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Operation manual  
and  
Spare parts list

# 1400 - EL PUMP





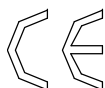
## Operational manual and spare parts list

### 1400 El-pump 15, 20, 25 HP 5” 30 kW 6”

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### Spare parts

|            |         |
|------------|---------|
| Pump 5”    | 7 – 8   |
| Pump 6”    | 9 – 10  |
| Mixer      | 11 – 12 |
| Tap set 5” | 13      |
| Tap set 6” | 14      |



Pumps fulfil requirements of the machine directive.

## 1. Description

The slurry pump is operated by an electric motor and is designed for operation in a primary tank, where it can be used for back washing in slurry ducts, and for subsequent pumping over to storage tank. The pump is pulling by means of a screw slurry in from the top of a pump house, and is therefore especially suitable for thick cattle slurry with relatively long straw.

## 2. Installation manual

Installation of the pump in a primary tank.

a) The pump is placed in such a way that the pump house is located **approx. 25 cm** from the edge. If a pump is equipped with a movable blender the pipe stop shall point towards the center of the tank (see Fig. 1). If the pump is equipped with a fixed blender the stub shall point along the wall of the tank (see Fig. 2), so that slurry can be pumped around and this way ensure good mixing in the tank.

b) When the pump is submerged in the tank it must be firmly fixed with pump pipes and axle cover pipe to a cover which is fixed in the primary tank.

### Connection of electric motor:

Electrical installation and connection of motor must be carried out by an authorised electrician. Star/delta switch shall be mounted.

An electrician must make sure that voltage is at least 380 V, and that all phases are intact. If the voltage is too low the relay will disconnect due to excess consumption. If one phase is missing the motor will shortcircuit, which is not covered by warranty.

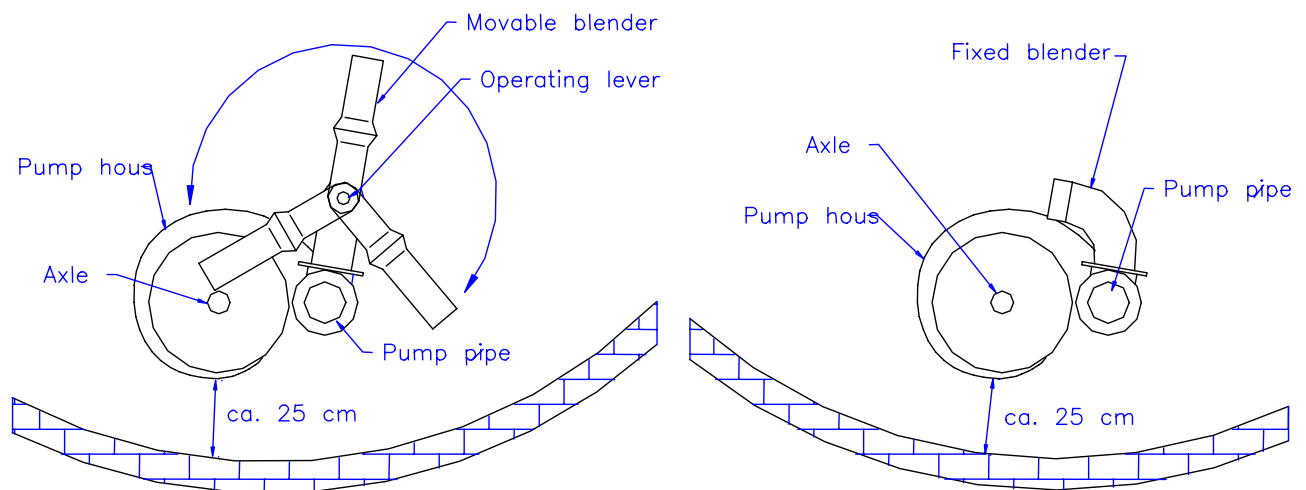


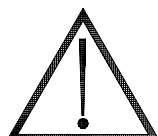
Fig.1 Pump with a movable blender

Fig.2 Pump with a fixed blender

### **3. Operating instructions**

Slurry pump must never run dry. Therefore be attentive to the slurry level in the tank when the pump is running. The pump can never completely empty the tank unless the tank is equipped with a pump sump, as the pump suction level is positioned 20-25 cm above the bottom axle (pos. 36, p. 8) of the pump house.

Draw bar to the blender tap shall be in the lowest position during pumping, and in the highest position during stirring/mixing.



### **4. Safety instructions**

\* Shielding of coupling between the electric motor and pump axle shall always be mounted when the pump is in operation.

\* During technical inspection or reparation the pump shall be lifted out of the tank by means of a crane or similar device. The power is disconnected, and the pump is lifted out of the motor console (see pos. 2 on p. 8).

### **5. Maintenance**

(Position numbers refer to spare parts drawing on page 8)

#### **Technical inspection**

Inspection of the pump should be carried out once a year.

Pump is lifted up, the pump house is disassembled and the rotor is examined for bent wings or extreme wear. Bottom bearing (pos. 31-33) and supporting bearings (pos. 23-24) are inspected, and replaced if they are worn out.

#### **Lubrication:**

Bottom bearings and supporting bearings are lubricated by slurry and therefore do not require any other lubrication.

### **6. Fault finding**

### **Operation stop**

The pump is lifted up, and the pump house is examined for foreign elements. Check if the rotor wings are damaged.

### **Insufficient pump capacity**

Check if the pump axle is rotating in correct direction. The pump axle and rotor shall rotate “counterclockwise” when you look down in the tank. Rotation direction is most easily checked by observing the ventilator of the electric motor, when the latter is shut off.

### **Pump is vibrating**

The pump is lifted up. If alien substances have damaged the rotor it will become unstable, resulting in a very rapid wear of bearings, cover and axle.

### **Motor shield shuts off**

Could be caused by very thin slurry composition, and thus the pump suffers from overloading.

## **7. Technical specification**

|   | <b>15 HK</b> | <b>20 HK</b> | <b>25 HK</b> | <b>30 kW</b> |
|---|--------------|--------------|--------------|--------------|
| Motor rot./min.                         | 1440         | 1440         | 1440         | 1440         |
| Rotor rot./min.                         | 1440         | 1440         | 1440         | 1440         |
| Capacity (l/min) at 2,5 m pressure head | 3400         | 4500         | 5600         | 5300         |
| Voltage                                 | 380 V        | 380 V        | 380 V        | 380 V        |
| Power consumption                       | 22 Amp.      | 30 Amp.      | 34 Amp.      | 54 Amp.      |
| Pre-protection                          | 36Amp.       | 50 Amp.      | 50 Amp.      | 80 Amp.      |
| Weight (*)                              |              |              |              |              |
| Sound pressure level (**)               | 80 dB        | 80 dB        | 80 dB        | dB           |

\*) Weight refers to pumps made for 2,50 meter tankdepth

\*\*\*) Pump's A – weighted sound pressure level is measured under normal operation in a primary tank in a distance of 1 meter from the electric motor surface and in a height of 1,60 m. from the cover.

## **8. Reclamation – and warranty conditions**

KIMADAN A/S extends the reclamation right for material and structural errors on KIMADAN machinery within the period of 12 months. Parts, which within the validity of a warranty period become distinctively, defect due to material or structural errors are replaced upon approval by KIMADAN A/S, and defect parts returned Franco-works.

The condition for validity of this warranty is that damage is reported to KIMADAN A/S within 8 days from the day of detection of defect. Parts that are not produced by KIMADAN A/S (e.g. rubber parts, cone belts, motors and other standard parts) are covered by supplier warranty. Warranty does not cover wearing parts. The warranty is annulled in cases of insufficient maintenance, insufficient lubrication or such, and in case of use of other parts than those produced or officially sold by the fabric.

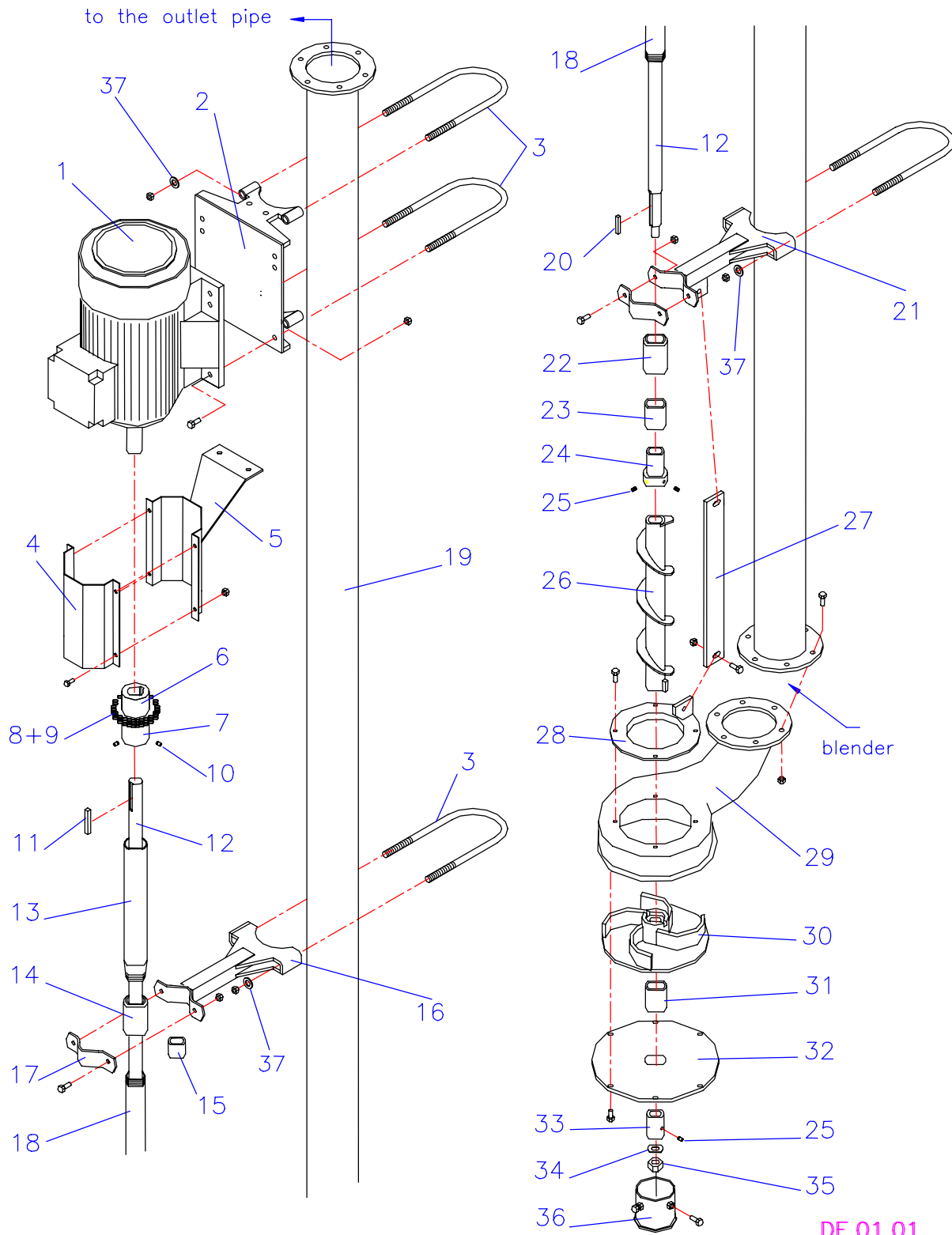
KIMADAN A/S does not compensate for installation of replaced parts, just as the fabric is not liable for claims such as e.g. loss of profits, because the buyer had to dispense with the operation of the machine until the error was repaired, or because the error reduced the capacity of the machine.

**Complaints must be addressed to:** Service department

| Pos.   | Betegnelsen                            | Antal    | Del. nr. |
|--------|--|----------|----------|
| 1      | Electric motor ( 15 HP )               | 1        | 111765   |
|        | - ( 20 HP )                            | 1        | 111770   |
|        | - ( 25 HP )                            | 1        | 111775   |
| 2      | Motor console ( 15 - 20 HP )           | 1        | 140006   |
|        | - ( 25 HP )                            | 1        | 140126   |
| 3      | U – clamp 5”                           | 4        | 111700   |
| 4      | Shield                                 | 1        | 140020   |
| 5      | Shield with mounting plate             | 1        | 140022   |
| 6      | Coupling, motor ( 15 - 20 HP )         | 1        | 140080   |
|        | - - ( 25 HP )                          | 1        | 140081   |
| 7      | Coupling, axel ( 15 - 20 HP )          | 1        | 140075   |
|        | - - ( 25 HP )                          | 1        | 140076   |
| 8      | Roller chain                           | 1        | 140061   |
| 9      | Master link                            | 1        | 140062   |
| 10     | Screw M10x12                           | 4        | 51012    |
| 6 - 10 | Complete coupling ( 15 - 20 HP )       | 1        | 140070   |
|        | - - ( 25 HP )                          | 1        | 140071   |
| 11     | Feather key 10x10x65                   | 1        | 116083   |
| 12     | Axel (L= tank depth + 30 cm)           | <u>1</u> | 140***   |
| 13     | Cover pipe etc. ( tank depth = 2,0 m ) | 1        | 140121   |
|        | - - ( tank depth > 2,0 m )             | 1        | 140026   |
| 14     | Support bearing                        | 1        | 117001   |
| 15     | Sleeve                                 | 1        | 140039   |
| 14+ 15 | Support bearing w/sleeve               | 1        | 140028   |
| 16     | Support bracket 5” - 2”                | 1        | 140111   |
| 17     | 2” clamps                              | 2        | 127022   |
| 18     | Cover pipe, lower                      | 1        | 140***   |
| 19     | Pump pipe 5”                           | 1        | 112***   |
| 20     | Feather key 8x8x50                     | 1        | 506053   |
| 21     | Support bracket 5” - 2” w/fittings     | 1        | 140116   |
| 22     | External support bearing               | 1        | 140045   |
| 23     | Sleeve                                 | 1        | 140040   |
| 24     | Internal support bearing for screw     | 1        | 140043   |
| 25     | Screw M8x12                            | 3        | 50812    |
| 26     | Screw                                  | 1        | 140002   |
| 27     | Contra-blade                           | 1        | 140091   |
| 28     | Inlet pipe ( 15 HP )                   | 1        | 140031   |
|        | - ( 20 HP )                            | 1        | 141033   |
|        | - ( 25 HP )                            | 1        | 141035   |
| 29     | 5” Pump house                          | 1        | 140012   |
| 30     | Rotor, ( 15 HP )                       | 1        | 140050   |
|        | - , ( 20 HP )                          | 1        | 140051   |
|        | - , ( 25 HP )                          | 1        | 140052   |
| 31     | Extern. Support bearing                | 1        | 140042   |
| 32     | Bottom plate, pump house               | 1        | 140016   |
| 33     | Intern. Bottom support                 | 1        | 140041   |
| 34     | 20 mm plate                            | 1        | 116081   |
| 35     | 20 mm check nut                        | 1        | 506073   |
| 36     | Bottom cover                           | 1        | 140047   |
| 37     | 16 mm plate                            | 8        | 70416    |

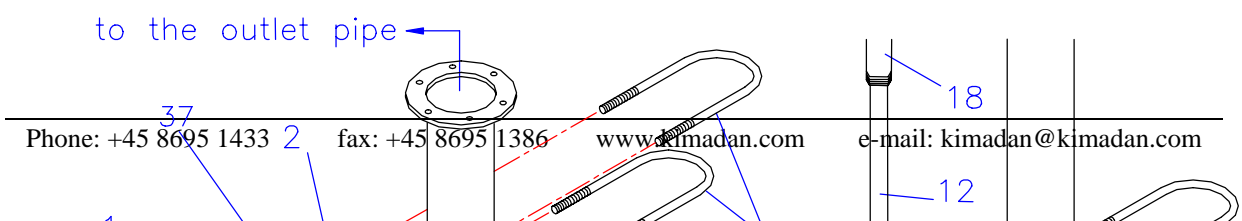
\* ) Item nr. for pos. 12 + 18 + 19, and the length of these spare parts depends on the tank depth.





| PUMP SECTION, 1400 EL. - 6" |   | DE.01.01a |          |
|-----------------------------|---|-----------|----------|
| Pos.                        | Designation                             | Quantity  | Part no. |
| 1                           | Electric motor (30 kW)                  | 1         | 111785   |
| 2                           | Motorconsole (30 kW)                    | 1         | 140008   |
| 3                           | U-clamp 6"                              | 5         | 113700   |
| 4                           | Shield                                  | 1         | 140020   |
| 5                           | Shield w/ mounting plate                | 1         | 140022   |
| 6                           | Coupling, motor (30 kW)                 | 1         | 140084   |
| 7                           | Coupling, axel (30 kW)                  | 1         | 140079   |
| 8                           | Roller chain                            | 1         | 140066   |
| 9                           | Master link                             | 1         | 140067   |
| 10                          | Screw M10x12                            | 4         | 51012    |
| 11                          | Feather key 10x10x65                    | 1         | 116083   |
| 12                          | Axel (length = tank depth + 30 cm)      | 1         | 140***   |
| 13                          | Cover pipe, upper ( tankdepth = 2,0 m ) | 1         | 140121   |
|                             | - - ( tankdepth > 2,0 m )               | 1         | 140026   |
| 14                          | Support bearing                         | 1         | 117001   |
| 15                          | Sleeve                                  | 1         | 140039   |
| 14 + 15                     | Support bearing w/sleeve                | 1         | 140028   |
| 16                          | Support bracket, 6" - 2"                | 1         | 140113   |
| 17                          | 2" clamps                               | 2         | 127022   |
| 18                          | Cover pipe, lower                       | 1         | 140***   |
| 19                          | Pump pipe, 6"                           | 1         | 112***   |
| 20                          | Feather key 8x8x50                      | 1         | 506053   |
| 21                          | Support bracket 6" - 2" w/fittings      | 1         | 140118   |
| 22                          | Extern support bearing                  | 1         | 140045   |
| 23                          | Sleeve                                  | 1         | 140040   |
| 24                          | Intern. Support bearing f/screw         | 1         | 140043   |
| 25                          | Screw M8x12                             | 3         | 50812    |
| 26                          | Screw                                   | 1         | 140003   |
| 27                          | Contra blade                            | 1         | 140094   |
| 28                          | Inlet pipe ( 30 kW )                    | 1         | 140036   |
| 29                          | 6" Pump house ( 30 kW )                 | 1         | 140015   |
| 30                          | Rotor, ( 30 kW )                        | 1         | 140053   |
| 31                          | Extern. Support bearing                 | 1         | 140042   |
| 32                          | Bottom plate pump house                 | 1         | 140016   |
| 33                          | Intern. Bottom support                  | 1         | 140041   |
| 34                          | 20 mm plate                             | 1         | 116081   |
| 35                          | 20 mm check nut                         | 1         | 506073   |
| 36                          | Bottom cover                            | 1         | 140047   |
| 37                          | 16 mm plate                             | 8         | 70416    |

\* ) Item no. for pos. 12 + 18 + 19, and length of these spare parts depends on the tank depth.





| MIXER 5" - 6" (top inlet) |                              | BL.06.01 |               |
|---------------------------|------------------------------|----------|---------------|
| Pos.                      | Designation                  | Quantity | Part no.      |
| 1                         | Tap set , 5" - Steel cone    | 1        | 118016        |
|                           | - , 6" - Steel cone          | 1        | 118070        |
| 2                         | Collar seal, 3 mm 5"/6"      | 1        | 111081/113081 |
| 3                         | Check nut, 10 mm             | 21       | 036810        |
| 4                         | Bolt M10x30                  | 12       | 571030        |
| 5 *                       | Drag bar for blender tap     | 1        | 128***        |
| 6                         | Bolt M10x35                  | 13       | 571035        |
| 7                         | D – blender-bend, 5"         | 1        | 119003        |
|                           | D – blender-bend, KIMADAN    | 1        | 119003K       |
| 8                         | B – blender bend             | 1        | 119001        |
|                           | B – blender bend, KIMADAN    | 1        | 119001K       |
| 9                         | Bolt M12x20                  | 2        | 051220        |
| 10                        | Split washer 12 mm           | 4        | 070210        |
| 11                        | D - blender – pivot pipe, 4" | 1        | 139005        |
|                           | - - , 5"                     | 1        | 139006        |
| 12                        | Bolt M12x30                  | 2        | 051230        |
| 13                        | D – blender – flush pipe, 4" | 1        | 139007        |
|                           | - - , 5"                     | 1        | 139008        |
| 14                        | Coupling rod                 | 1        | 139009        |
| 15 #                      | Operating lever, 1"          | 1        | 139***        |
| 16                        | T - bolt M10x25              | 2        | 119014        |
| 17                        | Bolt M10x20                  | 1        | 571020        |
| 18                        | Pipe button                  | 1        | 119017        |
| 19                        | Hand grip                    | 1        | 119016        |
| 20                        | Pipe button                  | 1        | 119018        |
| 21                        | Lock fittings 5"             | 1        | 119012        |
|                           | - , 6"                       | 1        | 119013        |
| 22                        | Washer, 10 mm                | 4        | 31710         |
| 23                        | Clamps 5"                    | 2        | 112095        |
|                           | - 6"                         | 2        | 114095        |
| 24                        | Hand grip                    | 1        | 118025        |
| 25                        | Clamps part w/eye, 5"        | 1        | 118022        |
|                           | - - , 6"                     | 1        | 118023        |

\*) Drag bar length (in cm) is determined by the last 3 digits of the spare part item no..

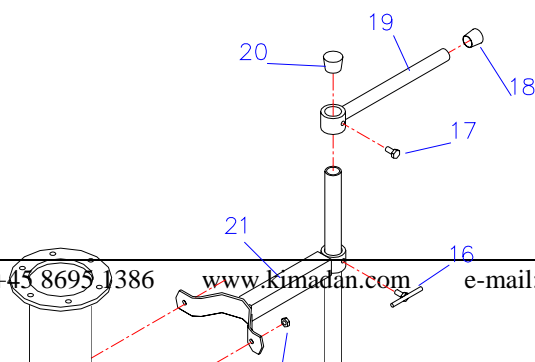
Length = tank depth + 10 cm.

Ex. : Tank depth = 300 cm, pos.27 : Item No. 128310

#) Operating lever ( in cm ) is determined by the last 3 digits of the spare parts item no.

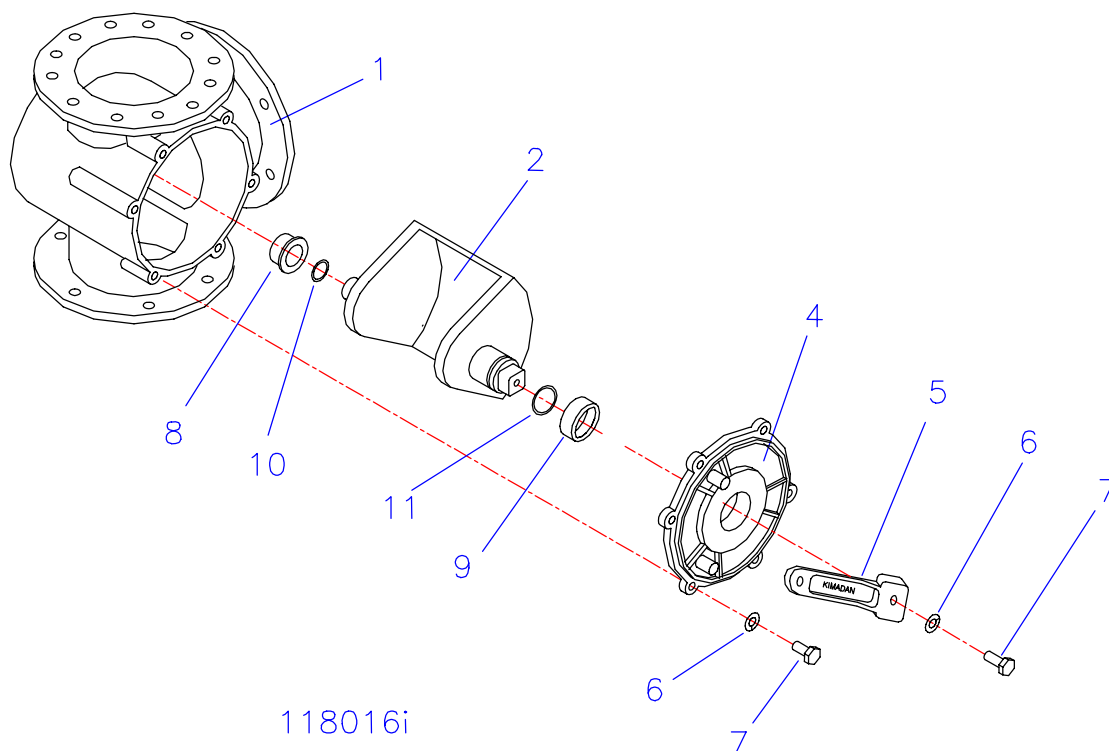
Length = tank depth - 25 cm.

Ex. : Tank depth = 300 cm, pos.18 :Item no. 139275



| <b>TAP SET 5"</b> |                      | <b>118016i</b> |          |
|-------------------|----------------------|----------------|----------|
| Pos.              | Designation          | Quantity       | Part no. |
| 1 - 8             | Tap set 5", complete | 1              | 118016   |
| 1                 | Tap house            | 1              | 118017   |

|    |                                      |   |        |
|----|--------------------------------------|---|--------|
| 2  | Closure plug                         | 1 | 118012 |
| 4  | Cover                                | 1 | 118007 |
| 5  | Arm                                  | 1 | 118013 |
| 6  | Split washer 10 mm                   | 7 | 070210 |
| 7  | Bolt M10x25                          | 7 | 571025 |
| 8  | Bearing                              | 1 | 350105 |
| 9  | Bearing                              | 1 | 118011 |
| 10 | "O" ring $\varnothing 20 \times 2.5$ | 1 | 350107 |
| 11 | "O" ring $\varnothing 30 \times 2.5$ | 1 | 118018 |



| <b>Tap set 6"</b> |                      | <b>118070i</b> |          |
|-------------------|----------------------|----------------|----------|
| Pos.              | Designation          | Quantity       | Part No. |
| 1 - 8             | Tap set 6", complete | 1              | 118070   |
| 1                 | Tap house            | 1              | 118071   |

|    |                                      |   |        |
|----|--------------------------------------|---|--------|
| 2  | Closure plug                         | 1 | 118073 |
| 4  | Cover                                | 1 | 118072 |
| 5  | Arm                                  | 1 | 118013 |
| 6  | Split washer 10 mm                   | 4 | 070210 |
| 7  | Bolt M10x35                          | 4 | 571035 |
| 8  | Bearing                              | 1 | 350105 |
| 9  | Bearing                              | 1 | 118011 |
| 10 | O – ring $\varnothing 20 \times 2.5$ | 2 | 350107 |
| 11 | O – ring $\varnothing 30 \times 2.5$ | 2 | 118018 |

