

OPERATING MANUAL METO-FER[®] AUTOMATION AG

LINEAR UNIT TYPE

LG 50/...-....

SERIES FROM 6-02

1. PRODUCT DESCRIPTION

1.1 Introduction

1.1.1. Utilization

The linear unit LG 50/...is able to execute linear movements in any position. This linear movement can be adjusted in its working area (stroke).

1.1.2. Safety Precautions

Before starting to operate the linear unit LG 50/..., it is necessary to check that no body parts are within the working range of the element.

The maximum supply pressure of 8 bar must not be surpassed.

1.1.3. Danger Area

Any body parts are to be kept out of the working area (stroke area) of the unit in order to avoid mangling.

1.2 Technical Data

1.2.1 Weights and Measurements

See also Sheet 5

Type	Stroke	A	B	Weight Lb.(kg)
LG 50/200	0-200mm	522mm	266mm	23.4 (10.6)
LG 50/300	0-300mm	722mm	366mm	28.7 (13.0)
LG 50/400	0-400mm	922mm	466mm	34.0 (15.4)
LG 50/500	0-500mm	1122mm	566mm	39.2 (17.8)
LG 50/600	0-600mm	1322mm	666mm	44.5 (20.2)
LG 50/800	0-800mm	1722mm	866mm	55.1 (25.0)

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1.2.2. Performance Characteristics

Type	Piston force*	Lifting force at static/dynamic				Air consumption**
		F1	F2	F3	F4	
LG 50/200	694N	200N	400N	1000N	1300N	4.58 NL
LG 50/300	694N	150N	310N	750N	975N	6.87 NL
LG 50/400	694N	120N	250N	600N	780N	9.16 NL
LG 50/500	694N	90N	200N	500N	650N	11.45 NL
LG 50/600	694N	80N	170N	400N	520N	13.73 NL
LG 50/800	694N	60N	130N	300N	390N	18.31 NL

NL: Normal Liter

Repetition accuracy $\pm 0.0004''$ (0.01mm)

*at 72.5 PSI (5 bar).

**for each double stroke at 72.5 PSI (5 bar).

1.2.3 Operating Source

40mm filtered, unoiled or oiled air (dew point 6°C)

Operating pressure P_{\min} 3 bar

P_{\max} 8 bar

1.2.4 Connections

Air connections R 1/4 (see sheet 6)

1.2.5 Environment

Temperature 50°F to 122°F (+ 10°C to + 50°C)

Relative humidity 95% (without condensation of water)

Purity of the environment air regular working place atmosphere

1.3 Features

1.3.1 Standard Features (included in delivery)

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The unit delivered will have two patented end screws type AS 12/60 with fine thread. These end screws adjust the stroke within its working area. According to the type, the units are equipped with the following cushions:

- Oil cushions OB 15/10L or OB 12/20
- Oil compensation reservoir KOB 50 (needed for use with oil cushions)
- Support for intermediate Pos. SA, to be used with one or more stops (see catalog page 1.071).

1.3.2 Special Equipment

The end screws can be fitted with the patented sensing elements (see Meto-Fer[®] Electronic catalog, pages 22 and 23) in order to check the end position.

2. SAFETY REGULATIONS

2.1 In general

See chapters 1.1.1
 1.1.2
 1.1.3

2.2 Specifically

Do not make any changes or modifications on the unit (voids warranty).

3. CONSTRUCTION AND FUNCTION

The stroke adjustment can be made infinitely variable with the end screws AS 12/60 (Pos.119) in order to check the occurred movement, the end screws can be fitted with our sensing elements (see Meto-Fer[®] Electronics catalog).

4. INITIAL OPERATION

4.1 Compressed Air

Remove the safety caps from the air connections. In order to regulate the velocity of the movement, we recommend our flow controls DV-R1/4 (see sheet 5.021).

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4.2 Stroke Adjustment

- loosen security nut on the end screw
- adjust the required stroke with the end screw (Pos.119)
- tighten security nut on the end screw

4.3 Cushion Adjustment

The basic adjustment of the cushions has to be optimized by the user upon his special requirements.

The position of the cushions can be seen on the construction drawing.

The brake resistance can be changed by adjusting the length of the brake path.

When using oil and elastomer cushions, it must be checked that the end stop is not made by the cushions. The cushions should show a remainder stroke of 0.0394" (1mm).

5. MAINTENANCE

5.1 Introduction

The linear unit does not require any special maintenance procedure. Never use any type of solvents in order to clean the unit.

5.2 Air Supply

The linear unit is equipped with **oil-free seals** and can be operated with dry and non-oiled compressed air. If oiled compressed air is used, we recommend:

- Airpress compound SAE 5 (Klueber Order No. 063027)

6. REPAIR

6.1 Introduction

If the unit no longer meets the requirements (leakage, wear, etc.) the defective parts must be replaced.

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6.2 Safety Precautions

Before dismantling the unit, it is necessary to check that the compressed air supply is interrupted. It is best to disconnect the compressed air supply from the unit.

When repair work is done, only the original spare parts and lubrication must be used.

6.3 Replacing the Seals

- Loosen the piston rod (Pos.3) by removing the screw (Pos.203).
- Remove the plate (Pos.7) and plate (Pos.8) by loosening the screw (Pos.201).
- Extract the shafts (Pos.2).
- Remove the front and back cylinder tops (Pos. 5 and 6) by loosening the screws (Pos.206).
 - Extract the piston rod with the piston (Pos. 3 and 9).
 - Remove the cylinder pipe (Pos.4).
 - Replace the seals.
 - Grease the cylinder, piston rod. (See Chapter 7.2.)
 - The parts are then assembled in reverse order as described above.

6.4 Replacing the linear ball bushings

- Loosen the piston rod (Pos.3).
- Remove the plate (Pos.7) plate (Pos.8).
- Extract the shafts (Pos.2) and remove the front and back cylinder tops as in Chapter 6.3.

- Press out the seal rings (Pos.115) and bearings (Pos.116).

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- Press in the new bearings and seal rings.
- The parts are then assembled in reverse order as above described.

7. SPARE PARTS LIST

7.1 Spare Parts

When ordering spare parts, the type and serial number of the unit must be stated.

Position	Part Number	Description	Quantity
*112	025.140.0053	Rod Seal	1 piece
*113	025.100.0810	O-Rings	2 pieces
*114	045.150.0830	Piston Seal	1 piece
*115	025.200.0030	Seal Rings	4 pieces
116	025.110.0010	Long Life Sleeve Bearings	4 pieces

Seal Kit Order No. **460.100.0081** all items marked with (*)
 Repair Kit Order No. **460.110.0271** kit includes Pos.116

7.2 Lubrication

Grease for seals Staburag NBU 4 Atemp.
 (Klueber Order No. 005 040)
 Grease for linear ball bushings Staburag NBU 4 Atemp.
 (Klueber Order No. 005 040)