

Rexroth Sytronix

Motor-Pump Unit MPA01

PGH5 - MSK133 - Air / Liquid Cooling

Mounting instructions

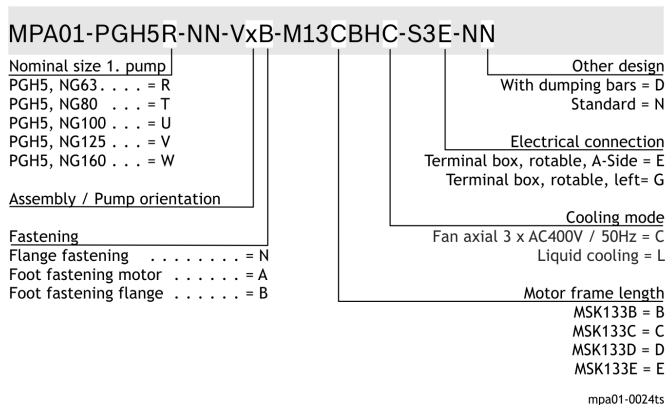
R911341600
Edition 03

About this documentation

This documentation is for fitters and service engineers. This documentation contains important information to safely and properly assemble the product.

Validity of the documentation

This documentation is valid for the following motor-pump units:



Necessary documentation

- ▶ Only commission the product, when you have the following documentations at hand and have understood and observed them.

Title	Material number (R911...) Document type code (Dok-...)
Rexroth Sytronix Safety Notes and Instructions on Use Motor-Pump Unit	R911339831 DOK-SYTROX-MPA01SAFETY-SARS-EN-P
Rexroth Sytronix Mounting and Commissioning Internal gear pump PGH/PGM	R911340908 DOK-SYTROX-PG**-*****-ASRS-EN-P
Rexroth Sytronix Motor-pump unit, MPA 01	R911339824 DOK-SYTROX-MPA01*****-ITRS-EN-P

Related documentation

General safety instructions

- ▶ Observe the valid regulations about accident prevention and environmental protection.

- ▶ Heed the safety regulations and instructions of the country in which the product is used.
- ▶ Use Rexroth products only in proper state.
- ▶ Please observe all notes on the product.
- ▶ Only use accessories and spare parts which are permitted by the manufacturer to prevent from risk of injury due to unsuitable spare parts.

Qualified personell

Mounting and installing of motor-pump units MPA01 must be done by qualified personell or competent persons. A person is qualified, if knowledge or experiences of respective standards and regulations exists. Assigned work must be evaluated and possible danger be recognized.

Scope of supply

- ▶ 1x Internal gear pump PGH5
- ▶ 1x Synchronous motor MSK133
- ▶ 2x Hexagon head screw ISO4017-M16X40-8.8
- ▶ 2x Washer (flat) ISO7090-16-200HV
- ▶ 1x Assembly instructions

Optional

- ▶ 1x Adapter flange with mounting screws and washers
- ▶ 1x Pump foot with mounting screws und washers
- ▶ 2x Damping rail with mounting screws and washers

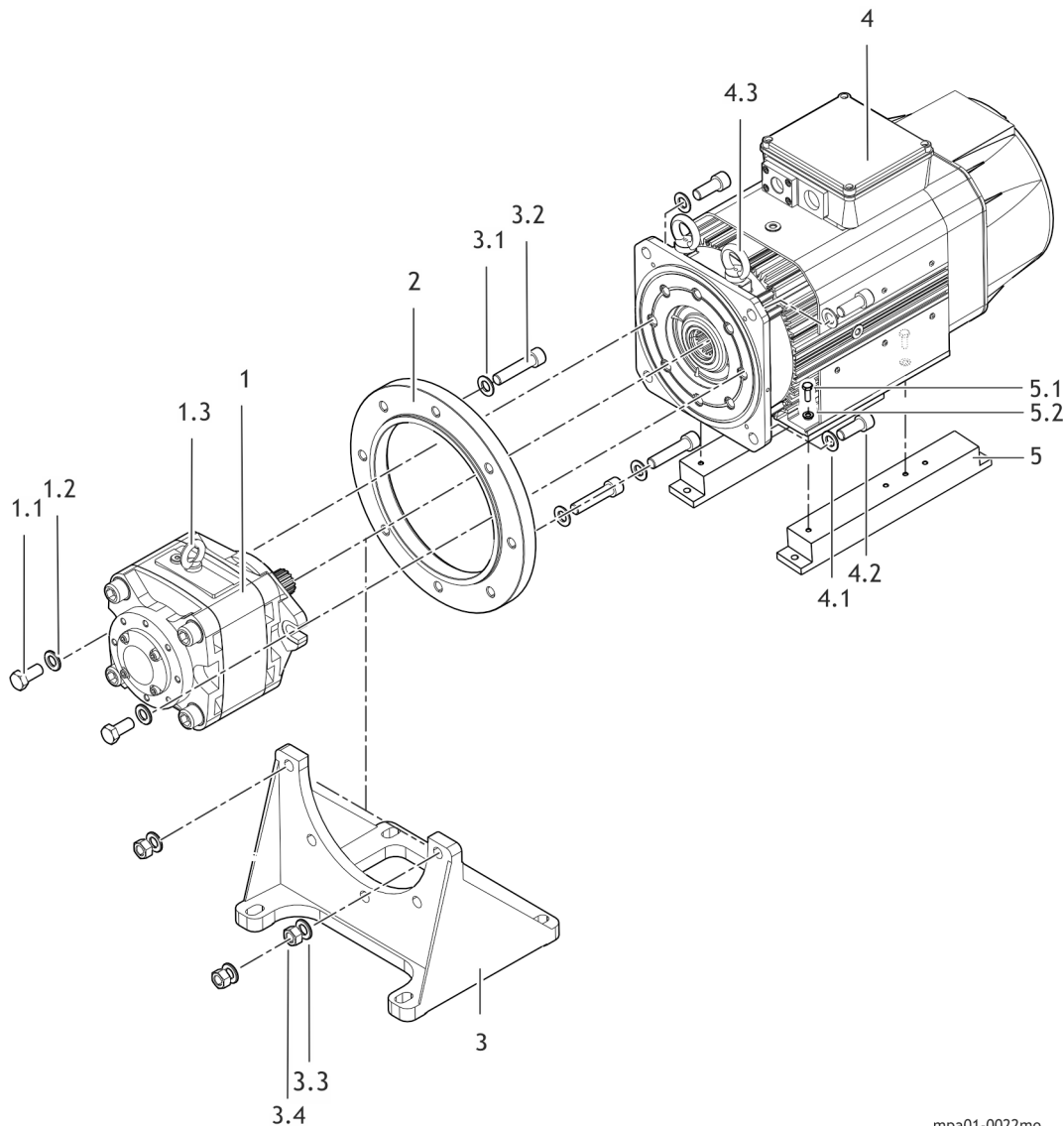
Tools and supplies

Have the following tools and supplies available for mounting:

- ▶ 1x Allen key SW14 (torque wrench)
- ▶ 1x Fork wrench SW16 (torque wrench)
- ▶ 1x Fork wrench SW24 (torque wrench)
- ▶ 1x Screwdriver size 2 (cross recess)
- ▶ Screw lock Loctite 243®

Assembly

Mount the components according to the drawing and observe all assembly steps. Tolerance of the specified tightening torque $\pm 10\%$.



mpa01-0022mo

- | | | | |
|------------------|---|------------|---|
| 1 | Internal gear pump PGH5 | 3.4 | ISO4032-M16-8 |
| 1.1 | ISO4017-M16X40-8.8 (tightening torque 210 Nm) | 4 | Synchronous motor MSK133 |
| 1.2 | ISO7090-16-200HV | 4.1 | ISO7090-16-200HV |
| 1.3 | DIN580-M10 | 4.2 | ISO4762-M16X40-8.8 (tightening torque 210 Nm) |
| 2 | Adapter flange | 4.3 | DIN580-M12 |
| 3 | Pump foot (option) | 5 | Damping rail (option) |
| 3.1 / 3.3 | ISO7090-16-200HV | 5.1 | ISO4017-M10X30-8.8 (tightening torque 50 Nm) |
| 3.2 | ISO4762-M16X70-8.8 (tightening torque 210 Nm) | 5.2 | ISO7089-10-200HV |

Mount motor-pump unit MPA01 from components

The figure shows mounting of motors in design "SA" (air cooling). The mounting of motors in "FN" design (liquid cooling) is identically.

1. Screw on damping rails (5) on the motor.

In case of design without damping rails, this mounting step is not applied.

To reach the fastening holes, remove the lower air guides to mount the damping rails in the case of motors with fan. Fasten the damping rails (5) with the screws (5.1) and washers (5.2) on the motor. Tightening torque 50 Nm, lock screw connection with Loctite 243®. Remount the air guides.

2. Mount the adapter flange (2).

With design without adapter flange, this mounting step is not applied.

Screw the adapter flange (2) on the motor (4) with socket head screws (4.2) and washers (4.1). Tightening torque 210 Nm, lock screw connection with Loctite 243®.

3. Screw the pump with the motor.

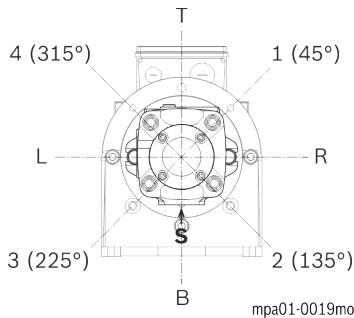
Use adequate lifting tools.

NOTICE

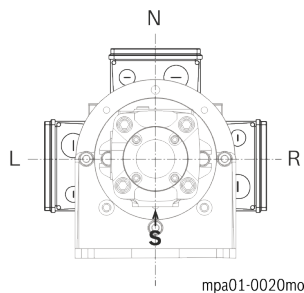
Damage due to improper mounting!

Mating motor and pump shaft carefully, aligning not to tilt the wrench. Impacts onto motor or pump can cause damage and are therefore not allowed.

Screw the pump (1) with the motor by means of screws (1.1) and washers (1.2) in the required orientation (T, 1 (45°), R, 2 (135°), B, 3 (225°), L or 4 (315°) Tightening torque 210 Nm, lock screw connection with Loctite 243®.



S Suction connection (Option = B shown in the figure)
Pump mounting installation direction



Motor mounting orientation

4. Screw on pump foot

In the case of design without pump foot (3) this mounting step no longer exists.

Fasten the pump foot (3) with the adapter flange (2) by means of screws (3.2), washers (3.1, 3.3) and nuts (3.4) Tightening torque 210 Nm, lock screw connections with Loctite 243®.

Transport of motor-pump units by means of cranes or lifting tools.

Transport with cranes or lifting gear is allowed only if suitable load-securing devices, such as lifting straps, belts or chains are used. Load-securing points for DIN 580 eyebolts are provided on the individual components.

- ▶ MSK133 (2× M12)
- ▶ PGH5 (1× M10)

For further information about the load capacity of the eyebolts please refer to the DIN 580 standard.

Weights of the motor-pump units

Frame size	PGH5				
Nominal size	63	80	100	125	160
Weight kg	39	40.5	42.5	45	49

Weight internal gear pumps

Frame size	MSK133-SA / MSK133-FN			
Nominal size	B	C	D	E
Weight kg	91.6	111.0	127.0	146.0

Weight MSK motors

Frame size MSK133	Adapter flange	Pump foot	Damping rails
Weight kg	9.3	18.6	17

Weight motor components

The specified weights apply to the components only; weights of motor-pump combinations add up from the single values.

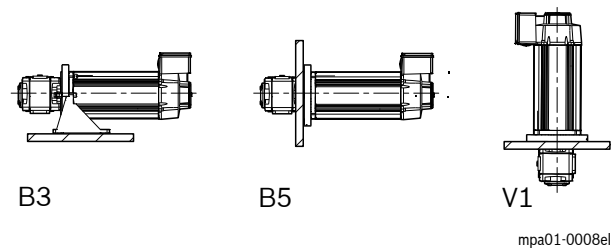
- ▶ Ensure a sufficiently dimensioned loading capacity of the lifting tools so that the weight of the motor-pump unit or the single parts is safely transported.

Check motor-pump unit

- ▶ Check the motor-pump unit for visible damage.
- ▶ Check the installation dimensions of the motor-pump unit according to the dimension sheets in the operating instruction manual DOK-SYTROX-MPA01*****-ITRS-xx-P.

Deviating installation measures or tolerances can result in a wrong assembly. Check and correct the failure cause before you mount the motor-pump unit into the construction.

Permitted installation positions of the motor-pump unit



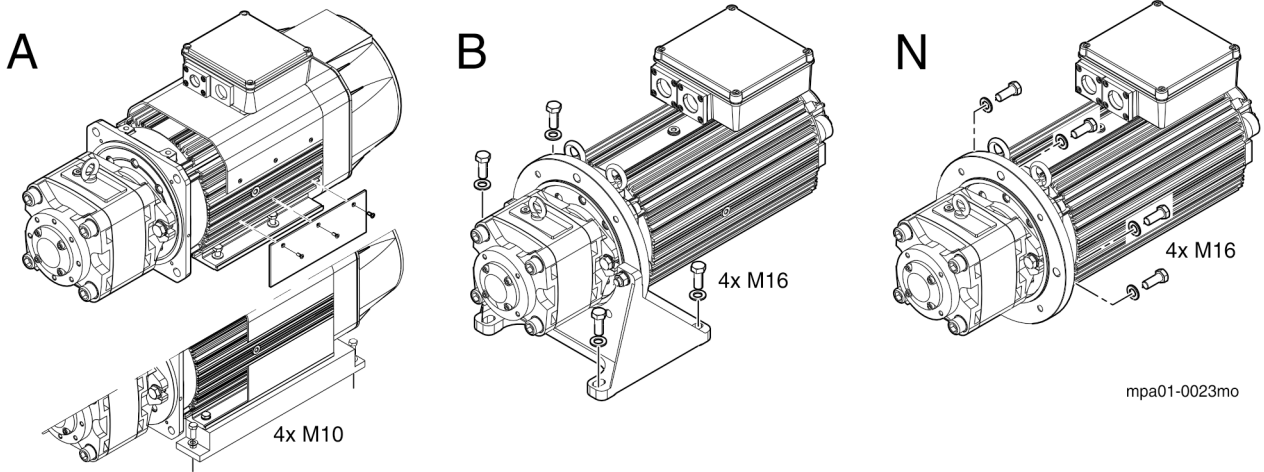
The assembly of motor-pump units can be made in foot or flange mounting. Allowed installation positions according to EN 60037-7 are **IM B3**, **IM B5** and **IM V1**. Vertical installation IM V3 (motor under the pump) is not permitted.

Installation MPA01-PGH5-MSK133 air / liquid cooling

The screw connection must be adjusted to the installation situation (screw length, property class, screw-in depth, material, ...). The dimensioning of the screw connection is in the responsibility of the customer.

- ▶ Mount in a dry, dust-free environment.
- ▶ Ensure that the contact surface on the machine side is burr-free.
- ▶ Securely screw the motor-pump unit onto the machine construction.

Choose a fastening variant N, A or B according to the machine configuration.



Install motor-pump unit MPA01 on system

Fastening variant		Hole Ø [mm]	Screw	Washer
A	Foot fastening without damping rails	12	M10	yes
	Foot fastening with damping rails			
B	Foot fastening flange	18	M16	yes
N	Flange fastening	18	M16	yes

For mounting, remove the lower air guide of motors with fan to reach the fastening holes (4x Ø12 mm).

1. For dismounting, loosen the 3 fastening screws M5x12 of the lower air guides (cross recess).
2. Fasten the damping rails onto the motor by means of 4x M10 fastening screws.
3. Fasten the motor onto the machine by means of 4x M10 fastening screws.
4. Subsequently remount the air guides on the motor. Tightening torque of fastening screws of air guides 6.1 Nm.

MPA01 fastening accessory

Figure "A" shows the mounting of motors in "SA" design (air cooling). Figure "B", "N" shows the mouning of motors in "FN" design (liquid cooling).

Foot fastening motor A (without damping rails)

The motor must be fastenend with screws (4xM10) provided by the customer. For the connection dimensions refer to the dimension sheet.

For mounting, remove the lower air guide of motors with fan to reach the fastening holes (4x Ø12 mm).

1. For dismounting, loosen the 3 fastening screws M5x12 of the lower air guides (cross recess).
2. Fasten the motor onto the machine by means of 4x M10 fastening screws.
3. Subsequently remount the air guides on the motor. Tightening torque of fastening screws of air guides 6.1 Nm.

Foot fastening motor A (with damping rails).

The motor must be fastened with screws (4x M10) by the customer. For the connection dimensions refer to the dimension sheet.

Foot fastening flange B

The motor must be fastened with screws (4x M16) by the customer. For the connection dimensions refer to the dimension sheet.

Flange fastening N

The motor must be fastened with screws (4x M16) by the customer. For the connection dimensions refer to the dimension sheet.

Disassembly

When performing disassembly, proceed in the reverse order as described in Chapter "Mounting". Work carefully and avoid damage to the components. Only proper components can be re-used.

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