

Stallkamp

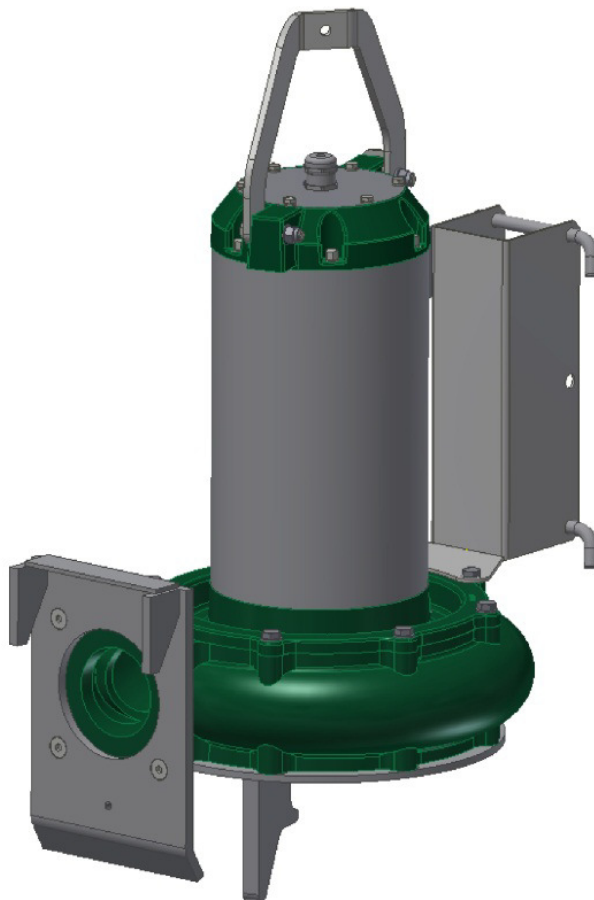
OPERATING MANUAL

Submersible motor pump TMP

Type 2 M1501

BG 132 4.0/ 5.5 / 7.5 kW

BG 160 11.0/ 17.0 / 22.0 kW



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Space for notes:

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General information

- **The technical specifications, weights and measures are to be considered approximate and not binding.**
- **Pictures are for illustration purposes and can deviate from the actual product.**

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2 DECLARATION OF CONFORMITY PURSUANT TO MACHINERY DIRECTIVE 2006/42/EC (ORIGINAL, GERMAN VERSION)

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Product name: Submersible motor pump TMP type 2 M1501

Type:

TMP 4.0 kW; 5.5 kW; 7.5 kW; 11 kW; 17 kW; 22 kW

We hereby declare that the products listed above conform to the pertinent regulations of the EC Directive:

Machinery Directive 2006/42/EC

including all amendments and conform to the pertinent regulations of the Directive on electromagnetic compatibility:

EMC Directive 2004/108/EC.

The following harmonised standards have been applied:

EN ISO 12100: 2010, Safety of machinery - General principles for design, risk assessment and risk reduction

EN 809:2002-06-01, Pumps and pump units for liquids. Common safety requirements

EN 60204-1:2007-06, Safety of machinery - Electrical equipment of machines; Part 1: General requirements

EN 61000-6-1:2007, Electromagnetic compatibility (EMC) Part 6-1: Generic standards — Immunity for commercial environments

EN 61000-6-2:2005, Electromagnetic compatibility (EMC) Part 6-2: Generic standards — Immunity for industrial environments

Dinklage, dated 17. October 2014


Erich Stallkamp ESTA GmbH
D-49413 Dinklage-Germany
In der Bahler Heide 4, Industriegeb. West
Erich Stallkamp, Managing Director

This declaration is not an assurance of characteristics in the sense of the German law on product liability. The safety instructions provided in the product documentation must be observed. If any conversions or modifications are made to the product, this declaration shall lose its validity with immediate effect.

3 GENERAL INFORMATION

Our devices are developed according to the current state of technology, manufactured with great care and subject to a continual quality control. This operating manual should help you to get to know the device and to employ its proper operational possibilities.

The operating manual contains important notices in order to operate the device safely, appropriately and cost-effectively. It is necessary to observe the operating manual to ensure the reliability and long service life of the device and to avoid hazards.

The operating manual does not take local, on-site requirements into consideration; the operator is solely responsible for ensuring that these are observed, including by external installers.

3.1 Designation of notices in the operating manual



In the operating manual, safety references warning of dangers to persons are identified with the general hazard symbol according to DIN 4844-W9.



In the operating manual, warnings about electrical voltage are identified with the safety signs according to DIN 4844-W8.

All other notices which might restrict the functional reliability of the device or represent a danger for the machine if not observed are marked with the word:

ATTENTION!

This machine unit may not be operated beyond the values defined in the technical documentation with respect to conveying liquid, delivery flow rate, speed, density, pressure, temperature as well as motor power output or other instructions contained in the operating manual or contract documentation. If you have any queries, please consult the manufacturer.

The rating plate displays the most important operating data and the machine serial number. We request that this always be specified in the event of enquiries, subsequent orders and when purchasing spare parts.

Provided that additional information or notes are required or in case of damage, please contact our local field sales employee or contact us directly.

3.2 Unauthorised conversion and spare part manufacture

Conversions and modifications to the devices and their machine units are only permissible with the explicit approval of the manufacturer. The use of non-“original spare parts” abrogates all liability.

4 SAFETY

This operating manual contains fundamental information which must be observed during installation and operation as well as when performing maintenance work on the device.

It is therefore absolutely necessary that the installer as well as the responsible qualified personnel and operator read these instructions before installation and commissioning, and that they are continually available at the location where the machine is operated.

Not only the safety instructions in this operating manual must be observed, but also the warning signs and regulations of the respective professional association in the latest version.

4.1 Qualification of the personnel



The personnel performing the operation, maintenance, inspection and installation must be appropriately qualified for this work.

Area of responsibility, competence and the monitoring of the personnel must be precisely regulated by the operator. If the necessary skills are not available to the personnel, then they should be appropriately trained and instructed.

Furthermore the operator must ensure that the operating staff fully understands the contents of the operating manual.

4.2 Dangers if the safety instructions are not observed

Failure to observe the safety instructions can endanger persons as well as the environment and the machine. Failure to observe the safety instructions results in the loss of all claims for damages.

Specifically, failure to observe instructions can, for example, result in the following dangers:

- Failure of important functions of the device or plant.
- Endangerment of persons due to electrical, mechanical, chemical or other exposure.
- Endangerment of the environment due to leakage of hazardous materials.

WARNING SIGNS

Observe all notices and warning signs. Dangerous gases can escape when agitating the liquid manure.



DANGER OF POISONING!

If the liquid manure is stored below slatted floors, the presence of persons in buildings during agitation is only permissible with sufficient ventilation. Therefore windows and doors must be open and the ventilator set to full power.

4.3 Safety-conscious work

Observe all safety instructions presented in this operating manual, the existing national regulations for accident prevention as well as possible internal work, operation and safety regulations of the company at all times.

Safety instructions for the operator and attendant:

- ✓ If hot or cold machine parts can pose a hazard, then these parts must be protected on site against contact.
- ✓ Contact protection for moving parts may not be removed while the machine is in operation.
- ✓ Any leakage of dangerous materials must be conducted away so that there is no endangerment to persons and environment. Observe statutory provisions.

4.4 Safety instructions for maintenance, inspection and assembly work



The operator has to ensure that all maintenance, inspection and installation work is carried out by authorized and qualified personnel.

Fundamentally, all work on the machine can only be carried out when the machine is at a standstill.

Directly after completion of the work, all safety and protection equipment must be reattached or made functional.

5 GUARANTEE

This section contains the general particulars for the guarantee. Contractual agreements are always treated with priority and are hereby not rescinded. The period of guarantee is a component of Stallkamp's general terms and conditions. Agreements deviating from this must be specified in writing in the order confirmation.

5.1 General

Stallkamp is obligated to repair every defect to products sold by Stallkamp under the condition:

- ✓ that it is a quality defect of the material, manufacture or design;
- ✓ that the defect is reported in writing to Stallkamp or the Stallkamp representative within the period of the guarantee;
- ✓ that the product is employed exclusively in the specified operating conditions described in the operating manual and employed for the intended purpose;
- ✓ that the monitoring device integrated in the product is correctly connected (temperature protection);
- ✓ that genuine Stallkamp parts are used.

5.2 Exclusion of liability

No guarantee or liability is assumed for damage to the device if one or several of the following points are applicable:

- A faulty configuration of the device on our part because of inadequate or incorrect information from the ordering party or operator;
- Failure to observe the safety instructions, regulations or the necessary requirements in this operating manual which apply according to German law;
- Installation, disassembly or repair of the device not in keeping with the regulations;
- Inadequate maintenance;
- Possible chemical, electrical or electrochemical influences;
- Wear and tear.

Since maintenance has an influence on the safety and functional capability of the device, it is an integral component of the guarantee. The operator of the device is obligated to have the manufacturer himself or a service approved by the manufacturer perform maintenance work according to the regulations of the manufacturer, including the necessary changing of oil and the repair and replacement of wearing parts. The operator is thus obligated to maintain a maintenance and revision list, which facilitates monitoring of the mandatory inspection and maintenance work (see Point 16 Maintenance and revision list).

We expressly emphasise that this device is a fluid flow engine in which the protective coating is exposed to constant wear from the abrasive contents of the medium being pumped and should consequently be classed as a wearing part. Wear, damage and secondary damages which result from external influences on the protective coating are expressly excluded from the guarantee. The use of devices and/or the field of application and reliability for the application must be verified by the operator and does not form part of the guarantee.

The liability of Stallkamp thereby excludes any liability for personal damages, material damages or financial losses.

The manufacturer reserves the right to modify the performance, specifications or configuration data without prior information.

6 PRODUCT DESCRIPTION FOR TMP TYPE 2 M1501

6.1 General description

This operating manual applies to the standard model of the Stallkamp submersible motor pumps.

The pump may only be operated when completely submersed if used in explosive environments.

Submersible motor pump TMP type 2 M1501 comprising:

- Stainless steel crankcase
- Oil filling in motor compartment with insulating oil
- Thermo-control with bimetallic switch per phase for overheating protection
- Cast iron pump chassis coated with 2-component plastic lacquer
- Oil filling in oil chamber with hydraulic oil
- Pump impeller torque of 1,450 rpm
- 6m electrical cable with special double-shell PU external sheath
- Stainless steel guide slide bearing including depth stop for guide rail 100 x 100 mm
- Maximum submersion depth 10 m
- Temperature of medium being pumped up to max. 50°C -> Pumping without restrictions as long as motor is not running in overload range.
- Temperature of medium being pumped from 51°C to max. 70°C -> Depending on the solid contents and the viscosity of the medium being pumped, in isolated cases the cooling of the pump may not be sufficient. The motor is then switched off by the thermal protection switch. In this case, a pump impeller with a smaller external diameter is required.

6.2 Applications

The pump is intended for the following applications:

- Pumping of liquid manure in final storage sites, pre-lagoons and liquid manure canals;
- Pumping of biomass in biogas plants;
- Pumping of sludge in treatment plants;
- Pumping of industrial waste water in industrial plants.

The pump has been designed with a wide variety of fields of application in mind in which a high flow rate is required proportional to the power consumption.

The flow rate (volume flow rate in m³/h) is dependent on the density and viscosity of the liquid, the type and the dry matter content of the liquid manure (animal feed), the pumping height and distance and the diameter of the pipeline.

6.3 Technical data

Submersible motor pump TMP type 2 M1501 comprising:

- Pump type: TMP type 2 M1501
- Threephase motor: 400 V, 50 Hz, 3 Ph, 1,450 rpm
- Protection category: IP68
- Insulating category: F = 155°C
- Motor power output: 4.0; 5.5; 7.5; 11.0; 17.0 and 22.0 kW
- Pump seal: 4 radial shaft seal rings
- Guide slide bearing: Stainless steel, 1.4301 for guide rail 100 x 100 mm
- Impeller: Plated, coated steel

6.4 Type plate on TMP type 2 M1501

The type plate displays the most important power and specification data:

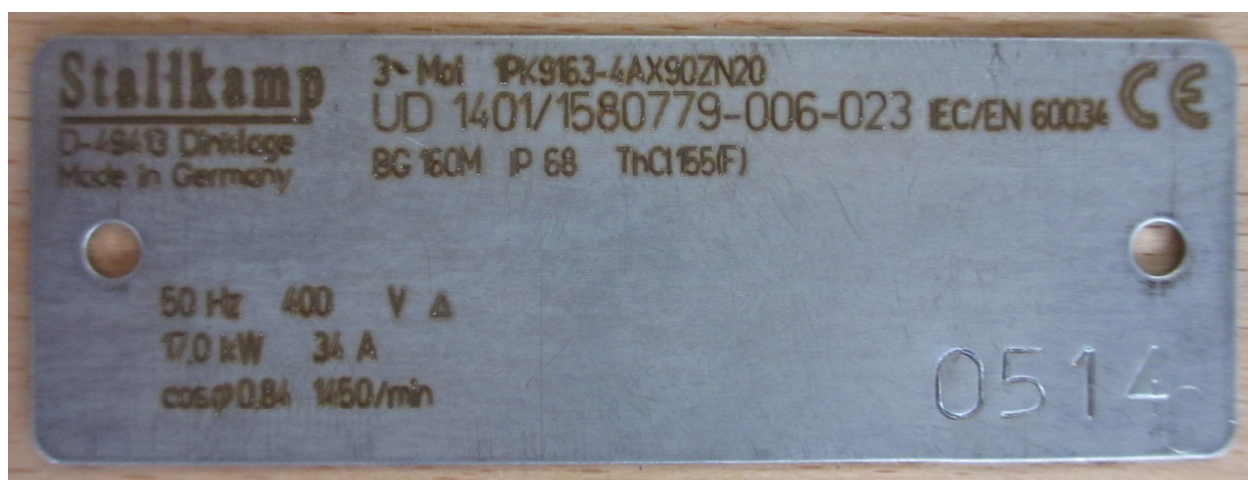


Figure 1

Motor/serial number: (e.g., UD 1401/1580779-006-023)

Classification: (e.g., TMP BG 160M)

Power data: (e.g., 17 kW)

Year of manufacture: (e.g., 0514)

When asking technical questions concerning the device, always provide the type plate data above!