

Installation guide

Mb 3101, Mb 2000

Drive systems



Before any intervention or operation for preventive or corrective maintenance, please, download **NECESSARILY the update version of Maintenance guide reference 5062:**

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LEROY-SOMERTM

**This document complements the general instructions ref. 2557 (recommendations),
ref. 3711 (ATEX II 2D, II 3D specific recommendations) and the maintenance instructions ref. 5062.**

NOTE

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CAUTION



The specifications, instructions and descriptions are for standard operation. They do not take account of structural variants or special adaptations. Failure to comply with these recommendations may lead to premature deterioration of the gearbox and voiding of the manufacturer's guarantee.

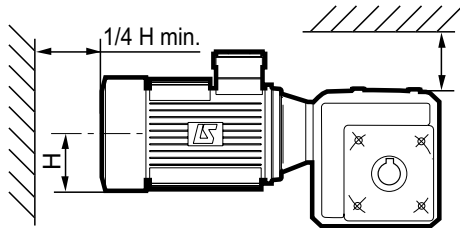
Despite all the care taken in the manufacture and checking of this equipment, NIDEC LEROY-SOMER cannot guarantee that lubricant will not escape during the product's lifetime. If slight leaks could have serious consequences for the safety of people and property, the installer and user should take all necessary precautions to avoid such consequences.

CONTENTS

1 - INSTALLATION RECOMMENDATIONS	3
1.1 - Identification	3
1.2 - Hollow shaft	3
2 - MAINTENANCE, OIL CHANGE	3
3 - LUBRICATION	3
3.1 - Options	3
3.2 - Positions of the plugs	4
3.3 - Lubrication	4
3.4 - Oil quantity combined Mb/Cb	4
4 - KIT	4
4.1 - Torque arm kit	4

1 - INSTALLATION RECOMMENDATIONS

Installation must be performed by qualified personnel.
 Allow sufficient room around the geared motor for plugs accessibility, ex.:
 - 200 mm for a G 3/8" Std plug.



Gearbox:

For the installation of Multibloc gearbox, follow the "Recommendations" chapter in the general manual.

Motor:

For connection of the complete drive system (with brake), follow the instructions of corresponding maintenance delivered with the goods in the parcel.

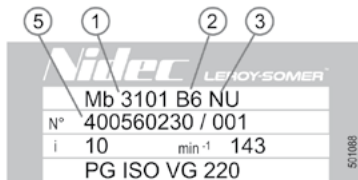
1.1 - Identification

Gearbox nameplate:

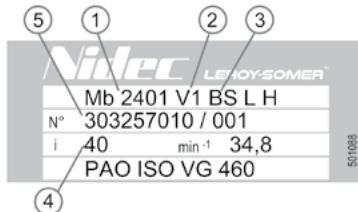
- 1 - gearbox type: **2401**
- 2 - operating position: **V1**
- 3 - form: **NU, NS, BSL, BDL**
- 4 - exact reduction: **40**
- 5 - manufacturing number
- 6 - play: **standard** (Dynabloc)

- number and description of spare part (for the slow speed shaft, please specify the dimensions)
- type, number of poles, power and FF (B5) or FT (B14) flange of the motor (refer to the nameplates).

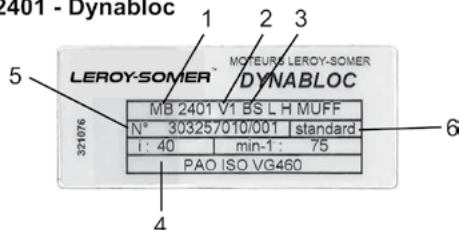
Mb 3101



Mb 2401



Mb 2401 - Dynabloc



1.2 - Hollow shaft

- 1- Check that the cylindrical shaft has been machined in accordance with standard NF - E 22 - 175, with a slide fit: g6, (the hub is: H7).
- 2- Check that the key is standard and the shaft is the minimum length tapped at the end.
- 3- Before mounting, degrease all the parts, taking care not to splash any solvent on the seals.
 Use grease (PAO compound) to lubricate any parts in contact, to avoid corrosion.

2 - MAINTENANCE, OIL CHANGE

Control after commissioning (50 hours of operation)

Check tightening of fastening screws and belt tensioning if applicable.

Preventive maintenance visit

- Check regularly that the recommendations concerning mechanical and electrical installation are still complied with.
- Lubrication: refer to corresponding documents.
- If the gearbox is fitted with a breather plug, make sure that the vent hole of the plug is not obstructed.
- Inspect the seals (ref.093, input seal).
- Clean the ventilation louvres of the motor.
- Control the air gap of brake motors.

Oil change (Mb 22 to Mb 26xx)

We recommend that the PAO ISO VG 460 oil is changed according to the operating temperature in continuous operation:
 70°C: 25.000 hours - 90°C: 6.000 hours
 80°C: 12.000 hours - 100°C: 3.000 hours
 - Change the seals.

3 - LUBRICATION

For operation between -20 and +40°C, the Multibloc gearbox is delivered, as standard, lubricated with synthetic oil of the following type:

- for Mb 3101: PG (polyglycol) ISO VG 220 (Shell OMALA S4 WE 220, approved by our technical departments)
- for Mb 2201 to 2601: PAO (polyalphaolefin) ISO VG 460.

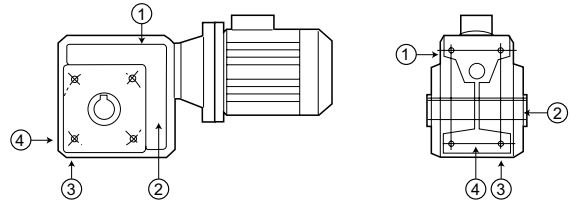
⚠ It is essential to use an oil of the same type as that recommended. Polyglycol lubricants cannot be mixed with different types of mineral or synthetic lubricant.
 We recommend greasing the motor coupling with NL GI 2 PAO + Clay grease (Mobil temp SHC 100).

3.1 - Options

Duty factor K≥1, for operation between:

- -30 and -10°C: synthetic oil ISO VG 150 (max. oil T°: 90°C in continuous operation)
- -50 and -30°C: synthetic oil ISO VG 32 (max. oil T°: 40°C in continuous operation).

3.2 - Positions of the plugs according to standard position B3-B5 (Mb 22 to Mb 26xx)



3.3 - Lubrication

		Mb 31		Mb 22xx				Mb 23xx				Mb 24xx				Mb 25xx				Mb 26xx				
		litres ¹ for N _s (min ⁻¹)		3x G 1/8" 1 x Δ G 1/8" n°		litres ² for N _s (min ⁻¹)		3x G 1/8" 1 x Δ G 1/8" n°		litres ² for N _s (min ⁻¹)		3x G 1/8" 1 x Δ G 1/8" n°		litres ² for N _s (min ⁻¹)		3x G 1/8" 1 x Δ G 1/8" n°		litres ² for N _s (min ⁻¹)		3x G 3/8" 1 x Δ G 3/8" n°		litres ² for N _s (min ⁻¹)		
		>500	VV <500 <2	>500	VV <500 <2	>500	VV <500 <2	>500	VV <500 <2	>500	VV <500 <2	>500	VV <500 <2	>500	VV <500 <2	>500	VV <500 <2	>500	VV <500 <2	>500	VV <500 <2	>500	VV <500 <2	
B3-B5				1		1		1		1		1		1		1		1		1		1		1
		0.12	-	1	0.21	0.46	1	0.30	0.70	1	0.63	1.30	1	1.0	1.3	1.8	1	2.2	2.8	4.1				
				3 (or 4)			3 (or 4)			3 (or 4)			3 (or 4)				3 (or 4)							
B6-B52				4 or 3			4 or 3			4 or 3			4 or 3			4 or 3								
		0.12	-	4 (or 3)	0.21	0.46	4	0.30	0.70	4	0.63	1.30	4	1.0	1.3	1.8	4	2.2	2.8	4.1				
				2			2			2			2			2								
B7-B54				2			2			2			2			2								
		0.12	-	2	0.21	0.46	2	0.30	0.70	2	0.63	1.30	2	1.0	1.3	1.8	2	2.2	2.8	4.1				
				4 (or 3)			4 (or 3)			4 (or 3)			4 (or 3)			4 (or 3)								
B8-B53				3 or 4			3 or 4			3 or 4			3 or 4			3 or 4								
		0.12	-	3 (or 4)	0.21	0.46	3 (or 4)	0.30	0.70	3 (or 4)	0.63	1.30	3 (or 4)	1.0	1.3	1.8	3 (or 4)	2.2	2.8	4.1				
				1			1			1			1			1								
V5-V1				2			2			2			2			2								
		0.12	-	2	0.21	0.46	2	0.30	0.70	2	0.63	1.30	2	1.0	1.3	1.8	2	2.2	2.8	4.1				
				1			1			1			1			1								
V6-V3				1			1			1			1			1								
		0.12	-	1	0.21	0.46	1	0.30	0.70	1	0.63	1.30	1	1.0	1.3	1.8	1	2.2	2.8	4.1				
				2			2			2			2			2								

1. This gearbox is lubricated for life with P.A.G. ISO VG 220

2. PAO ISO VG 460, tolerance: the quantities of oil indicated must be adhered to within ± 5%, regardless of the operating position.

VV : variable speed

∇ Filling plug Δ Breather plug with valve ▼ Drain plug

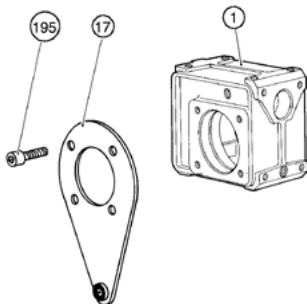
3.4 - Oil quantity combined Mb/Cb

		Combined Mb					
		Quantity of oil for Cb ¹ for each operating position					
Mb Output	Cb Input						
		B3-B5 litres ¹ Cb (B5)	B6-B52 litres ¹ Cb (V3)	B8-B53 litres ¹ Cb (B53)	B7-B54 litres ¹ Cb (V1)	V5-V1 litres ¹ Cb (B54)	V6-V3 litres ¹ Cb (B52)
Mb 2634	Cb 3233	0.95	2.7	2.25	2.25	1.55	2.3
Mb 2632	Cb 3231	0.25	0.8	0.75	0.6	0.55	0.55
Mb 2534	Cb 3133	0.6	1.4	1.1	1.15	0.85	1.23
Mb 2532	Cb 3131	0.35	1	0.7	0.55	0.5	0.5
Mb 2433	Cb 3032	0.6	0.6	0.6	0.6	0.6	0.6
Mb 2333	Cb 3032	0.6	0.6	0.6	0.6	0.6	0.6
Mb 2232	Cb 3032	0.6	0.6	0.6	0.6	0.6	0.6

1. Cb: MINeral Extreme Pressure ; oil: MIN EP ISO VG 220 ; oil capacity and tolerance: ± 0.05 litre for quantity of oil < 5 litres.

4 - KIT

4.1 - Torque arm kit for Mb 31, Mb 22 to 25



Ref.	Description	Qty
017	torque arm	1
195	fixing screws	4

MOUNTING THE TORQUE ARM

The torque arm (17) should be fixed onto the frame using the 4 holes on the chosen side with cheese head screws (195) class 8.8 minimum (according to NFE 27-005).

These four screws should be locked with an anaerobic adhesive (Loctite 243 Removable Threadlocker for example) which should resist vibrations but still allow the screws to be removed if necessary.

Tightening torque of fixing screws

All four screws should be tightened gradually and simultaneously.

All the fixing screws must be tightened up to 70% of their yield strength.

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Moteurs Leroy-Somer
Headquarter: Boulevard Marcellin Leroy - CS 10015
16915 ANGOULÊME Cedex 9

Limited company with capital of 65,800,512 €
RCS Angoulême 338 567 258

www.leroy-somer.com