

# Planetary Gear Reducer

LR050 / LR070

Instruction manual

For higher  
torques at  
low speeds

Available  
in one-stage  
and two-stage  
version





## 1.0 Important basic information

### 1.1 Imprint

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## **1.3 Equal Treatment**

The EPA GmbH is aware of the importance of language with regard to the equality of women and men and is always ready to take its responsibility. Nevertheless, it had to be omitted for better readability on the consistent implementation of gender-equitable formulations.

## 2.0 Safety guidelines



- Read this instructions manual before operating the gearboxes.
- Only qualified technicians may carry out work on the gearbox, and only in accord with current safety standards.
- The gearbox is designed for industrial applications. Do not exceed the permitted operating data.
- Do not make any modifications to the gearbox. This can be a liability exclusion.
- Never run the reducer into a fixed blocking device. The reducer could be damaged.
- Don't overload the reducer. The maximum values in the data sheet are the limit. Otherwise the reducer can be heavily damaged.



- The gearbox can get very hot during operation (90°C). Let the gearbox cool down before carrying work on it.

## 2.1 Intended use

Planetary Gear Reducers may be used only for the operation of machines and equipment. It is necessary to comply with the limits defined by the technical data.

If gearboxes are used for lifting or holding loads, the machine design engineer must determine whether additional safety measures are necessary. Standard models of planetary reducers may be operated only at ambient temperatures between 0°C and 60°C

## 2.2 General information

The operating and safety instructions are part of the shipment. The CE marking as well as the EC declaration of conformity are not required, because the reducer is not a machine in sense of the EC machinery directive, but rather a component.

Operation is prohibited within the area of valid of the EC directive until it has been determined that the machine in which this reducer is installed as a component corresponds to the regulations within this directive.

### 3.0 As-delivered condition

The EPA Planetary Reducer are ready to use and ready for the electrical motor assembly. The reducers are life time lubricated, sealed. The input and output steel parts are anti-rust protected. This protector has to be cleaned of before motor assembly or before the reducer is mounted into the machine.

### 4.0 Transport, storage and preservation

Store the reducers only in closed, dry indoor areas until max. 2 Years (2 Years guarantee) together with the original packing in a horizontal position. It is recommended to use the logistical principle of "first in first out". Avoid extreme temperature fluctuations combined with high humidity during intermediate storage of the reducer in order to prevent condensation of water.

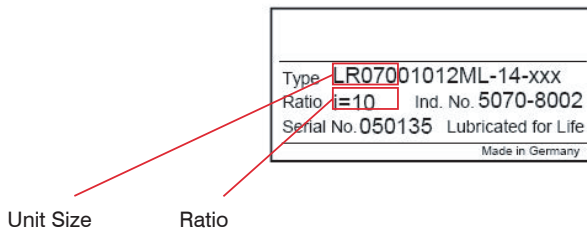
Avoid incorrect usage by means of improperly transport:

- Do not dump the reducer
- Move the reducer only in his packing
- Protect package and content against humidity

### 5.0 Identification plate

The identification plate explicitly identifies the reducer and must be legible at all times. The identification plate indicates size and ratio, accordingly you are able to check in table 5.0 the permissible loads.

The Serial number and Ind. Number facilitates the exact identification of the reducer unit.



## 6.0 Basic data's for LR Planetary Reducer

Unit Size		LR-050	LR-070	LR-090	LR-120
Max. acceleration output torque (max. 1000 cycles / hour) [Nm]	3:1 / 5:1 / 15:1 / 25:1 / 30:1 / 50:1	12	44	80	200
	7:1 / 35:1 / 70:1	11,5	42	76	190
	10:1 / 100:1	11	40	74	180
Nominal Output Torque [Nm]	3:1 / 5:1 / 15:1 / 25:1 / 30:1 / 50:1	6	22	40	100
	7:1 / 35:1 / 70:1	5,5	21	38	95
	10:1 / 100:1	5,5	20	37	90
Max. Input Speed [min <sup>-1</sup> ]		8000	6000	6000	4800
Nominal Input Speed [min <sup>-1</sup> ]		4000	3700	3400	2700
Max. Radial Output Shaft Load at 100 rpm [N]		650	1450	2400	4600
Max. Axial Output Shaft Load at 100 rpm [N]		700	1550	1900	4000

5.0 Basic data for LR-Planetary reducer

## 7.0 Assembly

### 7.1 Location conditions

Ensure that the reducer can dissipate sufficient heat via the output flange. Observe the limits set by the degree of protection (IP64).

### 7.2 Preparing for assembly

In and output have been treated with anti-corrosion agent for protection against corrosion. Ensure that the anti-corrosion agent is removed completely.

### 7.3 Motor mounting

The universal interface module for motor assembly allows you to couple almost all motors in the market place together with our reducer. Four slots instead of four holes in the interface flange ensures a high flexibility for the different Motor bolt circles. The input hollow shaft is designed for motor shafts with out key way. If the motor comes with a key way you must remove the key way. The key way slot must be in-line with the cut of the clamping bush. To reduce the permissible residual unbalance it can be used also a halve high key way. Be sure of the grade of balance of the motor.

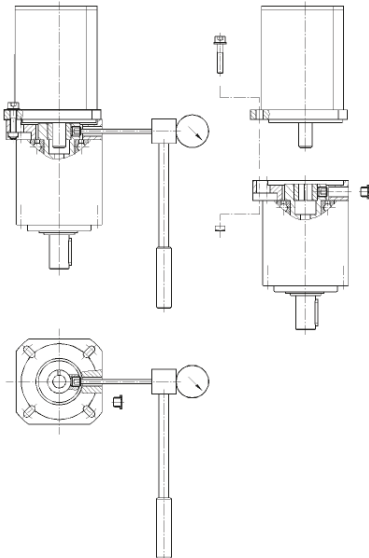
The concentric alignment of motor and reducer are realized over the motor shaft and the input hollow shaft. The motor pilot diameter are not in use by having a larger diameter inside the interface adapter.



To prevent strange tensions it is recommended to realize the motor reducer assembly in vertical position. Take also care of having no axial overload between the motor shaft and the input clamping (see table 6.3). This causes a possible damage for the motor and reducer as well.

### 7.4 “Step by step” instruction for motor assembly

1. Clean the motor front face, motor shaft, interface adapter face, bore of the input hollow shaft and clamping bush.
2. Remove end cap from the interface adapter and turning the input clamp shaft in the direction of having access to the clamping set screw.
3. Reviewing that the cut of the clamping bush is in 90° position from the radial set screw. Readjust the bush if necessary.
4. Connect the motor in vertical position if possible together with the reducer and without any extra forces. There is to be no gap between the motor and interface adapter.
5. Tighten the set screw with a torque wrench. Torque values are in table 6.4. Motor shaft is now inline with the reducer input shaft
6. Tighten the four bolts through the motor flange crosswise.
7. Close the radial access hole in the interface adapter with the end cap to ensure the protection class IP64 again.



Size	Max. axial load [N]
LR 050	45
LR 070	80
LR 090	100
LR 120	150

6.3 Max. axial load

Size	Width over flats [mm]	Screw torque [nm]
LR 050	3	6 Nm
LR 070	4	10 Nm
LR 090	5	24 Nm
LR 120	6	45 Nm

6.4 Screw torque



## **8.0 Installing the Planetary Reducer**

Output flange, output shaft, pilot and the surface of the machine has to be clean and even. Always use suitable clamping sets to fix couplings, disks, pulleys and gear wheels etc. to the output shaft. Ensure that the seals on the reducer do not get damaged or soiled during installation. The reducers can be installed in any position.

## **9.0 Service / Maintenance**

The reducer is lubricated for working life time and maintenance free when used as intended.

The working life time is depending on the individual application, ambient temperature, torque, speed, duty cycles, etc.

If the nominal speed and nominal torque out of table 5.0 are not exceeded, it is allowed to have a continuous duty cycle (S1). At continuous duty cycle should be not exceeded a reducer unit temperature of 90°C, in other ways the life time expectation can be shortened.

## **10.0 Warranty**

Liabilities are covered only damages who are used under the default data's, within a period of 2 Years from the delivery date on.

### **Warranty claims and repair**

For damages are result of over speed on the input and over torque on the output are not covered by the warranty.

In the event of a malfunction of the reducer unit, call the service department at +49 (0)6181/97040.

For repair or send the reducer at:

EPA GmbH  
Fliederstr. 8  
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## **11.0 Disposal**

This product contains recyclable materials. Observe local applicable regulations for disposal.







All information without liability for correctness and accuracy

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