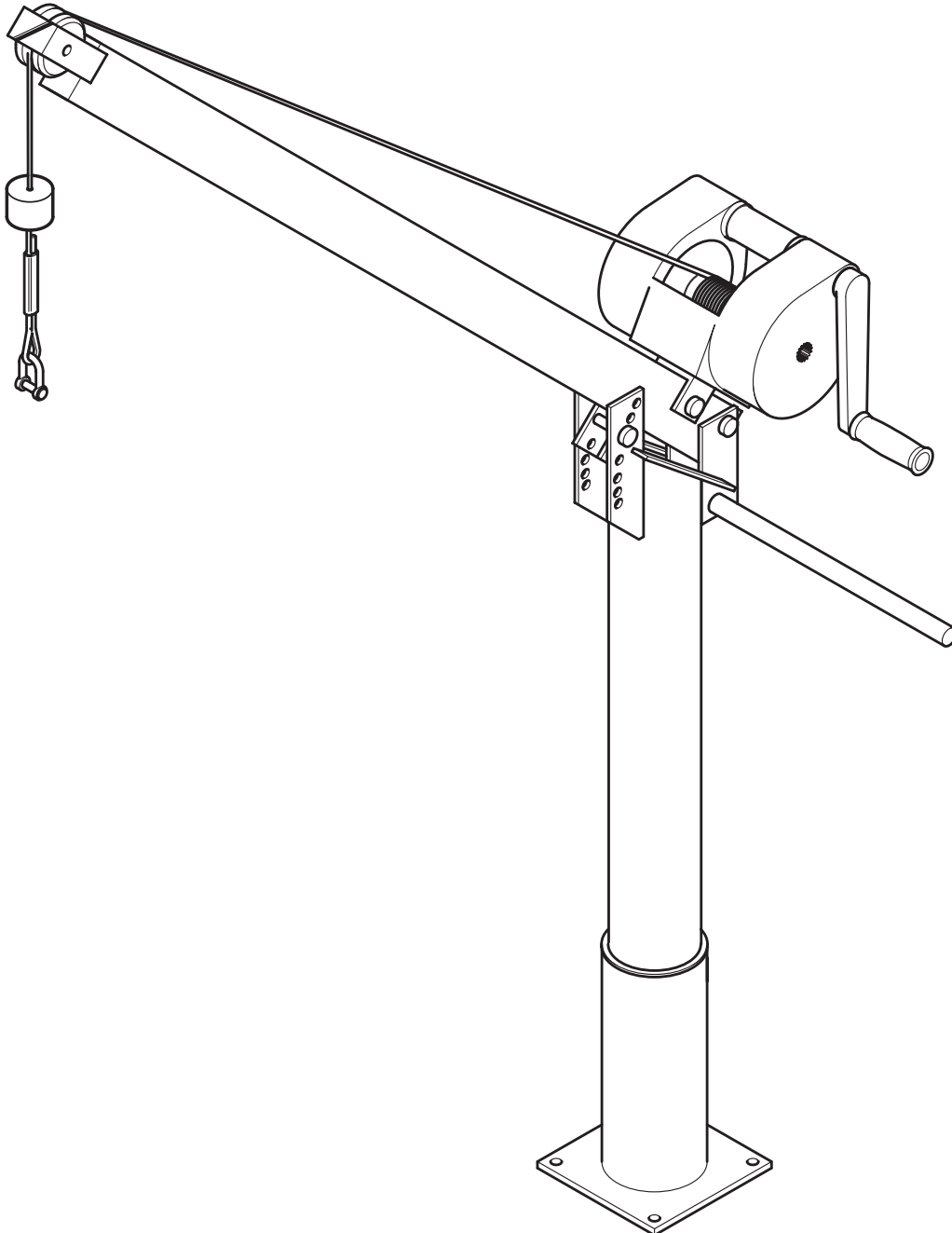


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## Lifting Unit Type ABS 5 kN

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## Installation and Operating Instructions

Translation from original instruction

[www.sulzer.com](http://www.sulzer.com)

Lifting unit type ABS 5 kN

**Installation and Operating Instructions**

**for lifting unit type ABS 5 kN**

Lifting device support, shape A (for pedestal base)

Lifting device support, shape B (wall mount base)

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**Appendix:**

Check list/Hints for the check by an expert

Installation and operating instructions of the winch (part of the packing of the manufacturer).

Instructions for the handling of chemical anchors (part of the packing of the manufacturer).

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## 1 General

### 1.1 Introduction

These **Installation and Operating Instructions** and the separate booklet **Safety Hints** contain basic instructions and safety hints which must be observed during transport, installation and commissioning. For this reason it is essential that they are read by the installing technician as well as by relevant skilled operators or users. They should also be always available where the unit is installed.



Safety Instructions which might cause danger to life in case of non-observance have been specifically highlighted with the general danger symbol.

**ATTENTION** *Appears at safety hints, the non-observance of which could damage the unit or affect its functioning.*

**NOTE** *Used for important pieces of information.*

Illustrations code; e.g. (3/2). The first digit refers to the figure no. and the second digit to the position in that figure.

The documents listed below are integral parts of these installation and operating instructions:

- Installation and operating instructions for ABS lifting unit 5 kN.
- Declaration of conformity for ABS lifting unit as defined by: Machinery Directive 2006/42/EC.
- Check list for the expert inspections of winches, pulling and lifting devices.

The documents listed below are also substantial parts of these instructions:

- Operating instructions for the winch.
- Instructions for the handling of chemical anchors.

### 1.2 Application areas

The ABS lifting unit 5 kN is suitable to lift and lower submersible mixers, pumps, aerators and their accessories manually. It can be rotated 360°; the boom can be adjusted to the required overhang and lifting capacity by tilting it.

Rating according to DIN 15018 is H1/B1. The winch rating is 1 Cm.

For easy handling when working in different areas the lifting unit can be disassembled into three main parts:

- 1) Post
- 2) Boom
- 3) Winch with wire rope

In the working position the lifting unit is pushed into a lifting device support which is connected to the building. Lifting device supports are available either for pedestal base (A) or wall mount base (B).

### 1.3 Application limitations

The ABS lifting unit 5 kN and the lifting device supports are weather proof. Some of the winches are not and should be stored in a sheltered place when not being used.

If the lifting unit is operated in aggressive atmosphere or the wire rope in an aggressive liquid they have to be cleaned after operation and must be checked by an expert in shorter intervals.



The maximum allowable loads must be observed when using the ABS lifting unit 5 kN.

Lifting unit type ABS 5 kN

**1.4 Dimensions**



The max. lifting capacity for the different overhangs can be obtained from the nameplate on the lifting unit.

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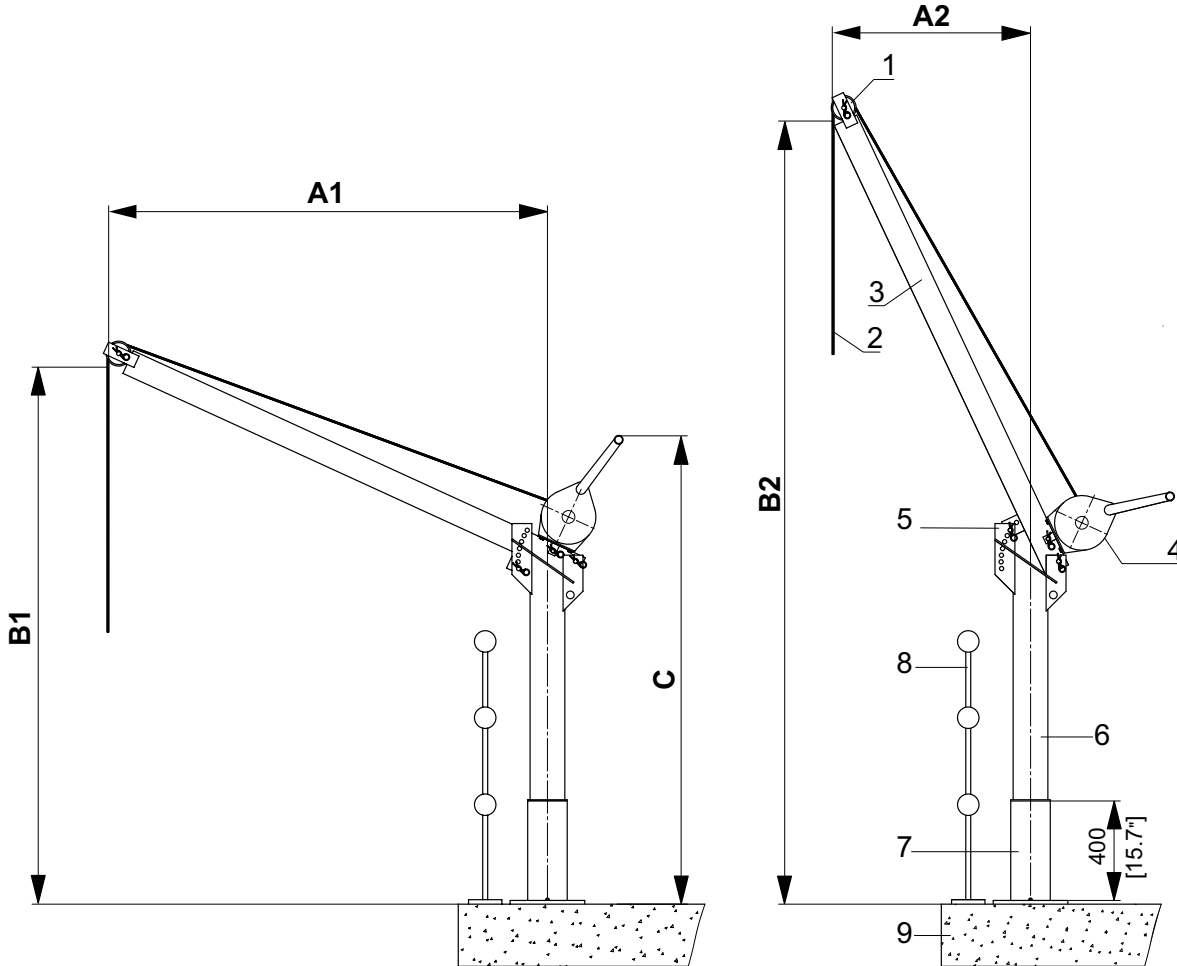


Figure 1 Dimensions

**Legend**

- |                |   |
|----------------|---|
| 1 Pulley       | 6 Post                                    |
| 2 Rope         | 7 Lifting device support                  |
| 3 Boom         | 8 Parapet (Part of the construction)      |
| 4 Rope winch   | 9 Bottom plate (Part of the construction) |
| 5 Boom locking |   |

**Dimensions for boom 1500 mm and 2000 mm**

Dimension	Boom 1500 mm [59.1 in]	Boom 2000 mm [78.7 in]
<b>A1</b>	max. 1300 mm [51.2 in] to 3 kN [674 lbf] max. 1000 mm [39.4 in] to 5 kN [1124 lbf] max. 800 mm [31.5 in] to 6.5 kN [1461 lbf]	max. 1750 mm [68.9 in] to 3 kN [674 lbf] max. 1000 mm [39.4 in] to 5 kN [1124 lbf] max. 800 mm [31.5 in] to 6.5 kN [1461 lbf]
<b>A2</b>	min. 585 mm [23.0 in]	min. 800 mm [31.5 in]
<b>B1</b>	1980 mm [78.0 in]	2160 mm [85.0 in]
<b>B2</b>	2730 mm [107.5 in]	3150 mm [124.0 in]
<b>C</b>	max. 1850 mm [72.9 in]	max. 1850 mm [72.9 in]

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**1.5 Type designation of the ABS lifting unit and the components**

Type designation of the complete lifting unit: **ABS lifting unit 5 kN.**

Type designation of the rope winch: e.g. "PFAFF Alu-Wire Rope winch 500 kg with two speeds"

**Type designation of the lifting device support:**

for pedestal base (A).

for wall mount base (B).

**Type and dimension of the lifting rope:**

Wire rope 7 x 19 + SE, acc. to DIN 3069, AISI 316, D = 6 mm, min. breaking load 18.8 kN, low twist.

**1.6 Nameplate**

We recommend that you record the data from the original nameplate on the nameplate illustrated in Fig. 2 below so that you can refer to the data at any time.

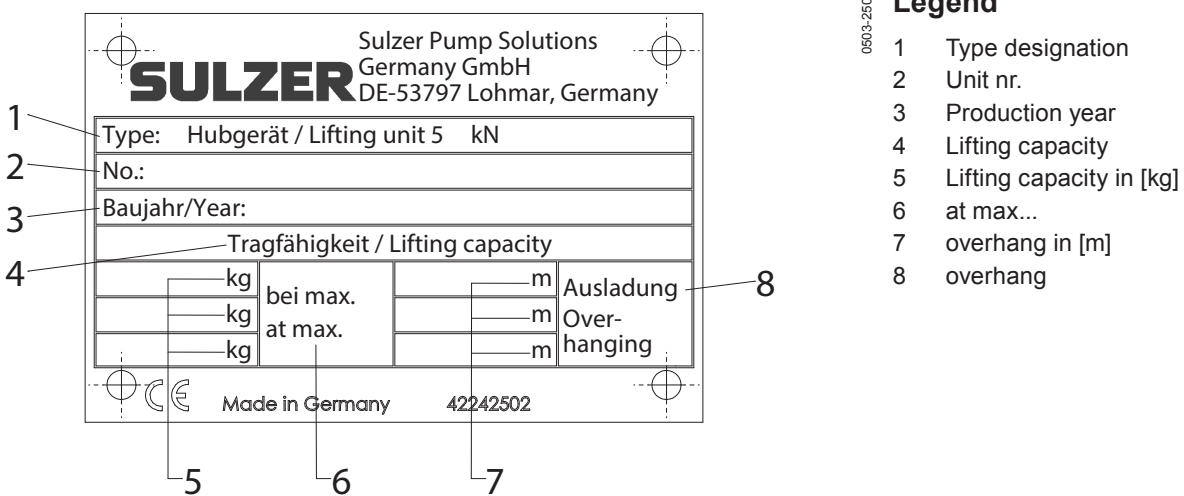


Figure 2 Nameplate 42242502

**2 Security**

The following standards and regulations have to be observed:

- DIN 15020 T1 and 2
- UVV VBG 1, 8, 9, 9a

the owner of the lifting unit has to make sure that.....

- These instructions are always available to the operator.
- The lifting unit is only operated by skilled and instructed individuals.
- The operator is using all required personal protection equipment.
- The lifting unit is checked by an expert before commissioning. (Faultless assembly and installation, ready for work). A written report on this inspection is required.
- The unit will be checked by an expert at least once a year.(See check list at the end of this booklet) When operating the unit under unfavourable conditions more frequent checks may be required.
- No changes on the unit are to be made without prior written consent from the manufacturer.
- Damages to the unit are immediately repaired and faulty units are not operated.

Lifting unit type ABS 5 kN

## 2.1 Safety instructions for the operator of the lifting unit



Study installation and operating instructions with care!



Prior to any operation, the lifting unit has to be checked carefully, including correct guidance in the lifting device support. In case of faults the owner has to be informed immediately and the unit has to be blocked!



Make sure no persons are within the working radius of the unit. If required this area is to be blocked by suitable means.



Do not stand under the suspended load!



Never exceed the maximum load, related to the actual overhang!



Use suitable sling elements only (according to VBG UVV 9a)!



Make sure that there is no risk of jamming or catching of the load!



Moving human beings with the lifting unit is strictly prohibited!



The load must never move out-of-perpendicular!



The winch is not to be operated by motors!



The wire rope must not be used to sling the load!



The load must always be visible to the operator. If this is not possible, the assistance of a second person is required (Marshal)!



When winding the wire rope it always has to be held tight! If the rope is wound not tight enough on the winch drum, the breaking load of the rope can be reduced dramatically! An additional weight attached to the end of the wire rope will reduce the risk of loose winding.



Attaching the wire rope to the winch drum is to be done according to the instructions of the winch manufacturer!



At least three turns of wire rope must remain on the winch drum when the load is in its lowest position!



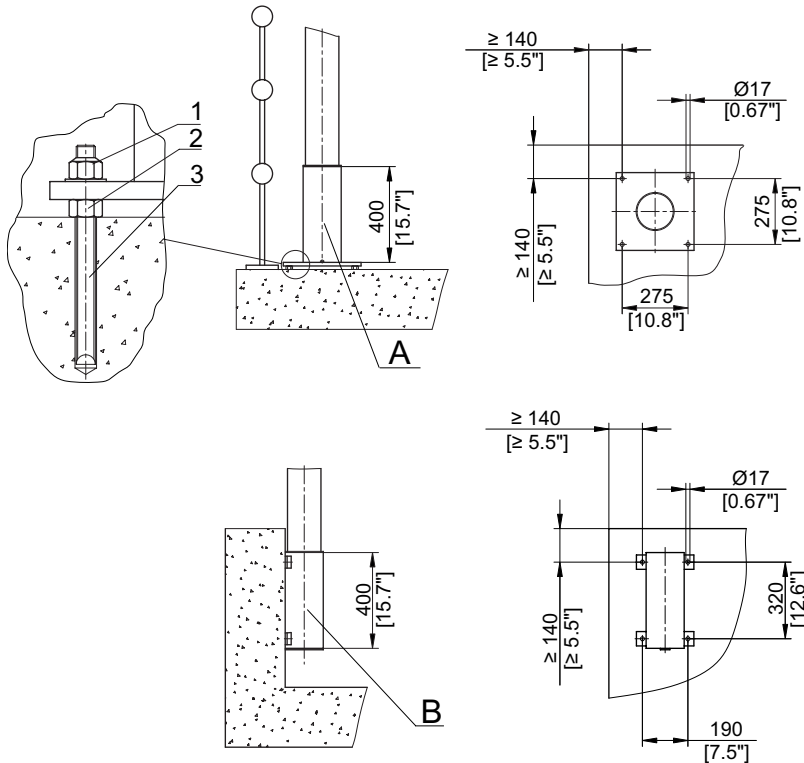
When operating the unit all bolts have to be secured by security pins!

Lifting unit type ABS 5 kN

These hints are only supplementary to the regulations of DIN 15018 and the regulations for the prevention of accidents from the authorities VBG 8, VGB 9a.

**Furthermore any local regulations are to be observed!**

### 3 Installation of the lifting device support



#### Legend

- 1 Hexagon nut DIN 985
- 2 Hexagon nut ISO 4032
- 3 e.g. Anchor rods
- A** Lifting device support, shape A (pedestal mount base)
- B** Lifting device support, shape B (wall mount base)

Figure 3 Options lifting device support

- First check all parts whether they are correct and all available according to the parts list.
- Inspection of the installation site according to the drawings:
  - a. Check the installation site regarding stability (min. B25).
  - b. Check the installation place regarding suitability for the safe operation of the lifting unit.
  - c. To allow the precise alignment of the pedestal base (shape B) and a correct transfer of the load to the building, nuts (3/2) have to be placed below the base plate.
- Take care of correct conditions for anchoring, e.g:
  - Depth of holes
  - Drill diameter
  - Edge spacings
  - Working temperature
  - Expiration date of plastic mortar
  - Curing time
  - Fastening torque of nuts
  - Nut lockings
- Before first operation of the lifting unit the support installation has to be inspected by an expert. A written report on this inspection is required.



## 4 Assembly and reassembly of the lifting unit

Before first assembly all parts have to be checked whether they are all available and correct according to the parts list. Before first operation of the assembled unit including support it has to be inspected by an expert. A written report on this inspection is required. (See attached check list.)

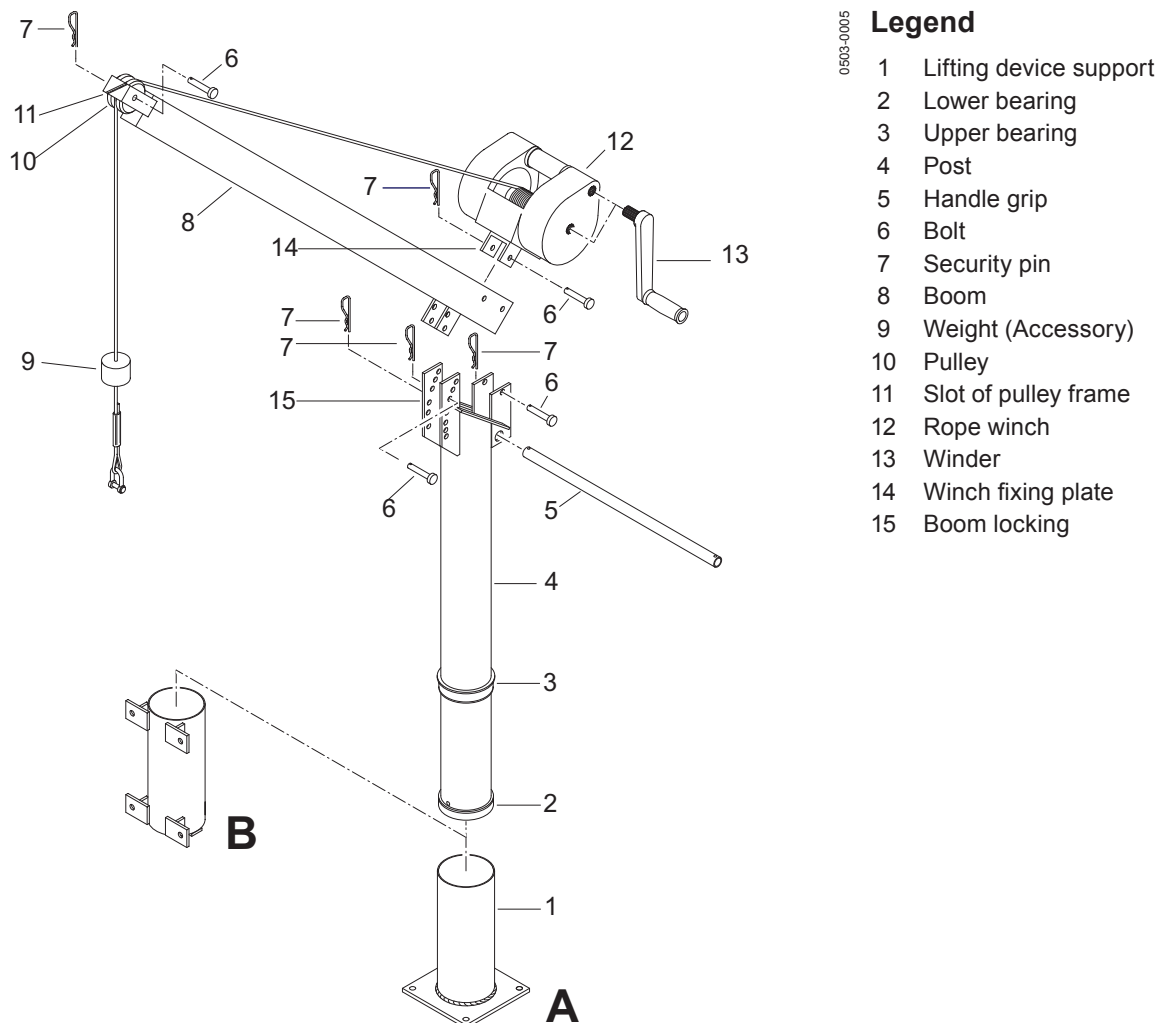


Figure 4 Assembly/reassembly of the lifting unit

### Assembly

- Insert the post (4/4) into the lifting device support (4/1).
- Interlock the boom (4/8) with the post (4/4) by inserting and securing the first bolt (4/6) into the lowest drilling of the resp. boom locking with a security pin (4/7).
- Tilt the boom upwards until the second bolt (4/6) can be inserted and secured with a security pin (4/7).
- Connect the winch plate (4/14) with the winch (4/12) according to the instructions of the winch manufacturer.
- Attach the winch to the boom (4/8) with the third bolt (4/7) and secure the bolt with a security pin.
- Connect the wire rope to the winch drum according to the manufacturer's instructions. Pull the wire rope through the slot of the pulley frame (4/11) on to the pulley (4/10). Wind the wire rope tightly on to the winch drum.
- The wire rope has to be long enough to keep at least three turns on the winch drum in the lowest position of the load.
- Adjust the angle of the boom according to the required overhang and load.

Lifting unit type ABS 5 kN



Load max. 300 kg [662 lb] at a max. overhang of 1.30 m [51 in]! (only for boom 1500 mm/59,1 in)



Load max. 300 kg [662 lb] at a max. overhang of 1.75 m [69 in]! (only for boom 2000 mm/78,7 in)



Load max. 500 kg [1103 lb] at a max. overhang of 1.0 m [39 in]!



Load max. 650 kg [1443 lb] at a max. overhang of 0.8 m [31 in]!

- Insert the handle grip (4/5) into the corresponding holes of the post and secure it with the security pin (4/7).
- Check the correct position of the upper bearing ring (4/3). To reduce friction this ring can be lubricated.

### Disassembly

Before moving the lifting unit to another lifting device support it can be disassembled working the above steps reversely.

**ATTENTION** *If the unit will not be operated for longer periods the winch should be disconnected and stored in a sheltered place.*

## 5 Installation example

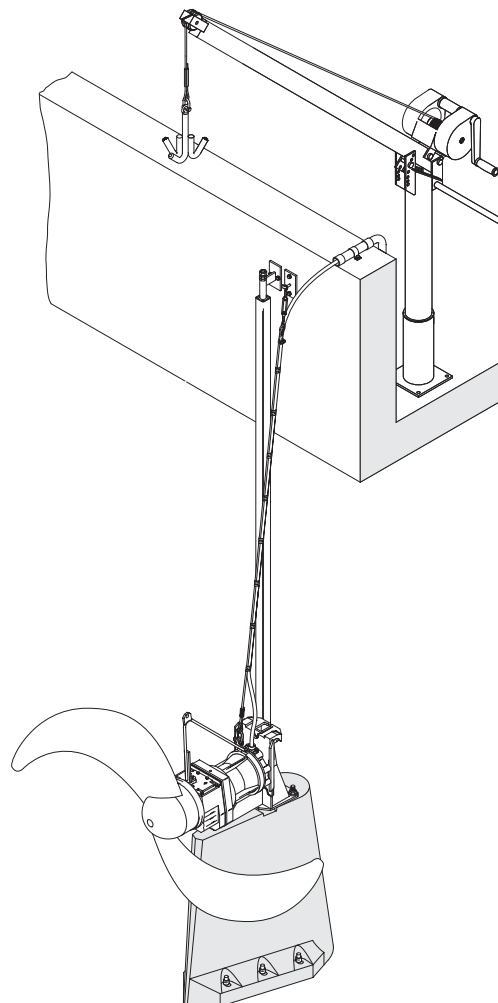


Figure 5 Installation example with ABS flow booster SB 2500

### HINT

**The lifting hook is not part of the standard delivery!**

Lifting unit type ABS 5 kN

1. Manufacturer: Sulzer Pump Solutions Germany GmbH, Scheiderhöher Str. 30 – 38 D-53797 Lohmar
2. Year of production: \_\_\_\_\_
3. Serial no.: \_\_\_\_\_
4. Lifting capacity: \_\_\_\_\_
5. Manufacturer of rope winch: \_\_\_\_\_ Type: \_\_\_\_\_
6. Lifting rope: Diameter: Ø \_\_\_\_\_ mm Min. breaking load: \_\_\_\_\_ kN
7. Check before first operation: On: \_\_\_\_\_ By: \_\_\_\_\_

**Recur checks (at least once a year)**

Date	Result	Signature	Repaired	
			On	By

**Hints for checks by an expert**

1. Are the nameplate, load rating and warning labels complete and readable?
2. Check the post, boom and lifting device supports regarding damages, wear, corrosion and deformation.
3. Check the load bearing elements regarding smooth function (post, pulley).
4. Check all bolts regarding wear and deformation. Are all securing pins in the bolts?
5. Check the wire rope regarding damages, corrosion and correct dimensions.
6. Winch: Inspection according to the instructions of the manufacturer.
7. Installation of the lifting device supports: Check regarding damage on the load bearing parts of the building, corrosion, deformation and tight fastening of the base parts.

