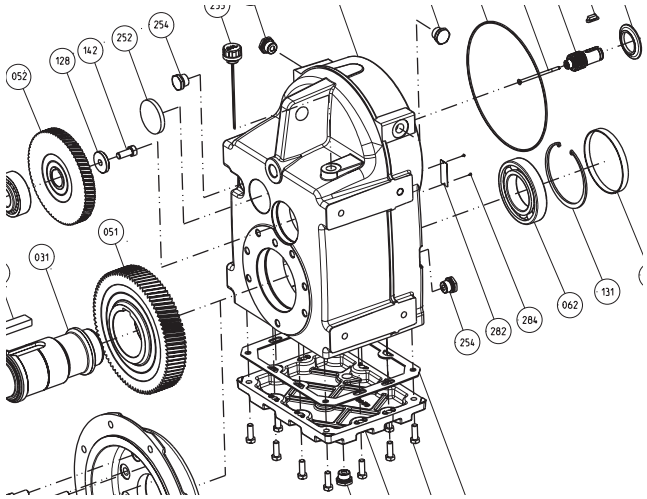
Nidec

All for dreams

en



Maintenance Guide

MANUBLOC 3000

Reference: 5066 en - 2020.05 / d

LEROY-SOMER™

GENERAL WARNING

This document complements the general instructions ref. 2557 (recommendations) and the installation instructions Manubloc 3000 ref. 4031.

NOTE

Nidec Leroy-Somer reserves the right to modify the characteristics of its products at any time in order to incorporate the lastest technological developments. The information contained in this document may therefore be changed without notice.
Nidec 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 ist use.

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.

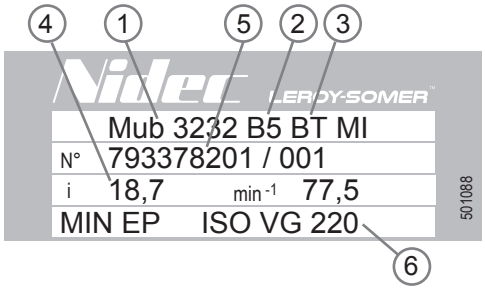
CONTENTS

1 - HOW TO ORDER

Necessary information

a) from the gearbox nameplate:

1 - gearbox model and size
2 - operating position
3 - fixing type (NU, BS, BDn or BT…)
- possible options
4 - exact reduction
5 - serial number
6 - lubricant



b) from the appropriate part list:

- part description and item number.

c) where a motor is fitted to the gearbox, from the motor nameplate:

(for the motor: see the corresponding manual)

- motor type
- No. of poles (or speed in min^{-1})
- power in kW (or N.m)

Caution: the motor requires a special shaft and flange for integral mounting (MI) with the gearbox.

2 - MAINTENANCE

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.

Maintenance : oil, seals, bearings, AD

6 months	Adjust oil level. Inspect the seals.
3 years (or 5 000 h)	Drain and refill mineral oil. Change the seals. Change the grease of regreasable bearings.
5 years (or 25 000 h)	Drain and refill synthetic oil. Change the seals. Change the grease of regreasable bearings.

Grease nipple on AP Mub 34, 35

- Replace the grease ISO VG 100, NLGI 2, after 12 000 h (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.

3 - INSTRUCTIONS FOR DISMANTLING AND REBUILDING

3.1 - Dismantling

- Remove the geared motor from the machine.
- Drain the gearbox.
- Remove the motor (undo the nuts **184** on motor side).
- Dismantle the gearbox.

Utilisation of appropriate tools (hub-puller, bearing-puller, mallets, adjustable spanners, circlips pliers, assorted screwdrivers, taps and dies, press…) as well as applying our rigorous procedures (M32 S244 §9 for gearbox and T32 S69 for Universal mounting) the intervention of an authorised Leroy-Somer Service Centre wil be required to maintain the original high performance of the drive system.

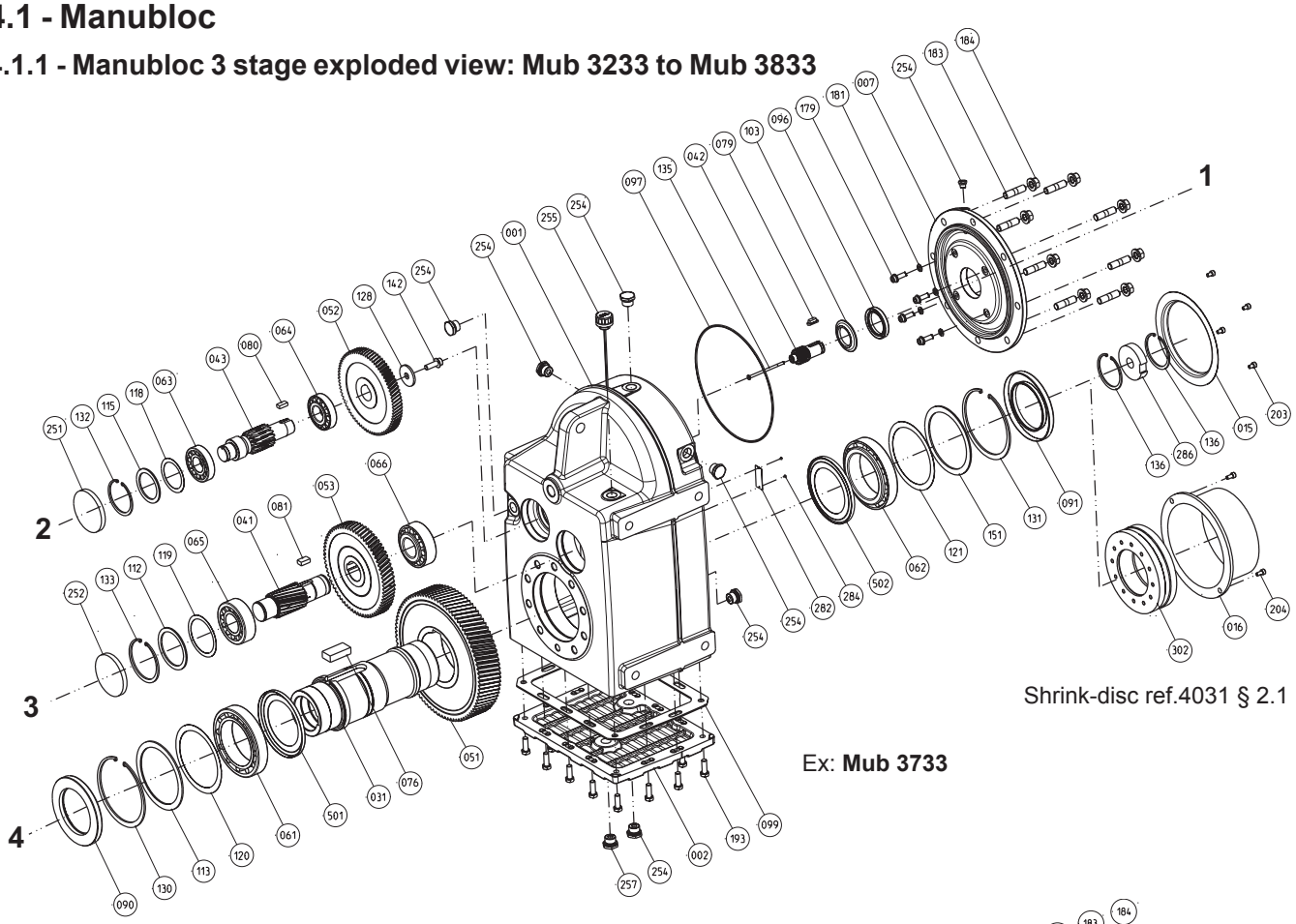
3.2 - Rebuilding

- Proceed in the reverse order to dismantling.
- Oil the lip-seals ; they must be fitted very carefully so as to avoid damage to the running seal area ; the use of protection sleeves is recommended to cover the sharp edges of shaft keyways.
- Nuts must be fixed with medium strength anaerobic adhesive.
- Re-fit the “O”rings, checking that they are positioned correctly.
- Fill with oil up to the appropriate level (see ref. 4031 § 4.2).
- Turn the shaft to check that the box is functioning satisfactorily before finally mounting it in position.

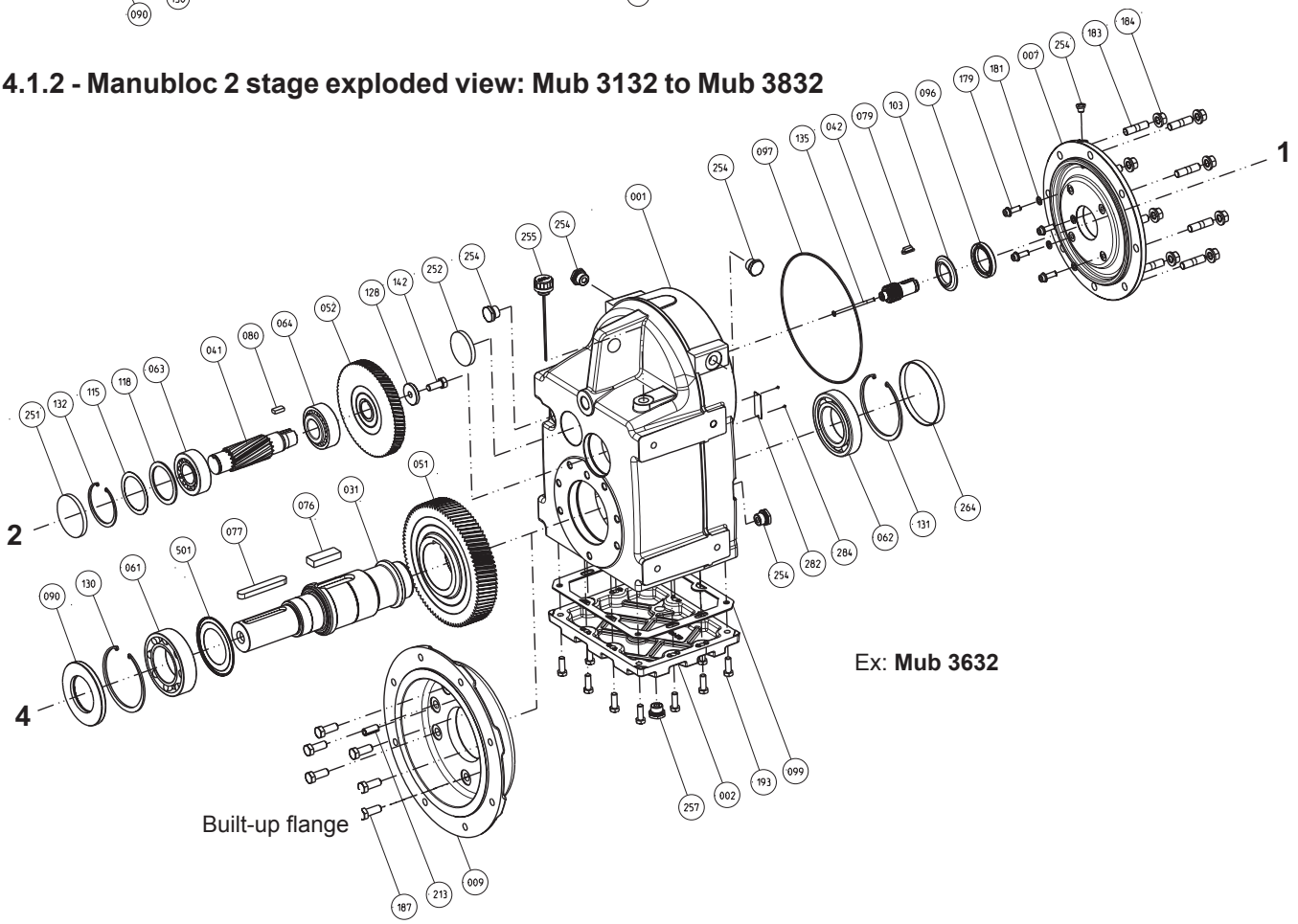
4 - EXPLODED VIEWS - MAINTENANCE PARTS - PARTS LIST

4.1 - Manubloc

4.1.1 - Manubloc 3 stage exploded view: Mub 3233 to Mub 3833



4.1.2 - Manubloc 2 stage exploded view: Mub 3132 to Mub 3832



4.1.3 - Manubloc parts list: Mub 3132 to 3833

		Mub														
		3132	3232	3233	3332	3333	3432	3433	3532	3533	3632	3633	3732	3733	3832	3833
Ref.	Description	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty	Qty
1	Housing	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	Cover	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7	Face plate	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
9	Built-up flange: BS	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
15	Out put shaft cover	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
31	Output shaft	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
41	Pinion axis 3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
42	Pinion axis 1 motor shaft	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
43	Pinion axis 2	0	0	1	0	1	0	1	0	1	0	1	0	1	0	1
51	Wheel axis 4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
52	Wheel axis 2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
53	Wheel axis 3	0	0	1	0	1	0	1	0	1	0	1	0	1	0	1
61	Bearing axis 4 front	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
62	Bearing axis 4 back	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
63	Bearing axis 2 front	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
64	Bearing axis 2 back	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
65	Bearing axis 3 front	0	0	1	0	1	0	1	0	1	0	1	0	1	0	1
66	Bearing axis 3 back	0	0	1	0	1	0	1	0	1	0	1	0	1	0	1
76	Key for hollow shaft wheel (ref 51)	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2
77	Output shaft key (ref 31 S)	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
79	Pinion key (ref 42)	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
80	Key (ref 52)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
81	Key (ref 53)	0	0	1	0	1	0	1	0	1	0	1	0	1	0	1
90	Seal axis 4 front	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
91	Seal axis 4 fack	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
92	Ring seal axis 4 front (ref 9)	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0
93	Ring seal axis 4 back	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0
96	Ring seal axis 1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
97	“O” ring axis 1 input face plate	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
99	Cover gasket (ref 2)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
103	Oil deflector	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
112	Bearing spacer axis 3	0	0	0	0	0	0	1	0	1	0	1	0	1	0	0
113	Bearing spacer axis 4 (if ref 61/62 tapered roller)	0	1	1	1	1	1	1	1	1	0	1	1	1	0	0
114	Bearing spacer axis 3	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
115	Bearing spacer axis 2 Front	0	1	0	1	0	1	0	1	0	1	1	1	1	0	1
118	Shims (ref 63) axis 2	0	0	0	0	0	1	0	0	0	1	1	1	1	0	3
119	Shims (ref 65) axis 3	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0
120	Bearing spacer axis 4 Front	0	1	0	1	0	1	0	1	0	0	1	1	1	0	0
121	Shims (ref 62) axis 4	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0
128	Wheel circlips axis 2 (ref 52)	1	0	0	0	1	0	0	0	0	1	1	1	1	1	1
130	Bearing circlips (ref 61) axis 4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
131	Bearing circlips (ref 62) axis 4	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
132	Bearing circlips (ref 63) axis 2	0	1	1	1	1	1	1	1	1	1	1	1	1	0	1
133	Bearing circlips (ref 65) axis 3	0	0	0	1	1	1	1	1	1	0	1	1	1	0	0
134	Circlips (ref 286) axis 4	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0
135	Pinion key h32 (ref 42)	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
136	Circlips MD ring (ref 286) axis 4	0	1	1	1	1	1	1	1	1	0	0	2	2	2	2
138	Bearing circlips (ref 64) axis 2	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
142	Fixing screw (ref 128)	0	0	0	0	0	0	0	0	0	1	0	1	1	1	2
143	Speacer axis 2	0	0	1	0	0	0	1	0	1	0	1	0	0	0	0
144	Distance peace axis 2 (ref 52)	1	0	1	1	1	0	0	0	0	0	1	0	0	0	0
151	Speacer (if ref 52 tapered roller)	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0
155	Shims (if ref 64 tapered roller) axis 2	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0
156	Speacer axis 2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
161	Elastic spacer axis 2 (ref 63)	0	1	1	0	0	1	0	1	0	0	0	0	0	0	0
164	Bearing elastic spacer	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
179	Screw face plate	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
181	Screw washer (ref 179)	0	4	4	4	4	4	4	4	4	4	4	4	4	4	4
183	Input fixing stud	4	5	5	6	6	4	4	8	8	8	8	8	8	8	8
184	Stud nut (ref 183)	4	5	5	6	6	4	4	8	8	8	8	8	8	8	8
187	Flange fixing screw (ref 9)	0	4	4	6	6	6	6	6	6	7	7	9	9	12	12
193	Cover fixing screw (ref 2)	6	6	6	8	8	10	10	10	10	10	10	14	14	14	14
199	GV pinion pin (ref 42)	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0
203	Fixing bolt cover	2	2	2	2	2	2	2	2	2	2	2	4	4	4	4
213	Flange pin (ref 9)	0	1	1	1	1	1	1	1	1	1	1	1	1	2	2
251	Obturating cap axis 2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
252	Obturating cap axis 3	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
254	Plug E-R/N/V*	2	3	3	3	3	3	3	3	3	6	6	6	6	5	5
255	Breather plug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
257	Magnetic drain plug	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
264	Obturating cap axis 4 (ref 31 S)	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
282	Nameplate	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
284	Nameplate rivets (ref 282)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
286	Mounting dismantling ring	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1
501	Deflector Nilos axis 4 front	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
502	Deflector Nilos axis 4 back	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1

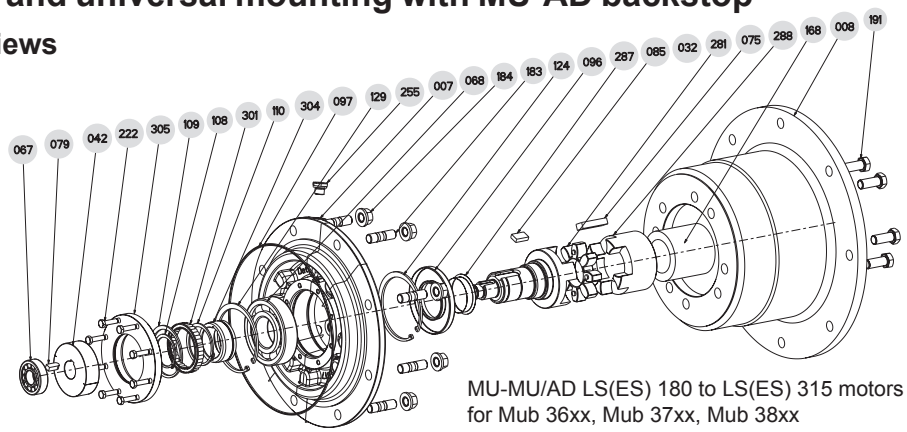
*E-R/N/V: “E”breather/”R”filling/”N”level/”V”draining plug

Ref n Maintenance parts Mub 3132 to Mub 3833

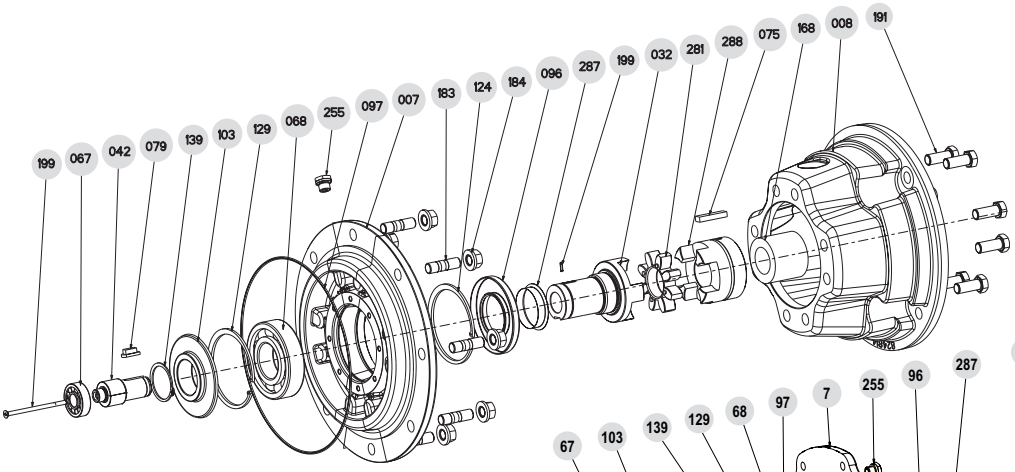
en

4.2 - Universal mounting MU and universal mounting with MU-AD backstop

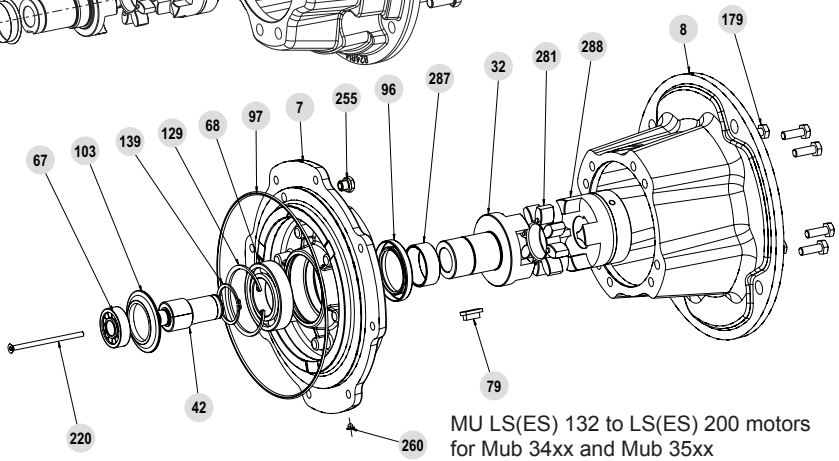
4.2.1 - MU and MU-AD exploded views



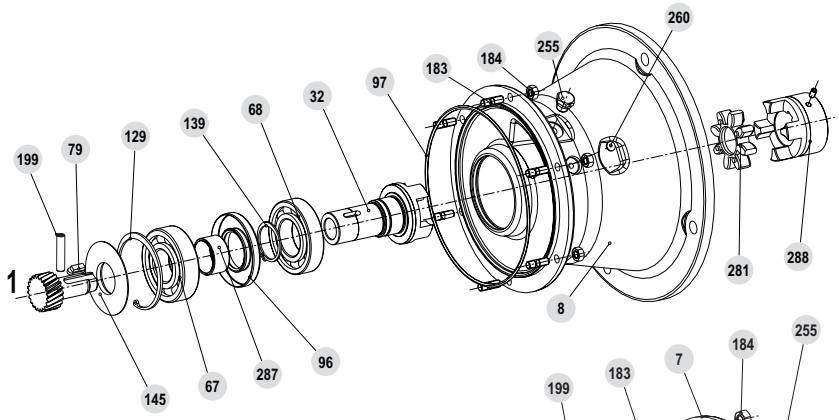
MU-MU/AD LS(ES) 180 to LS(ES) 315 motors
for Mub 36xx, Mub 37xx, Mub 38xx



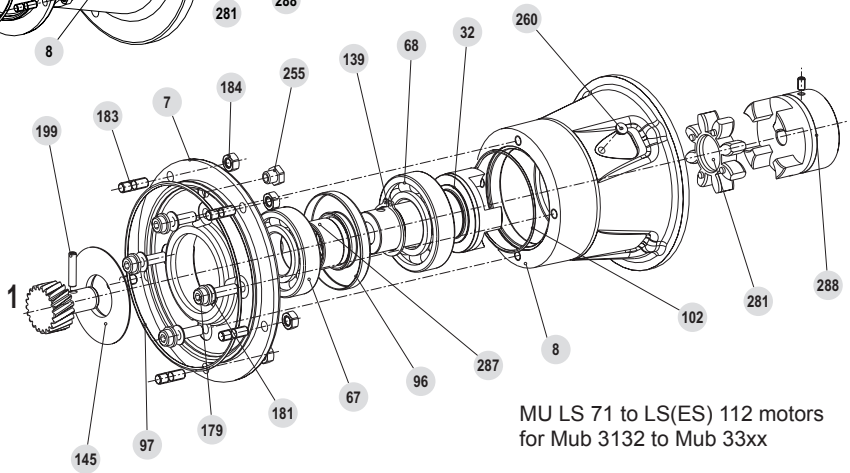
MU LS(ES) 100 to LS(ES) 160 motors
for Mub 36xx and Mub 37xx



MU LS(ES) 132 to LS(ES) 200 motors
for Mub 34xx and Mub 35xx

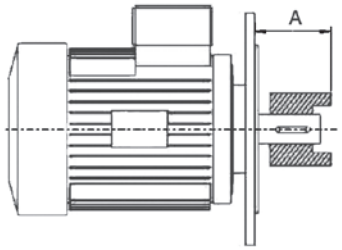


MU LS(ES) 132 motor for Mub 33xx



MU LS 71 to LS(ES) 112 motors
for Mub 3132 to Mub 33xx

Dimension A must be kept according to the table below for Mub 31 to Mub 35 ; you can measure it between the flange face of the motor and the end of the coupling. On Mub 36 to Mub 38 mounting with ref. 168.



Motor			A value (mm)			
Frame	Flange	Shaft Ø	Mub 31/32xx[1]	Mub 33xx	Mub 34xx	Mub 35xx
LS 71	F 130	14 x 30	52.5	52.5	52.5	
LS 71	F 130	19 x 40	52.5	52.5	52.5	
LSES 80	F 165	19 x 40	60.5	60.5	60.5	60.5
LSES 90	F 165	24 x 50	60.5	60.5	60.5	60.5
LSES 100	F 215	28 x 60	74.5	74.5	74.5	74.5
LSES 112	F 215	28 x 60	74.5	74.5	74.5	74.5
LSES 132	F 265	38 x 80		96.5	97.5	96.5
LSES 160	F 300	42 x1 10			130.5	130.5
LSES 180	F 300	48 x 110			130.5	130.5
LSES 200	F 350	55 x 110			130.5	130.5
LSES 225	F 400	60 x 140				
LSES 250	F 500	65 x 140				
LSES 280	F 500	75 x 140				

1. MU before 2012/09

en

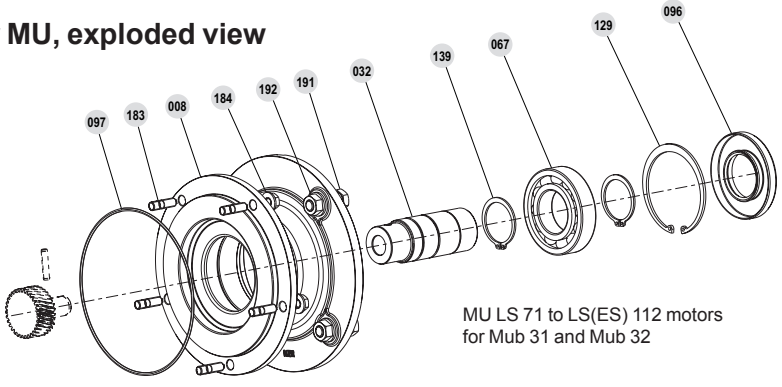
4.2.2 - MU and MU-AD parts list

Ref.	Description	LS 71 Qty	LS(ES) 80 Qty	LS(ES) 90 Qty	LS(ES) 100-112 Qty	LS(ES) 132 Qty	LS(ES) 160 Qty	LS(ES) 180 Qty	LS(ES) 200 Qty	LS(ES) 225 Qty	LS(ES) 250 Qty	LS(ES) 280 Qty	LS(ES) 315 Qty
7	Face plate	1	1	1	1	1	1	1	1	1	1	1	1
8	"U" mount housing	1	1	1	1	1	1	1	1	1	1	1	1
32	Input shaft MU axis 1	1	1	1	1	1	1	1	1	1	1	1	1
67	Bearing axis 1 gearbox side	1	1	1	1	1	1	1	1	1	1	1	1
68	Bearing axis 1 motor side	1	1	1	1	1	1	1	1	1	1	1	1
75	MU coupling key (rep 288)	0	0	0	0	0	0	0	0	1	1	1	1
79	Stop-piece (rep 42)	0	0	0	0	1	0	0	0	1	1	1	1
85	Key (rep 301)	0	0	0	0	0	0	0	0	1	1	1	1
96	Ring seal	1	1	1	1	1	1	1	1	1	1	1	1
97	O ring axis 1 input face plate	1	1	1	1	1	1	1	1	1	1	1	1
102	"U" mounting O ring	1	1	1	1	0	0	0	0	1	1	1	1
103	Oil deflector	1	1	1	1	1	1	1	1	1	1	1	1
108	Stop circlips (rep 301 s32)	0	0	0	0	0	0	0	0	1	1	1	1
109	Stop circlips front (rep 301 s32)	0	0	0	0	0	0	0	0	1	1	1	1
110	Stop circlips back (rep 301 s32)	0	0	0	0	0	0	0	0	1	1	1	1
124	Stop circlips	0	0	0	0	0	0	0	0	1	1	1	1
129	Bearing circlips front	0	0	0	0	1	1	1	1	1	1	1	1
139	Bearing circlips back	1	1	1	1	1	1	1	1	1	1	1	1
145	GV shaft deflector	1	1	1	1	1	1	1	1	1	1	1	1
168	Distance piece (rep 288)	0	0	0	1	1	1	1	1	1	1	1	1
179	Screw face plate	4	4	4	4	4	4	4	4	4	4	4	4
181	Screw washer (rep 179)	4	4	4	4	4	4	4	4	4	4	4	4
183*	Input fixing stud	*	*	*	*	*	*	*	*	*	*	*	*
184*	Stud nut (rep 183)	*	*	*	*	*	*	*	*	*	*	*	*
191	Fixing screw MU	4	4	4	4	4	4	4	4	4	4	4	4
192	Nut (rep 191)	4	4	4	4	4	4	4	4	4	4	4	4
199	GV pinion pin	1	1	1	1	1	1	1	1	1	1	1	1
220	Screw for pinion adaptator h32 (rep 34)	0	0	0	0	0	1	1	1	1	1	1	1
222	Screw for ring AD back	0	0	0	0	0	0	0	0	8	8	8	8
255	Breather plug	1	1	1	1	1	1	1	1	1	1	1	1
260	Blow-off plug	1	1	1	1	1	1	1	0	0	0	0	0
281	Flexible joint	1	1	1	1	1	1	1	1	1	1	1	1
287	INA ring for ring seal	1	1	1	1	1	1	1	1	1	1	1	1
288	MU coupling	1	1	1	1	1	1	1	1	1	2	2	2
301	AD (Mub 36/37/38)	0	0	0	1	1	1	1	1	1	1	1	1
304	Ring front (rep 301)	0	0	0	1	1	1	1	1	1	1	1	1
305	Ring back (rep 301)	0	0	0	1	1	1	1	1	1	1	1	1

183* and **184***: quantities are in direct connection with size of gearbox (see § 4.1)

Ref n Maintenance parts Universal mounting

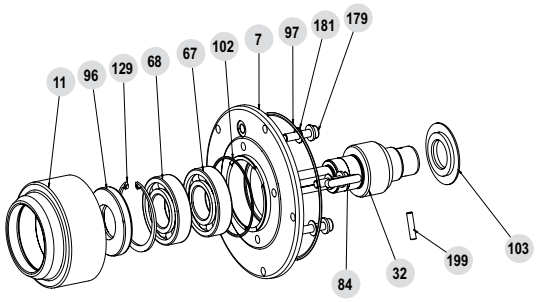
4.2.3 - 2012/09: New MU, exploded view



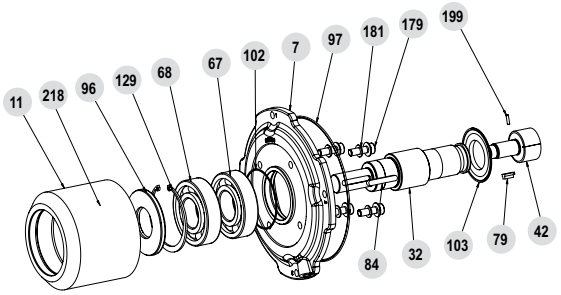
MU LS 71 to LS(ES) 112 motors
for Mub 31 and Mub 32

4.3 - Input shaft AP and input shaft with AP-AD backstop

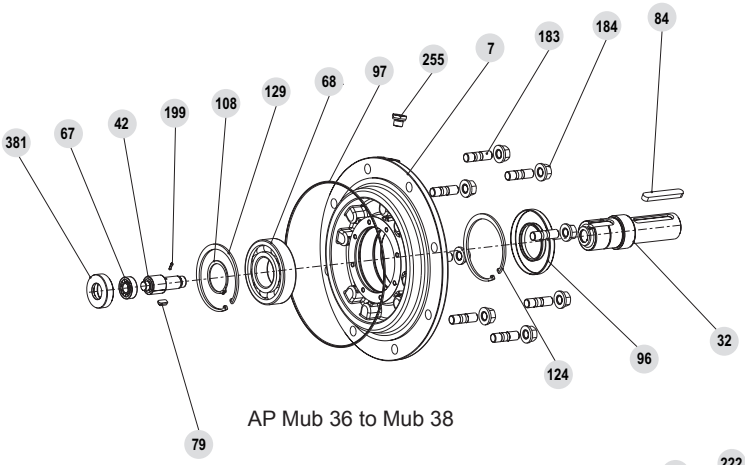
4.3.1 - AP and AP-AD exploded views



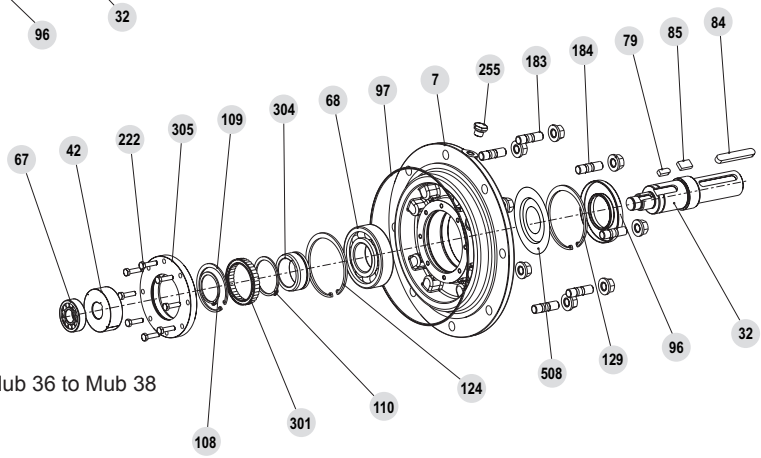
AP Mub 3132, Mub 32xx, Mub 33xx



AP Mub 34xx, Mub 35xx



AP Mub 36 to Mub 38



AP-AD Mub 36 to Mub 38

4.3.2 - AP and AP-AD parts list

Ref.	Description	Mub 31/32 Qty	Mub 33 Qty	Mub 34 Qty	Mub 35 Qty	Mub 36/37/38 Qty
7	Face plate	1	1	1	1	1
11	AP shield	1	1	1	1	1
32	Input shaft AP and MU axis 1	1	1	1	1	1
42	Pinion axis 1	1	1	1	1	1
67	Bearing axis 1 pinion side	1	1	1	1	1
68	Bearing axis 1 motor side	1	1	1	1	1
79	Stop-piece (rep 42)	1	1	1	1	1
84	AP shaft key	1	1	1	1	1
96	Ring seal	1	1	1	1	1
97	O ring axis 1 input face plate	1	1	1	1	1
102	"U" mounting O ring	1	1	1	1	1
103	Oil deflector	1	1	1	1	0
108	Stop circlips (rep 301 s32)	0	0	0	0	1
109	Stop circlips front (rep 301 s32)	0	0	0	0	1
110	Stop circlips back (rep 301 s32)	0	0	0	0	1
124	Stop circlips	0	0	0	0	1
129	Bearing circlips front	1	1	1	1	0
139	Bearing circlips back	1	1	1	1	1

Ref.	Description	Mub 31/32 Qty	Mub 33 Qty	Mub 34 Qty	Mub 35 Qty	Mub 36/37/38 Qty
149	Stop circlips (rep 304 s32)	0	0	0	0	1
179	Screw face plate	4	4	4	4	4
181	Screw washer (rep 179)	4	4	4	4	4
183*	Input fixing stud	*	*	*	*	*
184*	Stud nut (rep 183)	*	*	*	*	*
199	GV pinion pin (rep 42)	1	1	1	1	1
218	Grease nipple[1] (rep 11)	0	0	1	1	0
220	Screw for pinion (MI h32)	0	0	1	1	1
222	Screw for ring AD back	0	0	0	0	1
254	E-R/N/V[2] plug	0	0	0	1	0
255	Breather plug	1	1	1	1	1
287	INA ring for ring seal	0	0	0	0	1
301	AD	0	0	0	0	1
304	Ring front (rep 301)	0	0	0	0	1
305	Ring back (rep 301)	0	0	0	0	1
381	Endshield axis 1	0	0	0	0	1
508	Nilos seal (or block)	0	0	0	0	1

183* and **184***: quantities are in direct connection with size of gearbox (see § 4.1)

Ref n Maintenance parts AP

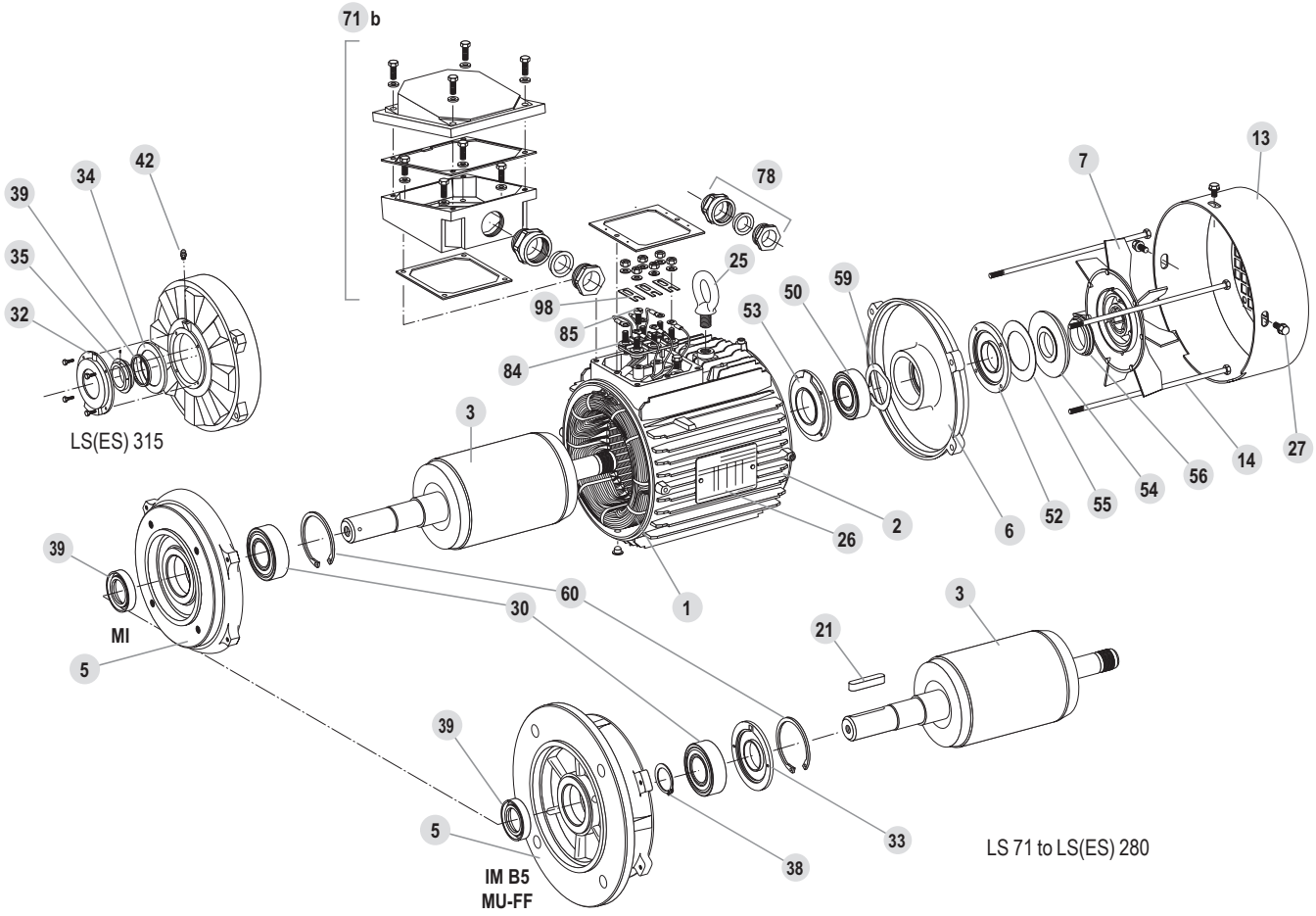
1. see § 2

2. E-R/N/V: "E"breather/"R"filling/"N"level/"V"draining

4.4 - Motor MI, IM B5

4.4.1 - Motor exploded view

Frame size: LS 71 to LS(ES) 315



4.4.2 - Motor parts list

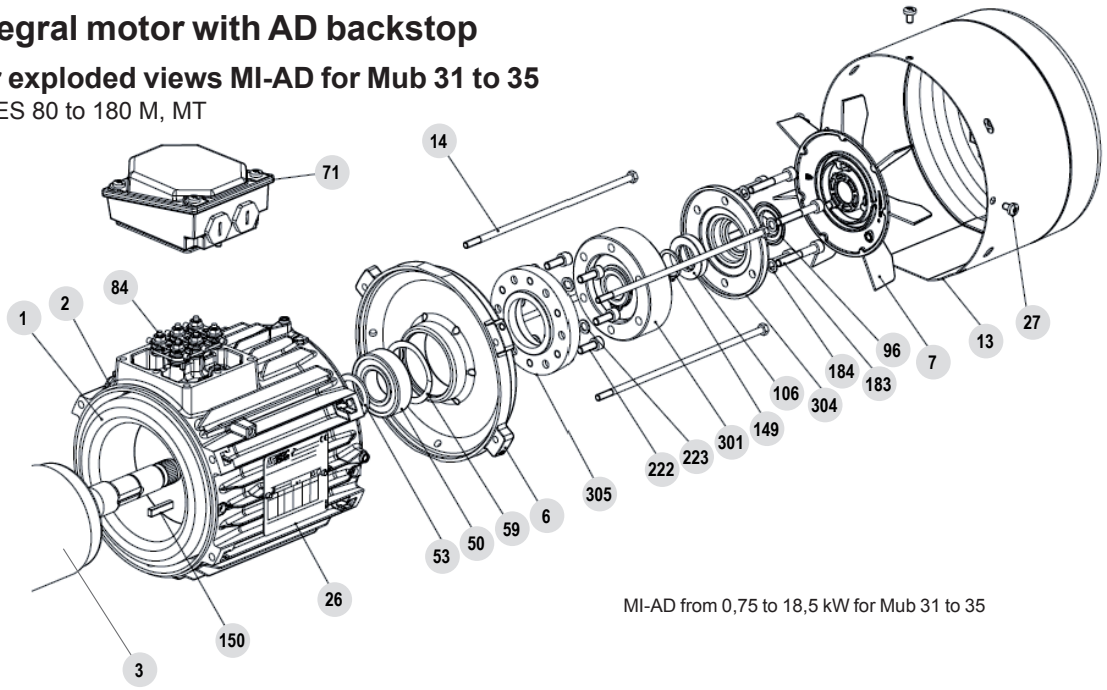
Frame size: LS 71 to LS(ES) 315

Ref.	Description	Ref.	Description	Ref.	Description
1	Wound stator	**27**	Cover fixing screw	**53**	NDE internal bearing retainer (LS[ES] 200 –> 315)
2	Housing	**30**	DE bearing	**54**	NDE seal
3	Rotor	**32**	DE bearing retainer (LS[ES] 315)	**55**	NDE fixed grease valve (LS[ES] 315)
5	Drive end shield	**33**	Bearing retaining plate (LS[ES] 160-->280)	**56**	NDE mobile grease valve (LS[ES] 315)
6	Non drive end shield	**34**	DE fixed grease valve (LS[ES] 315)	**59**	Preloading (wavy) washer
7	Fan	**35**	DE mobile grease valve (LS[ES] 315)	**60**	Circlips
13	Fan cover	**38**	Drive end bearing circlip (LS[ES] 160-->280)	**71 b**	Metal terminal box
14	Tie rods	**39**	DE seal	**78**	Cable gland
21	Keyway	**42**	Grease nipples (LS[ES] 315)	**84**	Terminal block
25	Lifting ring	**50**	NDE bearing	**85**	Set screw
26	Nameplate	**52**	NDE external bearing retainer (LS[ES] 200 –> 225 + LS[ES] 315)	**98**	Connector links

4.5 - MI integral motor with AD backstop

4.5.1 - Motor exploded views MI-AD for Mub 31 to 35

Frame size: LSES 80 to 180 M, MT



MI-AD from 0,75 to 18,5 kW for Mub 31 to 35

4.5.2 - Motor parts list MI-AD for Mub 31 to 35

Rep.	Description	Qty
1	Wound stator	1
2	Housing	
3	Rotor	1
6	Non drive end shield	1
7	Fan	1
13	Fan cover	1
14	Tie rods	3 to 4
26a	Nameplate	1
27	Coverfixing screw	3 to 4
50	NDE bearing	1
53	NDE internal bearing retainer (LS[ES] 200 --> 315)	0 to 1
59	Preloading (wavy) washer	1
71	Terminal box	1

Rep.	Description	Qty
84	Terminal block	1
96	Gamma seal	1
106	Ring seal	1
149	Circlips (rep. 301)	1
150	Key	1
183	Fixing screw (rep. 301+304/305)	6
184	Screw washer (rep. 183)	6
222	Fixing screw (rep. 305/6)	0 - 6
223	Screw washer (rep. 222)	0 - 6
301	AD	1
304	closing cover (rep. 301/305)	1
305	Face plate (rep. 301)	0 to 1

Rep. n Maintenance part

4.5.3 - Method for reversing the direction of rotation of AD

Check the direction of rotation*

Clockwise

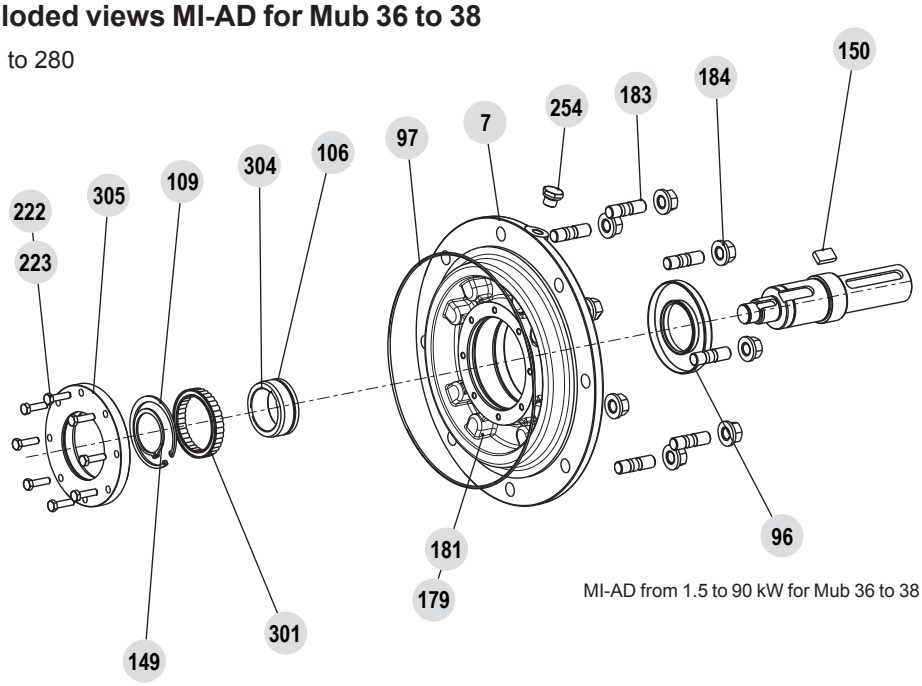
Anticlockwise

- Remove the cover **13**
- Remove the fan **7**, by unscrewing the central screw (or ring + screw and washer) if necessary
- Remove the Gamma seal **96**
- Unscrew the 6 screws **183** from the closing cover **304**, then take off the cover (the seal **106** also comes at the same time) maintaining the AD ring back on the motor shaft
- Remove the circlips **149**
- Extract the inner AD **301** ring front (the AD moving parts shall remain in the ring back)
- Clean AD **301** faces, ring back **305** and cover **304**
- Apply sealing paste (type: OMNIFIT 100M) in the cover socket and on the ring back
- If necessary, replace the grease contained by the ring seal **106** of the cover
- Flip the **301** assembly by 180° and reposition the wall parts on the motor shaft without forgetting the **150** key
- Ensure that the AD direction of rotation (marked with an arrow on the moving part) corresponds to the motor direction of rotation
- Replace the other parts reversing the disassembly procedure. Fit a new Gamma seal.

**Labels indicating the direction of rotation for motor (HJ54P 100) and gearbox shaft (321343/321344)*

4.5.4 - Motor exploded views MI-AD for Mub 36 to 38

Frame size: LSES 90 to 280



MI-AD from 1.5 to 90 kW for Mub 36 to 38

4.5.5 - Motor parts list MI-AD for Mub 36 to 38

Check the direction of rotation*

Rep.	Description	Qty
7	Face plate	1
96	Ring seal	1
97	O-ring axis 1 input face plate	1
106	Seal	1
109	Stop circlips (rep. 301)	1
149	Stop circlips (rep. 304 s32)	2
150	Key	1
179	Screw face plate	4

Rep.	Description	Qty
181	Screw washer (rep.179)	4
183	Input fixing stud	4 à 8
184	Stud nut (rep. 183)	4 à 8
222+223	Screw + washer (rep.305)	0 - 6+6
254	E-R/N/V* plug	1
301	AD (Mub 36 to 38)	1
304	Ring front (rep. 301)	1
305	Ring back (rep.301)	0 à 1

E-R/N/V: Breather-Filling/Level/Draining plug

Rep. n Maintenance part

**Labels indicating the direction of rotation for motor (HJ54P 100) and gearbox shaft (321343/321344)*