td>
</tr>
<tr>
<td>3.3.6 Forks</td>
<td>18</td>
</tr>
<tr>
<td>3.3.7 Warning notices</td>
<td>19</td>
</tr>
<tr>
<td>4. Troubleshooting</td>
<td>20</td>
</tr>
<tr>
<td>5. Spare parts list (not part of the Operating Manual)</td>
<td>21</td>
</tr>
<tr>
<td>6. EC Declaration of Conformity (Summary)</td>
<td>21</td>
</tr>
</tbody>
</table>
Our service department in Aschaffenburg will be happy to answer your technical questions and to provide additional support.

**Technical Support:**
0049 (0)6021 865 395
0049 (0)6021 865 284
0049 (0)6021 865 352

**Orders for spare parts Domestic**
0049 (0) 6021 865205
0049 (0) 6021 865251

**Orders for spare parts Export**
0049 (0) 6021 865344
0049 (0) 6021 865348

Outside of normal business hours the Kaup – Service Hotline is available to you 365 days a year:

0049 (0) 172 6295 297
Monday - Friday: 17:00 – 7:00 Uhr
Saturday und Sunday: 8:00 – 18:00 Uhr

Kaup GmbH & Co KG • Braunstr. 17 • D-63741 Aschaffenburg • email: kaup@kaup.de • www.kaup.de
1. Introduction

1.1 Working with this manual

This operating manual is valid only in conjunction with the operating manual for the “Clamp / Arm Adjusting Device T 411 xx, T 401 xx”. The safety instructions listed there must be complied with.

This operating manual deals only with the additional requirements and danger notices that concern use of the slip-on arms.

The illustrations in the operating manual may differ from the actual construction!

1.2 Warning notes and symbols

The following symbols are used in this operating manual to highlight details of special importance:

⚠️ Identifies details relating to do’s and don’ts for the purpose of avoiding injury and property damage.

Specific details relating to the efficient use of the attachment and other advice.

Lists are denoted by a shadowed box.

Steps to be performed by the operator are denoted by a black dot.

In illustrations, particular elements have numbered pointers. Numbers in brackets in the text refer to the corresponding elements.
2. Design

2.1 Model

2.1.1 T 102 UVP, T 102 UH, T 102 VP

Design:

Slip-on block clamp arms are fitted to the fork arms (1) and secured by means of bolts (4) in the borings (2) in the fork arms (1). The block clamp arms (3) consist of U-profile in which a polyurethane insert (5) is installed. Model T102 UH is manufactured from a closed profile section that is filled with grease. Production tolerances and the uneven contact surfaces of blocks are compensated via spring-loaded grease-mounted pins with buffers (8, 9, 10). The following buffers are available depending on the load to be transported. A round buffer made of steel (6), a square buffer made of steel (7), a round buffer made of polyurethane (8), a square buffer made of rubber (9) and a round buffer made of rubber (10).
Installation:

- Drill a hole (2) in each fork arm (1) to lock the slip-on arms. The diameter of the boring depends on the relevant construction.
- Fit the complete slip-on arms (3) to the fork arms (1).
- Lock the slip-on arms in place by means of the bolts (4).

Drilling the fork arms reduces the original load capacity of the fork arms. Debur the borings carefully. Have the modification approved by the fork arm manufacturer.

Choose a distance that is as close as possible to the shank. Greater distances than the standard load centre will reduce the load capacity.

Checking out:

Ensure correct seating of the slip-on arms on the fork arms and that the bolt is fitted for safety.

2.1.2 T103 A, T 103 AG, T103R, T 105 A

![Diagram of T103 A](image)

![Diagram of T103 AG](image)

![Diagram of T103 R](image)
Design:

Slip-on bale / drum / pipe / dual swivel arms are installed to fork arms (1) and secured in fork arm (1) holes (2) using pins (4).

The bale clamps arms T 103 A and T 103 AG consist of rectangular plates to which the round bars (6), model T 103 A, are welded or are covered with rubber (5), model T 103 AG.

The slip-on drum span arms T 105 A variant 1 (3) have plates that are adapted to the relevant drum diameter and are covered with rubber (5). T 103 R pipe arms consist of pipes adapted to the load.

The T 105 A Version 2 dual swivel arms consist of a take-up (7) each in which an arm (8) is supported that may swivel vertically. This arm (8) supports two pressure plates (9) that may swivel horizontally and are adapted to the respective load.
Installation:

- Drill a hole (2) into each fork arm (1) for locking the slip-on clamping / drum / pipe / dual swivel arms.

- Install the complete slip-on clamping / drum / pipe / dual swivel arms (3) to the fork tines (1).

- Use the pins (4) to lock the slip-on clamping / drum / pipe / dual swivel arms.

Drilling the fork arms reduces the original load capacity of the fork arms. Deburr the borings carefully. Have the modification approved by the fork arm manufacturer.

Choose a distance that is as close as possible to the shank. Greater distances than the standard load centre will reduce the load capacity.

Checking out:

Ensure the slip-on clamping / drum / pipe / dual swivel arms are correctly seated at the fork tines and the locking pin (4) is installed.

For the dual swivel arms, additionally make sure that the pins (10, 11) are correctly seating and secured by the cotter pin (12, 13).
Design:

Slip-on drum span or roller arms are fitted to the fork arms (1) with fork fittings (3) and are secured by means of bolts (4) in the borings (2) in the fork arms (1). The slip-on drum span arms and roller arms T 106 ff have plates (5) that are adapted to the relevant load diameter and are covered with rubber (6). Model T 106 A has plates that can be mechanically rotated through 90° and that are lockable by way of spring-loaded bolts. On models T 106 AH 90° and T 106 AH 180° the plates are hydraulically rotatable by way of cylinders (7) or cylinders (7) with kinematics (8).

Installation:

- Drill a hole (2) in each fork arm (1) to lock the slip-on arms. The diameter of the boring depends on the relevant construction.
- Fit the complete slip-on arms (3) to the fork arms (1).
- Lock the slip-on arms in place by means of the bolts (4).
- On models T 106 AH 90° and T 106 AH 180° you connect the hose lines of the cylinders (7) to the hydraulic connections on the lift truck.
Drilling the fork arms reduces the original load capacity of the fork arms. Debur the borings carefully. Have the modification approved by the fork arm manufacturer.

Choose a distance that is as close as possible to the shank. Greater distances than the standard load centre will reduce the load capacity.

Checking out:

Ensure correct seating of the slip-on arms on the fork arms and that the bolt is fitted for safety.

KAUP-attachments are delivered pre-lubricated. If the attachment has been in storage for a longer period, we recommend that it be lubricated again before being placed in service. See 6. Maintenance and onwards.

Failure of the safety devices (e.g. the pressure relief valve and the non-return valve) and incorrect connection of the controls to the actuators can cause malfunctioning of the attachment and damage to it. After mounting and before initial operation, check the functions and the identification of the attached equipment with the movement directions of the operating elements (operating lever, joystick, etc.).

2.2 Proper use of the equipment

KAUP slip-on clamp arms may be used only occasionally and only for a limited time. If it is necessary to use such arms permanently for the transport of drums, rolls etc., a suitable clamp for attachment to the fork carriage of the lift truck must be given preference.

Slip-on block clamp arms **T 102 xx** are intended for the transport of single block layers or packs of blocks.

Slip-on bale clamp arms **T 103 xx** are intended for the transport of rectangular loads, e.g. paper and fabric bales, crates etc.

**T 103 R** slip-on pipe arms are designed to transport big bags.

Slip-on drum span arms **T105 A variant 1** are intended for the transport of single steel drums.

The **T105 A variant 2** slip-on dual swivel arms are designed to transport round loads.

Slip-on roller arms **T106 xx** are intended for the transport of round loads, e.g. paper rolls, drums etc. Depending on the construction, pick-up takes place horizontally or vertically and can be tilted hydraulically through 90° or 180°.

Proper use of the machine and/or equipment includes the following:

- Observance of the operating manual at all times.
- Observance of the technical data on the identification plate on the attachment.
- Adherence to the specified inspection and maintenance instructions.
2.3 Improper use

- Exceeding the allowable load capacity and load centre.
- Dragging or pushing loads with the attachment
- Transporting persons with the load or load handling devices
- Mounting auxiliary equipment on the attachment such that the original mode of usage is changed, (e.g. fork extensions) must be authorised by the manufacturer.

Model T106 A is not suitable for turning the load by hand in clamped condition. This module is only suitable for picking up either horizontal or vertical drums or rolls.

3. Maintenance and servicing

3.1 General

The hydraulic system is under pressure. During work on hydraulic components oil spurting out can cause injuries. Unload the system in accordance with the operating instructions of the lift truck manufacturer. In the case of injuries caused by high pressure oil, inform the works physician and seek out a specialist immediately.

Failure of the safety devices (e.g. the pressure relief valve and the non-return valve) and incorrect connection of the controls to the actuators can cause malfunctioning of the attachment and damage to it.

After mounting and before initial operation, check the functions and the identification of the attached equipment with the movement directions of the operating elements (operating lever, joystick, etc.).

3.2 Significant modification

Significant modifications are, for example, those which affect the stability, performance, speed and strength of components.

The EC Declaration of Conformity is invalidated by a significant modification of the attachment.

Modifications to the attachment may only be made with prior approval by the manufacturer.

3.3 Schedule for routine maintenance and lubricants

<table>
<thead>
<tr>
<th>Lubricants approved and recommended by KAUP</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Greases</strong></td>
<td></td>
</tr>
<tr>
<td>Lithium soap grease NLGI Class 2</td>
<td>e.g. Avialith 2</td>
</tr>
<tr>
<td>Complex soap grease NLGI Class 2</td>
<td>e.g. Turmogrease Gel M 5</td>
</tr>
<tr>
<td>Teflon spray</td>
<td>e.g. Wieds or Rivolta</td>
</tr>
<tr>
<td></td>
<td>Designation DIN51825: K 2 K-30</td>
</tr>
<tr>
<td></td>
<td>Foundry quality</td>
</tr>
<tr>
<td></td>
<td>Only for plastic sections</td>
</tr>
</tbody>
</table>
The specified maintenance schedules can change as a result of the operating conditions such as extreme cold, heat and dust or poor ground conditions and this must be taken into account by the owner.

With other loads, such as fork arms with a length of over 2,400 mm or raised load centres, amended/shorter maintenance intervals should be agreed by the user with the manufacturer.

3.3.1 T 102 UVP, T 102 UH, T 102 VP:

Before commencing work

Ensure correct seating of the slip-on arms on the fork arms and that the bolt is fitted for safety.

Every 200h

Check wear on:
- Bolts (1).
- Vulcollan linings (3).
- Buffer (5).

Replace worn pieces.

As necessary

Renew worn polyurethane inserts (3) by removing the fixing pins (2). Pull out the polyurethane insert to the front and replace it with a new polyurethane insert.

Renew worn buffers (5) by removing the screw (4) or buffer (5) with the lock washer (6).
Slip-on block clamp arms with hydraulic spring pads, types T412 H and T412 HP, are under high pressure. There is a high danger of injury. Never attempt to remove the lubrication nipple (7) or circlip (8). Consult KAUP's customer service department for further information on the removal and replacement of leaky components.

3.3.2 T 103A, T 103 AG, T 103R, T 105 A variant 1 and 2:
Before commencing work

Ensure that the slip-on clamping arms are correctly seating on the fork arms and the pin (1) is installed for locking – and, additionally for T 105 Version 2, use cotter pin (12, 13) to secure pin (10, 11).

Every 200h

Check wear on:

- Bolts (1, 10, 11).
- Rubber coat (2).
- Round steel (3).

Replace worn pieces.
3.3.3  T 106 A:

Before commencing work

Ensure correct seating of the slip-on arms on the fork arms and that the bolt is fitted for safety.

Weekly

Grease:
- Sleeve bearing (2) by way of the greasing nipples (1).

Every 200h

Check wear on:
- Sleeve bearing (2).
- Bolts (3).
- Interlock (4).
- Bearing (7).
- Rubber coat (9).
Replace worn pieces.

As necessary

Renew worn sleeve bearing (2) and bearing (7), by removing the circlip (5) and washer (6). Pull out the pressure plate (8) to the side and fit the new parts.
Before commencing work

Ensure correct seating of the slip-on arms on the fork arms and that the bolt is fitted for safety.

Weekly

Grease:
- Sleeve bearing (2) by way of the greasing nipples (1).
- Sleeve bearing (4) by way of the greasing nipples (10).

Every 200h

Check wear on:
- Sleeve bearing (2) and (4).
- Bolts (3), (11) and (14).
- Bearing (7).
- Rubber coat (9).
Replace worn pieces.

As necessary

Renew worn sleeve bearing (2) and bearing (7) by removing the circlip (5), washer (6), circlip (12) and bolt (11). Pull out the pressure plate (8) to the side and replace any defective parts. Refit all parts again in the reverse order.
Renew a worn sleeve bearing (4) by removing the circlip (12) of the bolt (11). Pull out the bolt (11) to the side and replace any defective parts. Refit all parts again in the reverse order.

Renew defective or leaky cylinders (13) by removing the circlip (12) and cotter bolt (15). Pull out the bolts (11) and (14) to the side and fit the new cylinder.

3.3.5 T 106 AH 180°:

Before commencing work

Ensure correct seating of the slip-on arms on the fork arms and that the bolt is fitted for safety.

Weekly

Grease:

- Sleeve bearing (2) by way of the greasing nipples (1).
- Sleeve bearing (4) by way of the greasing nipples (10).
- Sleeve bearing (17) by way of the greasing nipples (16).
- Ball-and-socket joint (19) by way of the greasing nipples (23).
Every 200h

Check wear on:

- Sleeve bearing (2), (4) and (17).
- Bolts (3), (11), (14) and (24).
- Bearing (7).
- Rubber coat (9).
- Ball-and-socket joint (19).

Replace worn pieces.

As necessary

Renew worn sleeve bearing (2) and bearing (7) by removing the circlip (5), washer (6), circlip (25), bolt (24) and washer (21). Pull out the pressure plate (8) to the side and replace any defective parts. Refit all parts again in the reverse order.

Renew a worn sleeve bearing (4) by removing the circlip (12) of the bolt (11) and washer (26). Pull out the bolt (11) to the side and replace any defective parts. Refit all parts again in the reverse order.

Renew a worn sleeve bearing (17) by removing the circlip (18), (12), (25) and washer (21). Pull out the bolt (11), (24) and lever (20) to the side and replace any defective parts. Refit all parts again in the reverse order.

Renew worn ball-and-socket joints (19) in the lever (22), by removing the circlip (25) and washer (21). Pull out the bolt (24) to the side and replace any defective parts. Refit all parts again in the reverse order.

Renew defective or leaky cylinders (13) by removing the circlip (12) and split pin (15). Pull out the bolts (11) and (14) to the side and replace any defective parts. Refit all parts again in the reverse order.

3.3.6 Forks

Annually

Inspect the heel of the fork for wear and cracks.

Remove forks from service when wear exceeds 10% of the thickness of the fork.

As necessary

Bent forks are not safe to operate and their continued use should be prevented.

Straightening of forks may only be performed by the manufacturer of the fork or by one of his authorized workshops.

You can increase the service life of forks by using forks especially protected against wear.
3.3.7 Warning notices

Modell T102 UH

Modell T102 UVP

Modell T102 VP

Modell T103 A, T103AG

Modell T105 A Variante 1

Modell T106 A, T106 AH 90°, T106 AH 180°

Modell T103 R
4. Troubleshooting

Troubleshooting should only be performed by qualified and authorised personnel.

<table>
<thead>
<tr>
<th>Fault</th>
<th>Possible cause</th>
<th>Correction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model T 106 AH xx</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tilting forwards and backwards</td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ No synchronism</td>
<td>WE throttles on the cylinder unequally adjusted</td>
<td>Adjust the WE throttles on the cylinder</td>
</tr>
<tr>
<td>☐ Movement too slow</td>
<td>Insufficient fluid flow from truck's hydraulics</td>
<td>Increase flow rate of truck's hydraulics</td>
</tr>
<tr>
<td>☐ Load not holding</td>
<td>Pressure too low</td>
<td>Increase the pressure from the lift truck</td>
</tr>
<tr>
<td></td>
<td>Pressure too low on pressure relief valve</td>
<td>Increase pressure on the pressure relief valve</td>
</tr>
<tr>
<td></td>
<td>Cylinders have internal leaks</td>
<td>Replace sealing kits</td>
</tr>
</tbody>
</table>

Number | Description | KAUP order number |
--------|-------------|-------------------|
1       | Before putting into operation carefully read and take note of the operating and security instructions. | 0100016401 |
2       | Never reach into the unit as long as parts could still be moving due to the danger of squashing or shearing. | 0100016601 |
3       | KAUP – order number | without, engraved in the material |

Model T105 A Variant 2
## Faults

<table>
<thead>
<tr>
<th>Fault Description</th>
<th>Possible Cause</th>
<th>Correction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clearance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bearing points have excessive clearance</td>
<td>Sleeve bearing is worn</td>
<td>Replace sleeve bearing</td>
</tr>
<tr>
<td></td>
<td>Bolt is worn</td>
<td>Replace bolt</td>
</tr>
<tr>
<td></td>
<td>Ball-and-socket joint is worn</td>
<td>Replace ball-and-socket joint</td>
</tr>
<tr>
<td>Oil leakage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>At cylinder</td>
<td>WE throttle leaky</td>
<td>Replace the WE throttle</td>
</tr>
<tr>
<td></td>
<td>Sealing kit defective</td>
<td>Replace sealing kit</td>
</tr>
<tr>
<td></td>
<td>Screw fitting is leaking</td>
<td>Tighten / seal screw fitting</td>
</tr>
<tr>
<td></td>
<td>Piston rod scored</td>
<td>Replace piston rod and sealing kit</td>
</tr>
<tr>
<td>Solenoid valve</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not functioning</td>
<td>Solenoid coil defective</td>
<td>Replace solenoid coil</td>
</tr>
<tr>
<td></td>
<td>No power to the magnet</td>
<td>Inspect power cable and connections</td>
</tr>
</tbody>
</table>

Legend:
FFZ = lift truck, DBV = Pressure relief valve, WE-Drossel = elbow-type screwed throttle

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5. **Spare parts list** (not part of the Operating Manual)

6. **EC Declaration of Conformity (Summary)**

KAUP GMBH & Co. KG • Braunstraße 17 • D-63741 Aschaffenburg

we hereby declare that the machinery

<table>
<thead>
<tr>
<th>Model:</th>
<th>Slip-on arms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type:</td>
<td>T 102 xx, T 103 xx, T 105 xx, T 106 xx</td>
</tr>
</tbody>
</table>

conforms to the latest valid version of the Machinery Directive 2006/42/EG.

The person authorised to compile the technical documents:

see EC-Declaration of Conformity

KAUP GmbH & Co. KG