

Rexroth Sytronix

Motor-Pump Unit MPA01

PGH5 - MSK133 - Air / Liquid Cooling

Mounting Instructions

R911341600
Edition 02

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 this Documentation

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

MPA01-PGH5R-NN-VxB-M13CBHC-S3E-NN	
Nominal size 1. pump PGH5, NG63 = R PGH5, NG80 = T PGH5, NG100 = U PGH5, NG125 = V PGH5, NG160 = W	Electrical connection Terminal box, rotatable = E
Assembly / Pump orientation Fastening Flange fastening = N Foot fastening motor = A Foot fastening flange = B	Cooling mode Fan axial 3 x AC400V / 50Hz . . = C Liquid cooling = L
	Motor frame length MSK133B = B MSK133C = C MSK133D = D MSK133E = E

mpa01-0024ts

Necessary Documentation

- ▶ Operate this product only, if you have the following documentation available. You must understand and observe this documentation.

Title	Material number (R911...) Documentation Type (Dok-...)
Rexroth Sytronix Safety Notes and Instructions on Use Motor-Pump Unit	R911339831 DOK-SYTROX-MPA01SAFETY-SARS-EN-P
Rexroth Sytronix Mounting and Start-up Internal Gear Pump PGH/PGM	R911340908 DOK-SYTROX-PG**-*****-ASRS-EN-P
Rexroth Sytronix Motor-Pump Unit MPA 01	R911339823 DOK-SYTROX-MPA01*****-ITRS-EN-P

Additional valid 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 Delivery

- ▶ 1× Internal gear pump PGH5
- ▶ 1× Synchronous motor MSK133
- ▶ (1)× Adapter flange (option)
- ▶ (1)× Pump foot (option)
- ▶ 12× Flat washer ISO7090-16-200HV
- ▶ 2× Hexagon head screw ISO4017-M16X40-8.8
- ▶ 3× Hexagon socket head cap screws ISO4762-M16X70-8.8
- ▶ 3× Hexagon socket head cap screws ISO4762-M16X40-8.8
- ▶ 1× Mounting instruction

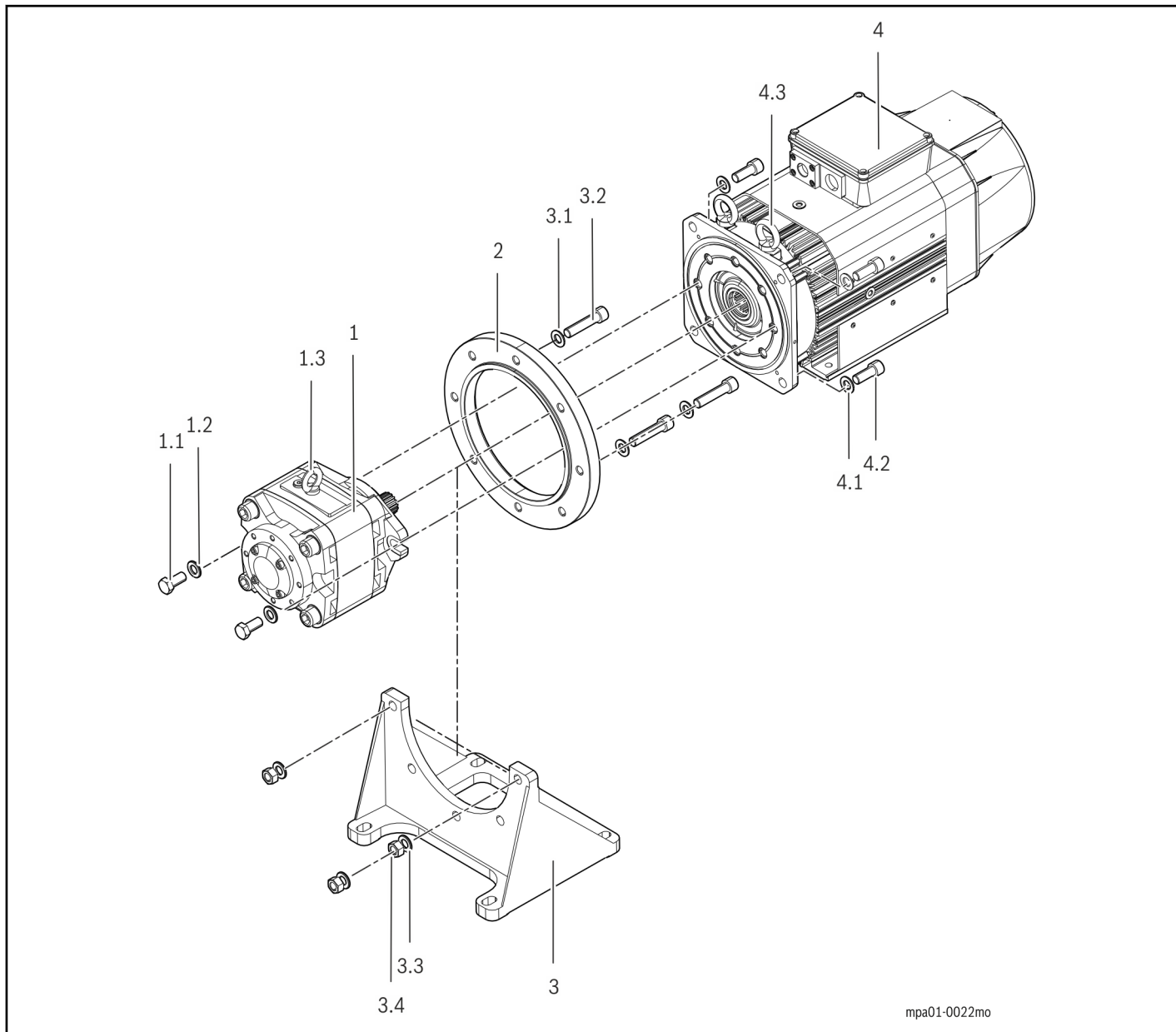
Tools and Auxiliary Materials

Keep the following tools and auxiliary materials ready for assembly:

- ▶ 1× Allen size 14 (torque wrench)
- ▶ 1× Allen size 16 (torque wrench)
- ▶ 1× Allen size 24 (torque wrench)
- ▶ 1x Screwdriver size 2 (crosstip)
- ▶ Screw lock Loctite 243®

Assembly

Assemble the components according to the drawing and observe all assembly steps. Tolerance of the specified tightening torque ±10%.



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

Assemble the motor-pump unit MPA01 composed of components

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

1. Mount the adapter flange

This mounting step is not necessary in design without adapter flange (2).

Screw the adapter flange (2) onto the motor (4) via hexagon socket screw (4.2) and flat washers (4.1). Tightening torque 210 Nm, secure screw connection with Loctite 243®.

2. Screw the motor with the pump

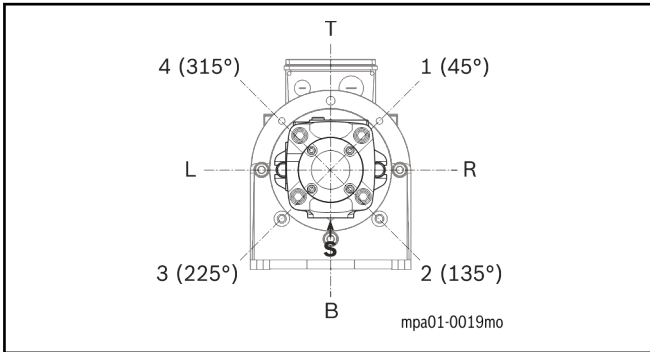
Use sufficiently measured lifting tools.

NOTICE

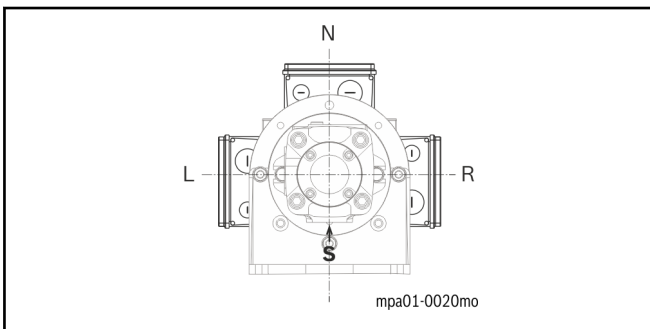
Damage by improper assembly operation!

Carefully join the motor shaft and pump shaft, aligning without being jammed. Strikes onto motor or pump can cause damage and are therefore not allowed.

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



S Suction port (figured option = B)
Pump assembly mounting direction



Motor assembly direction

3. Mount pump foot

This mounting step is not necessary in design without pump foot (3).

Screw the pump foot (3) with the screws (3.2), flat washers (3.1, 3.3), nuts (3.4) and the adapter flange (2). Tightening torque 210 Nm, secure screw connection with Loctite 243®.

Transport the Motor-Pump Unit with Cranes or Lifting Tools

The transport with cranes or lifting tools may only be done with suitable lifting means, like e.g. lifting belts, belts and chains. The components have the following lifting points for ring screws DIN 580.

- ▶ MSK133 (2× M12)
- ▶ PGH5 (1× M10)

For further information about carrying capacity of the ring screws refer to the DIN 580 standard.

Weight of 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

	Adapter flange	Pump foot
Frame size	MSK133	MSK133
Weight kg	9.3	18.6

Weight motor components

The specified weights are valid for the components only, weights of motor-pump combinations add together from the single values.

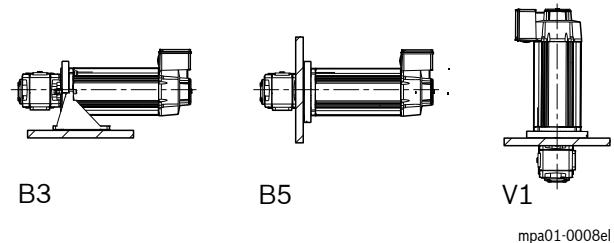
- ▶ Ensure a sufficiently dimensioned loading capacity of the lifting tools to ensure a safe transport of the weight of the motor-pump unit or the single parts.

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



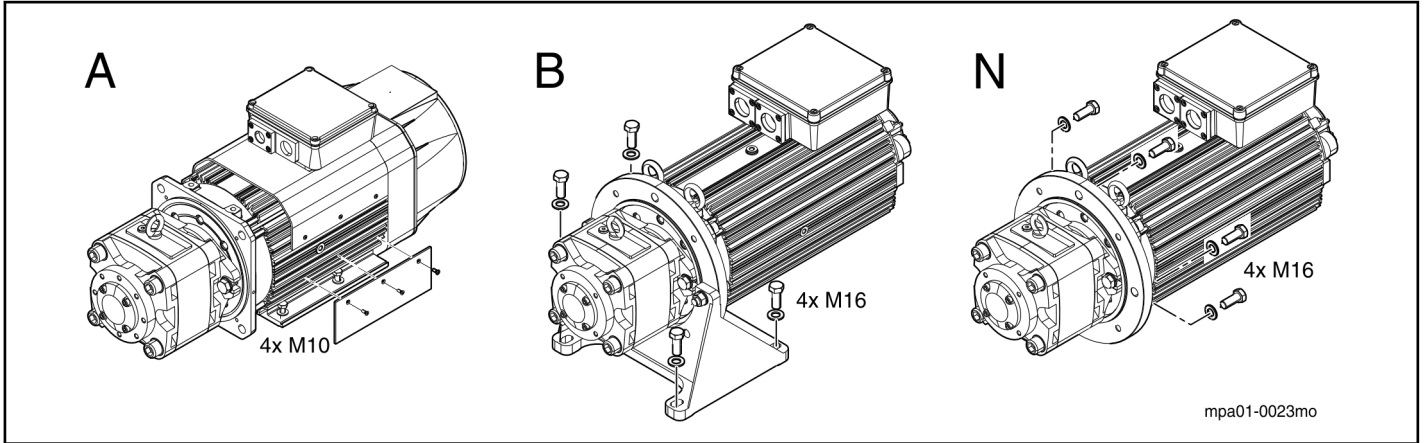
The assembly of motor-pump units can be made in foot or flange mounting. Allowed installation positions according to EN 60037-7 are **IM B3**, **IM B5** and **IM V1**. Vertical installation IM V3 (motor under the pump) is not permitted.

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.

- ▶ Assemble in dry, dust free environment.
- ▶ Ensure a burr-free machine-side contact surface.
- ▶ Securely screw the motor-pump-unit with the machine construction.

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



Assemble motor-pump unit MPA01 into the construction.

Fastening	Hole ø [mm]	Screw	Washer
Foot fastening motor (A)	12	M10	Yes
Foot fastening flange (B)	18	M16	Yes
Flange fastening (N)	18	M16	Yes

Dismantling

For disassembly proceed in reverse order, as described in chapter "Assembly". Proceed carefully and avoid damages on the components. Only components in proper state can be reused.

MPA01 fastening accessories

The figure "A" shows the assembly of motors in design "SA" (air cooling). The figure "B," shows the assembly of motors in design "FN" (liquid cooling).

Foot fastening motor (A)

The motor must be fastened with screws (4xM10) by the customer. For connection dimensions refer to the dimension sheet. For motors with fans, detach the lower air baffles to reach the lifting points (4x M10). Therefore, loosen the 3 fastening screws M5x12 (crosstip) from the lower air baffles. Then mount the air baffles on the motor again. Tightening torque of the fastening screws for the air baffles is 6.1 Nm.

Foot fastening flange B

The motor must be fastened with screws (4xM16) by the customer. For connection dimensions refer to the dimension sheet.

Flange fastening N

The motor must be fastened with screws (4xM16) by the customer. For connection dimensions refer to the dimension sheet.

Bosch Rexroth AG
Electric Drives and Controls
Bgm.-Dr.-Nebel-Str. 2
97816 Lohr, Germany
Phone +49 9352 18 0

service.svc@boschrexroth.de
www.boschrexroth.com/electrics



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