



BAUER

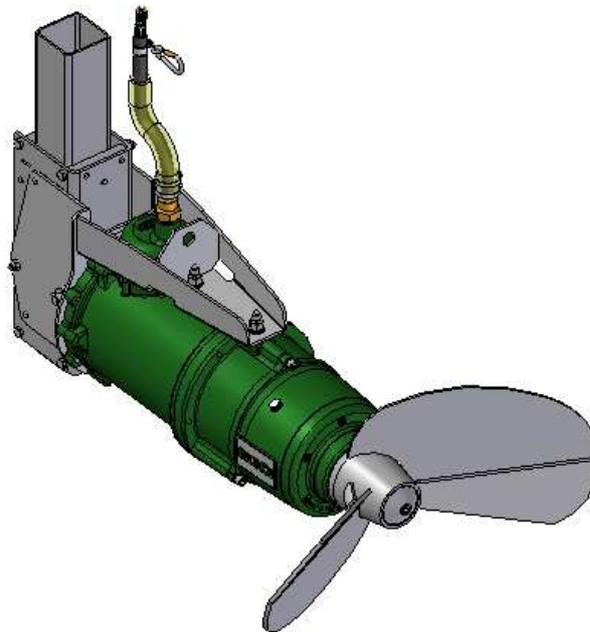
FOR A GREEN WORLD

OPERATING MANUAL

for

Submersible Motor Mixer

MSXH



*Submersible Motor Mixer
MSXH
E*



Introduction

Thank you very much for purchasing a BAUER submersible motor mixer!

We take pleasure in presenting to you a **BAUER submersible motor mixer** that features state-of-the-art technology and top quality. This manual describes how to operate and maintain your **BAUER submersible motor mixer**. For reasons of clarity and due to the many options, this manual does not contain everything down to the last detail. In particular, it cannot possibly deal with every conceivable aspect of operation and maintenance. If you need further information or if you are faced with any special problem for which this manual does not give sufficient details, please do not hesitate to contact **BAUER company** at Kowaldstraße 2, A-8570 Voitsberg for the information you need.

Please note that the contents of this operating manual do neither form part of nor alter in any way any previous or existing agreement, promise or legal relationship. Commitments on the part of **BAUER** are based solely on the respective purchase contract, which also contains the complete and only valid warranty arrangement. Said contractual terms of warranty are neither extended nor limited by the contents of the present operating manual.

All information contained in the present manual is based on the latest product details available at the time of printing.

BAUER reserves the right to change without notice, without assuming any liability!

BAUER submersible motor mixers are designed for safe and reliable performance provided they are operated in compliance with the present operating manual. In spite of the simplicity of the mixer we therefore request that you read this manual carefully before putting your **BAUER submersible motor mixer** into operation! All instructions given for handling, operating and servicing the mixer must be strictly observed. On condition that these instructions are followed the mixer will operate trouble-free to your full satisfaction for many years!

Non-observance of our instructions may cause personal injury or damage to the equipment!

This operating manual is considered an integral part of the submersible motor mixer. Suppliers of new and used submersible motor mixers are advised to put down in writing that this manual was handed over together with the mixer.

Please make this manual available to your operating personnel. You are kindly requested to state the mixer type and serial number of the submersible motor mixer in all inquiries, correspondence, warranty problems or parts orders. These details are specified on the nameplate.

We hope you will enjoy working with your BAUER submersible motor mixer!



PRODUCT DETAILS

Type designation: Submersible motor mixer

Type number: MSXH

Serial number¹ : _____

Dealer: Name: _____

Address: _____

Tel./Fax: _____

Date of delivery: _____

Manufacturer: Röhren- und Pumpenwerk BAUER Ges.m.b.H.
Kowaldstr. 2
A - 8570 Voitsberg
Tel.: +43 3142 200 - 0
Fax: +43 3142 200 -320 /-340
e-mail: sales@bauer-at.com
www.bauer-at.com

Owner or operator: Name: _____

Address: _____

Tel. / Fax: _____

Note: Please make a note of the type and serial number of your submersible motor mixer and its accessories! Be sure to specify these details every time you contact your dealer.

¹ In all warranty claims and correspondence relating to this machine it is essential to specify the complete serial number group including all letters. This applies to the machine itself and to any components involved. We cannot emphasise this point often enough.

General safety instructions

Symbols and terms



The CE symbol that has to be affixed on the machine by the manufacturer outwardly demonstrates compliance of the machine with the directives for machines and other relevant EU directives.

**WARNING!**

This “Warning” symbol refers to important safety instructions in this manual. Whenever you see this symbol be aware of possible injury hazards. Read the note following the symbol very carefully and inform the other operators accordingly.

CAUTION !

Non-observance of this instruction may cause damage to or destroy the machine or individual components.

NOTE

It is important to observe this note or condition!



This symbol is a “WARNING from dangerous voltage”

NON-OBSERVANCE may cause electric shock with harmful or even fatal consequences for the operator.

Qualified operators are persons who on account of their training, experience and instruction as well as their knowledge of relevant standards, rules, precautions to be taken for accident prevention and operating conditions, have been authorised by the person in charge of plant safety to perform the individual tasks required, and in doing so are able to recognise and avoid potential hazards. Among other things, knowledge of first-aid procedures is also required.



Product liability

As defined by the product liability law every farmer is also an entrepreneur!

According to §9 PHG (Product Liability Law), liability for damage to corporal things caused by defective products is expressly excluded. This exclusion of liability also applies to parts not manufactured by BAUER itself but purchased from external suppliers.

Non-conforming use will make expire the validity of the conformity certificate.

Duty to furnish information

Even if the customer passes on the machine later-on he is obliged to hand the operating manual on to the new receiver too. The receiver of the machine must be instructed with reference to the mentioned regulations.

Intended Use

- BAUER submersible motor mixers are built exclusively for normal use in agricultural applications, industrial facilities and biogas plants (intended use).
- Any use beyond such normal use is considered non-conforming. The manufacturer is not liable for damage resulting from such non-conforming use, the sole liability for damage from non-conforming use lies with the user.
- Intended use also includes compliance with the manufacturer's operating, maintenance and service instructions.
- The manufacturer's operating and maintenance instructions do not regard local security provisions.
- The BAUER submersible motor mixer may be used and operated only by persons who are familiar with the device and aware of the hazards involved.
- All rules relevant for accident prevention as well as any other generally valid specifications and regulations relating to safety, work medicine and traffic law must be strictly observed.
- Unauthorised modification of the machine releases the manufacturer from liability for damage resulting there from.



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1 GENERAL INSTRUCTIONS FOR SAFETY AND ACCIDENT PREVENTION

Check the machine for operational safety before every start-up.

1. In addition to the instructions contained in this manual, all specifications generally valid for safety and accident prevention must be observed, for instance when working in biogas plants: safety regulations for biogas plants!
2. The warning and instruction signs affixed to the machine give very important instructions for safe operation. Observing them serves your own personal safety!
3. Never put the machine into operation unless all guards and safety devices are completely mounted and in their proper working position!
4. Acquaint yourself with all equipment components and controls as well as their respective functions before starting to work. It is too late when the device is already running!
5. The operator's clothes should fit tightly. Avoid wearing loose clothes!
6. When handling slurry always keep in mind that the gasses produced are highly toxic and extremely explosive in combination with oxygen. Therefore, open fires, light tests, sparking and smoking are strictly forbidden!
7. Utmost care is required with regard to gasses in slurry and dung channels at open valves to the preliminary pit, before the main pit, or at cross channels. The same applies to mixing and withdrawal points when mixers or pumps are running!
8. When handling slurry always ensure sufficient ventilation!
9. Keep the machine clean to avoid fire hazards!

Tractor-driven machines

1. Before starting inspect the area around the machine (Children) ! Make sure your view is unrestricted!
2. Riding on the machine during transport is forbidden!
3. Couple the machine according to instructions and fasten it only at the specified points!
4. Be especially careful when coupling the machine to the tractor or uncoupling it!
5. Always adjust the supports in the proper position when coupling or uncoupling the machine (stability)!
6. Always mount balancing weights properly at the points provided!
7. Observe restrictions pertaining to axle load, total weight, and transport dimensions!
8. Inspect and mount all items required for transport such as lighting, warning signals and possible safety devices!



9. Mounted or trailed machines as well as balancing weights influence road behaviour, steering and braking capacity. Therefore make sure that proper steering and braking are possible!
10. Consider the projection and/or centrifugal mass of the machine when driving in curves!
11. It is forbidden to stay in the working range of the machine while it is operating !
12. Keep out of the turning and swivelling range of the machine!
13. Only operate hinged hydraulic frames when nobody is in the swivel range!
14. Externally powered machines (e.g. hydraulic) bear a crushing and shearing hazard!
15. Nobody is allowed between the tractor and the implement unless the tractor is secured by the parking brake and /or by wheel chocks
16. Hinged supports must always be folded up and secured before driving away!
17. Secure the machine and the tractor against rolling!

Tractor-mounted machines:

1. Before a machine is linked to or detached from the three-point linkage, the control device must be shifted to a position in which unintentional lifting or lowering is impossible!
2. When using the three-point linkage the linkage parameters of both tractor and attached machine must correspond, if not, they have to be matched accordingly!
3. The three-point linkage bears crushing and shearing hazards!
4. When operating the external control of the three-point linkage never step in-between tractor and the machine!
5. When the machine is in the transport position always make sure that the tractor's links are always properly secured on the sides.
6. When driving on the road with the machine lifted the control lever must be locked against lowering!

Trailed machines

1. When a machine is coupled to the draw bar make sure that the coupling point provides sufficient flexibility!



Power take-off (applies only to PTO driven machines)

1. It is not allowed to use any other types of PTO drive shafts except those prescribed by the manufacturer!
2. Drive shaft guard tube and guard cone as well as the PTO guard – also on the machine side - must be mounted and in good working order!
3. When using a PTO drive shaft always observe the specified overlap in transport and working position!
4. Never connect or disconnect the PTO drive shaft unless the PTO is stopped, the engine turned off, and the ignition key pulled out!
5. Make sure the drive shaft is always connected and secured properly!
6. Attach safety chain to keep the drive shaft guard from rotating with the shaft!
7. Before you turn on the PTO make sure that the selected tractor PTO speed corresponds with the permissible implement speed!
8. Before starting the PTO make sure that nobody is standing in the danger zone of the machine!
9. Never turn on the PTO when the engine is turned off or during a transport drive!
10. When working with the PTO nobody is allowed near the turning PTO or drive shaft!
11. Warning! The PTO shaft may continue turning due to its centrifugal mass after the PTO has been turned off!
Keep clear of the machine during this time and do not touch until the PTO shaft stands absolutely still!
12. For cleaning, greasing, or adjusting the PTO driven implement or drive shaft, PTO and engine must be switched off and the ignition key pulled out!
13. Place the disconnected drive shaft on the provided support!
14. When drive shaft has been removed put the guard on the PTO shaft!
15. If a defect occurs repair it immediately before starting to work with the machine!



Hydraulic system

1. Hydraulic system is under high pressure!
2. When connecting hydraulic cylinders and motors, make sure the hydraulic hoses are connected as specified!
3. Before coupling the hydraulic hoses with the tractor's hydraulic system make sure that the entire hydraulic system is pressureless both on the tractor and implement side !
4. Inspect the hydraulic lines at regular intervals and replace them immediately in case of defects or aging. Replaced hoses must comply with the technical specifications of the implement manufacturer!
5. When looking for leaks use only suitable equipment because of the injury hazard involved!
6. Liquids emerging under high pressure (hydraulic oil) may penetrate the skin and cause serious injuries! An injured person must see a doctor immediately! Danger of infection!
7. Before working on the hydraulic system the machine must be lowered, the system depressurised and the engine turned off!

Electric-driven implements

1. All work beyond normal maintenance of the implement should be performed only by a professional electrician!
2. Defective or broken plugs and sockets must be replaced by a professional electrician!
3. Never pull a plug out of the socket at the flexible electric cord!
4. Extension cables for power supply should be used only temporarily! Never use such lines permanently as a substitute for the required fixed installations!
5. Flexible lines laid across traffic areas on the farm must have at least 5 m ground clearance!
6. Always turn off the power supply before you do any work on the machine!
7. Check all electric lines for visible defects before you put the machine into operation! Replace defective cables and do not start the machine before that!
8. Never use electric-driven implements in damp locations or locations exposed to fire hazard unless the machines have been adequately protected against moisture and dust!
9. Covering electric motors may cause heat concentration with high temperatures which could destroy the operating equipment and cause fires!



Hand-operated devices (valves)

1. Because of the slurry gasses produced in the lines, no slurry is allowed to remain in closed pipelines – bursting hazard!
2. Lay the pipelines with sufficient inclination and make sure that the selected closing order of valves allows all lines to be drained completely!
3. Protect the valves against unauthorised handling!
4. If a valve gets jammed do not apply force! Use only the operating levers supplied with the implement!
5. Observe the permissible maximum operating pressure of valves and pipelines when pumps are operated!
6. Service only when the tanks are empty!

Maintenance

1. Never perform any maintenance, service, cleaning or repair work unless the drive is turned off and the engine is standing still!
2. Check proper fit of all nuts and bolts regularly and tighten them, if necessary.
3. If maintenance work is required on the lifted machine always secure it by means of appropriate supports!
4. When exchanging tools with cutting edges always use proper tools and wear safe protective gloves.
5. Dispose of oil, grease and filters according to local laws and regulations!
6. Always turn off power before working on the electric system (safety regulations according to ÖVE EN 50110-1).
7. Spare parts must meet manufacturer's minimum technical specifications! This is the case for instance with original spare parts!

2 GENERAL

BAUER products are designed and manufactured carefully and subject to a system of continuous quality control. The submersible motor mixers fully meet the requirements of the agricultural practice and of biogas plants. They are best suited for homogenizing all kinds of slurries from thin liquid manure to viscous mixtures containing solids such as straw, fibres or clots. Short set-up times, easy handling and maximum performance reliability are further advantages of this mixer series. Mixer drive is electric by means of a three-phase submersible motor.

Before turning on a submersible motor mixer make sure net voltage complies with the data on the nameplate.

In order to be able to work efficiently with the maintenance-friendly submersible motor mixer it is helpful to operate it in connection with a hoisting device.

Although the mixer is simple in design you should study this manual carefully and strictly observe all operating and service instructions contained. On this condition your motor mixer will operate to your full satisfaction for many years!

Make this manual available to all operators handling the equipment. Serial number and mixer type are stamped into the nameplate. Please specify these data in your inquiries, correspondence, warranty matters and parts orders. We warrant for this pump according to our General Terms of Sale.

3 DESCRIPTION

The submersible motor mixer consists of a three-phase submersible motor with connecting cable, oil chamber, the planetary gear drive and the propeller. The electric motor has an output of 7.5, 11 or 15 kW, depending on the respective model.

The motor is equipped with PTC thermistor detectors to protect it from overheating. Yet the motor protection will only be effective if the motor connecting cable is linked up not only with a star-delta starter but also with a suitable thermistor tripping device.

Thus the motor is protected from phase failure, undervoltage and high thermal load.

The control box that is available as part of the motor accessories, includes not only the starting contactor but also the thermistor tripping device. The red warning light lights up when the thermistor tripping device has responded.

NOTE!

The motor cable should be mounted to the control box only by a qualified technician. Check-up must be performed according to the wiring diagram! The wiring diagram is placed inside the control box. The control box must be tightly screwed and should preferably be installed under a roof where it is protected from the weather.



WARNING!

When connecting the system to power supply ensure the connecting cable is amply dimensioned and the turning direction of the motor is correct.

The motor is sealed by two mechanical seals mounted in series which are lubricated by the oil contained in the oil chamber. The bearing of the THREE-PHASE SUBMERSIBLE MOTOR is life-lubricated.

The submersible motor mixer MSXH is equipped with a leak detector which is only effective together with a relay mounted into the control box. (see chapter Accessories - Bauer Control Unit)



4 MOUNTING INSTRUCTIONS

4.1 Mounting of guide tube and guide tube bracket

Slip the guide tube bracket over the guide tube and secure it at the silo edge / pit cover. Use a level to bring the guide tube into vertical position. Set and secure the bottom bearing accordingly. Make sure the stop plate of the bottom bearing is in front of the guide tube (beneath the mixer).

4.1.1 Reinforced Lift Pole



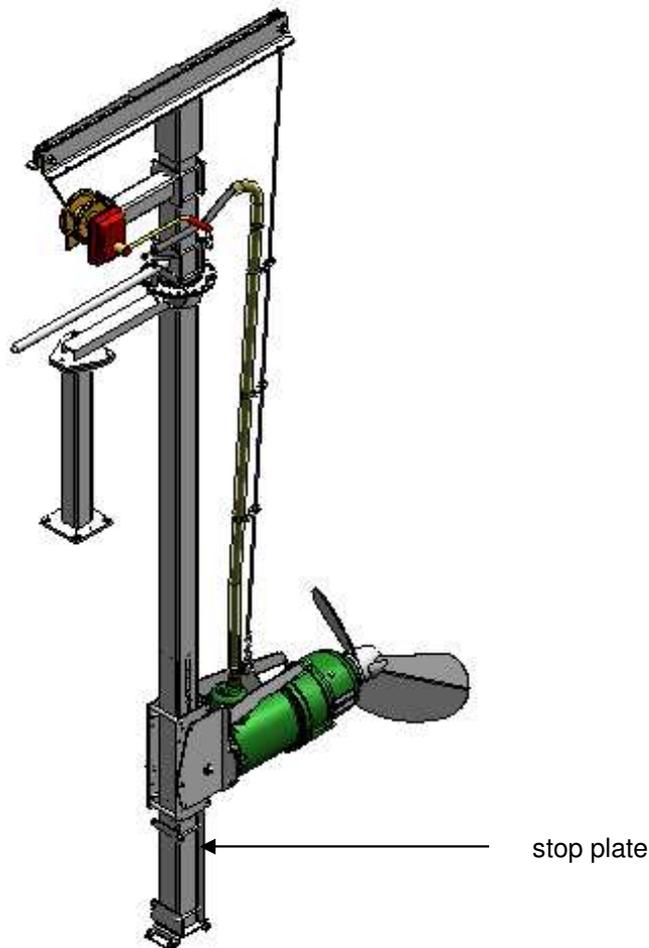
ATTENTION

After mounting fill up with concrete .

See drawings 6171297.1 and 6179950.3 on pages 47 and 48

4.2 Mounting of cantilever arm and winch

Put the cantilever arm onto the guide tube and mount the holder for the winch and the crank with the clamping lugs according to the drawing.



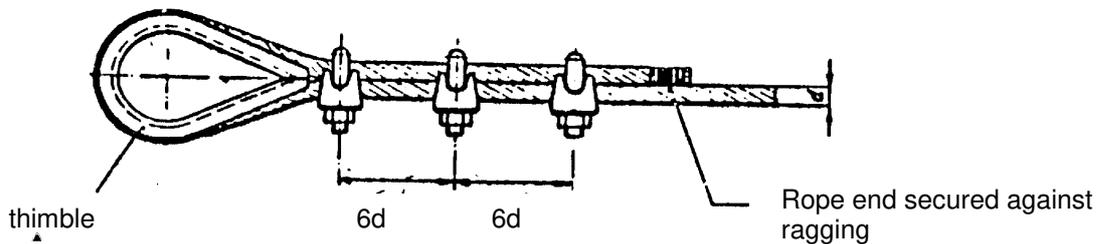
4.3 Mounting of mixer

Put the rope over the rope pulleys and attach its thimble at the mixer console. Use the winch to bring the mixer into a position under the guide tube bracket and secure the guide console at the bottom, behind the guide tube. By changing the position of the mixer holder the mixer can be brought into a horizontal position – or it may be slightly inclined ($\pm 15^\circ$).

Lateral swivelling is limited by the two screw bolts affixed to the backing plate.

4.4 Mounting of rope

Wire rope clips



Number of wire rope clips needed for rope diameter of 8 mm: 3

Where to fix the rope clips:

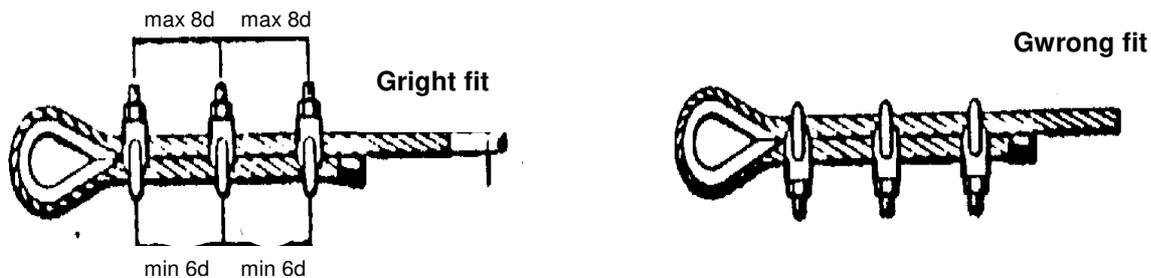
First rope clip: Standard thimble: directly at the thimble
 Round thimble: twice the diameter of the thimble away from thimble

Second and third wire rope clip:

6 times the rope diameter from clip to clip (i.e. for rope diameter of 8 mm spacing between clips: about 48 mm)

Tighten rope clips after putting rope under traction.

CAUTION! Make sure to mount the rope clamps correctly.
 The bracket of the clip must always be put onto the end of the rope which is not under traction.





5 ELECTRICAL CONNECTION

The electrical connection must imperatively be carried through by an approved electrician. The three-phase motor is protected from phase failure, low voltage and overloading by the thermal coil protection (PTC thermistors) together with the tripping device. Upon request, Bauer supplies fully wired electrical control units ready for connection. Weatherproof installation of the electrical control is recommended (inside a building or under a weather-proof hood at the manure tank).

All mixers are equipped with an 8 m long electric cable (cable Ø 20 mm). The cable connection to the motor must not be dismantled!

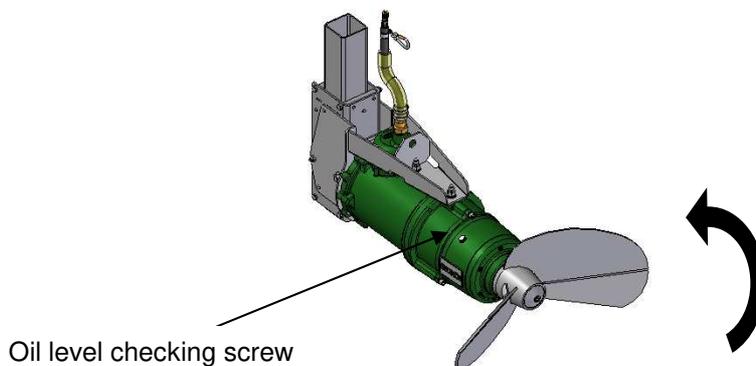
Fix the electric cable to the traction rope by means of a stainless bolt-snap, which enables the cable to follow automatically lifting and lowering movements of the mixer. Attach the cable to the rope by means of the provided rope strap about 1 m above the upper edge of the console (see drawing) in order to prevent the cable loops from getting into the mixing propeller when lifting the mixer. Attach the upper-most bolt-snap to the backing plate.

Check cable length to make sure the cable is not under traction when the mixer is completely lowered! Take care to place the cable in wide loops in order to prevent it from folding.

6 PUTTING INTO OPERATION

- When the motor mixer is put into operation for the first time make sure the supply voltage complies with the voltage specified on the motor nameplate.
- Before connecting the motor check the phase sequence for the turning direction of the motor.
- The motor mixer must work thrustwise.
- When looking onto the propeller it must turn anti clock wise!
- Never put the mixer into operation before having submerged it into the slurry.
- When connecting the motor strictly observe all regulations concerning electrical equipment as well as the instructions of the motor manufacturer (e.g. motor protection switch, possible locking of circuit breaker).
- Check setting of motor protection switch, see 018 2565.4, page 38

	WARNING !	Check oil level in planetary gear before starting the machine! (Quality and quantity of oil see Technical Data).
-----------------------------------------------------------------------------------	------------------	------------------------------------------------------------------------------------------------------------------



- Bring submersible motor mixer in a horizontal position.
- Open oil level checking screw.
- Oil level must reach rim.

When the mixer has been set correctly and the leak detector has been activated, power supply will be turned off by the tripping device whenever the gear oil is polluted because of a defective seal.



6.1 Manual Operation

6.1.1 Control Box Components

Three contactors with timer for star-delta starting

Motor protection devices:

- Motor protective relay for current monitoring
- Thermistor tripping relay for temperature monitoring

6.1.2 Controls

Green key for motor start

Red key for motor shut-off

6.1.3 Connections

Power supply by means of 5-pole connecting cable directly attached to ingoing terminals.

Motor connected to terminal strip in control box

Warning:

Electrical connections to be made by approved electricians only!



Before turning power supply on check tight fit of all screws and terminals.

Fuse protection of power supply see Technical Data page 36

6.1.4 Settings

Timer for star-delta changeover :
Motor protective relay: IN x 0.58

approx. 3 seconds
see drawing no. 018 2565.4 Automatic Reset

6.1.5 Operation



- Press green key: the motor starts up and changes automatically from “star” to “delta” after about 3 seconds. The light of the green key is on.



- Press red key: the motor stops.

6.1.6 Malfunctions

- The red key is lighting up:
The motor protection system has turned off the motor.
Find the cause of the malfunction and remedy it.
The light of the red key goes out.
- The motor cannot be started:
Check power supply: Is main switch in position "ON"?
Check control voltage fuse "F3".

6.1.7 Safety instructions

Always disconnect system from power supply before working on the starter.

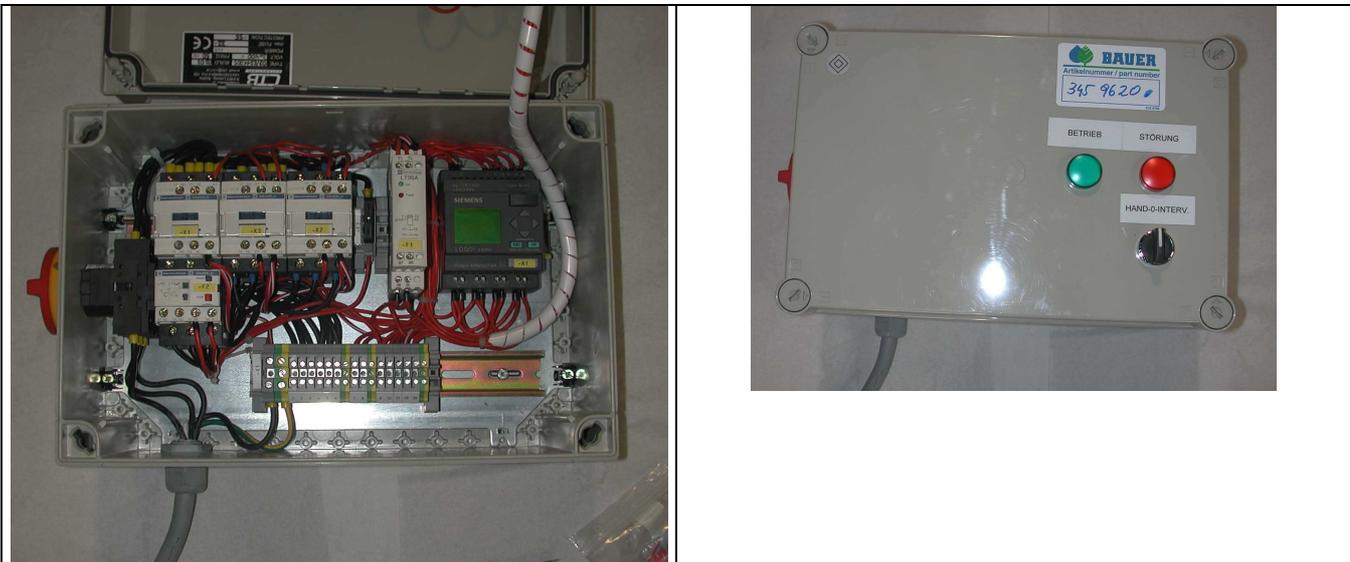
6.2 INTERVAL OPERATION

6.2.1 Control Box Components

Three contactors with timer for star-delta start-up. Control unit LOGO for manual and interval operation.

Motor protection devices:

- Motor protecting relay
- Thermistor tripping relay for temperature monitoring



BAUER Control unit LOGO with timer for interval operation

Logo programming



6.2.2 Initial operation of timer logo

Before the initial operation the control panel has to be connected correctly according to the connection diagram. Put switch „Hand 0 Intervall“ to 0.

After putting on the main switch time and date are blinking on the display

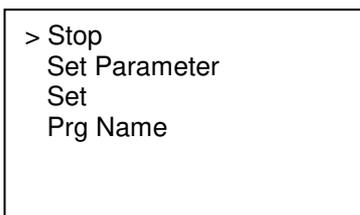
Date and time keep blinking until they are set.



Setting of time and date

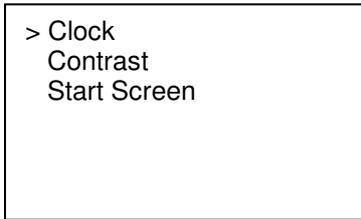
Press key ESC

The display is showing the following



Confirm with key Cursor down ▼ (2 times), then set Cursor > to Set
Confirm with key OK (1 time)

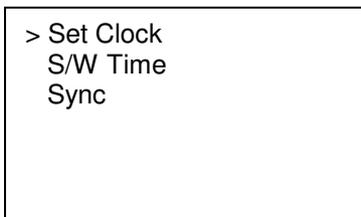
The display is showing the following



```
> Clock
  Contrast
  Start Screen
```

Confirm again with the key OK (1 time)

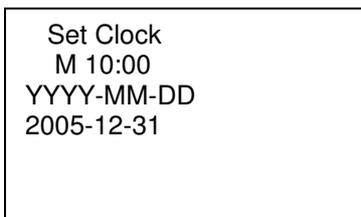
The display is showing the following



```
> Set Clock
  S/W Time
  Sync
```

Confirm again with the key OK (1 time)

The display is showing the following



```
Set Clock
  M 10:00
  YYYY-MM-DD
  2005-12-31
```

The Cursor stands blinking on weekdays

- 1.) Choose weekday: key ▼ or ▲
- 2.) Move the Cursor: key ◀ or ▶
- 3.) Change the value in place: key ▼ or ▲
- 4.) Set the right time, repeat steps 2 and 3
- 5.) Set the correct date, repeat steps 2 and 3
- 6.) Confirm with key OK

Press the key ESC for returning to the main window

Date and time



B 9 Weekly clock timer

Every weekly clock timer has three cams for adjusting (B9 / 1,2,3), where you can parameterize a time window. Set the switching point and the stop position with the cams. The weekly timer puts on the interval operation at the switching point and off at the stop position.

Timing point:

Every time between 00:00 and 23:59 o'clock possible
--:-- means week day not chosen

Parameterizing window

This is how the parameterizing window B9/1 looks like (factory setting)

B9	1
D =MTWTFSS	
On = 22:00	
Off = 04:00	

The letters behind the letter D (for day) refer to the weekdays

M : Monday
T : Tuesday
W: Wednesday
T : Thursday
F : Friday
S : Saturday
S : Sunday

The capital letter means: weekday chosen
ON – means weekday not chosen

B 9 Setting of weekly timer

This is how to enter timing points:

Press key ESC

The display is showing the following

>Stop
Set Param
Set
Prg Name

Confirm with key ▼ and choose „Set Param“ and confirm with key OK

The display is showing the following

```
B9          1
D =MTWTFSS
On  = 22:00
Off = 04:00
```

- 1.) Press key OK; the cursor is on the first weekday
- 2.) Choose one or more weekdays with the keys ▼ or ▲
- 3.) Move the cursor with the key ► to the next weekday
- 4.) Repeat the procedure until you have programmed all days
- 5.) Move the cursor with the key ► to the first position for the switching point
- 6.) Set the turn-on time
- 7.) Change the value at the position with the keys ▼ or ▲
- 8.) Between the positions move the cursor with the keys ◀ and ▶
- 9.) Move the cursor with the key ► to the first position of the stop time
- 10.) Set the stop time as described in steps 6-8.

Confirm entries with the key OK

You get to the next cams B9/2 and B9/3 with the key ▼

Confirm entries by pressing the key OK and then the key ESC 2 times.

In this way you return to the main menu

B 11 Setting of interval operation

Press key ESC

The display is showing the following

```
>Stop
Set Param
Set
Prg Name
```

Confirm with the key ▼, choose „Set Param“ and confirm with the key OK

The display is showing the following

```
B9          1
D =MTWTFSS
On  = 22:00
Off = 04:00
```

Press 4 times the key ▼

The display is showing the following

B11
 TH = 10:00m
 TL = 05:00m
 Ta = 00:00m

You can set the mixing times and pauses in the parameter B11

TH = mixing time
 TL = pause
 Ta = displays the present mixing times and pauses

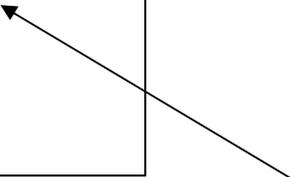
Factory setting
 TH = 10:00m
 TL = 05:00m
 Ta = 00:00m

Attention: if the weekly timer has not been programmed the interval tie is not working

Press the key OK; the cursor moves to TH and stands there blinking
 Set the mixing time with the key ▼ or ▲ (example 10 m)
 Move the cursor to the next position with the key ►
 Set the mixing time with the key ▼ or ▲ (example 00 s)

Change to time period with the key ►

B11
 TH = 10:00m
 TL = 05:00m
 Ta = 00:00m



Set the time period with the key ▼ or ▲: s,m,h

s seconds
 m minutes
 h hours

Press the key ▼ and set duration of pause
 Set duration of pause with the keys ▼ or ▲ (example: 05 m)
 Move the cursor th the next position ►
 Set duration of pause with the keys ▼ or ▲ (example: 00 s)

Confirm the entry with the key OK
 Press 2 times ESC for returning to the main menu

B 17 Operating hour meter

The current operating hours are shown on the display
There is no need to set anything

See operating hours :

Press key ESC

The display is showing the following

```
>Stop
Set Param
Set
Prg Name
```

Confirm with key ▼ , choose „Set Param“ and confirm with key OK

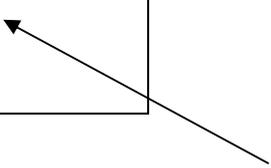
The display is showing the following

```
B9          1
D =MTWTFSS
On  = 22:00
Off = 04:00
```

Confirm 3 times with the key ▼

The display is showing the following

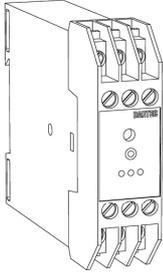
```
B17
MI =      1h
MN=      1h
OT =      0h
```



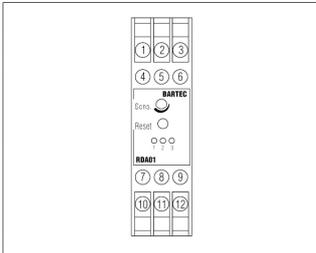
OT displays the consumed operating hours
Do not change parameter MI and MN !!
Press 2 times ESC for returning to the main menu



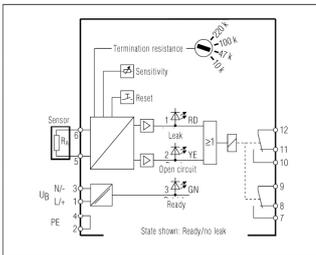
RDA Leakage detector



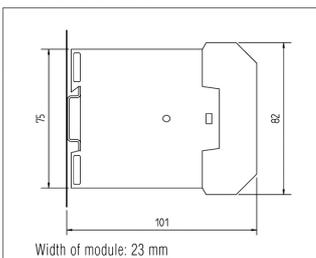
Terminal arrangement



Connection / function



Dimensions



Description

The RDA electronic evaluation unit is used with leakage detection sensors. Electro-conductive liquids of $\geq 2 \mu\text{S}/\text{cm}$ and light liquids such as oil on water can be detected. The RDA evaluates changes in resistance of the sensor. Leaks are indicated by LED buzzer and relay output. These signals remain in memory until a reset is carried out with the keypad. Probes and sensors with various termination resistances can be connected to the system for a variety of response sensitivity. A selector is available to adapt the RDA to various response sensitivities. A potentiometer is installed in the front panel of the enclosure for precision setting of detection sensitivity.

Features

- For electroconductive liquids (RDA01)
- For low density liquids on water (RDA02)
- Group alarm relay, 2 changeover contacts
- Piezo-buzzer
- Latching
- Reset button on front panel of enclosure
- Sensitivity setting
- R_A can be set
- High degree of EMC protection
- Fail safe relay tripping

Technical data

Supply voltage
AC 230 V / 50 Hz / 1,2 VA
DC 24 V \pm 10 %

Ambient temperature
- 25 °C to + 60 °C

Indicators

- Ready green LED
- Alarm red LED
- Open circuit yellow LED

Output

Group alarm relay,
2 changeover contacts
AC 230 V / 0,3 A
DC 24 V / 1 A

Structure

Snap-on rail mounted enclosure for TS 35 rail IP 20, protection class II

Alarm reset

Button on front panel of enclosure

Sensitivity setting

Potentiometer on front panel of enclosure

Sensor termination resistance

settable to 10 k Ω ; 47 k Ω ; 100 k Ω ;
220 k Ω

Sensor types

17-85M1-... / ...

Directives / standards / approvals

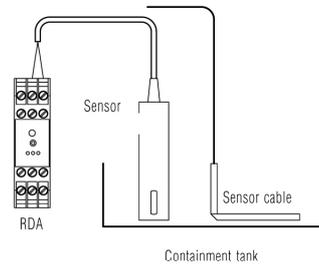
89/336/EEC-EMC
73/23/EEC - Low voltage RL
Design approval Section § 19h WHG

RDA 01

Electroconductive liquids

Types:
RDA01 17-85F4-2.22
Sensor 17-85M1-.../...

Example

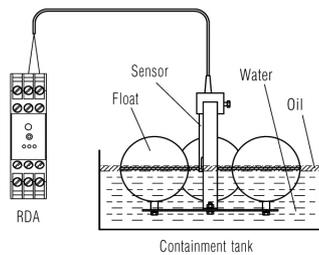


RDA 02

Low density liquids on water

Types:
RDA02 17-85F4-2.32
Sensor 17-85M1-6456/..00
Float 17-85Z2-1000

Example



Selection chart

Voltage	Code	Detection	Code
AC 230 V	3	RDA01 Electro-conductive liquids	2
DC 24 V	4	RDA2 Low density liquids on water	3

17-85F4-2 2

Order number

Please enter code



7 MAINTENANCE

The wire rope is made from stainless V4A material. Nevertheless check the rope regularly and do replace it if it is worn. Incidental greasing or lubricating will increase its useful lifetime.

Spray the entire rope winch (with casing) frequently with oil to protect it from corrosion.

Check mixing propeller! Remove strings (cords and the like) which got entangled around the propeller. They may cause extreme vibrations thus making the motor run out of round. Whenever the mixer starts running joltingly it is absolutely necessary to clean the mixing propeller!



Before lifting, transporting or repairing the mixer always switch off power at the main switch and secure the control box from any unintentional switching.



Do not touch the revolving parts of the mixer before having switched off power supply and secured the mixer from unintentional turning on.



When the mixer is running it must always be fixed and engaged to the guide tube. The guide tube must be tightly clamped inside the guide tube bracket.



When the mixer is running it must always be submerged in the medium for cooling the motor and gaskets.



Always switch off and lock main switch when lifting the mixer.



Never use the power cable in order to haul or lift the mixer!

CLEANING

If the mixer will not be used for a longer time clean and rinse it thoroughly with water to prevent it from unnecessary corrosion. A crust of dried sludge on the mixer hinders cooling of the running mixer.

CABLE CHECK

Check intactness of cable – is it damaged, twisted, squeezed or the like? With a damaged cable fluid may come into the mixer. Faulty parts must be replaced immediately.

CHECKING THE LIFTING DEVICE

Check wear and corrosion of hoisting chains and wire ropes. Whenever there are traces of material fatigue replace affected parts immediately. Check rope winch, lifting hook and shackles as to wear or rupture and clean and lubricate at the same time. This should be done at least every six months.



LUBRICATION AND MAINTENANCE SCHEDULE

Always turn power off when changing oil or lubricating, and secure the mixer from unintentional switching on.

Interval	after 750 operating hours	every six months	after 2000 hours
OIL CHANGE / OIL CHECK	First oil change: unscrew filling bolt too for complete draining. Tightening torque for filling and drain bolts: M16x1.5 = 34 NM	Remove level checking screw and check oil level and quality. (The colour of the oil must not be white!) Tightening torque for filling and drain bolts: M16x1.5 = 34 NM	Change oil Unscrew filling bolt to allow complete emptying at draining hole. Tightening torque for filling and drain bolts: M16x1.5 = 34 NM
Rope winch		Clean, lubricate and check wear	
Electric cable and general overhauling	Tighten bolts and nuts	Check wear, twisting and possible rupture. Tighten bolts and nuts.	
Level control probes	Tighten hose clips of connections	Clean and check hose connections of probes	

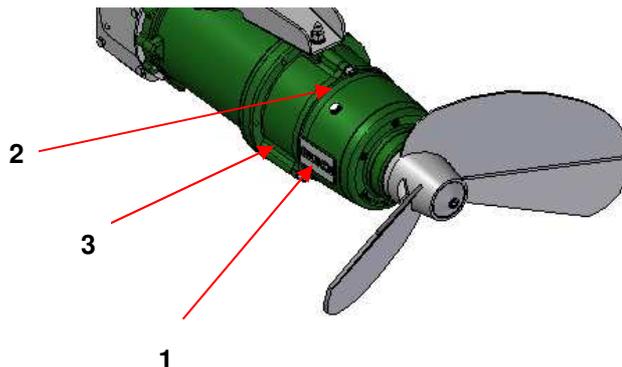
Oil quality: SAE 90 gear oil; quantity: 6.5 l
Shell Spirax S2 G 80W-90



Attention: An overpressure may be created inside the oil casing.

OIL CHANGE

1. Unscrew bolts 1, 2 and 3
2. Drain oil
3. Put back bolts 1 and 3
4. Fill in oil up to level checking screw 2 according to instructions.
5. Put back level checking screw 2.



CAUTION !

Wrap thread of bolts and screws with teflon tape or muffle it with thread sealant before screwing to ensure absolute leak tightness.



8 TROUBLE-SHOOTING

Before lifting, moving or repairing the mixer always turn off main switch and secure the device from unintentional switching on.

The submersible motor mixer runs but works poorly	
Possible causes	Check and repair
The submersible motor mixer runs backward	Check correct direction of rotation. Call electrician in case of wrong direction of rotation.
Propeller and hub are blocked up.	Lift the machine. Clean propeller and hub.
The propeller is loose, worn or partly damaged.	Check tight seat and possible wear of propeller. Replace propeller if necessary.

The submersible motor mixer does not start	
Possible causes	Check and repair
No voltage or failure in control box	Check whether motor protection has responded. Check whether system voltage is available. If not, check system voltage fuse.
Rupture of motor cable	Visual check. Check whether cable and other connections are faultless. Call electrician for further checks.
Propeller is blocked	Check whether propeller is clean and easily moving. Clean propeller and check possible blockage inside gearbox.
	If the above mentioned measures are not successful, please contact the BAUER after-sales service or a licensed workshop

The submersible motor mixer starts, but the motor protection shuts it down	
Possible causes	Checking and repair
Faulty voltage	Check voltage. L1-L2-L3 400V~ L1-N 230V~ Check feed cable fuses
Mechanical causes	Check smooth working of motor, gear and propeller
Motor failure	Inspection by BAUER after-sales service or by a licensed workshop



9 TECHNICAL DATA 400V/50 Hz

Power	P	[kW]	7,5	11	15
Voltage	U	[V]	400	400	400
Rated current	I _{Nom}	[A]	15,6	22	28,6
Speed	n	[min ⁻¹]	1450	1400	1450
Cosinus Phi	Cosphi	[1]	0,81	0,84	0,86
Frequency	Frequency	[Hz]	50	50	50
Protection	Protection	IP	68	68	68
Working temperature range	+0to+40	°C			
Gearbox					
Bearing of propeller shaft			taper roller bearing		
Gear oil EP680, EP90		[lt.]	65	65	65
Oil name	Shell Spirax S2G80W90				
Transmission		[1]	46	46	46
Propeller speed at 50 Hz		[min ⁻¹]	315	304	315
Propeller Ø at 50 Hz		[mm]	600	665	750
Weight		[kg]	163	179	198

Feed cable fuse			25AC	32AC	50AC
Minimum cross section of feed cable (depending on line length etc)			5x4mm ² Cu	5x6mm ² Cu	5x10mm ² Cu

Gear Oil; conforming DIN 51517 Part3, ISO 12925-1 Type CKC, AGMA 9005-D94EP-5EP;
ISO Viscosity Grade: 220



10 TECHNICAL DATA USA 480 V/60Hz

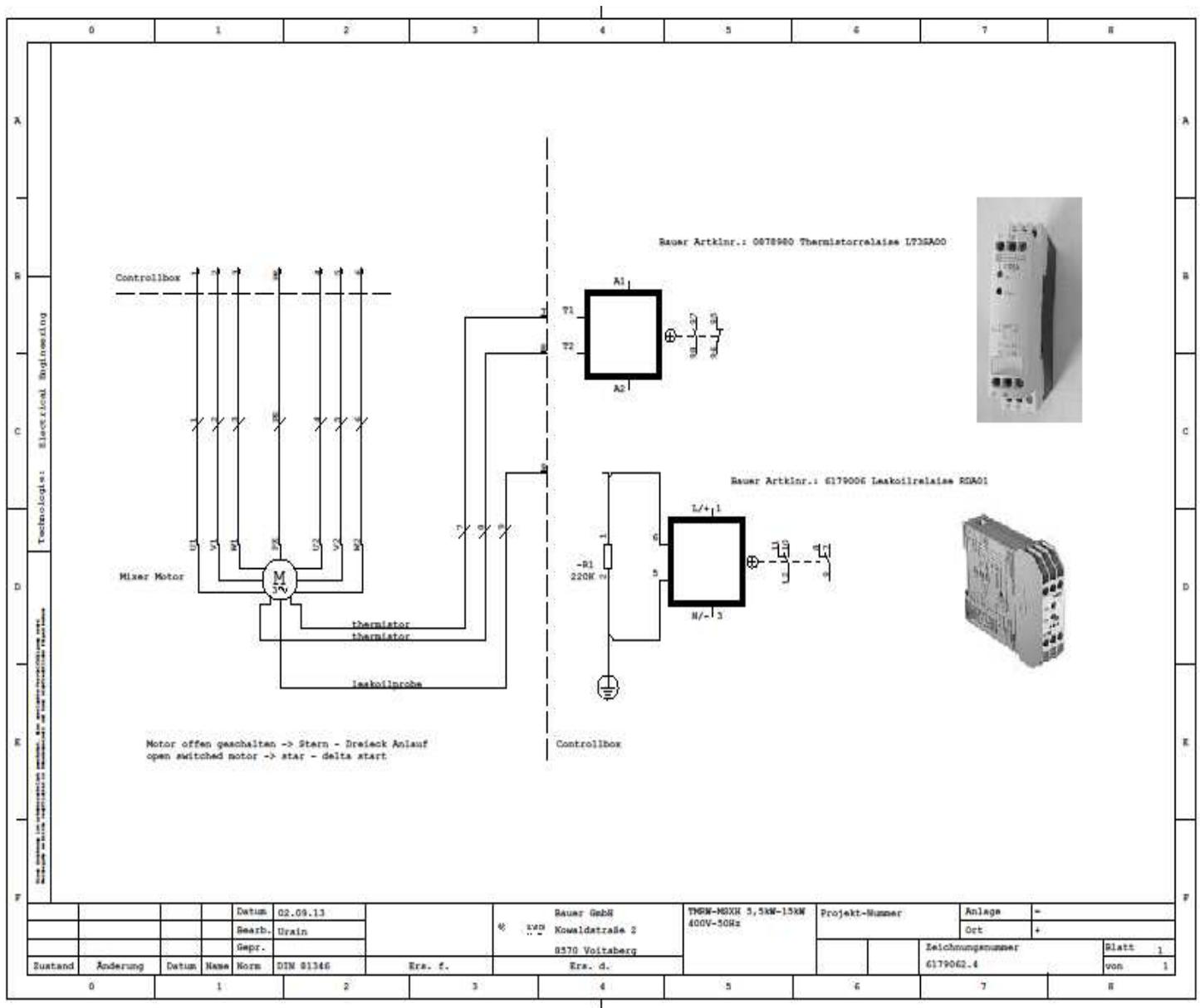
Power	P	[kW]		86	126	15
Voltage	U	[V]		480	480	480
Rated current	I _{Nom}	[A]		13	184	239
Speed	n	[min ⁻¹]		1740	1740	1740
Cosinus Phi	Cosphi	[1]		0,81	0,84	0,86
Frequency	Frequency	[Hz]		60	60	60
Protection	Protection	IP		68	68	68
Working temperature range	+0to+40	°C				
Gearbox						
Bearing of propeller shaft				taper roller bearing		
Gear oil EP680, EP90		[lt.]		65	65	65
Oil name:	Shell Spirax S2G80W90					
Transmission		[i]		46	46	46
Propeller speed at 60Hz		[min ⁻¹]		378	378	378
Propeller Ø at 60Hz		[mm]		600	600	600
Weight		[kg]		163	179	198

Feed cable fuse				25AC	32AC	50AC
Minimum cross section of feed cable (depending on line length etc.)				5X4mm ² Cu	5X6mm ² Cu	5X10mm ² Cu

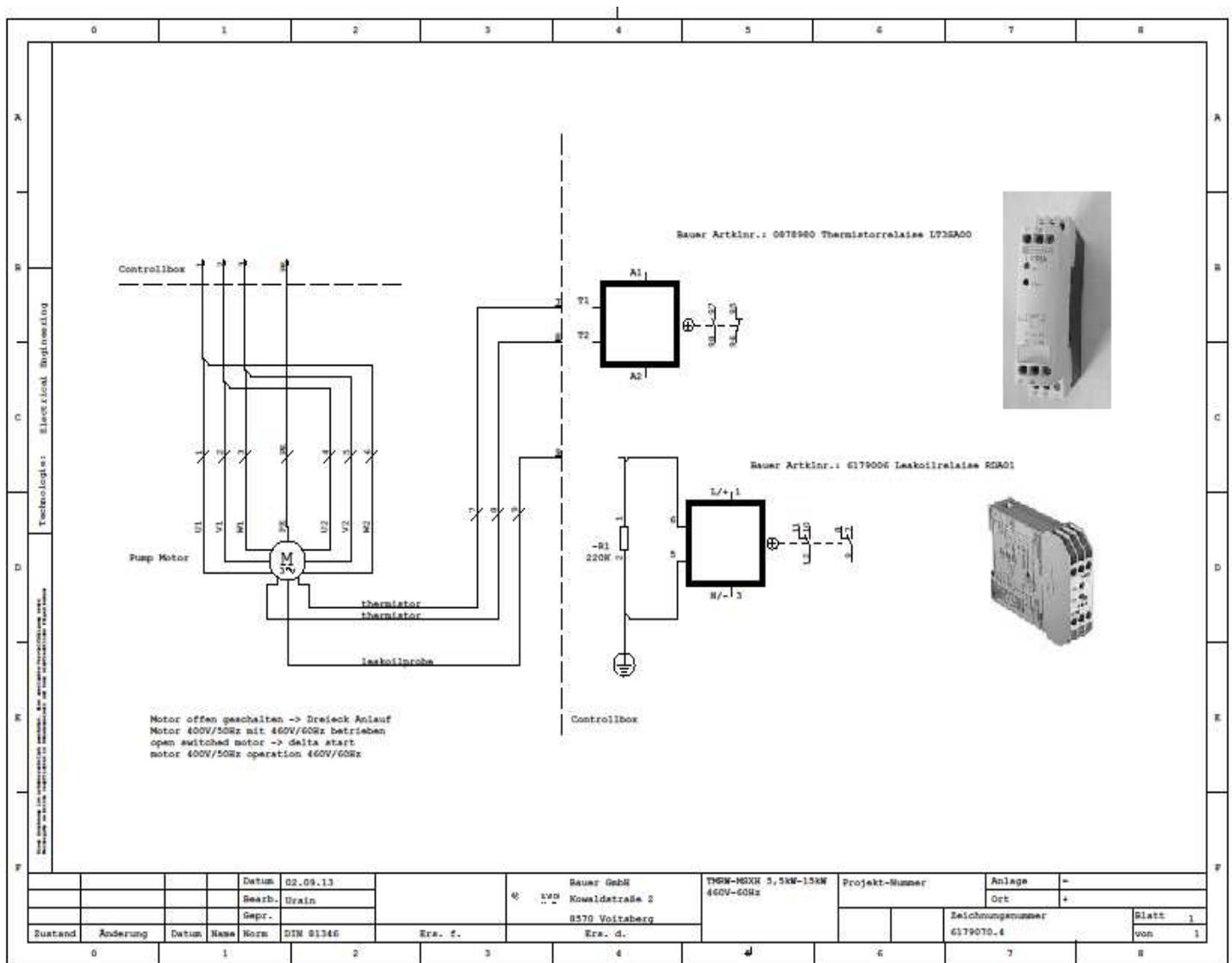
Gear Oil; conforming DIN 51517 Part3, ISO 12925-1 Type CKC, AGMA 9005-D94EP-5EP;
ISO Viscosity Grade: 220



Wiring diagram 400 V 50 HZ star- delta start

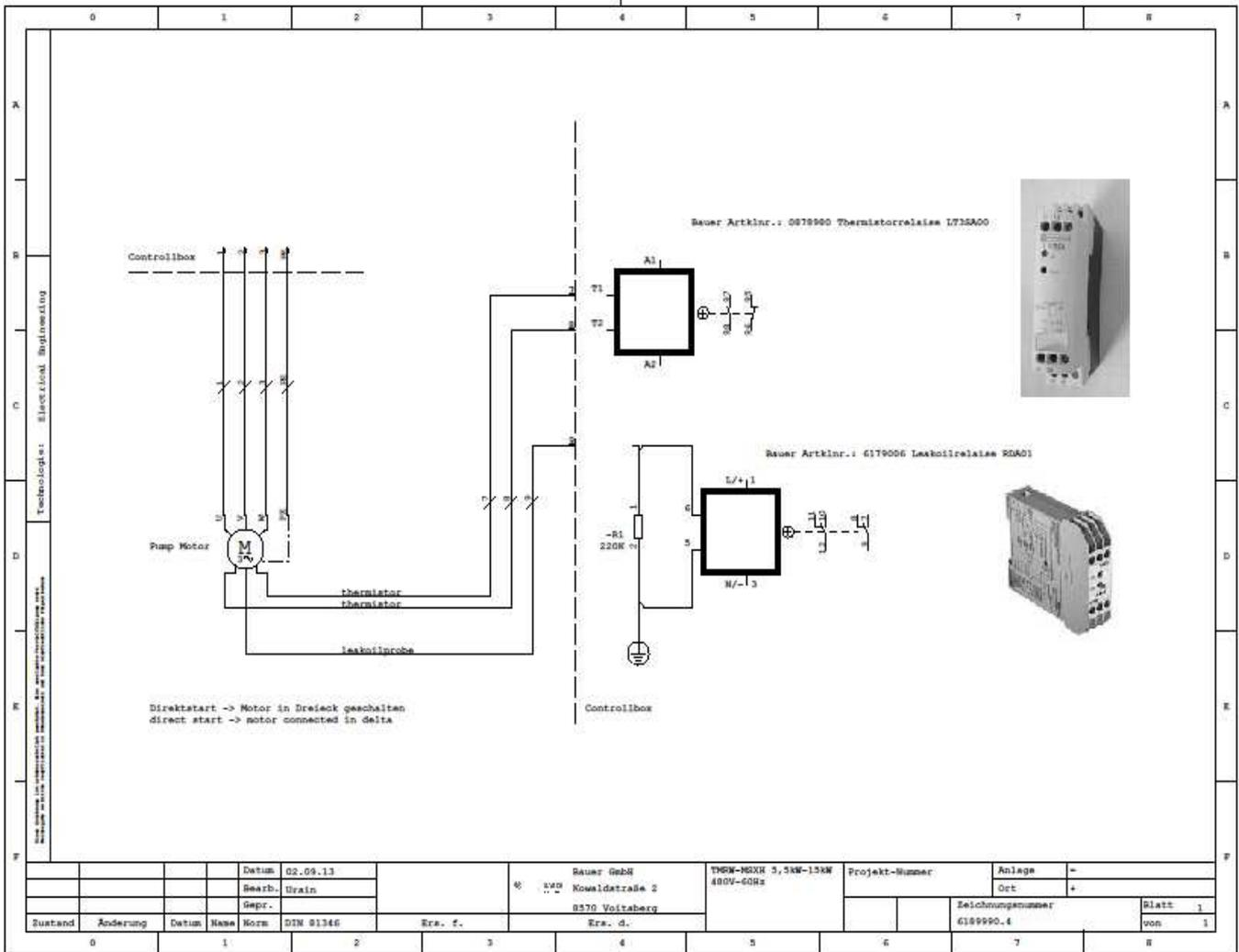


Wiring diagram 400 V 50 HZ with 460 V 60HZ running delta start



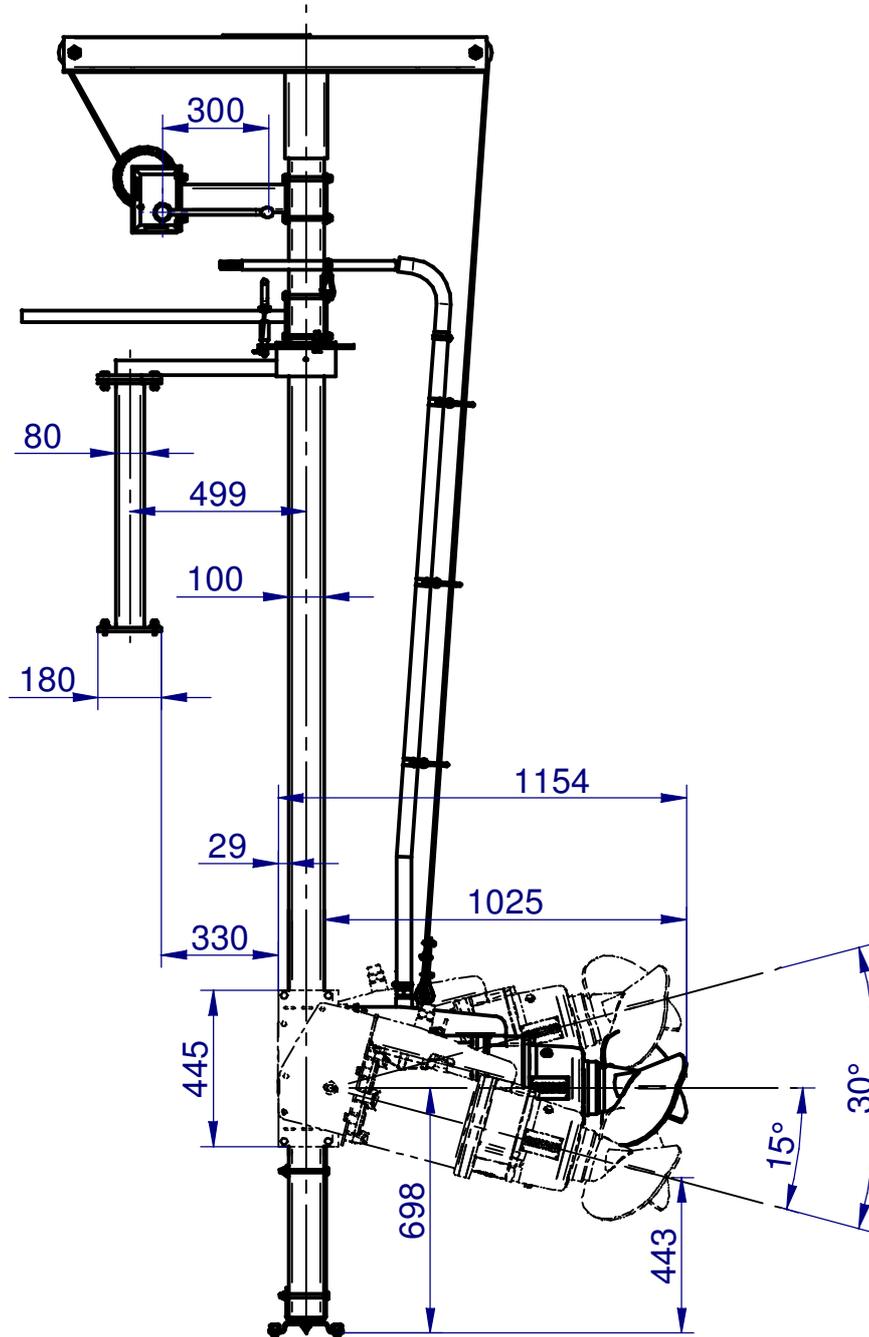


Wiring diagram 480 V 60 HZ delta start

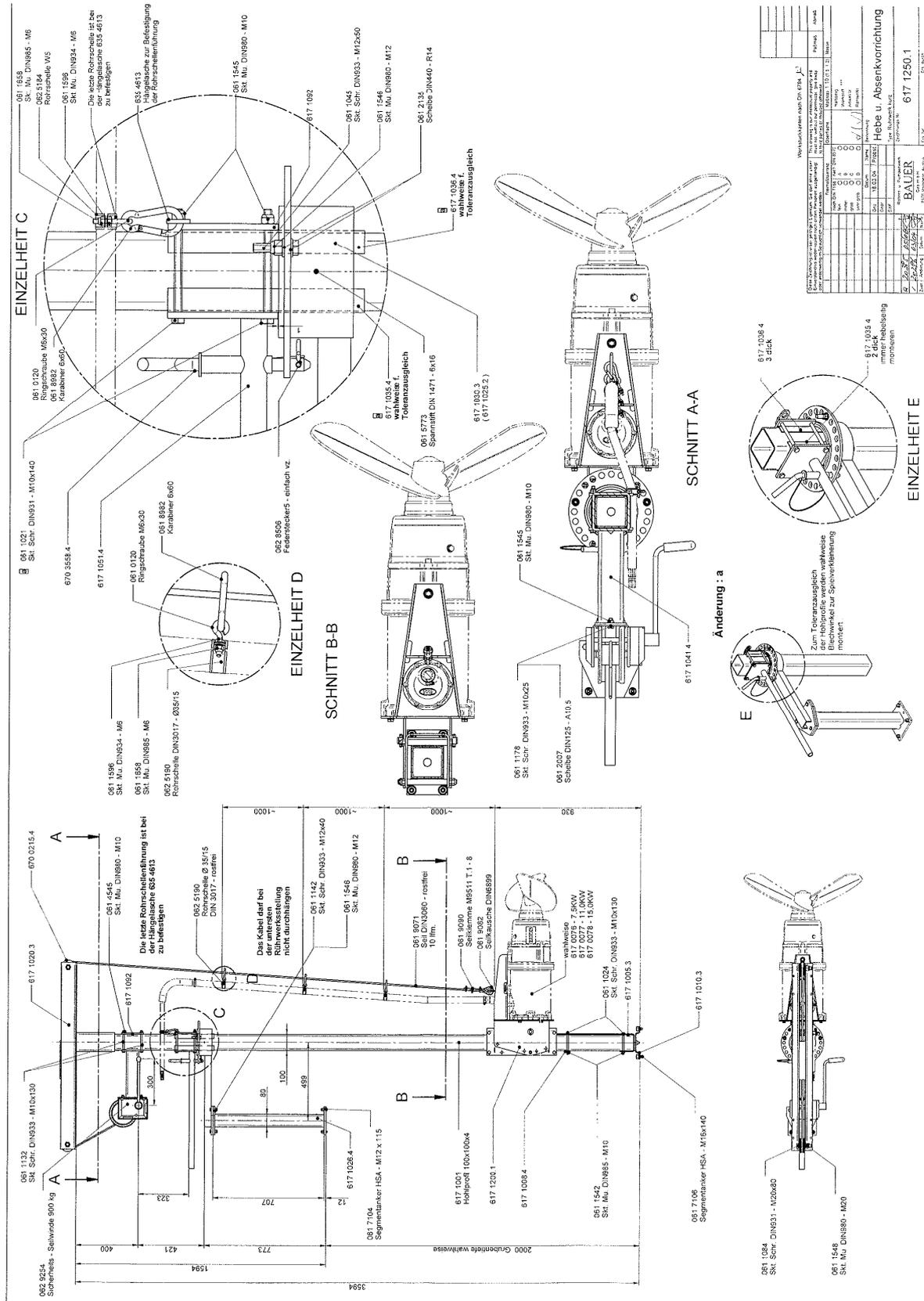




Lifting and lowering device

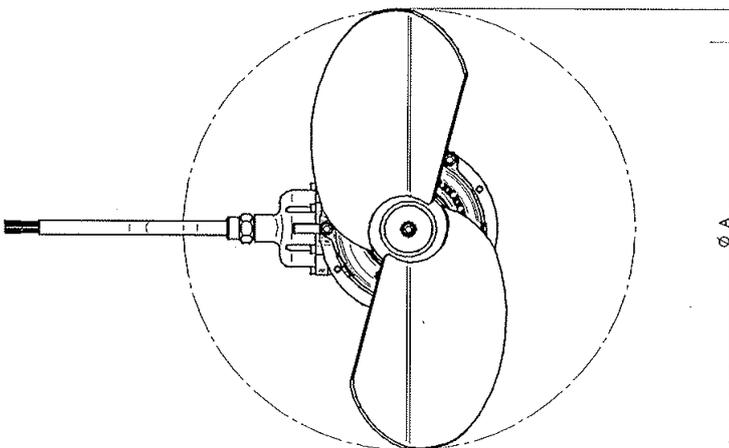
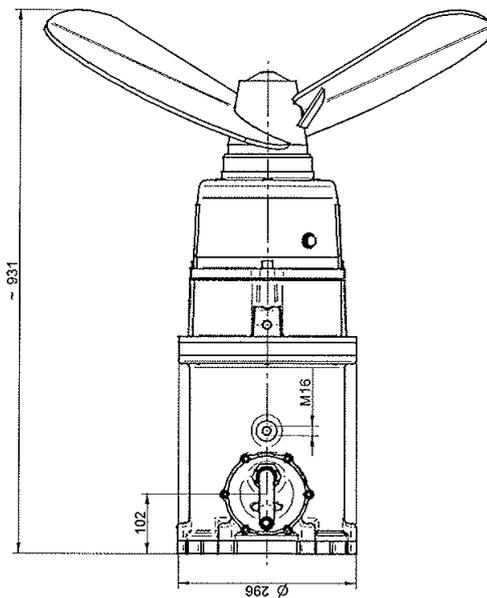
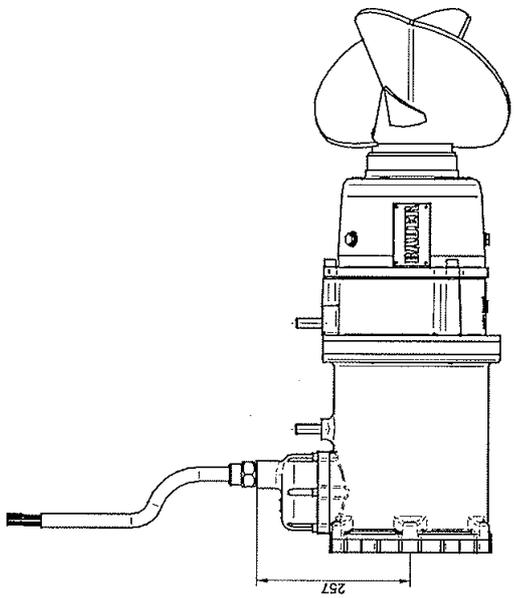
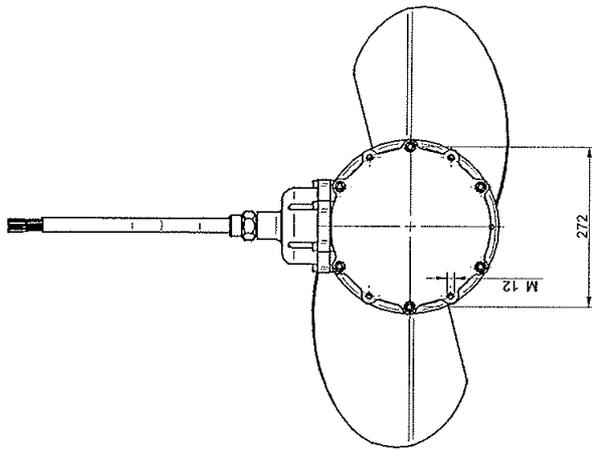


617 9916



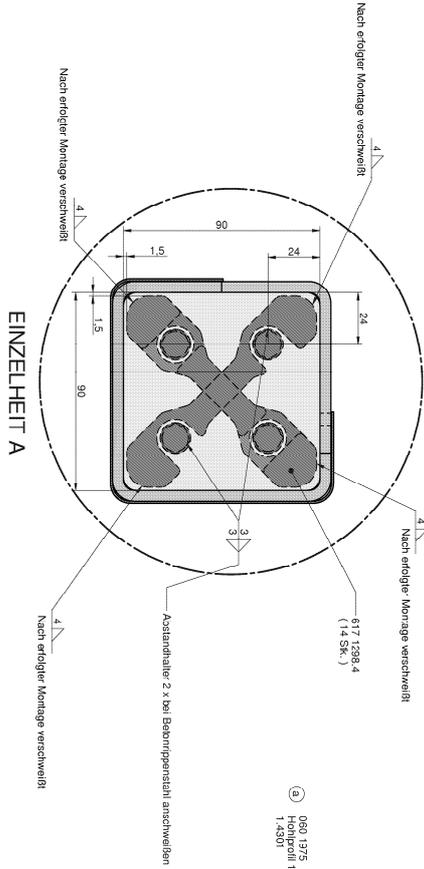
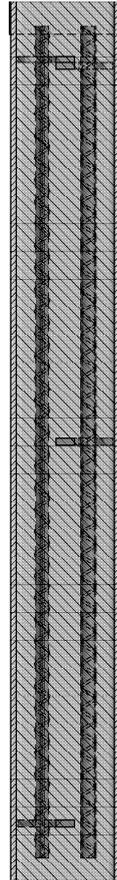
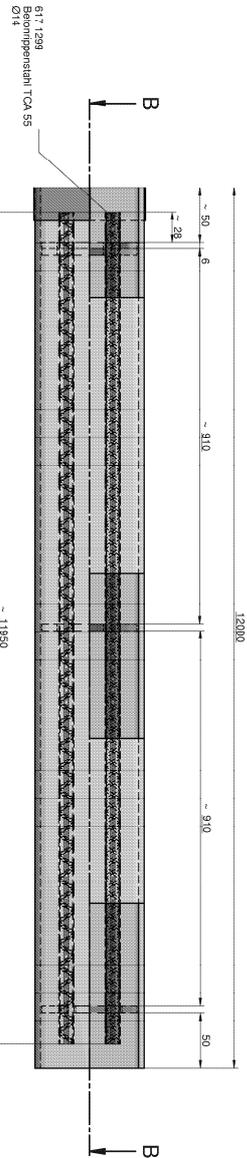
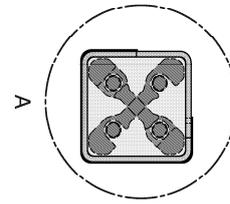
Werkstoffkennlinie nach DIN 6758	
Material	Profil
0000	0000
0001	0001
0002	0002
0003	0003
0004	0004
0005	0005
0006	0006
0007	0007
0008	0008
0009	0009
0010	0010
0011	0011
0012	0012
0013	0013
0014	0014
0015	0015
0016	0016
0017	0017
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0023	0023
0024	0024
0025	0025
0026	0026
0027	0027
0028	0028
0029	0029
0030	0030
0031	0031
0032	0032
0033	0033
0034	0034
0035	0035
0036	0036
0037	0037
0038	0038
0039	0039
0040	0040
0041	0041
0042	0042
0043	0043
0044	0044
0045	0045
0046	0046
0047	0047
0048	0048
0049	0049
0050	0050
0051	0051
0052	0052
0053	0053
0054	0054
0055	0055
0056	0056
0057	0057
0058	0058
0059	0059
0060	0060
0061	0061
0062	0062
0063	0063
0064	0064
0065	0065
0066	0066
0067	0067
0068	0068
0069	0069
0070	0070
0071	0071
0072	0072
0073	0073
0074	0074
0075	0075
0076	0076
0077	0077
0078	0078
0079	0079
0080	0080
0081	0081
0082	0082
0083	0083
0084	0084
0085	0085
0086	0086
0087	0087
0088	0088
0089	0089
0090	0090
0091	0091
0092	0092
0093	0093
0094	0094
0095	0095
0096	0096
0097	0097
0098	0098
0099	0099
0100	0100

617 1250



Art. Nr.:	Benennung	A [mm]
617 0076	TMRW / 7,5KW / 400V / 50Hz	600
617 0077	TMRW / 11,0KW / 400V / 50Hz	665
617 0078	TMRW / 15,0KW / 400V / 50Hz	750

617 9920

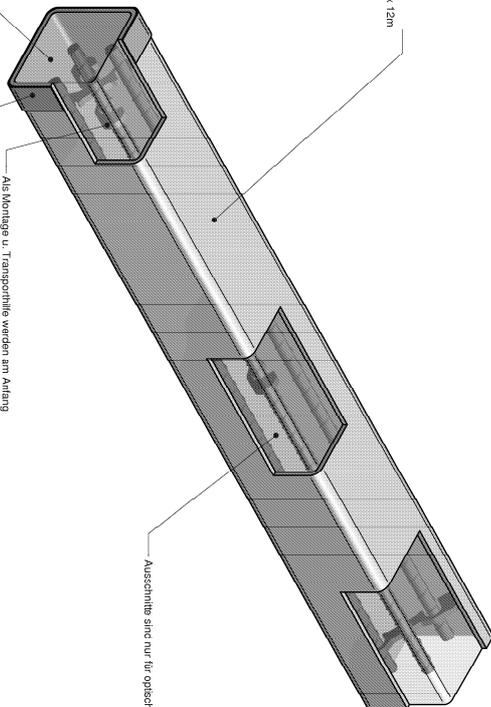


Beton
Güte C25/30 - Abdruckklasse II, ON BA710 - 1, B6 CSA - frei
Vorsicht bei Verwendung von SCC - Beton ; selbst - compact - concrete -
Kerzung 0 - 4 mm

Beton wird nach erfolgreicher Montage des Hubmastes gefüllt !

Als Montage u. Transporthilfe werden am Anfang 2 Stk. Abstandshalter angebracht u. mit dem Betonsperrstahl, u. dem Heißprofil verschweißt !

Grün gekennzeichnete Bereiche unten !



Technische Zeichnung		Werkstoffkennlinie nach DIN EN 10204 2.1.4	
Zeichnungsnummer	Titel	Material	Abmaß
617 1297-1	Hubmast verstärkt	St 509	100 x 100 x 5 x 12m
617 1298	Betonsperrstahl TCA 56	B500A	Ø14
617 1298.4	Mischblende	St 509	24 x 24 x 4
617 1299	Abstandshalter	St 509	24 x 24 x 4
617 1299.4	Abstandshalter	St 509	24 x 24 x 4
617 1299.5	Abstandshalter	St 509	24 x 24 x 4
617 1299.6	Abstandshalter	St 509	24 x 24 x 4
617 1299.7	Abstandshalter	St 509	24 x 24 x 4
617 1299.8	Abstandshalter	St 509	24 x 24 x 4
617 1299.9	Abstandshalter	St 509	24 x 24 x 4
617 1299.10	Abstandshalter	St 509	24 x 24 x 4
617 1299.11	Abstandshalter	St 509	24 x 24 x 4
617 1299.12	Abstandshalter	St 509	24 x 24 x 4
617 1299.13	Abstandshalter	St 509	24 x 24 x 4
617 1299.14	Abstandshalter	St 509	24 x 24 x 4
617 1299.15	Abstandshalter	St 509	24 x 24 x 4
617 1299.16	Abstandshalter	St 509	24 x 24 x 4
617 1299.17	Abstandshalter	St 509	24 x 24 x 4
617 1299.18	Abstandshalter	St 509	24 x 24 x 4
617 1299.19	Abstandshalter	St 509	24 x 24 x 4
617 1299.20	Abstandshalter	St 509	24 x 24 x 4
617 1299.21	Abstandshalter	St 509	24 x 24 x 4
617 1299.22	Abstandshalter	St 509	24 x 24 x 4
617 1299.23	Abstandshalter	St 509	24 x 24 x 4
617 1299.24	Abstandshalter	St 509	24 x 24 x 4
617 1299.25	Abstandshalter	St 509	24 x 24 x 4
617 1299.26	Abstandshalter	St 509	24 x 24 x 4
617 1299.27	Abstandshalter	St 509	24 x 24 x 4
617 1299.28	Abstandshalter	St 509	24 x 24 x 4
617 1299.29	Abstandshalter	St 509	24 x 24 x 4
617 1299.30	Abstandshalter	St 509	24 x 24 x 4
617 1299.31	Abstandshalter	St 509	24 x 24 x 4
617 1299.32	Abstandshalter	St 509	24 x 24 x 4
617 1299.33	Abstandshalter	St 509	24 x 24 x 4
617 1299.34	Abstandshalter	St 509	24 x 24 x 4
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617 1299.36	Abstandshalter	St 509	24 x 24 x 4
617 1299.37	Abstandshalter	St 509	24 x 24 x 4
617 1299.38	Abstandshalter	St 509	24 x 24 x 4
617 1299.39	Abstandshalter	St 509	24 x 24 x 4
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617 1299.47	Abstandshalter	St 509	24 x 24 x 4
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617 1299.49	Abstandshalter	St 509	24 x 24 x 4
617 1299.50	Abstandshalter	St 509	24 x 24 x 4
617 1299.51	Abstandshalter	St 509	24 x 24 x 4
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617 1299.61	Abstandshalter	St 509	24 x 24 x 4
617 1299.62	Abstandshalter	St 509	24 x 24 x 4
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617 1299.64	Abstandshalter	St 509	24 x 24 x 4
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617 1299.67	Abstandshalter	St 509	24 x 24 x 4
617 1299.68	Abstandshalter	St 509	24 x 24 x 4
617 1299.69	Abstandshalter	St 509	24 x 24 x 4
617 1299.70	Abstandshalter	St 509	24 x 24 x 4
617 1299.71	Abstandshalter	St 509	24 x 24 x 4
617 1299.72	Abstandshalter	St 509	24 x 24 x 4
617 1299.73	Abstandshalter	St 509	24 x 24 x 4
617 1299.74	Abstandshalter	St 509	24 x 24 x 4
617 1299.75	Abstandshalter	St 509	24 x 24 x 4
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617 1299.78	Abstandshalter	St 509	24 x 24 x 4
617 1299.79	Abstandshalter	St 509	24 x 24 x 4
617 1299.80	Abstandshalter	St 509	24 x 24 x 4
617 1299.81	Abstandshalter	St 509	24 x 24 x 4
617 1299.82	Abstandshalter	St 509	24 x 24 x 4
617 1299.83	Abstandshalter	St 509	24 x 24 x 4
617 1299.84	Abstandshalter	St 509	24 x 24 x 4
617 1299.85	Abstandshalter	St 509	24 x 24 x 4
617 1299.86	Abstandshalter	St 509	24 x 24 x 4
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617 1299.88	Abstandshalter	St 509	24 x 24 x 4
617 1299.89	Abstandshalter	St 509	24 x 24 x 4
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617 1299.91	Abstandshalter	St 509	24 x 24 x 4
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617 1299.93	Abstandshalter	St 509	24 x 24 x 4
617 1299.94	Abstandshalter	St 509	24 x 24 x 4
617 1299.95	Abstandshalter	St 509	24 x 24 x 4
617 1299.96	Abstandshalter	St 509	24 x 24 x 4
617 1299.97	Abstandshalter	St 509	24 x 24 x 4
617 1299.98	Abstandshalter	St 509	24 x 24 x 4
617 1299.99	Abstandshalter	St 509	24 x 24 x 4
617 1299.100	Abstandshalter	St 509	24 x 24 x 4

11 CONFORMITY CERTIFICATE

EC Declaration of Conformity according to EC Directive 2006/42/EC

The manufacturer

Röhren- und Pumpenwerk BAUER Gesellschaft m.b.H.
Kowaldstraße 2, 8570 Voitsberg, Austria
phone +43 3142 200-0; fax: +43 3142 200-320/-340

herewith confirms that the machine component mentioned below

Designation of machine	Submersible Motor Mixer MSXH
Machine type / basic units	MSXH 5,5; 7,5; 11; 11 Eco; 15
Consists of	Submersible Motor Mixer

corresponds analogously to the requirements of the Machinery Directive 2006/42/EC.
In case of a modification of the machine not accorded with BAUER GmbH, this declaration will cease to be valid.

The following standards as amended have been applied analogously:

DIN EN ISO 12100-1	Safety of machines – Basic concepts, general principles for design, Part 1: Basic terminology, methodology
DIN EN ISO 12100-2	Safety of machines – Basic concepts, general principles for design, Part 2: Technical principles and specifications
DIN EN 60204-1	Safety of machines - Electrical equipment of machines, Part 1: General requirements
EN ISO 14121-1	Safety of machines – Risk assessment

Norms related to products

EN ISO 13857	Safety of machines, safety clearance to secure no touching hazard area with upper extremities.
DIN EN 349	Safety of machine, minimum clearance to avoid crushing body parts
DIN EN 809	Pumps and pump units for liquids - Common safety requirements

The documents belonging to the machine according to annex VII, part B have been attached.
The machine component must not be put into operation unless it has been proven that the machine where the machine component shall be installed, corresponds to the regulations of the EC Machinery Directive (2006/42/EC). The CE mark is applied by the operator as final manufacturer.

Person in charge of documentation: Thomas Theissl, Kowaldstraße 2, 8570 Voitsberg, Austria,



Technical Designer in Charge



Commercial Manager