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Appendix

Exploded view drawing and part list

Rojo Machines Finland contact information:

Attila Alastalo, CEO

Phone: +358 400 903 860

Email: attila.alastalo@rojomachines.com

Aleksi Nieminen, Production engineer Phone: +358 50 439 7050

Email: aleksi.nieminen@rojomachines.com



EC Declaration of conformity

Manufacturer: Rojo Machines Finland
Hovinsaari, Sahankatu 22
FI-48200 KOTKA
Finland

Representative:

Machine description: ROJO 230, serial No:

Harmonization standard:

EN 292 - 1, -2; EN ISO 12100

The machinery stated above is herewith declared to be in conformity with the essential requirements in the Machinery Directive 2006/42/EC with amendments.

Kotka 12/3/2025

ROJO MACHINES FINLAND

A handwritten signature in blue ink, appearing to read "Aleksi Nieminen".

Aleksi Nieminen

Electricity Measuring Protocol

Manufacturer

ROJO MACHINES FINLAND
Hovinsaari, Sahankatu 22
FI-48200 KOTKA
Finland
tel. +358 10 420 4050
fax. +358 5 2269 050
Email: info@rojomachines.com

Mixer model 230
Manufacturing year:

Serial No:
202?

1) Motor specifications

Serial number:

2) Measuring results

50 Hz, 400 V

Phase:	L1	L2	L3
Amp:			

3) Mixer checklist after assembly.

- Electrical connections checked.
- Buttons and phase switch tested.
- Mixer rotation checked and calibrated.
- Paddles and arms tightened.

12/3/2025

ROJO MACHINES FINLAND

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Care and maintenance instructions

4) Drive

The mixer is equipped with a planetary gear motor. Oil type, quantity and oil change interval is presented in this guide on page 13.

The motor is equipped with a power switch, start / stop button, an emergency stop switch and a limit switch. Power supply: 400 V, 3P + N + E, 50 Hz

5) Spare parts

Rojo Machines Finland and our representatives sell spare parts for Rojo mixers. The manufacturer is not liable for any damage and breakdowns caused by using other than manufacturer's own machinery parts and spare parts.

6) Arms and paddles

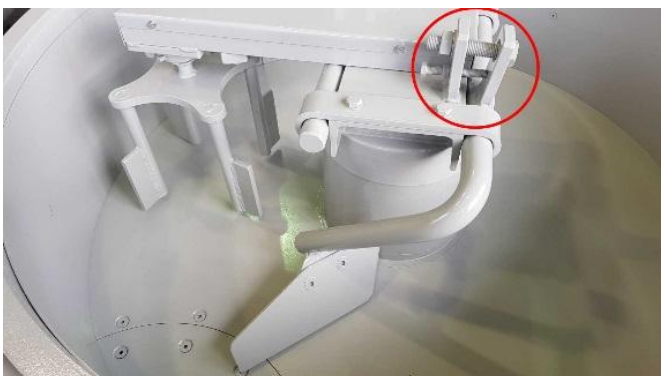
Check the positions of the paddles once a week. Set the adjusting screws on the paddle bridge so that the paddles are close to the bottom and sides but without coming into contact with them. Lock the settings and turn the arms by hand to make sure that the paddles are clear of the bottom and sides all the way around. Re-adjust if necessary. The distance of side scraper from the mixer drum has to be minimum three millimetres. Replace worn arms and paddles when it becomes impossible to compensate for wearing by adjustment.



Correct position of the outer paddle.



Correct position of the side scraper.



Location of the locking bolts for adjustment of the paddles and paddle arms.



7) Mixer Drum

Clean the mixer daily. A clean mixer will give the best mixing result and a longer working life.

- **Do NOT restart the mixer with the drum full if you have added water to the mix. In case of a power outage the drum has to be emptied by hand.**
- **Don't charge the mixer with bigger batches for what the mixer is designed for.**
- **Capacity of the ROJO 230: approx. 225 kg**



8) Cleaning

It is important to clean the mixing drum, paddle arms and paddles daily. This prevents old hardened concrete from contaminating the freshly mixed batch. A clean mixer also improves safe operation of the mixer. Take care in cleaning the upper rim of the mixing drum as the safety switch for the lid will not work if the lid does not close properly.



Not properly cleaned mixer!

It is always easier to clean the mixer drum right after mixing when the concrete is soft. If the concrete has hardened remove it with a hammer. Try to keep the outer corner of the mixing drum clean. Accumulation of dried concrete will lead to rapid wear of the outer paddle. Use water to clean the mixer.



9) Lid

To maximize personal safety, the lid is equipped with a limit switch that will stop the power supply if the lid is not fully closed. Always keep the lid closed when the mixer is in operation. Do not remove the lid until the mixer is switched off and isolated.



Position of limit switch when the lid is closed.

10) Noise level

Level of sound at 1 m distance from the mixer is 85 dB (A). **Use ear protection.**

11) Handling

The lid has to be opened before the mixer is lifted.

Never lift the mixer when the drum is full of concrete

After the mixer is stopped do not restart the mixer when the drum is full of mixed heavy material. In case of a power failure the mixer must be emptied manually.

Never mix bigger batches than what the mixer is designed for.

Before service and maintenance work, always make certain that the mixer is switched off and disconnected.

Never put your hand, tools or anything else in the mixer drum when the mixer is running. This can cause severe injury on person and/or damage to tools and the mixer itself.

Only personnel who are well acquainted with the handling and the use of the mixer may use it.

When the motor is switched on, it is very important that the phase sequence is correct. The connector of the starter is equipped with a phase inverter that is used for reversing the direction of rotation. The direction of rotation should be anti-clockwise. Serious damage may occur if the mixer rotates in the wrong direction.

- **Use the on/off buttons on the starter to operate the mixer. Use the emergency stop button only at an emergency!**





General safety information

When the mixer is in operation, some of its parts moves and rotates.

As a result, improper use, removal of protective devices, disconnecting of safety devices, inadequate inspection and maintenance **MAY LEAD TO SERIOUS INJURY ON PERSON OR EQUIPMENT.**

Those who are responsible for safety must therefore ensure that:

The mixer is transported, installed, operated, inspected, maintained and repaired only by personnel:

- With adequate training and experience
- Knowledge of general safety regulations, national and local laws and other requirements
- With ability to recognize and avoid operations that may be dangerous

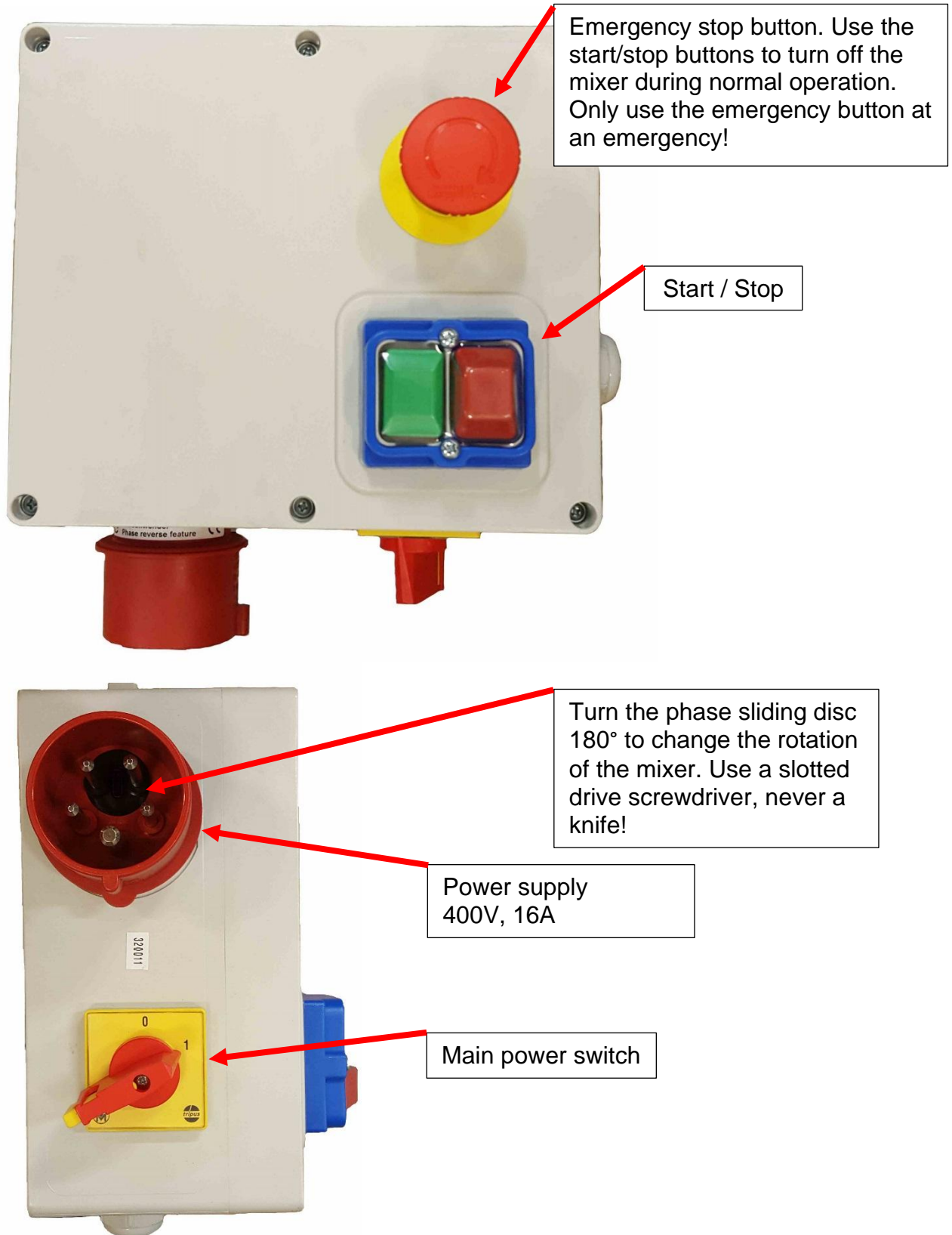
All maintenance and inspection work have to be carried out with the permission of the person responsible for safety. During previously mentioned work, mixer has to be stationary and disconnected, with the power supply isolated.

- **To avoid severe injury never put your hand through sector hatch in the drum.**
- **Always clean the drum from the top side. Switch off and disconnect the power supply before cleaning or maintenance.**



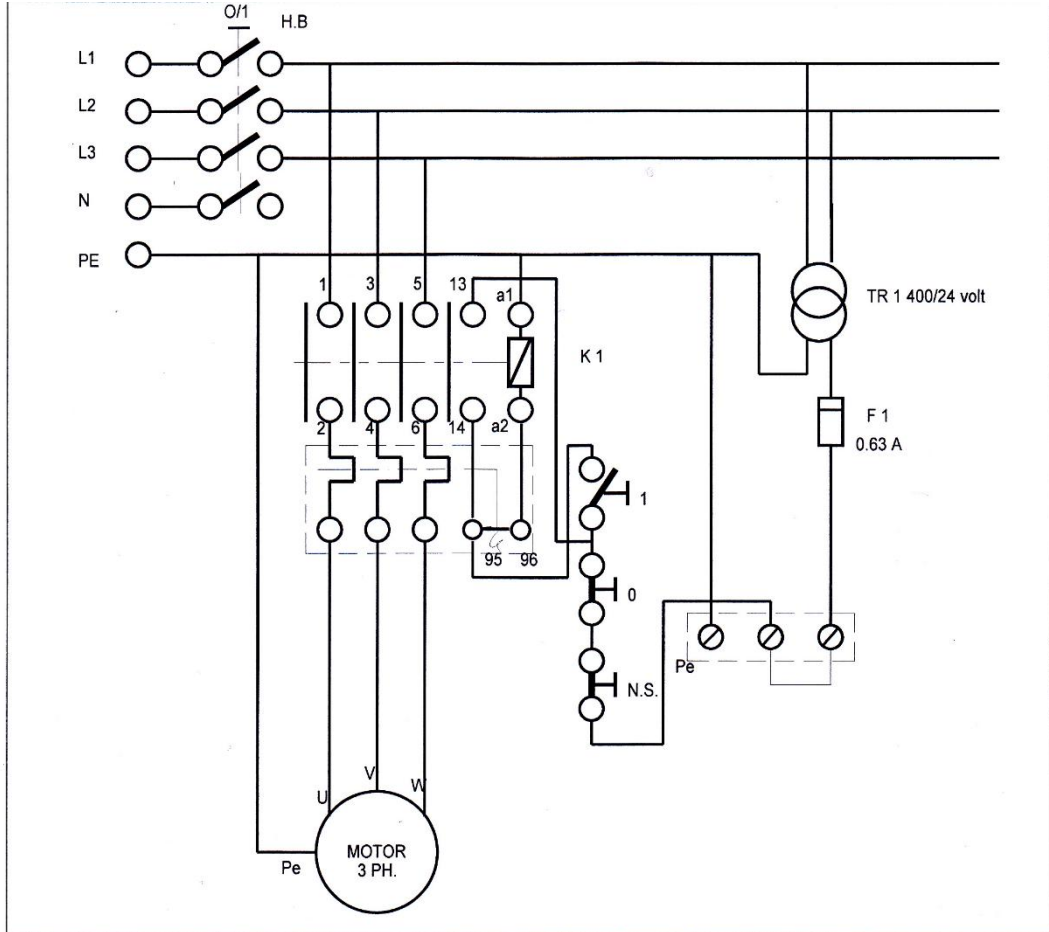


Guidance for changing the rotation direction





Wiring scheme

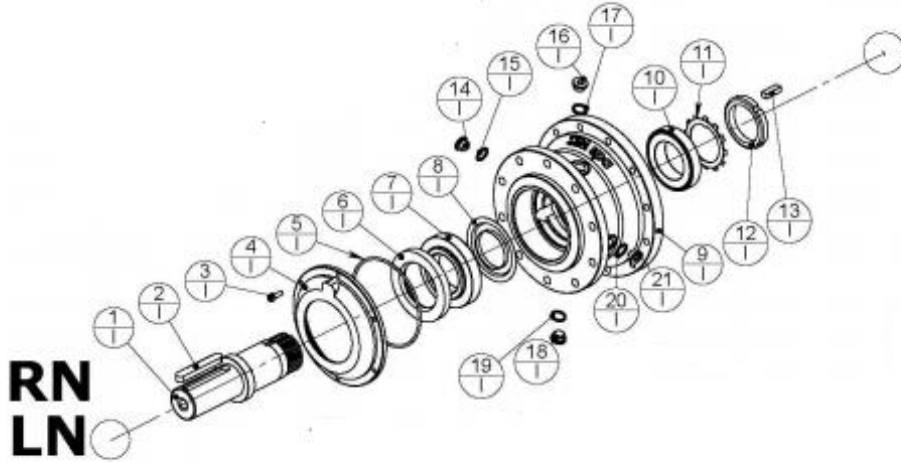


- | | | |
|----------------------|-------------------------------|--------|
| 1 ST KOPPLINGSLÅDA | 300555 | TRIPUS |
| 1 ST BOTTENPLATTA | JUMBO | TRIPUS |
| 1 ST HUVUDBRYTARE | TRIPUS 551796 | |
| 1 ST KONTAKTOR | TELEMEK. LC1K1210 B7 uc 24 v | |
| 1 ST MOTORSKYDD | TELEMEK. LR2K 0316 8-11,5 AMP | |
| 1 ST TRÄFO | OFS 25 400/24 volt | TRAMO |
| 1 ST SÄKRINGSHÅLLARE | 0.63 A | ELFA |
| 1.5 M KABEL | 556220 | TRIPUS |
| 1 ST NÖDSTOPP | ZB5 AS54/ BLOCK ZB5 AZ 102 | |

	ORDER NR	110518	COMPANY	
	RITAD AV		TRIPUS EL-MEK AB	
	SB		OBJEKT	
	DESIGN		STARTUTRUSTNING 4.0 KW 400 v uc24 v	
	SB		ritningsnr.	BLANDARE
			110518-01	
	KUND		ROJO NR. 320002	BLAD
	ROJO MASKIN		rojo 400	1 av 1



Planetary gear and part list

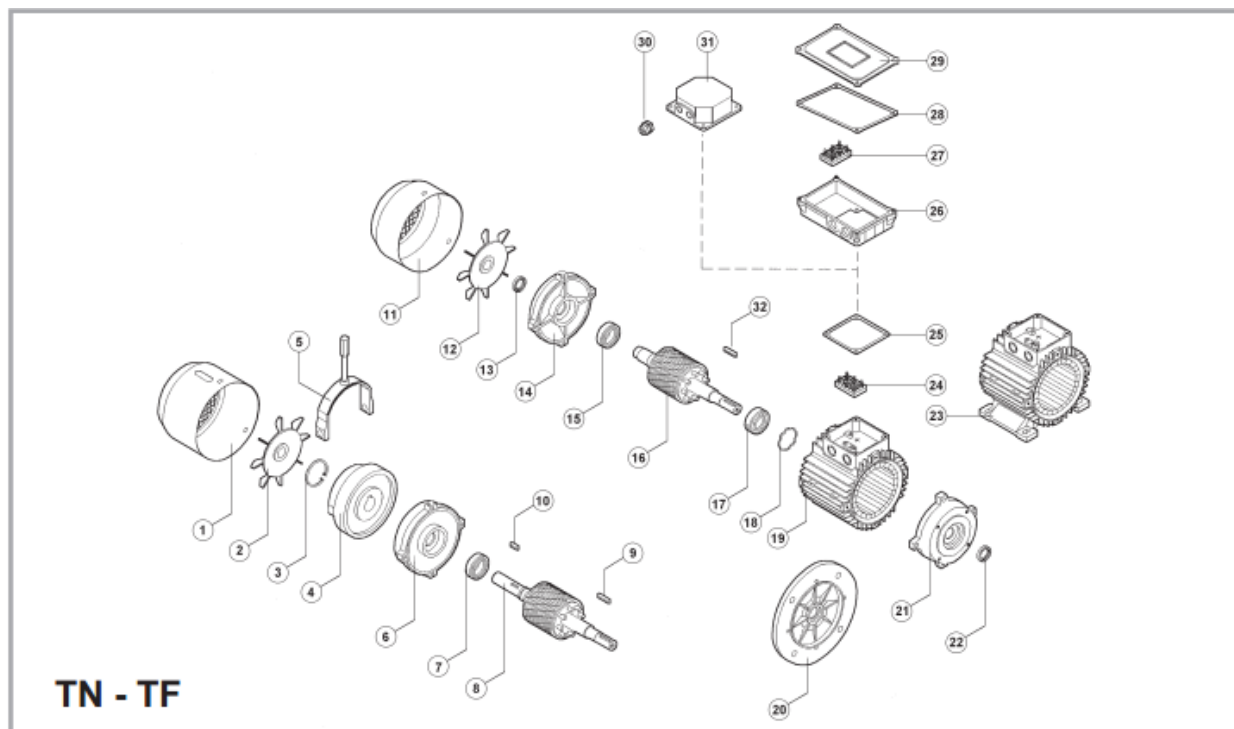


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TAVOLA I						
ITEM	TAVOLA	DESCRIZIONE (I)	DESCRIPTION (GB)	DESIGNATION (F)	BEZEICHNUNG (D)	DENOMINACION (E)
RN						
1	I	ALBERO USCITA	OUTPUT SHAFT	ARBRE SORTIE	ABTRIEBSWELLE	EJE SALIDA
2	I	LINGUETTA	KEY	CLAVETTE	PASSFEDER	CHAVETA
3	I	VITE DI FISSAGGIO	SCREW	VIS	BEFESTIGUNGSSCHRAUBE	TORNILLO DE SUJECION
4	I	COPERCHIO USCITA	OUTPUT COVER			
5	I	GUARN OR				
6	I	ANELLO DI TENUTA	RUBBER SEAL RING	BASQUE D'ÉTANCHÉITÉ	DICHTUNGSRING	
7	I	CUSCINETTO	BEARING	ROULEMENT	WÄLZLAGER	RODAMIENTO
8	I	ANELLO NILOS	NILOS RING			
9	I	SUPPORTO ALBERO USCITA	ECE SHAFT OUTPUT SUPPORT			
10	I	CUSCINETTO	BEARING	ROULEMENT	WÄLZLAGER	RODAMIENTO
11	I	ROSETTA SICUREZZA				
12	I	GHIERA DI REGOLAZIONE	ADJUSTMENT GROOVE NUT	FRETTE DE RÉGLAGE	EINSTELL-NUTMUTTER	TUERCA ACANALADA
13	I	LINGUETTA	KEY			
14	I	TAPPO	PLUG	BOUCHON	VERSCHLUSS	TAPON
15	I	GUARNIZIONE	GASKET	JOINT PAPIER	DICHTUNG	JUNTA
16	I	TAPPO	PLUG	BOUCHON	VERSCHLUSS	TAPON
17	I	GUARNIZIONE	GASKET	JOINT PAPIER	DICHTUNG	JUNTA
18	I	TAPPO	PLUG	BOUCHON	VERSCHLUSS	TAPON
19	I	GUARNIZIONE	GASKET	JOINT PAPIER	DICHTUNG	JUNTA
20	I	GUARNIZIONE	GASKET	JOINT PAPIER	DICHTUNG	JUNTA
21	I	TAPPO	PLUG	BOUCHON	VERSCHLUSS	TAPON



Motor and part list



TN - TF

1	Copriventola	Fan cover	Lüfterhaube
2	Ventola	Fan	Lüfter
3	Seeger	Circlip	Seeger
4	Freno	Brake	Bremse
5	Leva di sblocco	Hand release	Handlüftung
6	Scudo posteriore	Non drive end shield	Hinteres Lagerschild
7	Cuscinetto	Bearing	Lager
8	Rotore	Rotor	Rotor
9	Linguetta	Key	Keil
10	Linguetta	Key	Keil
11	Copriventola	Fan cover	Lüfterhaube
12	Ventola	Fan	Lüfter
13	Anello di tenuta	Oilseal	Dichtring
14	Scudo posteriore	Non drive end shield	Hinteres Lagerschild
15	Cuscinetto	Bearing	Lager
16	Rotore	Rotor	Rotor
17	Cuscinetto	Bearing	Lager
18	Molla di precarico	Pre load spring	Vorspannfedern
19	Cassa B5-B14	B5/B14 housing	Gehäuse B5-B14
20	Flangia B5	B5 Flange	Flansch B5
21	Scudo anteriore (B14)	Drive end shield (B14)	Vorderes Lagerschild (B14)
22	Anello di tenuta	Oilseal	Dichtring
23	Cassa con piedi	Foot casing	Gehäuse mit Fuß
24	Morsettiera	Terminal board	Klemmbrett
25	Guarnizione	Gasket	Dichtung
26	Scatola morsettiera	Terminal box	Klemmenkasten
27	Morsettiera	Terminal board	Klemmbrett
28	Guarnizione	Gasket	Dichtung
29	Coperchio morsettiera	Terminal box cover	Klemmenkastendeckel
30	Pressacavo	Cable gland	Kabelverschraubung
31	Scatola morsettiera	Terminal box	Klemmenkasten
32	Linguetta	Key	Keil

	Cuscinetti Bearings Kugellager 15 — 17	Cuscinetti Bearings Kugellager 7
55	6201-2Z	—
56	6201-2Z	6201-2RS
63	6202-2Z	6202-2RS
71	6203-2Z	6003-2RS
80	6204-2Z	6204-2RS
90	6205-2Z	6205-2RS
100	6206-2Z	6206-2RS
112	6306-2Z	6306-2RS
132	6308-2Z	6308-2RS
160	6309-2Z	6309-2RS
180	6310-2Z	—
200	6312-2Z	—

Oil change instructions



Expansion tank with a pressure relieve valve.

Oil fill opening.

Instructions:

1) Open the oil drain valve and drain the old oil. You can carefully put airpressure through the oil fill opening to speed up the draining process.

2) Close the drain valve and fill in the new oil through the oil fill valve.

Oil: Shell Tivela Sc320

Rojo 130, 200, 230: Volume 1,4 L
Rojo 500: Volume 3,1 L

Oil drain hose with valve.



Correct oil level:

Fill oil so that the oil level covers 50% of the inspection window.



Oil change interval

Oil change interval is determined by operating conditions:

Frequenza cambi olio [h]
Oil change intervals [h]
Frequenz - Ölwechsel [h]

Tipo olio <i>Oil type</i> Öltyp	Temperatura olio <i>Oil temperature</i> Öltemperatur		
	65°C	80°C	90°C
Minerale <i>Mineral</i> Mineralöl	8000	3000	1000
Sintetico <i>Synthetic</i> Synthetiköl	20000	15000	9000