

Rexroth Sytronix

Motor-Pump Unit MPA01

PGH4 - MSK101 - Air Cooling

Mounting instructions

R911339499**Edition 04**

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 unit:

MPA01-PGH4F-NN-VxB-M11CBHA-S3F-NN	
Nominal size 1. pump PGH4, NG20 = F PGH4, NG25 = H PGH4, NG32 = K PGH4, NG40 = M PGH4, NG50 = P PGH4, NG63 = R	Other design Standard = N With dumping bars = D
Assembly / pump direction	Electrical connection Terminal box A-Side = F
Fastening Flange fastening (without foot) = N Foot fastening = B	Cooling mode Axial fan 1× AC230V / 50/60 Hz = A Axial fan 1× AC115V / 60 Hz = B
	Motor frame length MSK101C = C MSK101D = D MSK101E = E MSK101F = F

MPA01-0028TS

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

- ▶ 1× PGH4 internal gear pump
- ▶ 1× MSK101 synchronous motor
- ▶ 1× LEM192 fan unit (with fastening screws)
- ▶ 1× Flange
- ▶ 5× Washer (flat) ISO7089-12-200HV
- ▶ 2× Hexagon head screw ISO4017-M12X40-8.8
- ▶ 3× Hexagon socket head cap screw ISO4762-M12X50-8.8
- ▶ 3× Hexagon nut ISO4032-M12-8
- ▶ 4× Hexagon socket head cap screw ISO4762-M12X45-10.9
- ▶ 4× Washer (flat, small) ISO7092-12-200HV
- ▶ 1× Assembly instructions

Optional

- ▶ Pump foot including fastening screws
- ▶ Pump foot and damping rails including fastening screws

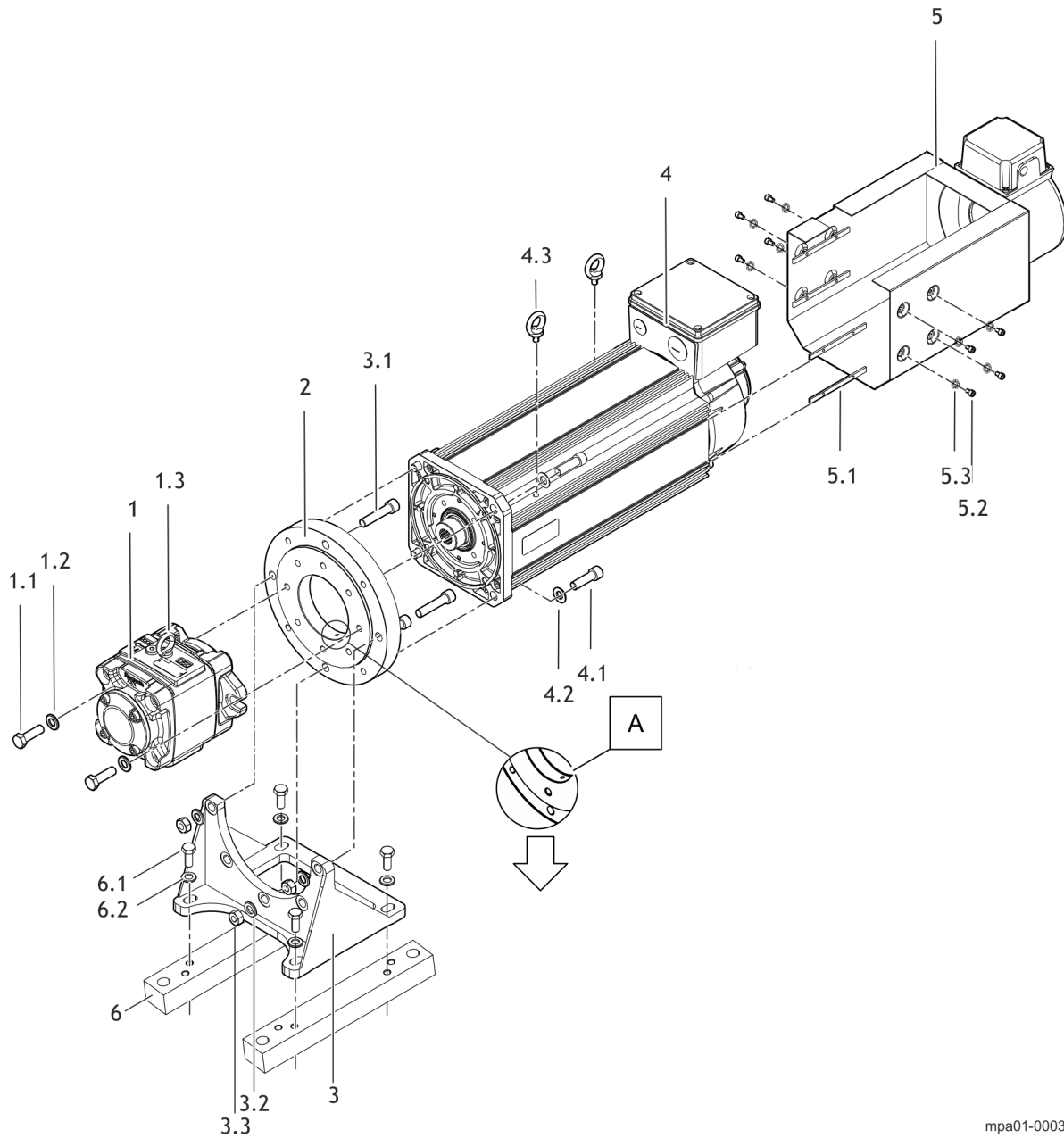
Tools and supplies

Have the following tools and supplies available for mounting:

- ▶ 1x Allen key SW10 (torque wrench)
- ▶ 1x Allen key SW4
- ▶ 2x Fork wrench SW18 (torque wrench)
- ▶ Screw lock Loctite 243®

Assembly

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

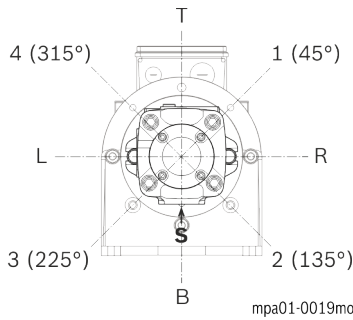


mpa01-0003mo

- | | |
|---|---|
| <p>1 Internal gear pump PGH4
 1.1 ISO4017-M12X40-8.8 (tightening torque 87 Nm)
 1.2 ISO7089-12-200HV
 1.3 DIN580-M8
 2 Adapter flange
 3 Pump foot (option)
 3.1 ISO4762-M12X50-8.8 (tightening torque 87 Nm)
 3.2 ISO4032-M12-8
 3.3 ISO7089-12-200HV
 4 Synchronous motor MSK101
 4.1 ISO4762-M12X45-10.9
 Mount motor-pump unit MPA01 from components</p> | <p>4.2 ISO7092-12-200HV
 4.3 DIN580-M8
 5 Fan unit LEM192
 5.1 Ridge
 5.2 ISO4762-M5X8.8
 5.3 Locking washer DNL5.
 6 Damping rail (option)
 6.1 ISO4017-M12X30-8.8 (tightening torque 87 Nm)
 6.2 ISO7089-12-200HV
 A Leakage hole</p> |
|---|---|

For screw connections use screw lock, e.g. Loctite 243 when proceeding the following working steps 1 to 4.

1. **Screw on pump on adapter flange.**
 Fasten the pump (1) in the required orientation (T, 1 (45°), R, 2 (135°), B, 3 (225°), L or 4 (315°) with the screws (1.1) and the washers (1.2) on the adapter flange (2). Tightening torque 87 Nm.



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

In the assembled state of the motor-pump unit, the leakage hole (A) must always be at the bottom in order to allow leakage oil to drain off.

2. Mount damping rails on pump foot (option).

In the case of design without pump foot, this mounting step is not necessary.

Fasten the damping rails (6) with the screws (6.1) and washers (6.2) on the pump foot. Tightening torque 87 Nm.

3. Screw on pump foot.

In the case of design without pump foot, this mounting step is not necessary.

Fasten the pump foot (3) with the screws (3.1), washers (3.2) and nuts (3.3) on the adapter flange. Tightening torque 87 Nm.

4. Screw on the motor.

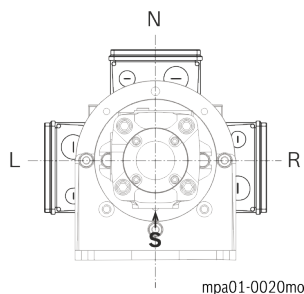
Use adequate lifting tools.

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.

Mating the motor (4) in the required orientation (N,R or L) and the pump group (1), (2), (3) in vertical position. Fasten the motor (4) with the screws (4.1) and washers (4.2) on the adapter flange. Tightening torque 87 Nm.



Motor mounting orientation

5. Mount fan unit

Insert T-nut (5.1) into the motor housing and fix the fan unit (5) with 8 screws (5.2) and washers (5.3). Tightening torque 4.0 Nm.

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.

- ▶ MSK101 (2× M8)
- ▶ PGM4 (1× M8)

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

Weights of motor-pump units

Frame size	PGH4					
Nominal size	20	25	32	40	50	63
Weight kg	13.5	14	14.5	15	16	18

Weight internal gear pumps

Frame size	MSK101 (+ LEM)			
Nominal size	C	D	E	F
Weight kg	28.3 (+ 4.3)	40.0 (+ 4.3)	53.5 (+ 4.3)	59.8 (+ 4.3)

Weight MSK motors

	Adapter flange	Pump foot	
		Without damping rails	With damping rails
Frame size	MSK101	MSK101	
Weight kg	2.8	6.1	13

Weight 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.

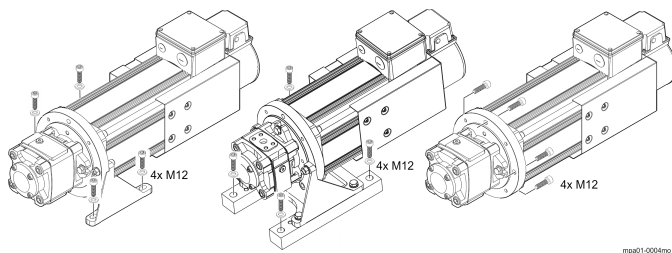
Installation MPA01-PGH4-MSK101 air cooling

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 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.

Fastening	Hole \varnothing [mm]	Screw size	Washer
Foot	14	M12	yes
Damping rail	13	M12	yes
Flange	13.5	M12	-

MPA fastening accessories



Install motor-pump unit MPA01 on system

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.

Additional documentation

The documents listed below are important for the overall system and are available in the Bosch Rexroth media directory.

<http://www.boschrexroth.com/various/utilities/mediadirectory/index.jsp>

Title	Material number (R911...) Document typecode (Dok...)
Rexroth Sytronix Safety Notes and Instructions on Use Motor-Pump Unit	R911339831 DOK-SYTROX-SAFETY*MP**-SARS-EN-P
Rexroth Sytronix Mounting and Commissioning Internal Gear Pump PGH/PGM/PGF	R911340908 DOK-SYTROX-PG**-*****-ASRS-EN-P
Rexroth Fan Unit LEM-AB192T-xx-NPNN	R911340921 DOK-MOTOR*-LEMAB192TNP-ASRS-EN-P
Rexroth IndraDyn S Electrical Connection MSK101 Terminal Box	R911340001 DOK-MOTOR*-MSK101*F*NP-ASRS-EN-P
Rexroth Sytronix SvP70xx Motor-Pump-Unit, MPA 01	R911339822 DOK-SYTROX-MPA01*****-ITRS-EN-P

Related Documentation

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