

## MINIBLOC MVB

Installation and maintenance

# Minibloc MVB

## INSTALLATION RECOMMENDATIONS

### For the gearbox :

- Remove the protective material from the shafts (plastic coverings).
- Mount the gearboxes on flat rigid supports. They must be free from vibration.
- Mount the couplings, sprockets and pulleys with extreme care (they should be heated). Do not hammer the end of the shaft.
- Ensure that the radial force on the sprockets and pulleys is correct (see selection table).
- Ensure normal tension and correct alignment of the transmission. Check that the shafts are parallel.
- For direct couplings using a coupling sleeve, check the alignment of the axes.

NOTE : In the event of prolonged storage, turn the unit by hand before starting it, to avoid damaging the seals.

Despite all the precautions taken in the manufacture and the checking of equipment, LEROY-SOMER cannot guarantee 100 % against leakage of lubricant. If leaks occur which would risk the safety of equipment or personnel, it is the responsibility of the installer to take all necessary avoiding action.

For the motor : See recommendations on page 7.

## ORDERING SPARE PARTS

### Essential information to quote when ordering

#### a) From the gearbox identification plate :

- 1 - Gearbox reference
- 2 - Type of fixing
- 3 - Exact reduction ratio of the device
- 4 - Serial number

#### b) From the corresponding parts list :

- Number and description of the part

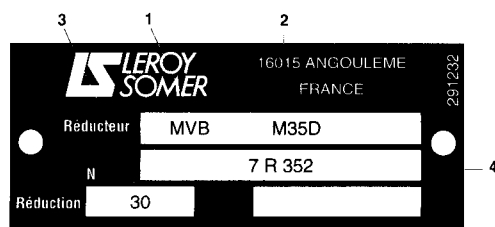
#### c) If there is a motor connected to the gearbox, quote the following from the motor identification plate :

(For the motor : see the corresponding manual)

- Motor type
- Number of poles (or speed in  $\text{min}^{-1}$ )
- Power in kW

**Warning : special flange and motor shaft for these gearboxes.**

Example :



Type of gearbox	Fixing	Ratio	Serial number	Part number	Type of motor No. of poles-power
1	2	3	4		
Eg : MVB	M35D	30	7 R 352	Wheel No. 051	LS 63 - 0.18 kW

## LUBRICATION

These gearboxes are permanently greased. They have no filling, draining or level plugs.

### -Original grease :

LUBRILOG LX DDEB 00 grease

Synthetic base

Grade 00

Worked penetration 400/430

Operating temperature  $-40^{\circ}/+150^{\circ}$

Melting point  $>130$

Supplier :

LUBRILOG - 26260 S<sup>t</sup> DONAT S/ L' HERBASSE

### In the event of dismantling :

Synthetic greases for wheels and worm screws with similar characteristics.

For example :

Structovis P 00 - from KLUBER

Tivella Compound A - from SHELL

Energrease GSF- from BP

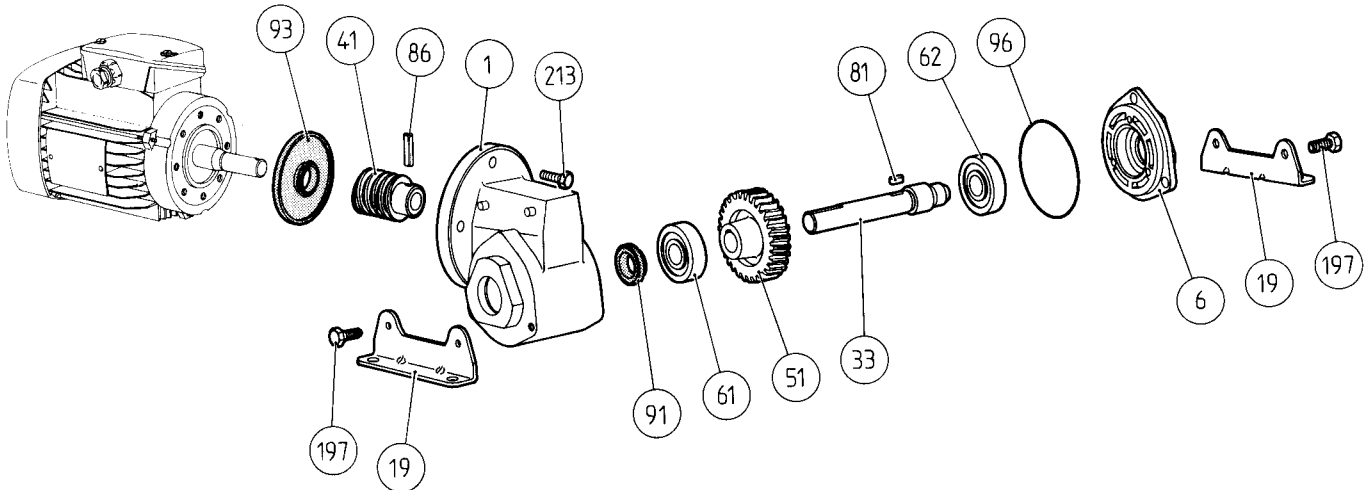
### Note :

Do not mix greases.

Drain, clean thoroughly with trichlorethylene or a similar product, and refill the housing 2/3 with new grease.

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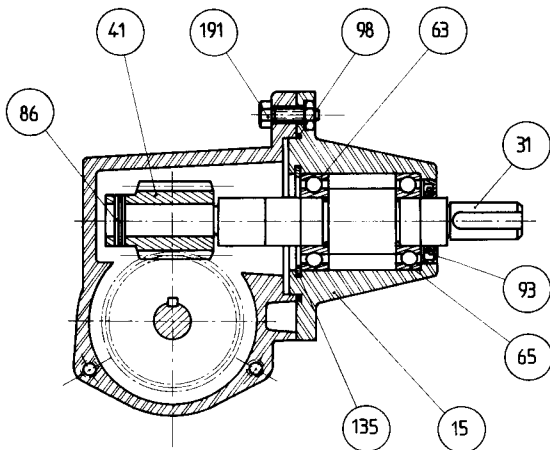
## EXPLODED VIEW of MVB with feet



NO.	QTY	DESCRIPTION
1	1	Housing
6	1	End shield
19	2	Mounting feet
33	1	Output shaft
41	1	Worm screw
51	1	Bronze wheel
61	1	Bearing on output shaft side
62	1	Bearing on other side of output shaft

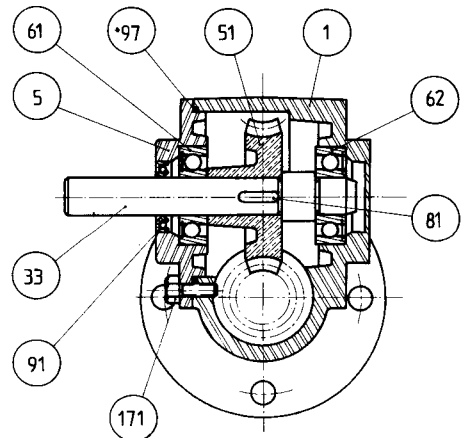
NO.	QTY	DESCRIPTION
81	1	Key for wheel
86	1	Worm screw pin
91	1	End shield seal Ø 12
93	1	Motor seal
96	1	Sealing ring
197	5	Screws for mounting end shield and feet
213	3	Screw for mounting housing on motor

## Assembly with input shaft



NO.	QTY	DESCRIPTION
15	1	Input shaft end shield
31	1	Input shaft
41	1	Worm screw
63	1	Input shaft end shield front bearing
65	1	Input shaft end shield rear bearing
86	1	Worm screw pin
93	1	Input shaft lipseal
98	1	O-Ring
135	1	Circlip
191	3	Screws for mounting input shaft end shield

## Overhanging assembly

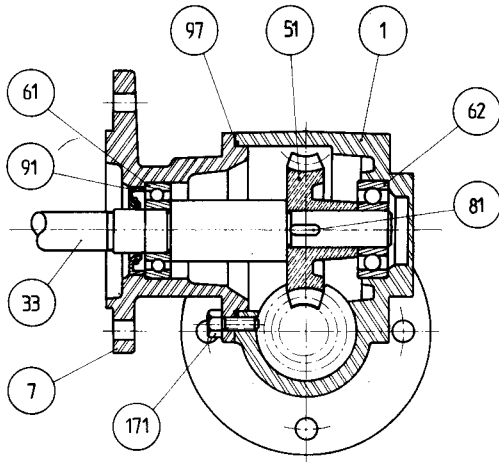


NO.	QTY	DESCRIPTION
1	1	Housing
5	1	End shield on output shaft side
33	1	Output shaft
51	1	Bronze wheel
61	1	Bearing on output shaft side
62	1	Bearing on other side of output shaft
81	1	Key for wheel
91	1	End shield seal Ø 12
97	1	O-Ring
171	3	Screws for mounting end shield

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## DISMANTLING AND REASSEMBLY

### Foot and face plate mounting



NO.	QTY	DESCRIPTION
1	1	Housing
7	1	Flange
33	1	Output shaft
51	1	Bronze wheel
61	1	Bearing on output shaft side
62	1	Bearing on other side of output shaft
81	1	Key for wheel
91	1	Flange seal $\varnothing$ 15
97	1	O-Ring
171	3	Screws for mounting end shield

### 1° Dismantling :

- Remove the 3 fixing screws no. 213 which fix the gearbox to the motor
- Detach the gearbox from the motor (by pulling the gearbox firmly)

#### Dismantling the worm screw

- Knock out pin no. 86
- Remove worm screw no. 41 from motor shaft
- Remove seal no. 93

#### Dismantling the output shaft

- Remove the 3 screws no. 197 which fix end plate no. 6 to housing no. 1
- Remove output shaft, wheel, bearings, end plate sealing ring from housing

#### Dismantling the bronze wheel

- Remove bearing no. 61 on output shaft side
- Remove bronze wheel no. 51
- Remove bearing no. 62 on other side output shaft

### 2° Reassembly :

Before reassembly, clean all the parts thoroughly. It is preferable to change all the seals.

#### a/ Bronze wheel, output shaft

Perform the above operations in reverse order. After positioning the output shaft assembly in housing, fill the housing with grease to about 2/3 of internal capacity, while rotating the shaft by hand.

#### b/ Worm screw

- Place the seal on the motor shaft, making sure it is positioned correctly with the seal spring towards the lubricated side.
- Mount the worm screw and the pin.

#### c/ Mount the gearbox on the motor

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## PARTS LIST FOR SEALED INDUCTION MOTORS WITH SQUIRREL CAGE ROTOR

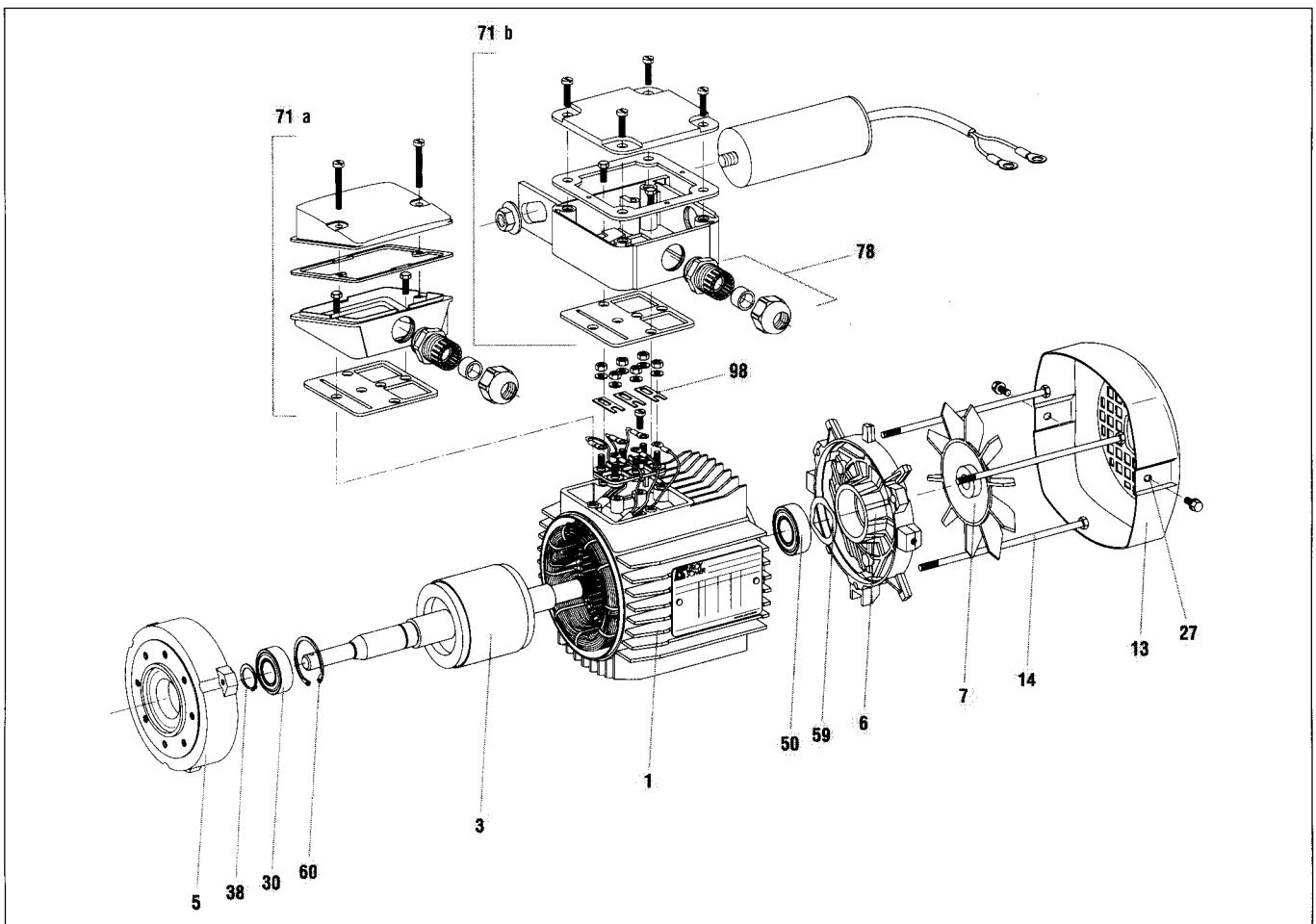
Information which should be provided when ordering spare parts

**Warning :** when ordering parts for a motor coupled to a gearbox, give full details of the gearbox (see previous pages).

Motor type 1	Speed min <sup>-1</sup> 2	Power kW 3
Example : LS 71	1500	0,37
Mounting-position	Serial number : 4	Identification n°
Special B14 flange	370058	Housing and wound stator no.1

<b>LEROY SOMER</b>		<b>N° 370058</b>	<b>1993</b>		
		<b>MOT. 3 ~ LS 71</b>			
<b>IP 55</b>	<b>I.cl. F</b>	<b>40 °C</b>	<b>C</b> $\mu\text{f}$ V		
<b>S1</b>	<b>%</b>	<b>c/h</b>	<b>C</b> $\mu\text{f}$ V		
V	Hz	min <sup>-1</sup>	kW	Cos $\phi$	A
220/230	50	1500	.37	.75	1.85
240	50	1500	.37	.7	1.9
380/400	50	1500	.37	.75	1.05
415	50	1500	.37	.7	1.1

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NO.	QTY	DESCRIPTION
1	1	Wound stator
3	1	Rotor
5	1	Drive end shield
6	1	Non-drive end shield
7	1	Fan
13	1	Fan cover
14	2,3,4	Tie rods
27	2	Fan cover screws
30	1	Drive end bearing

NO.	QTY	DESCRIPTION
38	1	Drive end bearing circlip
50	1	Non-drive end bearing
59	1	Preloading (wavy) washer
60	1	Circlip
71a	1	Plastic terminal box fitted for three-phase
71b	1	Metal terminal box fitted for single phase
78	1	Cable gland
98	3	Connecting bars

## THREE-PHASE MOTORS

### 1 - Starting up

Before starting up, check :

- that the shaft rotates freely when turned by hand.

#### Recommendation :

If the motor has been in a damp atmosphere, it is advisable to ask your electrician to check the isolation resistance.

The resistance should not be less than 5000 ohms per volt of rated voltage.

### 2 - Connection

- Select cables with a large enough cross-section to prevent excessive voltage drops (5 amperes per mm<sup>2</sup>)
- Connect the terminals according to the diagram inside the terminal box.
- Follow the wiring diagrams supplied with the equipment in the terminal boxes and the supply voltages indicated on the identification plate.

**Very important :** After connection, it is necessary to replace the terminal box cover with care, paying particular attention to the tightening of the cable gland on the power supply cable.

#### Earthing :

A terminal for connecting an earth conductor is provided inside the terminal box.

### 3 - Bearings (types)

Motor type	Drive end	Non-drive end	Non-drive end with shaft extension
LS 56	6202	6201	6201
LS 63	6202	6201	6002
LS 71	6202	6201	6002
LS 80	6204	6203	6204

Type ZZ bearings are used for IP 44 motors and type 2 RS for IP 55 motors. They are permanently greased : 15 000 hours at 3 000 min<sup>-1</sup>, 30 000 hours at 1 500 min<sup>-1</sup>).

## SINGLE PHASE MOTORS WITH PERMANENT CAPACITOR

These are mechanically identical to three-phase motors. They have an additional permanent capacitor fixed on the terminal box side.

To connect them, follow the voltage shown on the identification plate and the connection diagrams in the terminal boxes.