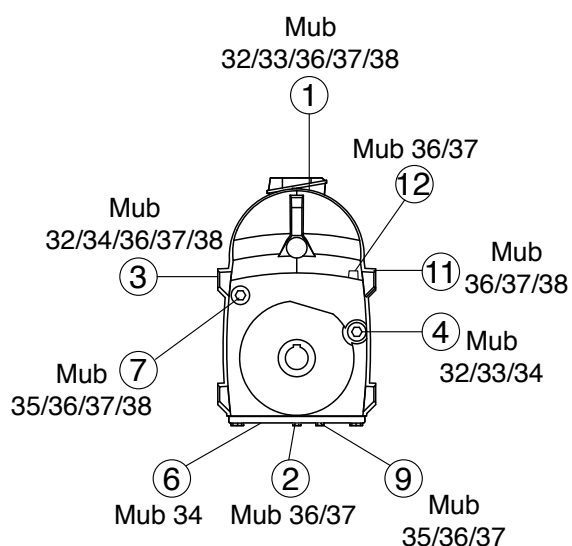




17

en

**This manual is to be given
to the end user**



MANUBLOC 3000

**Drive systems
Installation**

MANUBLOC 3000

Drive systems

This document complements the general instructions ref.2557 (recommendations), ref.3711, 3804 (Atex specific recommendations) and the specific instructions ref.5066 (Manubloc 3000 Maintenance).

NOTE

LEROY-SOMER reserves the right to modify the characteristics of its products at any time in order to incorporate the latest technological developments. The information contained in this document may therefore be changed without notice.

LEROY-SOMER gives no contractual guarantee whatsoever concerning the information published in this document and cannot be held responsible for any errors it may contain, nor for any damage resulting from its use.

CAUTION



Throughout the manual, this symbol warns of consequences which may arise from inappropriate use of the Manubloc 3000 since risks may lead to material or physical damage.

Despite all the care taken in the manufacture and checking of this equipment, 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	11
1.1 - Identification	11
1.2 - Torque point	11
1.3 - Hollow shaft	11
2 - OPTIONS MOUNTING	12
2.1 - Shrink disc	12
2.1.1 - Mounting	12
2.1.2 - Exploded view, parts list	12
3 - MAINTENANCE	12
4 - LUBRICATION	12
4.1 - Plugs positions	13
4.2 - Multistage Manubloc: oil quantities (considering operating position).....	13
4.3 - Combined Manubloc: oil quantities for combined Mub/Cb (considering operating position)	14

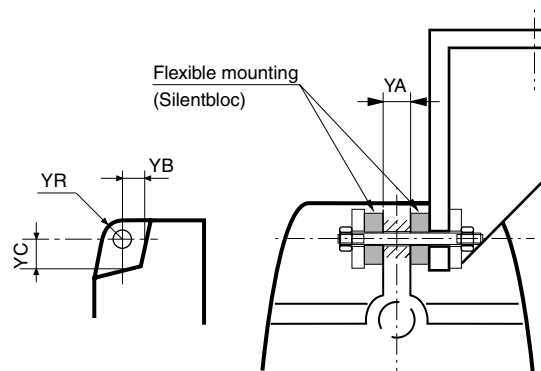
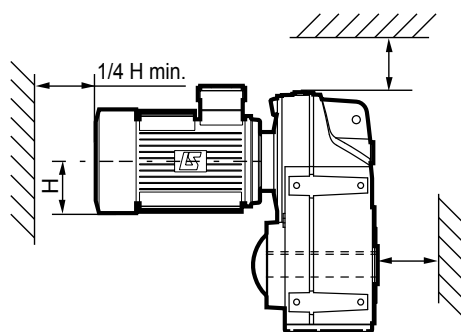
MANUBLOC 3000

Drive systems

1 - INSTALLATION RECOMMENDATIONS

Installation must be performed by qualified personnel. Allow sufficient room around the geared motor for plugs (or vessel) accessibility:

- 200 mm : G1/4" plug for Mub 31 to 35
- 500 mm : G3/4" dipstick for Mub 36 to 38.



Dimensions (mm)	Mub 3132	Mub 32	Mub 33	Mub 34	Mub 35	Mub 36	Mub 37	Mub 38
YA	15	16	18	25	25	30	36	42
YB	26	37	37	55	44	70	65	75
YC	19	23	23	32	42	90	110	166
YR	25	19	19	35	20	33	33	33
Flexible mounting (Silentbloc)								
Ø internal	14	14	14	22	22	33	33	35
Ø external	40	40	40	60	60	80	80	100
thickness	15	15	15	30	30	30	30	40

Gearbox:

For the installation of Manubloc 3000 gearbox, follow the "Recommendations" chapter in the general manual.

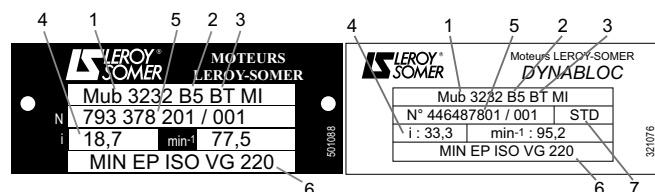
Motor:

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

The gearbox nameplate :

- 1- gearbox model and size ;
- 2- operating position ;
- 3- fixing type (NU, BS, BDr or BT...) ;
- possible options ;
- 4- exact reduction ;
- 5- serial number ;
- 6- lubricant ;
- 7- backlash: Standard (DYNABLOC).



1.2 - Torque point

Manubloc torque must be absorbed by an appropriate torque arm (not supplied).

Too much play can produce dangerous shocks during reverse operation or gear changes, flexible mountings are therefore recommended: dampers in stressed rubber (Silentbloc type). The flat end of the housing has cross tapping for this type of mounting according to the outline diagram. The other parts are not supplied by Leroy-Somer.

1.3 - Hollow shaft

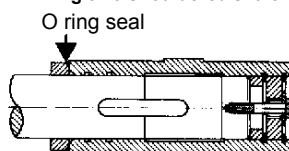
1 - Check that the cylindrical shaft has been machined in accordance with standard NF - E 22 - 175, with a slide fit: g6, (the hub is: H7).

2 - Check that the key is standard and the shaft is the minimum length tapped at the end.

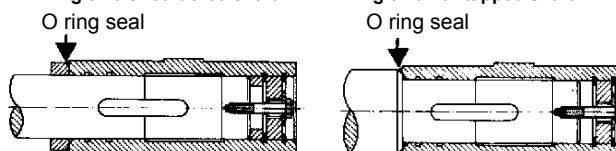
3 - Before mounting, degrease all the parts, taking care not to splash any solvent on the seals.

Use grease (PAO compound) to lubricate any parts in contact, to avoid corrosion.

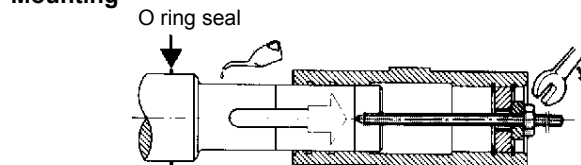
Fixing on a shouldered shaft:



Fixing on an untapped shaft:



Mounting

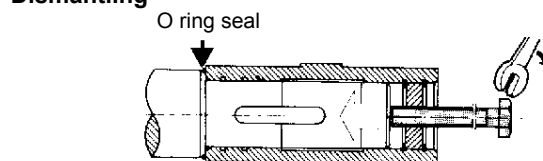


Mounting should be performed as described in the procedure above, without jolting.

The Mub gearbox is mounted on the machine shaft using a threaded rod, screwed into the shaft.

By screwing the nut down onto the washer, the shaft is smoothly inserted into the cylindrical hub.

Dismantling



Use a spanner with a diameter corresponding to the shaft thread and turn until the shaft comes out.

MANUBLOC 3000

Drive systems

2 - OPTIONS MOUNTING

2.1 - Shrink-disc

2.1.1 - Mounting

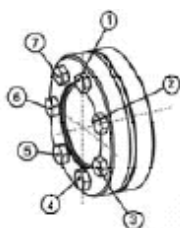
Remove all grease from shaft and hollow shaft bore.

1 - Lightly oil the seating of the shrink-disc on the hollow shaft.
2 - Draw shrink-disc onto hollow shaft. Slide shaft and hollow shaft into one another.

3 - Tighten the shrink disc screws, increasing the torque very progressively to tightening torque indicated in the chart below. It is normal that each screw must be tightened several times until the torque is obtained.

	Mub			
	31-32-33	34-35-36	37	38
Tightening torque for bolts of shrink-disc (N.m)	12	30	59	100
Ø shrink-disc screws	M6	M8	M10	M12

Do not tighten "cross-shaped" but "in one rotation", starting at the top right and following sketch below.



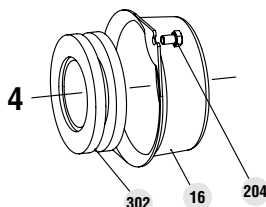
Tightness of shrink disc screws to be controlled periodically

Dismantling

1 - Part-release the clamping screws evenly in stages in order to avoid any tilting of the clamping flanges whilst taking great care for safety reasons that the clamping screws are not completely released from the thread bore as the pretensions in the shrink-disc could cause the discs to jump apart.

2 - Draw the shrink-disc off the hollow shaft, and if applicable, clean oxidizing on shaft and hollow shaft bore.

2.1.2 - Shrink-disc exploded view, part list



Rep	Description	Mub							
		3132	32	33	34	35	36	37	38
16	Shrink-disc cover	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty
204	Cover fixing screw	2	2	2	2	2	2	2	4
302	Shrink-disc	1	1	1	1	1	1	1	1

3 - MAINTENANCE

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.
- Clean the ventilation louvres of the motor.
- Lubricate the bearings of the motors fitted with grease nipples.
- Control the air gap of brake motors.

4 - LUBRICATION

For operation in ambient temperature between -10°C and +40°C, Manubloc 3000 reducer is shipped, as standard, with mineral Extreme Pressure oil: EP ISO VG 220.

For oil-lubricated gearboxes, check oil level and eventually top up if necessary.



You must use an oil of the recommended type.

Polyglycol lubricants cannot be mixed with mineral or synthetic lubricants of a different type.

Maintenance oil change.

- Mineral oil: drain every 5000 hours of operation.
- Synthetic oil PAO (polyalphaolefine): drain every 25000 hours of operation.
- From -30°C to +60°C: synthetic oil PAO ISO VG 150.
- From -30°C to -10°C: synthetic oil PAO ISO VG 32.
- From -30°C to +60°C and for use in the food industry: synthetic oil PAO H1 ISO VG 150.

Grease nipple on AP, Mub34, Mub35

Replace the grease ISO VG 100, NLGI 2 after 12 000h (25°C ; 1500 min⁻¹)

Storage period	< 1 year	AP can be commissioned without regreasing
	>1 and <2 years	Regrease before commissioning
	2 to 5 years	Dismantle AP. Clean it. Replace the grease completely

Oil capacities.

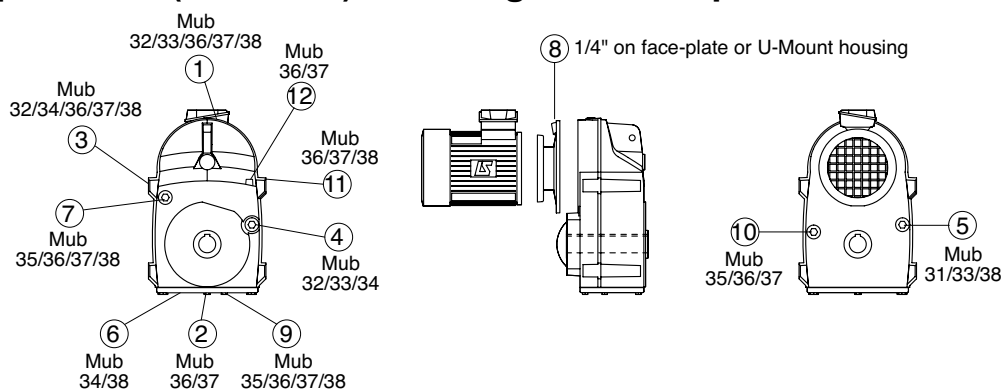
The oil capacities shown in table (see § 4) are approximative values and should be used only as reference in determining how much oil to provide. The proper oil levels can only be determined by:

- Mub 31 to 35: plug: **filling the reducer to the level of the plug.**
- Mub 36 to 38: dipstick: **adjust oil level between the 2 marks (up/down)**

MANUBLOC 3000

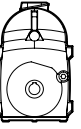
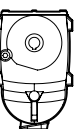
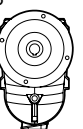
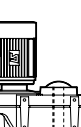
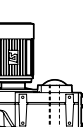
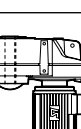
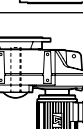
Drive systems

4.1 - Plug positions (1/4". 3/4") following reference position: B3-B5



Place the breather plug at the top of the gearbox.

4.2 - Multi-stages Manubloc: oil quantities in litres (considering operating position)

Operating positions			Mub 3132		Mub 32xx		Mub 33xx		Mub 34xx		Mub 35xx		Mub 36xx		Mub 37xx		Mub 38xx	
			n°	1/4'' litres'	n°	1/4'' litres'	n°	1/4'' litres'	n°	1/4'' litres'	n°	1/4'' litres'	n°	3/4'' litres'	n°	3/4'' litres'	n°	3/4'' litres'
			4	1.7	3	2.6	5	5.1	3	7.2	7	12.8	12	19.7	12	29.5	1	48
			2		2		2		2		9		9		9			
			1		1		1		8		8		12		12		1	
			1		1		1		8		8		12		12		1	
B6 - Mub xx33	B52 - Mub xx33		1	1.4	1	2	1	4.1	2	6.7	2	12.3 ²	3	20 ⁴	3	30.7 ⁴	3	45
			4		4		4		10		10		11					
			5		3		5		7		7		3					
			5		3		5		7		3		3					
B6 - Mub xx32	B52 - Mub xx32		1	1.4	1	2	1	4.1	2	6.7	2	12.3 ²	3	xx ⁴	3	xx ⁴	3	32
			4		4		4		10		10		11					
			5		3		5		7		7		7					
			5		3		5		7		3		3					
			1	1.4	1	2	1	4.2	8	7.2	9	14.8 ³	11	24.4 ⁵	11	29 ⁴	11	46.5 ⁵
			5		3		5		3		7		7		7			
			4		4		4		10		11		11		9			
			4		4		4		10		11		11		11			
			5	1.4	4	2	4	4.7	4	6.6	10	13.6	2	21.1	2	30.2	2	32.5 ⁴
			1		1		1		8		3		1					
			2		2		2		2		2		2		2			
			2		2		2		2		2		2		2			
			1	1.65	1	2.8	1	5.9	2	8.6	9	16.7	10	24.5 ⁴	10	38.4 ⁴	10	60 ⁶
			4		4		4		4		7		7		7			
			5		8		8		8		10		10		10			
			5		3		5		8		10		10		10			
			2	2.3	2	3.3	2	6.6	6	9.7	9	18.4	7	21.7	7	36	7	60
			5		3		5		3		10		10		10			
			4		4		4		4		7		7		7			
			4		4		4		4		7		7		7			

1. Limits: ± 0.05 litre for oil quantity < 5 litres
± 2 % for oil quantity ≥ 5 litres

2. Mub 35: kit (right angle bend)

3. Mub 35: kit (right angle bend/expansion vessel/valve)

4. Mub 36. 37. 38: kit (expansion pipe)

5. Mub 36. 4 p input speed. Mub 38: kit (right angle bend/dipstick)

5. Mub 36. 2 p input speed: kit (right angle bend/expansion vessel/dipstick)

6. Mub 38. 4 p input speed: kit (expansion pipe)

6. Mub 38. 2 p input speed: kit (right angle bend/expansion vessel/expansion pipe)

: AD not allowed

xx : consult LS

Level Draining Breather Filling

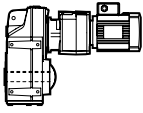
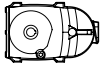
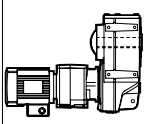
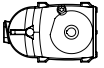
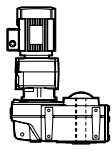
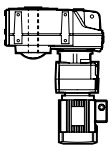
MANUBLOC 3000

Drive systems

4.3 - Mub/Cb combined oil quantities (considering operating position)



Place the breather plugs at the top of the gearboxes

Combined Mub/Cb								
Mub Output	i	Cb Input	Operating positions					
								
			B3 - B5 litres'	B6 - B52 litres'	B8 - B53 litres'	B7 - B54 litres'	V5 - V1 litres'	V6 - V3 litres'
3836 (6T)	4678-->21044	3433.3T	xx/3.3	xx/7	xx/6.7	xx/4.7	xx/7.5	xx/7.5
3835 (5T)	1069-->3984	3433.3T	xx/3.3	xx/7	xx/6.7	xx/4.7	xx/7.5	xx/7.5
3834 (4T)	264-->963	3433.2T	xx/3.3	xx/7	xx/6.7	xx/4.7	xx/7.5	xx/7.5
3736 (6T)	5008-->20251	3233.3T	36/0.95	36/2.3	36/2.25	36/1.55	38.4/2.25	xx/2.7
3735 (5T)	1257-->4598	3233.3T	36/0.95	36/2.3	36/2.25	36/1.55	38.4/2.25	xx/2.7
3734 (4T)	272-->1133	3233.2T	36/0.95	36/1.75	36/2.25	36/1.55	38.4/2.25	xx/2.7
3636 (6T)	3944-->19500	3233.3T	26/0.95	20/2.3	21.1/2.25	24.4/1.55	24.5/2.25	xx/2.7
3635 (5T)	988-->3612	3233.3T	26/0.95	20/2.3	21.1/2.25	24.4/1.55	24.5/2.25	xx/2.7
3634 (4T)	280-->890	3233.2T	26/0.95	20/1.75	21.1/2.25	24.4/1.55	24.5/2.25	xx/2.7
3536 (6T)	3060-->12100	3133.3T	12.8/0.6	12.3/1.23	13.6/1.1	14.8/0.85	16.7/1.15	xx/1.4
3535 (5T)	352-->2920	3133.2T	12.8/0.6	12.3/0.95	13.6/1.1	14.8/0.85	16.7/1.15	xx/1.4
3534 (4T)	240-->306	3133.2T	12.8/0.6	12.3/0.95	13.6/1.1	14.8/0.85	16.7/1.15	xx/1.4
3436 (6T)	8690-->21100	3133.3T	7.2/0.6	6.7/1.23	6.6/1.1	7.2/0.85	8.6/1.15	xx/1.4
3435 (5T)	1820-->7180	3133.2T	7.2/0.6	6.7/0.95	6.6/1.1	7.2/0.85	8.6/1.15	xx/1.4
3434 (4T)	249-->1670	3133.2T	7.2/0.6	6.7/0.95	6.6/1.1	7.2/0.85	8.6/1.15	xx/1.4
3336 (6T)	10300-->20500	3033	5.1/0.7	4.1/0.7	4.7/0.7	4.2/0.7	5.9/0.7	xx/0.7
3335 (5T)	2160-->8960	3033	5.1/0.7	4.1/0.7	4.7/0.7	4.2/0.7	5.9/0.7	xx/0.7
3334 (4T)	358-->1990	3032	5.1/0.6	4.1/0.6	4.7/0.6	4.2/0.6	5.9/0.6	xx/0.6
3236 (6T)	6780-->15200	3033	2.6/0.7	2/0.7	2/0.7	2/0.7	2.8/0.7	xx/0.7
3235 (5T)	1640-->6200	3033	2.6/0.7	2/0.7	2/0.7	2/0.7	2.8/0.7	xx/0.7
3234 (4T)	246-->1510	3032	2.6/0.6	2/0.6	2/0.6	2/0.6	2.8/0.6	xx/0.6

1. Limits: $\pm 10\%$ for oil quantity ≥ 5 litres

xx: consult us