

MULTIBLOC Mb 2101

Installation and maintenance

Multibloc Mb 2101

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 tables).
- 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

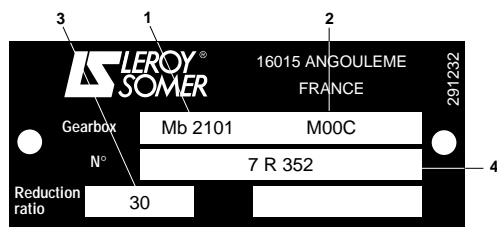
b) From the corresponding parts list :

- 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 min^{-1})
 - Power in kW

Example :



Type of gearbox	Fixing	Ratio	Serial number	Part number	Type of motor No. of poles - Power
1	2	3	4		
Eg : Mb 2101	M00C	30	7 R 352	Screw No. 41	LS 71 - 0.37 kW

DISMANTLING/REASSEMBLY

Dismantling :

- Disconnect the motor : remove the 3 nuts (215) and lever it between the housing (1) and the flange adapter (13)
- Dismantle the gearbox : caution, use the correct tools (hub remover, bearing remover, plastic mallet, keys of the correct sizes, circlip pliers, etc). The parts which have been removed should be put carefully in order on a clean surface.
- Remove the circlip (135), lift out the cover (253) (breaking it if necessary).
- Remove screw (41) pushing sideways from the cover side, pull back circlip (127) and pull out bearing (63). Drain the gearbox. Remove lipseal (93) and bearing (64) via the inside of the housing (1).
- Remove lipseal (91). Pull back circlip (119) and remove the output shaft sub-assembly comprising part numbers 33, 51, 61, 62, 86, 111 and 112.
- Remove lipseal (92). To remove the sleeve from the bronze wheel (51) on the shaft (33) it is necessary to first pull back bearings (61 and 62) and circlips (111 and 112) then raise the temperature in the area of contact between the shaft and the wheel to 200° (to break the adhesion).
- Carefully rinse the parts in trichlorethylene or equivalent.
- Collect all the faulty parts together to order the necessary spare parts.

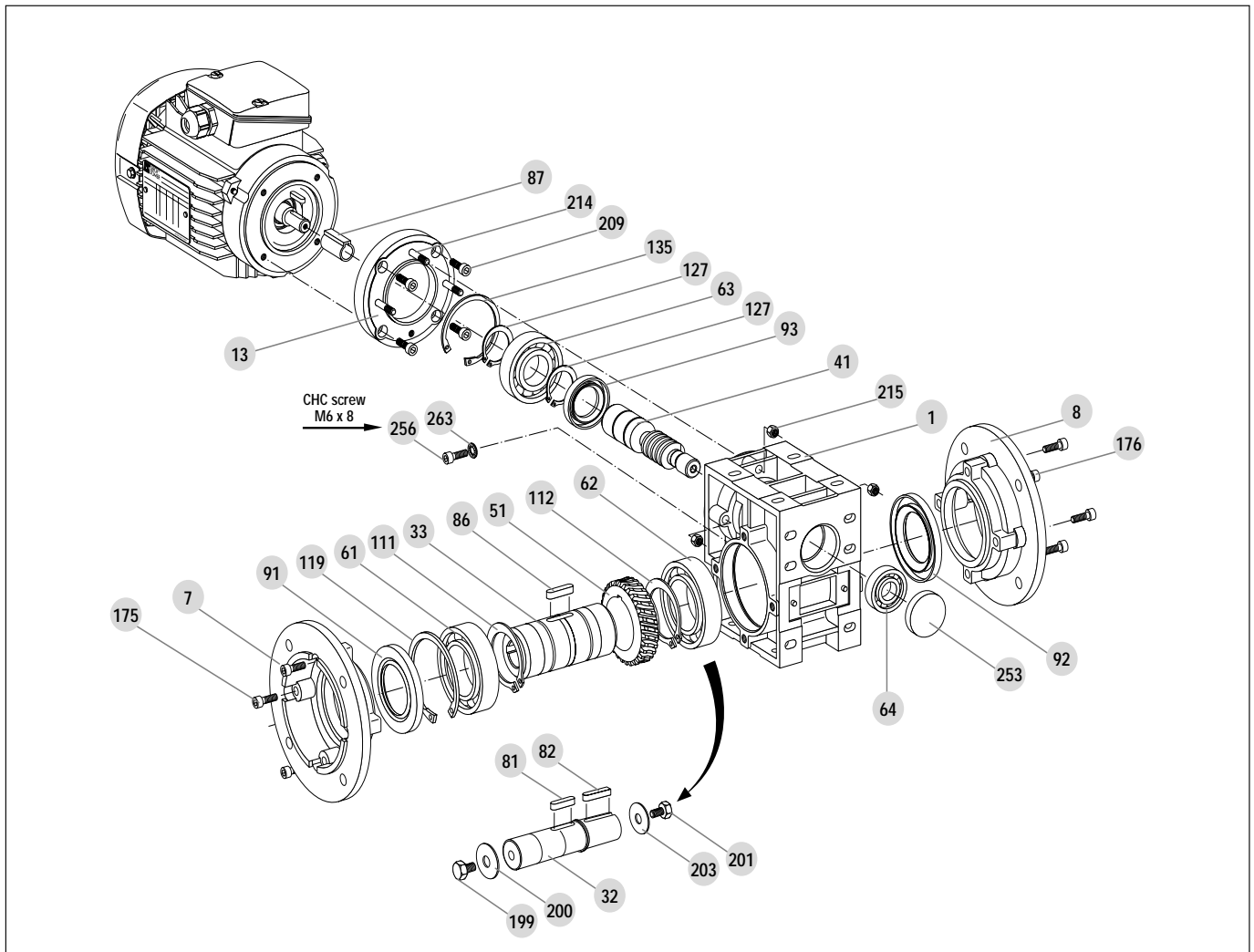
Reassembly :

- Perform the dismantling procedure in reverse order.
- Systematically replace the lipseals and the blanking plate.
- Grease the contact surfaces on the seals.
- Lightly lubricate the shafts and the bearing housings before assembling them.
- In order to fit the bronze wheel (51) on the shaft (33), it is essential to mount it positioning the wheel in relation to one of the circlips (111 or 112), see diagram below.

- Before fixing the wheel in a press, place a strip of OMNIFIT 230 L, LOCTITE 601 or equivalent adhesive on the shaft.
- Do not forget to put the shaft key (86) in place.
- Place the worm screw (41) in position, then just before reassembling the bearing (64) and the cover (253), fill the housing with oil (see section on Lubrication). Only replace the oil level sealing screw (256) and the watertight washer (263), when all other operations have been completed (to prevent pressurisation of the gearbox when the blanking plate is replaced).
- Rotate the unit in order to check it before it is finally placed in position.

Multibloc Mb 2101

Mb 2101 EXPLODED VIEW



NUMBER	QTY	DESCRIPTION
1	1	Housing
33	1	Output shaft
41	1	Worm screw
51	1	Bronze wheel
61	1	Left bearing
62	1	Right bearing
63	1	Screw bearing
64	1	Screw bearing
86	1	Wheel key

NUMBER	QTY	DESCRIPTION
91	1	Left seal
92	1	Right seal
93	1	Input seal
111	1	Left E circlip
112	1	Right E circlip
119	1	Left I circlip
127	2	Input E circlip
135	1	Input I circlip
253	1	Cover

List of kits :

- input flange
- output flange
- separate output shaft

see pages 5 and 6

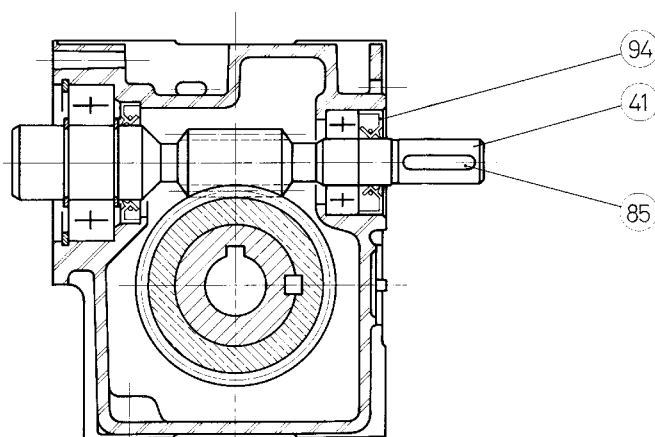
Parts which can be replaced

Type	STANDARD				
	61 - 62	63	64	91 - 92	93
Mb 2101	16008	6205	6202	40 x 68 x 7	25 x 40 x 7

Multibloc Mb 2101

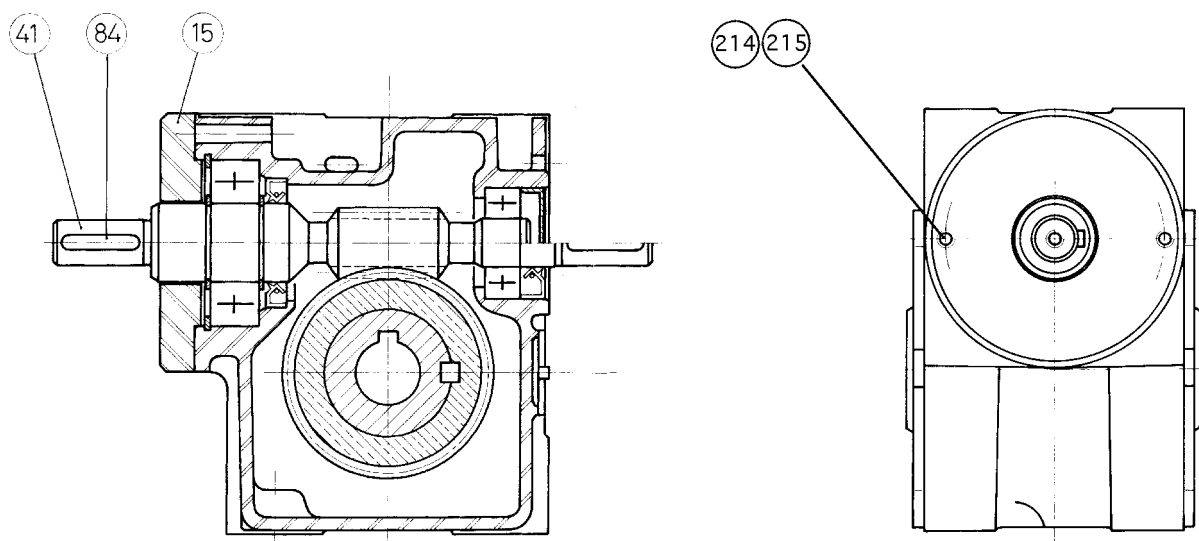
Fast shaft parts list

NO.	QTY	DESCRIPTION
41	1	Fast shaft worm screw
85	1	Fast shaft key
94	1	Fast shaft seal



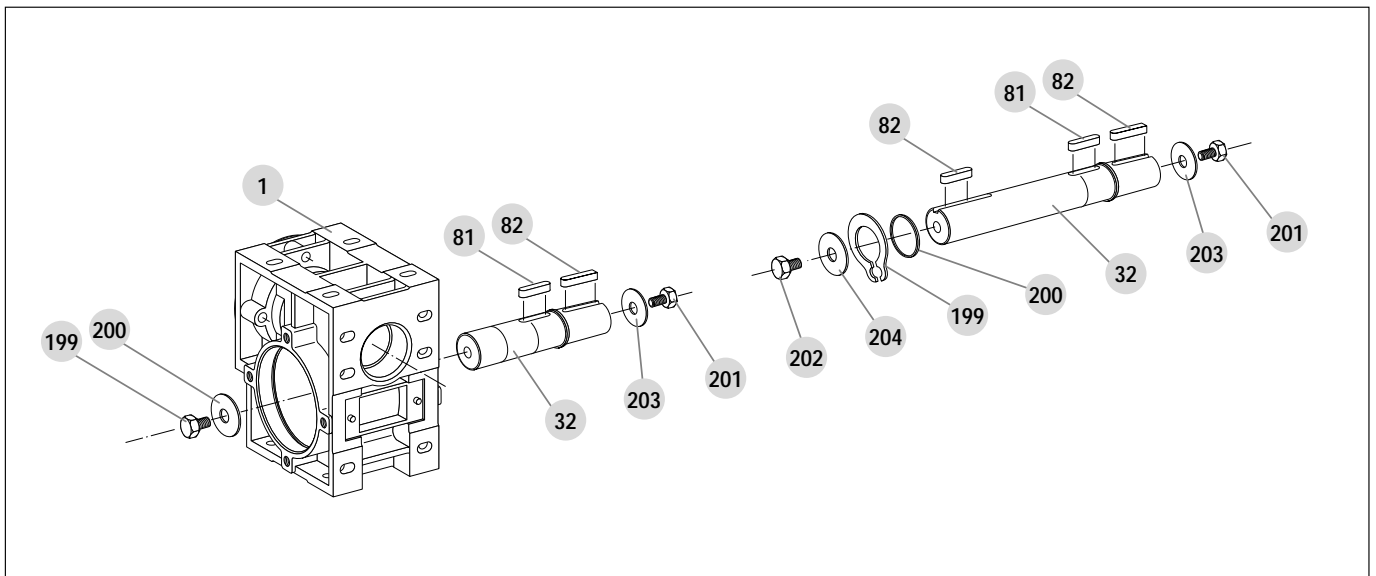
Input shaft parts list

NO.	QTY	DESCRIPTION
15	1	Input shaft cover
41	1	Input shaft
84	1	Input shaft key



Multibloc Mb 2101

Extension output shaft kit G or D or X



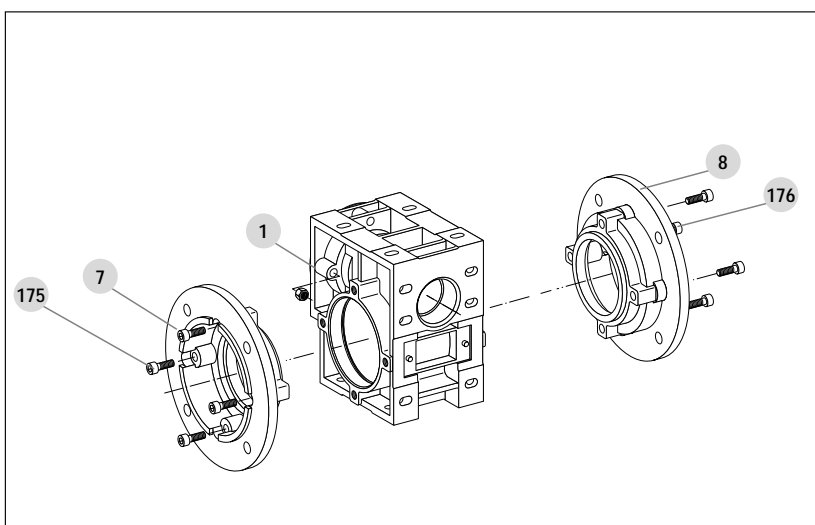
Output shaft kit G or D

NO.	QTY	DESCRIPTION
32	1	Output shaft
81	1	Hub key
82	1	Client key
199	1	Shaft retaining screw
200	1	Washer
201	1	Screw
203	1	Washer

Output shaft kit X

NO.	QTY	DESCRIPTION
32	1	Output shaft
81	1	Hub key
82	2	Client keys
199	1	Circlip
200	1	Spacer
201-2	2	Screw
203-4	2	Washer

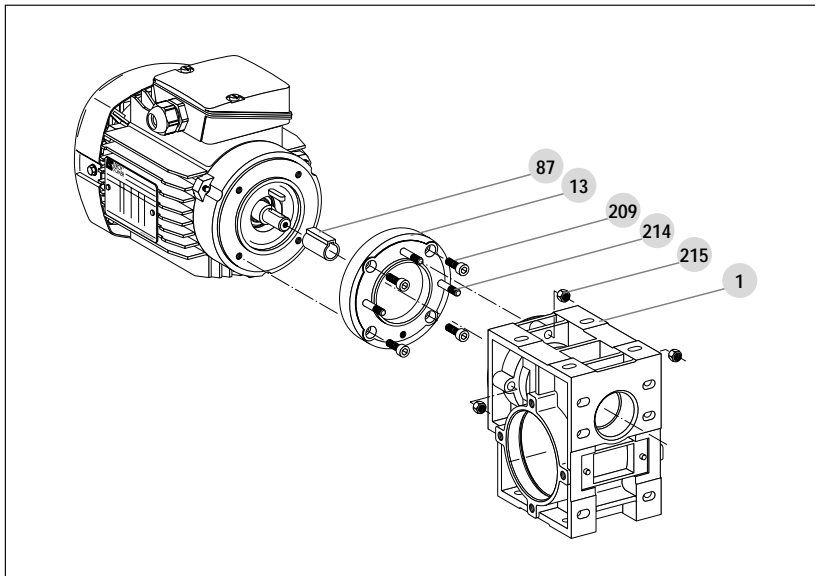
Output flange kit



NO.	QTY	DESCRIPTION
7	1	Left flange
8	1	Right flange
175	4	Fixing screw
176	4	Fixing screw

Multibloc Mb 2101

Input flange kit (motor side)



NO.	QTY	DESCRIPTION
13	1	Flange adapter
87	1	Motor/worm screw shaft end adapter
209	4	Screw
214	3	Pin
215	3	Nut

Mounting motor on gearbox

Fix the flange adapter (13) on the motor using the 4 screws (209).

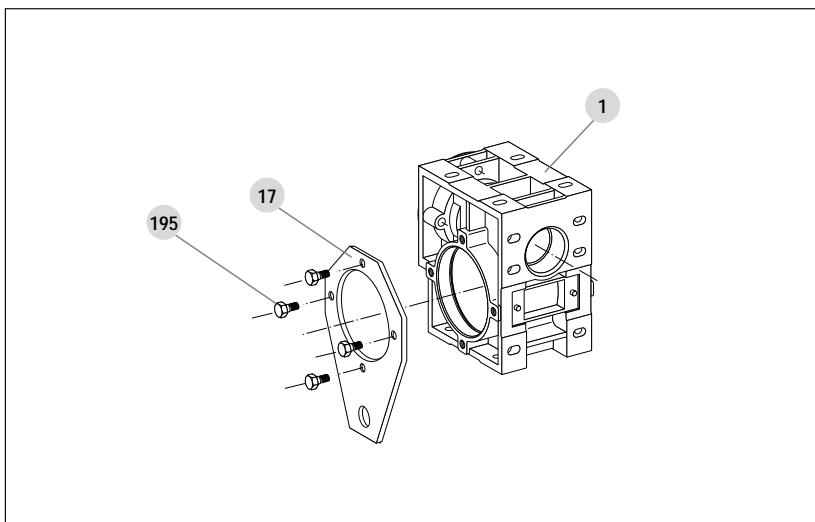
Screw the 3 pins (214) onto the flange adapter. Fit the shaft end adapter to the shaft (87) (either the key or the coupling sleeve).

Mount the motor on the gearbox and fix the assembly using the 3 nuts (215).

Input kit selection table

Motor type	Flange adapter dimensions	Shaft end dimensions	Adapter type	Kit number
LS56 B14 F65	50 x 65 x 80	9 x 20	Coupling sleeve 9 x 14	EPQG 0004
LS63 B14 F75	80 X 75 X 90	11 X 23	Coupling sleeve 11 x 14	EPQG 0003
LS71 B14 F85	70 x 85 x 105	14 x 30	Shoulder key	EPQG 0001

Torque arm kit



Mounting the torque arm

The torque arm (17) is fixed on the housing via the 4 holes on the side panel using the screws (195).

These four screws should be locked using an anaerobic adhesive (for example, Loctite Freinfilet normal 243) which should resist vibration while allowing removal of the screws if necessary.

Multibloc Mb 2101

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 mm²).
- 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	6201	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⁻¹, 30 000 hours at 1 500 min⁻¹.

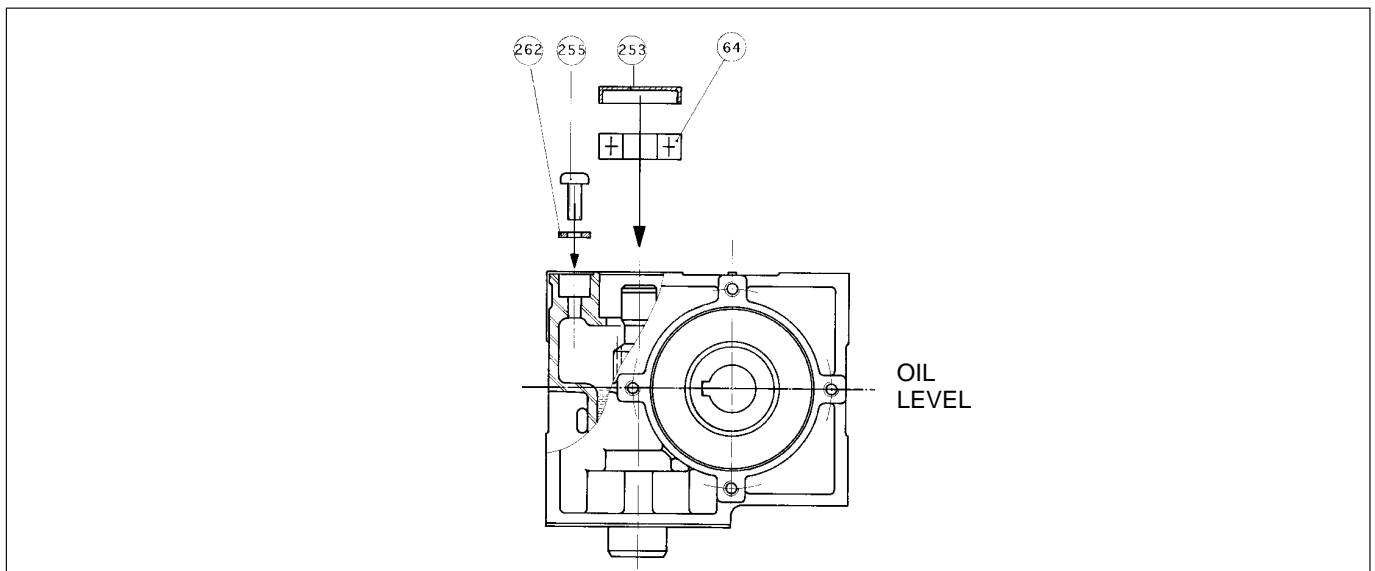
SINGLE PHASE MOTORS WITH PERMANENT CAPACITOR

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.

LUBRICATION

Volume of oil



Oils

These gearboxes are permanently greased with a synthetic oil. There are no filling and draining plugs.

- Original oil :

Syntheso HT 220 - Synthetic base

Operating temperature -50 °C to +150 °C

Viscosity category ISO VG 220

Ignition point 250 °C

Supplier : KLUBER LUBRICATION - MUNICH RFA

- If the unit is dismantled :

- Optional replacement oils :

Any synthetic-based oil for gears with a viscosity category of around ISO VG 220 (DIN 51 519)

E.g.: MOBIL SHC 629 or 634 oils

Note : Do not mix oils. Drain, clean thoroughly and refill with new oil.


Multibloc Mb 2101

PARTS LIST FOR SEALED INDUCTION MOTORS WITH SQUIRREL CAGE ROTOR

Information which should be provided when ordering any spare parts

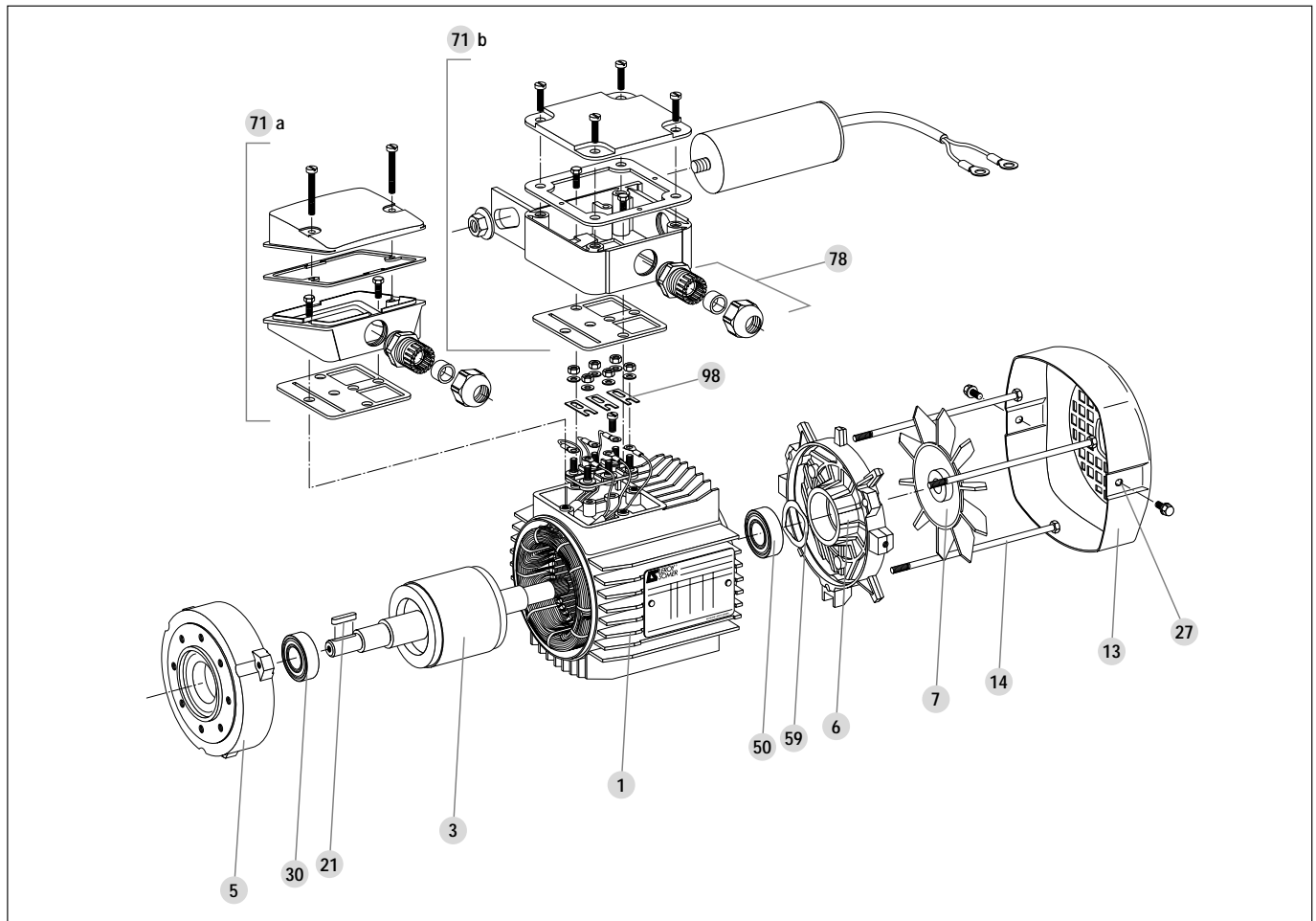
Warning : when ordering parts for a motor coupled to a gearbox, give full details of the gearbox (see previous pages).

Motor type	Speed min ⁻¹	Power kW
Example : LS 71	1500	0,37
Mounting-position	Serial number	Identification n°
Flange B14	370058	Housing and wound stator n° 1

	N° 370058	1993
	MOT. 3 ~ LS 71	
IP 55	I.cl. F	40 °C
S1	%	c/h
	C	C
	μf	V
	μf	V

V	Hz	min ⁻¹	kW	Cos φ	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

IEC 34-1 MADE IN FRANCE



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
21	1	Shaft extension key

NO.	QTY	DESCRIPTION
27	2	Fan cover screw
30	1	Drive end bearing
50	1	Non-drive end bearing
59	1	Preloading (wavy) washer
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