

The **bellhousing** is a connecting element between electric motor and hydraulic pump. The bellhousings are made of the materials aluminium, cast iron, nylon and steel.

Table of contents

1	Advice	2
1.1	General advice	2
1.2	Safety and advice symbols	2
1.3	General hazard warnings	2
1.4	Intended use	2
2	Storage, transport and packaging	3
2.1	Storage	3
2.2	Transport and packaging	3
3	Assembly	3
3.1	Components of bellhousing	3
3.2	Assembly of bellhousing	4
4	Disposal	6
5	Spares inventory, customer service addresses	6



1 Advice

1.1 General advice

Please read through these operating/assembly instructions carefully before you start up the bellhousing. Please pay special attention to the safety instructions! The operating/assembly instructions are part of your product. Please store them carefully and close to the bellhousing. The copyright for these operating/assembly instructions remains with KTR.

1.2 Safety and advice symbols



Warning of personal injury

This symbol indicates notes which may contribute to preventing bodily injuries or serious bodily injuries that may result in death.



Warning of product damages

This symbol indicates notes which may contribute to preventing material or machine damage.



General advice

This symbol indicates notes which may contribute to preventing adverse results or conditions.

1.3 General hazard warnings



With assembly and disassembly of the bellhousing it has to be made sure that the entire drive train is secured against accidental switch-on. You may be seriously hurt by rotating parts. Please make absolutely sure to read through and observe the following safety indications.

- All operations on and with the bellhousing have to be performed taking into account "safety first".
- Please make sure to switch off the power pack before you perform your work on the bellhousing.
- Secure the power pack against accidental switch-on, e. g. by providing warning signs at the place of switch-on or removing the fuse for current supply.
- Do not reach into the operation area of the machine as long as it is in operation.
- Please secure the rotating drive components against accidental contact. Please provide for the necessary protection devices and covers.

1.4 Intended use

You may only assemble and disassemble the bellhousing if you

- have carefully read through the operating/assembly instructions and understood them
- had technical training
- are authorized by your company

The bellhousing may only be used in accordance with the technical data (see catalogue of hydraulic components). Unauthorized modifications on the bellhousing are not admissible. We will not assume liability for any damage that may arise. In the interest of further development we reserve the right for technical modifications. The **bellhousing** described in here corresponds to the technical status at the time of printing of these operating/assembly instructions.

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2 Storage, transport and packaging

2.1 Storage

The bell housings (except for those made of the material aluminium) are supplied in preserved condition and can be stored in a roofed, dry place during 6 - 9 months.



The storage rooms must not include any ozone-generating devices like e. g. fluorescent light sources, mercury-vapour lamps or electrical high-voltage appliances. Humid storage rooms are not suitable. Please make sure that condensation is not generated. The best relative air humidity is less than 65 %.

2.2 Transport and packaging



In order to avoid any injuries and any kind of damage always make use of proper transport and lifting equipment.

The bell housings are packed differently each depending on size, number and kind of transport. Unless otherwise contractually agreed, packaging will follow the in-house packaging specifications of KTR.

3 Assembly

The bellhousing is supplied ready for assembly.

3.1 Components of bellhousing

Component	Number	Description
1	1	bell housings made of aluminium, cast iron or steel
2	1	bell housings made of nylon with pump mounting flange made of aluminium

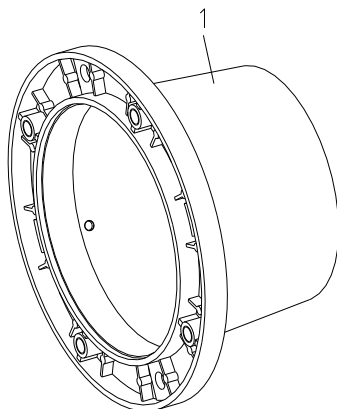


Illustration 1: Bellhousing

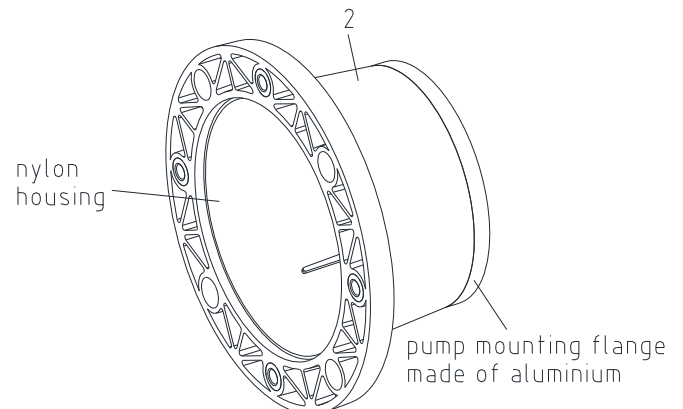


Illustration 2: Bellhousings made of nylon

**3 Assembly****3.2 Assembly of bellhousing**

- The bellhousing will be fitted on the engine centering / pump centering (see illustration 3) and screwed. To fix the bellhousing to the engine please **only** use the respective tappings.



The screws between the nylon housing and the pump mounting flange made of aluminium must **not** be unscrewed on the nylon bellhousings (misalignment).

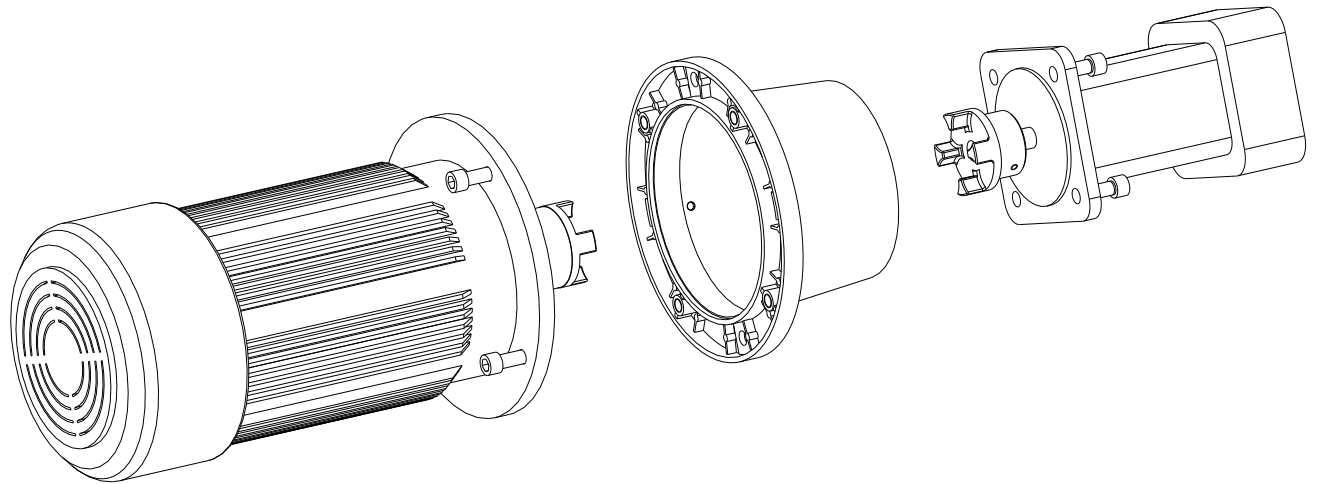


Illustration 3: Assembly of electric motor or pump with bellhousing

- The screw length must be selected such that at least the complete length of the thread in the bellhousing is used. For screw tightening torques please refer to the following tables 1, 2 and 3.
- If the bellhousing is connected with a foot flange, the length of the screws to fix the engine in the area of the foot flange must be selected such that they project through the foot flange and can be screwed with a nut (see illustration 4).

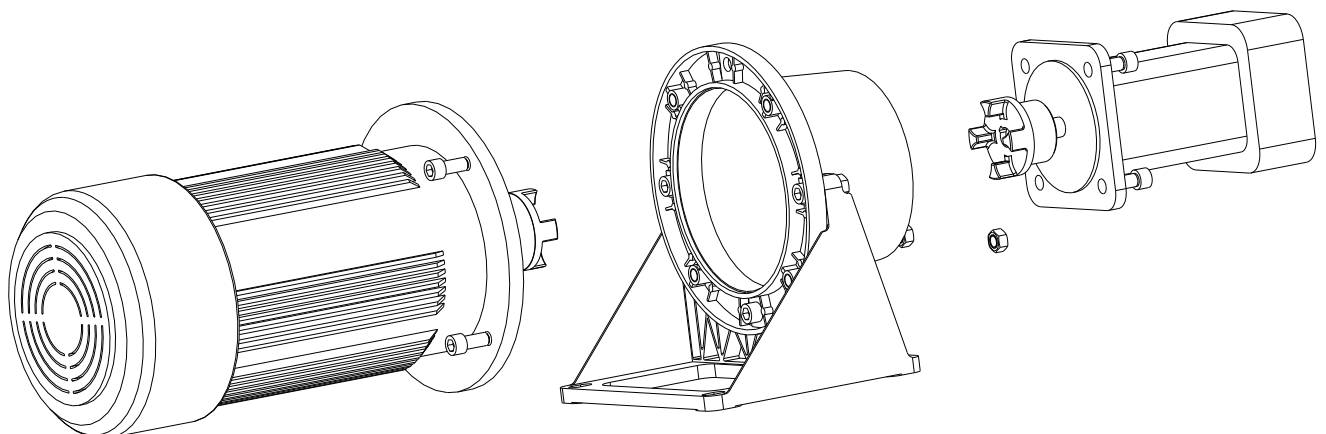


Illustration 4: Assembly of electric motor or pump with bellhousing and foot flange

**3 Assembly****3.2 Assembly of bellhousing****Continuation:****Table 1: Tightening torques of bellhousings made of aluminium and nylon**

Cap screws DIN EN ISO 4762 ¹⁾	M8	M10	M12	M16	M20	M24
Tightening torque T_A [Nm] ²⁾	12	23	40	100	up to size 350 = 140 from size 400 = 180	Size 450 = 180 Size 550 to 600 = 240 from size 660 = 310

1) min. property class 8.8

2) Tightening torques of property class 5.6

Table 2: Tightening torques of bellhousings made of cast iron

Cap screws DIN EN ISO 4762 ¹⁾	M8	M10	M12	M16	M20	M24
Tightening torque T_A [Nm] ²⁾	23	46	79	195	up to size 350 = 300 from size 400 = 395	680

1) min. property class 8.8

2) Tightening torques of property class 8.8; friction coefficient 0.125

Table 3: Tightening torques of bellhousings made of steel

Cap screws DIN EN ISO 4762 ¹⁾	M8	M10	M12	M16	M20	M24
Tightening torque T_A [Nm] ²⁾	34	67	115	290	up to size 350 = 490 from size 400 = 560	970

1) min. property class 10.9

2) Tightening torques of property class 10.9; friction coefficient 0.125



The screws must be generally used with Loctite, Omnifit 230M or similar adhesives for fastening.



If through holes with screws and nuts are used to fix the engine for reasons of stiffness, the tappings in the engine flange must be bored accordingly. Please specify in your order.



Venting holes or assembly openings in the bellhousing must be closed depending on the instruction such that a contact among the coupling or shafts rotating in the bellhousing is not possible. (Here KTR provides for nylon plugs and covering grid plates, see illustration 5 and 6.)



Illustration 5: Covering grid plate



Illustration 6: Nylon plug

	Bellhousing Operating/Assembly instructions	KTR-N 41010 EN Sheet: 6 of 6 Edition: 8
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3 Assembly

3.2 Assembly of bellhousing

Continuation:

- If the bellhousing has a sealing function against oil flowing out of the bellhousing or penetrating into the bellhousing (e. g. lateral assembly of tank below the oil level or type V1) this must be specified in the order! In this case the bellhousing is inspected for tightness and provided with a marking (green point) in the area of the engine connection.
Before assembly please make sure that the marking was made.



The user is responsible for the sealing between bellhousing and tank wall or pump. Respective gaskets can partly be obtained from KTR.

4 Disposal

In respect of environmental protection we would ask you to dispose of the packaging or products on termination of their service life in accordance with the legal regulations and standards that apply, respectively.

- **Metal**
Any metal components have to be cleaned and disposed of by scrap metal.
- **Gaskets**
Gaskets can be disposed of by residual waste.
- **Nylon materials**
Nylon materials have to be collected and disposed of by a waste disposal company.

5 Spares inventory, customer service addresses

We recommend to store major spare parts on site to ensure the readiness for use of the machine, for example in case if a bellhousing fails.

Contact addresses of the KTR partners for spare parts and orders can be obtained from the KTR homepage at www.ktr.com.



KTR does not assume any liability or warranty for the use of spare parts and accessories which are not provided by KTR and for the damages which may incur as a result.

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