
General Safety Instructions

Application

Electrical Connection

Installation

Maintenance



Sewage disposal unit

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 gurantee.

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

Like any other electical 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.

compli 400	ID-No. 00637 / 07
compli 400 E	ID-No. 09770 / 03
compli 400 S	ID-No. 00700 / 04
compli 400 SE	ID-No. 09771 / 03

General Safety Instruction

This operation manual gives basic instructions which are to be observed during installation, operation and maintenance of the pump. It is therefore imperative that this manual be read by the responsible personnel/operator prior to assembly and commissioning. It is always to be kept available at the installation site.

It is not only the general safety instructions contained under this main heading safety that are to be observed but also the specific information provided under the other main headings.

Identification of safety instructions in the operating manual

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



General danger for personnel



Danger: Electricity



Danger for machine and function

It is imperative that signs affixed to the machine, e.g. arrow indicating the direction of rotation - symbols indicating fluid connections be observed and kept legible.

Qualification and training of operating personnel.

The personnel responsible for operation, maintenance, inspection and assembly must be adequately qualified. 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. 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.

Compliance with regulations pertaining to safety at work

When operating the pump, the safety instructions contained in this manual, the relevant national accident prevention regulations and any other service and safety instructions issued by the plant operator are to be observed.

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.

Hazards resulting from electricity are to be prevented (see for example, the VDE-Specifications and the bye-laws of the local power supply utilities).

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.

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 liability.

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.

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Technical Data

Supply voltage	: 1N/PE x 230 V - 50 Hz (compli 400 E/SE)	
	: 3N/PE x 230/400V - 50 Hz (compli 400 and 400 S)	
Power input	: 1550 W, compli 400 E/SE	Power input : 1250 W, compli 400 and 400 S
Tank capacity	: appr. 50 l (11 Brit. gallons)	Protective system : IP 68 tank & pump
Max. switching frequency	: 60 / h	Max. water temperature : 1 - 40 °C

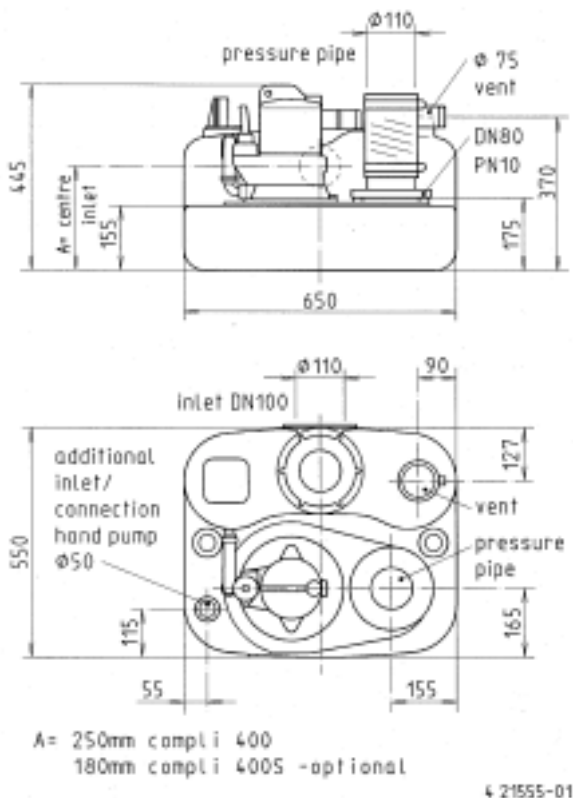
Description

Small packaged sewage disposal unit designed specifically for the disposal of sewage from single dwellings. It is extremely convenient to handle, easy to install and requires a minimum of space.

Extent of delivery

1 sewage disposal unit compli 400, 400 E, 400 S or 400 SE with already installed control unit ADZ 00 (threephase current) or ADZ 00 E (single phase current) and integrated level control. The unit comprises a polyethylene tank with a clamp fitting DN 100 for the inlet connection, an elastic pipe connector for the discharge (DN 100) and the vent pipe (DN 70), a seal sleeve for connection of a hand diaphragm pump and screws with plugs to fix the unit.

Picture 1: dimensions



Application

- The sewage disposal units of the compli 4000 series are designed for usual domestic sewage water e.g. from lavatories and waste water with usual additions as described in DIN 1986, part 3.
- Allowed temperature of pumped medium:
Continuous operation : 40 °C (S1-operation)
Intermittent operation : S3-operation 25%,
2,5 min. operation, 7,5 min. stand by

- The unit is flood-proof, but the control unit, protective system IP 44, has to be installed in a well-ventilated and dry area, safe from flooding. A high degree of humidity could damage the unit.
- Height of overflow: max. 2 m (3,2 feet), duration: max. 7 days
- The flooded pump must not freeze.
- noise emission: 70 dB (A)

Electrical connection



Heed operating voltage ! (see name plate)
Following works should only be done by qualified electricians.

- **Take out the main fuses, isolate the mains supply from the control unit or pull main plug before repairs or any other works.**
- **Before starting check the efficiency of the protective arrangements and pay attention to the following points !**
- **Do not put the plugs or lead ends into water! Irruption of water may cause malfunctions.**
- To prevent the pump from blocking after long rest periods an additional daily trial run unit can be installed.
- Connection only to a shock proof connector socket (min 10 A, compli 400 E/SE) or a CEE connector socket (min. 16 A, compli 400/400 S) installed in accordance to the local regulations.
- For fusing use only 16 A slow fuses or automatic circuit breaker with C characteristic. (former G and K)
- In case of released fuses, eliminate the trouble before re-operation.

Installation

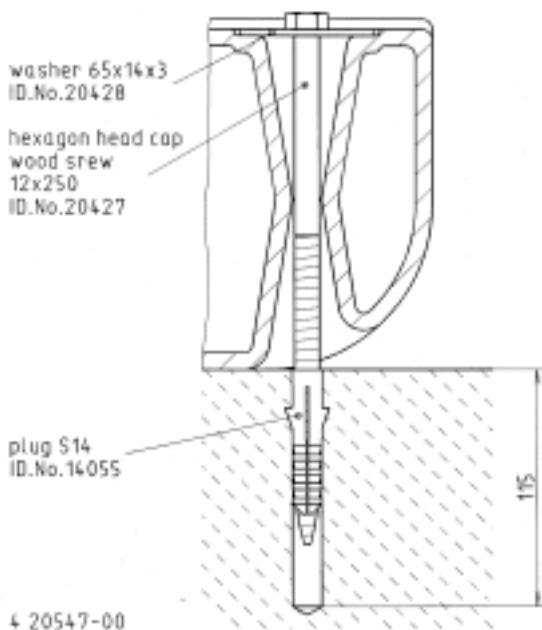
In accordance to the regulations for prevention of accidents and the DIN 1986 sewage disposal units must be installed buyoancy proof and with a necessary clearence zone to ensure easy maintenance and repairs at all parts be in consideration. The min. clearence zone must be 60 cm (2 feet) in breadth and height. The unit should be installed correspondingly to picture 5. The pressure tube must be taken in a loop over the local backpressure level and secured with a reflux valve. A sluice valve must be installed in the inlet pipe and behind the reflux valve of the pressure tube. To dewater the operational premise a pump sump with a drainage pump should be planned.

ATTENTION All screws that fasten parts on the tank, must not be screwed down with a tightening moment higher than 6 Nm.

Mounting

1. Push the unit with the clamping joint onto the inlet pipe up the limit stop. Close the sluice valve to prevent the water intake during the installation.
2. Tighten the 4 hexagon head cap screws (width across 13 mm) of the of the inlet clamping joint.
3. Mark and drill the holes for the floor fixing of the tank
4. Put the washers onto the hexagon head cap wood screws, screw the plugs slightly onto the screws and insert everything through the holes in the tank and screw it down. (see pict. 2)
5. Connect the ventilation pipe DN 70 with the elastic connector (see pict. 1)
6. Install on the discharge flange:
 - a: reflux valve (accessory)
 - b: sluice valve (accessory)
 - c: spigot flange
7. Connect the spigot flange with the elastic pipe connector to the discharge pipe

Picture 2: ground fixing of the unit



Mounting of hand diaphragm pump

1. Remove the plug of the emergency disposal sleeve. (see pict. 1)
2. Insert the plug-in seal 58/50 (ID-No. 10907).
3. Push a PVC pipe, outside \varnothing 50 mm, through the seal into the tank. The distance between the pipe end and the tank bottom must be min. 30 mm (1,2 inch).
4. Install the hand diaphragm pump on the wall in an easily accessible location and connect it to the PVC pipe.
5. Connect the discharge pipe to the pump in accordance to pict. 5.

The emergency disposal sleeve can also be used as an additional inlet instead of connecting a hand diaphragm pump.

ATTENTION If a hand diaphragm pump and an additional inlet are connected to the emergency disposal sleeve, we recommend a branch piece with 87°. The additional inlet must have a sluice valve. It must be closed when the hand diaphragm pump is used, otherwise the air traps of the additional facilities will be evacuated and air will be sucked into the diaphragm pump, and the pump will stop working. Following do not forget to open the sluice valve again.



Install the control panel in a well-ventilated and dry area, safe from flooding. A high degree of humidity could damage the unit. The panel should be mounted at a place higher than the backpressure level and should be easily accessible to facilitate checking in case of trouble.



Any electrical works should only be done by qualified electricians. Take out the main fuses or pull the main plug to isolate the mains supply from the control unit before repairs or any other works. Before starting check the efficiency of the protective arrangements and pay attention to the following points !

Alarm device

If the control unit is installed in a place where the alarm buzzer is hard to hear, an external flash light or buzzer can be installed. The max. cable length can be 250 m (273 yard) with a minimum core size of 0,75 mm². (see operating instructions of control unit)

Test run

1. Screw off the the cleansing hole cover from the tank.
2. Open the inlet and outlet sluice valves.
3. Connect the mains supply. Check the sense of rotation (see operating instructions of control unit)
4. Fill the tank up to the switch on position of the integrated level control until the starting point is reached.
5. The pump starts working and drains the tank. Check the pump process through the inspection hole. Close the inspection hole afterwards. Do not forget the seal. Check the tightness of the whole installation by several test runs.

Checking the alarm system

1. Lift the float of the level control through the open cleansing hole slowly by hand beyond the starting point, until the alarm system switches on.
2. If the trial run and the alarm check was satisfactory let the float go and close the inspection hole. Do not forget the seal.

Operation

The sewage disposal unit operates automatically, depending on the water level in the tank. A test run can be started by actuating the test run push button. The operation is signalled by a green LED.

Stopping operation

Pull the main plug, isolate the main supply or take out the main fuses. If the inflow cannot be stopped it is wise to consider an emergency generator for power failures. The tank can also be drained by an additional hand diaphragm pump in case of power failures or other malfunctions.

Inspection

A monthly test run and check of the unit ensures the reliable operation and also the tightness of the pressure pipes, valves and connections.

Maintenance



Take out the main fuses or pull the main plug to isolate the mains supply from the control unit before repairs or any other works.

Check the cable on mechanical or chemical damages.

ATTENTION The half-yearly service and arrangements of maintenance should be carried out by qualified specialists. We recommend the servicing by an approved manufacturer's agent.

The servicing should contain:

1. Checking the tightness of the whole installation including flexible connections, valves
2. Checking of valves including adjusting and greasing if necessary.
3. Opening and cleaning of the reflux valve, checking of valve face and ball or flap.
4. Cleaning of the pump and the pressure outlet, checking of impeller and bearing clearance.
5. Checking the oil chamber and oil-level (if oil chamber exists)
6. Cleaning of the tank, if necessary in accordance to special requirements.
7. Checking of the electrical system, voltage, sense of rotation (3-phase units only), current consumption of each motor, motor protection and adjusting value, test button, level control and indicators.
8. Checking of tank condition.
9. Rinsing the hole installation thoroughly at least every second year.
10. Re-initiation of the unit with test run.
11. Providing a test-report with declaration of all works that have been carried out and all measured values.

Malfunctions

Pump does not run

cause: missing mains supply

remedy: check supply voltage

cause: faulty fuse (maybe too low)

remedy: check fuse and change if necessary

cause: damaged supply cable

remedy: changing of the cable gland only by qualified personnel

Pump does not run, no power failure, no alarm

cause: jammed float

remedy: close inlet sluice valve, switch off the mains supply, open the cleansing hole and move the float up and down until it moves freely

Pump does not run, no power failure, alarm is signaled and float works properly

cause: released winding thermostat because of electrical or mechanical overload of the pump. (tightend or blocked impeller, electrical motor fault)

remedy: close inlet sluice valve, switch off mains supply, empty the tank, unscrew the 4 hexagon head cap screws (part-No. 03202) on the pump base, take off the pump, check the impeller and remove blocking parts if necessary. If there is no mechanical problem the electrical fault finding should only be done by qualified electricians.

Pump runs but without / low capacity and alarm is signaled

cause: wrong phase sequenz of the mains supply or one phase is missing (result: lower or missing pump flow rate)

remedy: change two of the three leads with the phase inverter (see operating instructions ADZ 00)

cause: closed sluice valve in the discharge pipe

remedy: check sluice valve and open it

cause: clogged reflux valve

remedy: switch off mains supply, close sluice valve, open the reflux valve, check and clean it

cause: clogged pressure pipe

remedy: rinse the pressure pipe thoroughly

cause: trapped air in the spiral housing

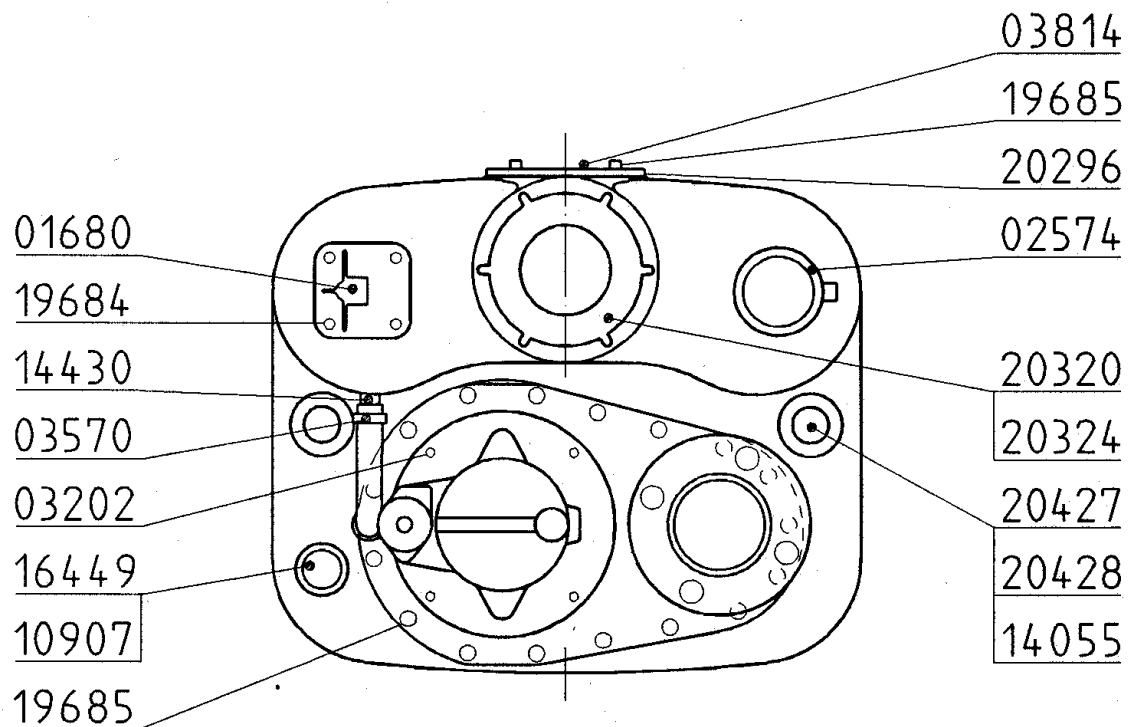
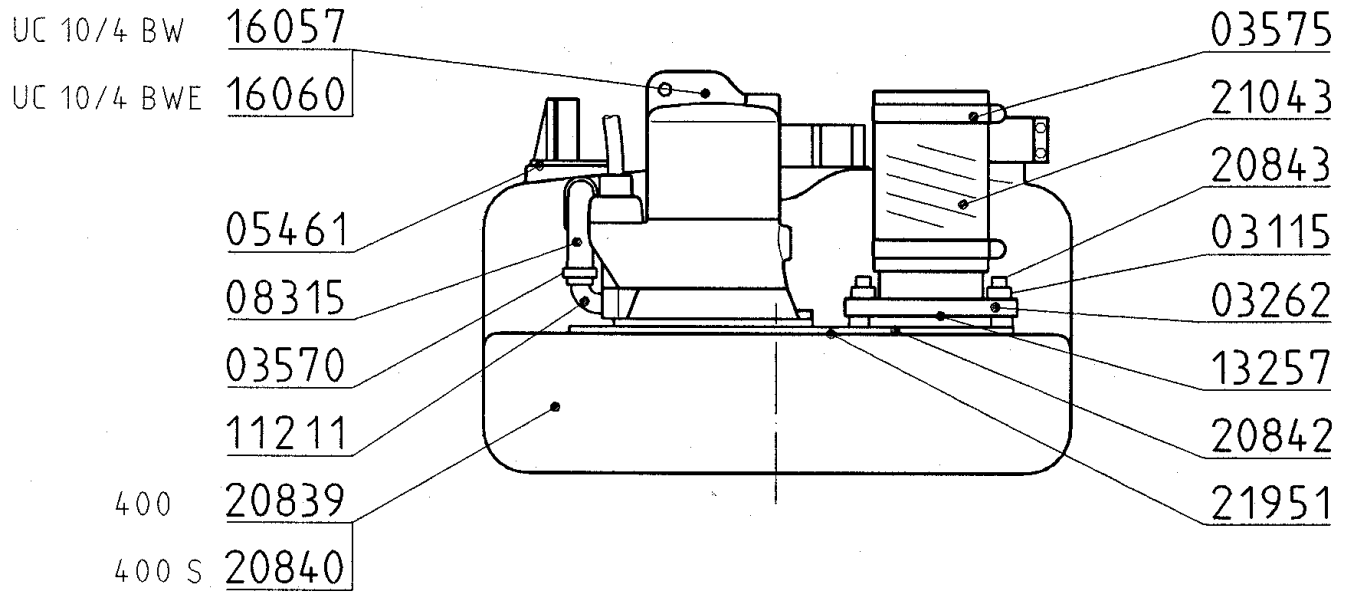
remedy: take off the deaeration hose (part-No. 08315) and clean it clean the deaeration hole in the pump and in the fitting of the tank

Unit operates too noisy at the end of operation

cause: follow up time is too long

remedy: adjust follow up time (see operating instructions ADZ ...)

Picture 3: compli 400



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Spare parts list: compli 400

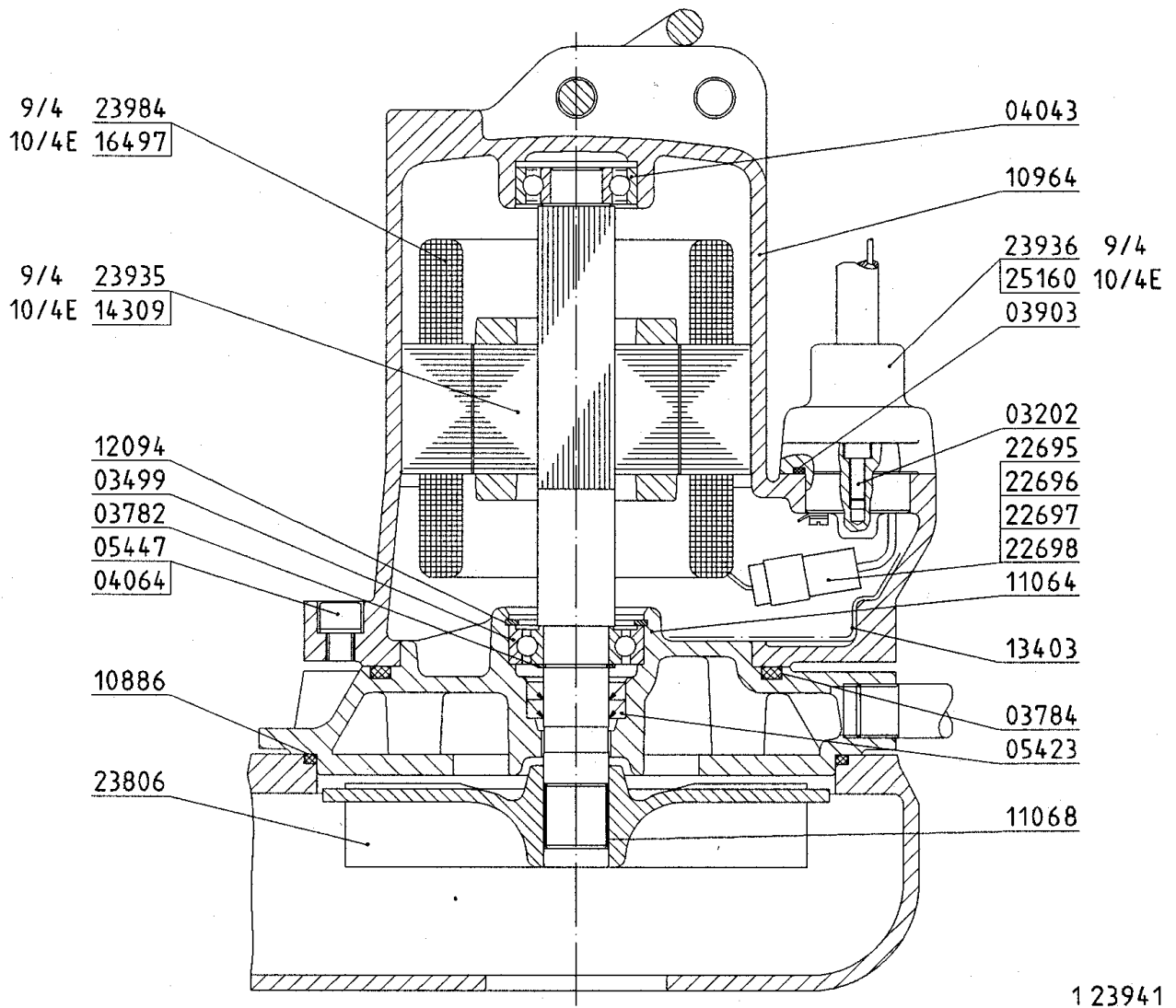
Code-No.	Description	Qty
01680	level control unit compli 100 + 400	1
02574	elastic connector with clamps	1
03115	hexagon nut M16	4
03202	hexagon socket screw M 6 x 16	4
03262	spigot flange DN 100	1
03570	hose clamp 1¼"	2
03575	hose clamp 4"	2
03814	O-ring 105 x 15	1
05461	O-ring 73 x 7	1
08315	hose Ø 20 x 160 mm	1
10907	plug in seal d 50 x D 59	1
11211	elbow ½"	1
13257	gasket DN 80, PN 10	1
14055	plug S 14	2
14430	welding nipple ½" x 30	1
16449	socket plug DN 5	1
19684	hexagon head cap screw „Plastofast“ 6 x 18	4
19685	hexagon head cap screw „Amtec“ 10 x 30	21
20296	clamping flange DN 100	1
20320	screw cap with O-ring (code-No. 20324)	1
20324	O-ring for screw cap	1
20427	hexagon head cap wood screw 12 x 250	2
20428	washer 65 x 14 x 3	1
20839	tank, compli 400	1
20840	tank, compli 400 „S“	1
20842	pump base with spiral housing	1
20843	stud M 16 x 40	4
21043	elastic connector DN 100 x 200 mm	1
21951	sealing compound „Terostat“ Ø 12 x 1150 mm	1

Replacement kits

16060	Tank pump UC 10/4 BWE/1
20947	Operating instructions for ADZ-E
23913	Operating instructions for ADZ 00
23941	Tank pump UC 9/4 BW

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

Picture 4: tank pump UC 9/4 BW (threephase current), UC 10/4 BWE (singlephase current)



Spare parts list: tank pump UC 9/4 BW (threephase current), UC 10/4 BWE (singlephase current)

Code-No.	Description	Qty	Qty
		BWE	BW
03202	hexagon socket screw, M6 x 16	2	2
03499	deep groove ball bearing 6205	1	1
03782	circlip for shaft, A 25 x1,2	1	1
03784	O-ring 142 x 6	1	1
03903	O-ring 38 x 3,5	1	1
03931	deep groove ball bearing 6204	1	1
04064	spring washer B 10, A2	2	2
05423	rotary shaft seal BA 25 x 38 x 7	2	2
05447	hexagon socket screw with M10 x 30	2	2
10886	O-ring 198 x 4	1	1
10964	stator casing	1	1
11064	end shield	1	1
11068	distance bush 25 x 25	1	1
12094	circlip for bores JV 52	1	1
13403	insulating foil	1	1
14309	rotor shaft with rotor D 90-4/75	1	-
16497	stator E 90-4/75 C	1	-
22695	plug housing for cable gland, system con1	1	1
22696	sleeve housing for cable gland, system con1	1	1
22697	round plug for cable gland, system con1	5	5
22698	round sleeve for cable gland, system con1	5	5
23806	vortex impeller 9/4 BW + 10/4 BWE	1	1
23935	rotor shaft with rotor D 90-4/ 50	-	1
23936	cable gland A3, UC 9/4 BW	-	1
23984	stator D 90-4/ 50	-	1
25160	cable gland A3, UC 10/4 BWE	1	-

Replacement kits

23864	Stator casing with motor UC 10/4 BWE, consisting of: 10964, 13403, 16497
25587	Stator casing with motor UC 9/4 BW, consisting of: 10964, 13403, 23984

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

picture 5: installation example compli 400

