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## General Safety Instructions

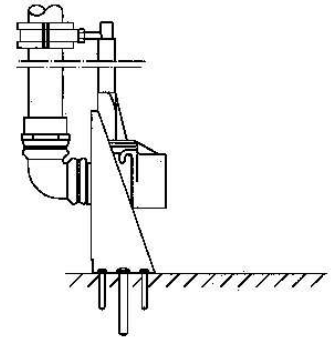
### Application

### Electrical Connection

### Installation

### Maintenance

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## Guide rail system GR 32/1

You have bought a Jung Pumpen product and therefore purchased quality and performance. Guarantee this achievement by an installation according to the operating instructions so that our product can meet your demands to your full satisfaction. Please note that damages as a result of poor installation will affect the guarantee.

For this reason please follow the advice of the operating instructions.

Like any other electrical appliance the operation of this product can fail by electrical failure or technical faults. It is wise to always consider standby pumps, emergency generator and a control unit fitted with mains independent alarm.

# Operating Instructions

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## General Safety Instruction

This operation manual gives basic instructions that should be followed carefully during installation, operation and maintenance. It is essential that this manual is carefully read by the responsible personnel/operator before assembly and commissioning. It is always to be kept available at the installation site.

## Identification of safety instructions in the operating manual

Safety instructions given in this manual non-available with which would affect safety are identified by the following symbol:



General danger for personnel



Dangerous voltage



Danger for machine and function

It is imperative that signs affixed to the machine, e.g.

- rotation arrow
- fluid connection symbols
- data / approval plate

be observed and kept legible.

## Qualification of personnel

An authorized (certified) electrician and mechanic shall carry out all work. Scope of responsibility and supervision of the personnel must be exactly defined by the plant operator. If the staff does not have the necessary knowledge, they must be trained and instructed, which may be performed by the machine manufacturer or supplier on behalf of the plant operator, moreover, the plant operator is to make sure that the contents of the operating manual are fully understood by the personnel.

## Hazards in the event of non-compliance with the safety instructions

Non-compliance with the safety instructions may produce a risk to the personnel as well as to the environment and the machine and results in a loss of any right to claim damages or compensation. For example, non-compliance may involve the following hazards:

- Failure of important functions of the machine/plant
- Failure of specified procedures of maintenance and repair
- Exposure of people to electrical, mechanical and chemical hazards
- Endangering the environment owing to hazardous substances being released.

## Safety regulations for owner / operator

All safety instructions contained in this manual, all relevant national and local health and safety codes and any other service and safety instructions issued by the plant operator shall be complied with.

## Safety instructions relevant for operation

If hot or cold machine components involve hazards, they must be guarded against accidental contact.

Guards for moving parts (e.g. coupling) must not be removed from the machine while in operation.

Any leakage of hazardous (e.g. explosive, toxic, hot) fluids (e.g. from the shaft seal) must be drained away so as to prevent any risk to persons or the environment. Statutory regulations are to be complied with. The pumping station must be kept tidy and in good condition.

Hazards resulting from electricity are to be prevented (see for example, the national-specifications or the regulations of your local electricity supply company.)

## Safety instructions relevant for maintenance, inspections and assembly work

It shall be the plant operator's responsibility to ensure that all maintenance, inspection and assembly work is performed by authorized and qualified personnel who have adequately familiarized themselves with the subject matter by studying this manual in detail.

Any work on the machine shall only be performed when it is at a stand-still, it being imperative that the procedure for shutting down the machine described in this manual be followed.

Pumps and pump units which convey hazardous media must be decontaminated. All waste emissions such as used oil must be appropriately disposed of, oil spills must be cleaned up and emissions to the environment must be reported. On completion of work all safety and protective facilities must be reinstalled and made operative again.

Prior to restarting the machine, the instructions listed under "Electrical Connection" and "Installation" are to be observed.

## Unauthorized alterations and production of spare parts

Any modification may be made to the machine only after consultation with the manufacturer. Using spare parts and accessories authorised by the manufacturer is in the interest of safety. Use of other parts may exempt the manufacturer from any warranty or compensation claims.

## Unauthorized modes of operation

The reliability of the machine delivered will be only guaranteed if it is used in the manner intended, in accordance with clause 1; of this manual: The limit values specified in the data sheet must under no circumstances be exceeded.

## Warranty claim

Jung Pumpen pumps are long living, high quality products with expected reliable operation. However, should the need arise for a warranty claim, please contact your Jung Pumpen distributor.

# Operating Instructions



Please pay attention to the following regulations at installing the pump(s) or ask your qualified electrician / distributor.

- regulations for electrical installations (in Germany: VDE 0100, VDE 0165)
- regulations for prevention of accidents in sewage technical installations (in Germany: GUV 7.4, GUV 17.6)
- guidelines for explosion protection (in Germany: GUV 19.8)
- electrical installations in explosion hazardous areas (in Germany: Elex V)

## Safety precautions

In order to minimize the risk of accidents in connection with the service and installation work, the following rules should be followed:

- Never work alone. Use a lifting harness, safety line and a respirator as required. Do not ignore the risk of drowning.
- Make sure there are no poisonous gases within the work area.
- Check the explosion risk before welding or using electric hand tools.
- Do not ignore health hazards. Observe strict cleanliness.
- Bear in mind the risk of electrical accidents.
- Make sure that the lifting equipment is in good condition.
- Provide a suitable barrier around the work area, e.g. guard rail
- Make sure you have a clear path of retreat.
- Use safety helmet, safety goggles and protective shoes.
- All personnel who work with sewage systems must be vaccinated against diseases to which they may be exposed.
- A first-aid kit must be close at hand.
- Note that special rules apply to installation in explosive atmosphere.

Follow all other health and safety rules and local codes and ordinances

## Electrical connection



Following works should only be done by qualified and authorized electricians.

Jung Pumpen disclaims all responsibility for work done by untrained or/and unauthorized personnel.



Heed operating voltage !

(see name plate and additional labels)

- Take out the main fuses to isolate the mains supply from the control unit before repairs or any other works and make sure it cannot be energized again.
- If the pump is equipped with automatic level control, there is a risk of sudden restart.
- Before starting check the efficiency of the protective arrangements of the pump and the monitoring equipment. Failure to heed this warning may cause a lethal accident.
- Do not put the lead ends into water! Irruption of water may cause malfunctions.

- If persons are likely to come into physical contact with pump or pumped media, the earthed (grounded) socket must have an additional connection to an earth- (ground) fault protection device (GFI).
- When pumping near a lake, a jetty, a pond etc. a safety distance of at least 20 m between the person and the pump is applicable. Do not place the pump directly in a pool. Observe the special safety regulations if used in connection with swimming pools.
- Use the pump only in accordance to the data stated on the pump's plate resp. in the technical data on page 4.



**WARNING**

Special rules apply to installation in explosive atmosphere.

Intrinsically safe circuits (Exi) are normally required for the automatic level control system by level regulators.

- A Jung Pumpen control unit gives you the certainty of design under safety regulations and an acceptance of work without any problems.
- Level sensors must be used at low voltage. For further details please see data sheet / o.m. Local rules may specify otherwise.
- To prevent the pump from blocking after long rest periods an additional daily trial run unit can be installed.
- Connection only to a mains supply installed in accordance to the local regulations. For fusing use only 16 A slow fuses or automatic circuit-breaker with C or D characteristic. (former G and K)
- Because the motor's nominal voltage is measured at the terminal board of the pump, please consider the voltage drop of long supply cables.
- The motors of the three-phase a.c. pumps must be protected by a suitable overcurrent release. Adjustment as following:  
direct start: + 10% of the nominal current  
star-delta start: (nominal current x 0,58) + 10 %  
If the protective arrangement has triggered, eliminate the trouble
- Replace the cable if the cable jacket is damaged. Do not pinch the cable or pull it around sharp bends.
- Always install the control unit in a dry and well ventilated room above the backpressure level. Never install the control unit in the sump !

## Earthing

For safety reasons, the earth conductor should be appr. 50 mm (2 inch) longer than the phase conductors. If the motor cable is jerked loose by mistake, the earth conductor should be at last conductor to come loose from its terminal. This applies to both ends of cable. Ensure the correct earthing of the pump and the control unit.

# Operating Instructions

## Description

This manual applies to a Jung Pumpen guide rail system GR 32 with guide tube bracket.

## Installation

### WARNING

Seal all threads with Teflon strap or hemp packing. The pump discharge must be sealed with hemp and putty.

- Put the base of the duckfoot bend [1] on the sump bottom and use it as a template for the bore holes. Deeper sumps should be equipped with a concrete plate provided by customer. For an unproblematical installation a minimum distance of 95 mm to the wall of the sump is needed.
- Drill the 4 holes (picture 1) and put in the S6 plugs.
- Fasten the base with the sheet metal screws [6]. If the guide rail system will be used in connection with the U 3 K Niro series the base can be installed with the 2 hexagon head cap wood screws 8 x 60 and the 2 S10 plugs.
- Screw the 90° elbow (pump accessory) into the coupling unit [4].
- Install a reflux valve above the sump water level (e.g. Jung Pumpen swing type check valve 09739) in the customer provide 1¼" pressure tube. Cut the pressure tube into the correct length and screw it into the elbow.  
PVC pipe should be glued into a 1¼" - 40 pipe nipple to connect it with the elbow.
- Push the spacer block [2] into 43 mm relief of the base [1] if you want to use a pump of the U 6 series. Insert the pre-assembled pipework in the coupling unit [4]. Now push coupling unit up to the limit stop into the duckfoot bend.
- Connect the pipework elastically.
- Screw the coupling claw [3] on the pump discharge, straighten it vertically and check that it is fastened correctly.

### WARNING

Fasten the coupling claw only by hand ! (fingertight fastening)  
At using a pipe or a pump wrench the coupling claw can be damaged !

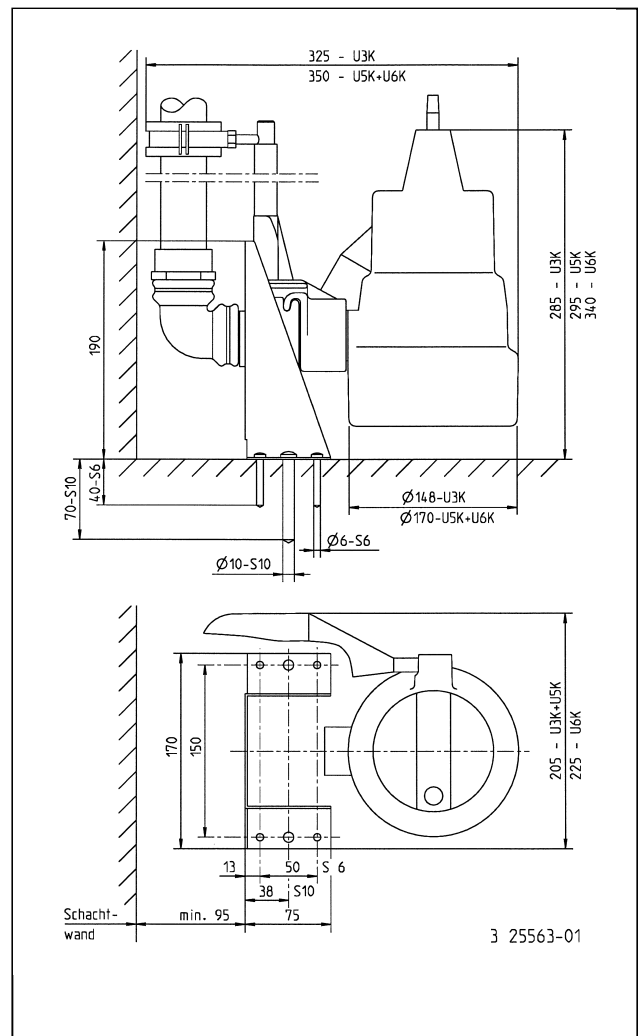
- To lift and lower the pump use the rope [13] and tighten it at the handle. The loose end can be fixed at the pipework or the sump wall.
- Use a ½" zinc coated tube (DIN 2440) as guiding tube. Screw the hexagon nut [12] on tube bracket [10] and fasten it at the pipe clamp [11].  
Now the whole unit can be mounted with the guiding tube at the pipework. To extend the guide tube for very deep sumps, additional guide brackets (code.-No. 28314) can be installed.
- Lower the pump with the rope and couple it.

### WARNING

When lowering the pump, it must be opposing to the pipework.  
If the pump will be lowered out-of-line it may will not couple perfectly. A tiny jerk will improve the closeness between coupling claw and coupling unit.

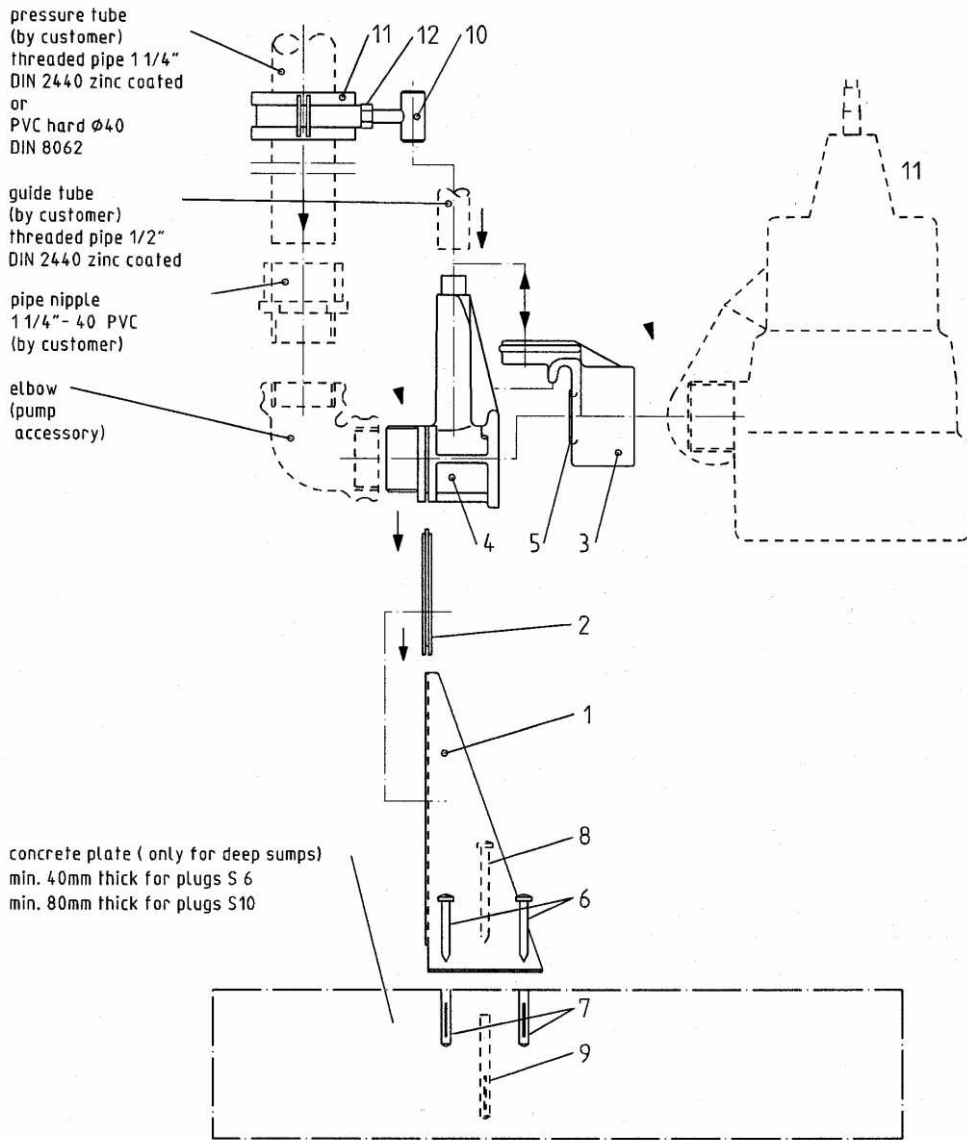
- Carry out the electrical connection of the pump.

Picture 1: dimensions



# Operating Instructions

Picture 2: Parts list and installation in deep sumps



3 23909-03

## Spare parts list

Position	Code-No.	Description	Qty.
1	25308	base GR 32/1	1
2	25307	spacer block U 6 K	1
3	23920	coupling claw	1
4	23921	coupling unit	1
5	17428	O-ring 24 x 5	1
6	11870	sheet metal screw 4,8 x 38	4
7	12599	plug S 6	4
8	22245	hexagon head cap wood screws 8 x 60	2
9	13148	plug S 10	2
10	23760	tube bracket 1/2"	1
11	14221	pipe clamp 1/2"	1
12	03102	hexagon nut M 8	1
13	24256	rope ø 3 mm, 5,0 m long	1
--	23814	guide tube bracket completely (03102, 14221, 23760)	-

By ordering spare parts indicate type of the pump and the part number.