

# CR, CRI, CRN 32-90 Model B

Double shaft seal/back-to-back

Service instructions



Original service instructions.

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### Warning

Prior to service work, read these service instructions carefully. Installation and service work must comply with local regulations and accepted codes of good practice.

Observe the safety instructions in the installation and operating instructions for the product.

## 1. Symbols used in this document



### Warning

If these safety instructions are not observed, it may result in personal injury.



### Warning

If these instructions are not observed, it may lead to electric shock with consequent risk of serious personal injury or death.

Caution

If these safety instructions are not observed, it may result in malfunction or damage to the equipment.

Note

Notes or instructions that make the job easier and ensure safe operation.

## 2. General information

Position numbers of parts (digits) refer to the drawing in section 7. *Exploded view*. Position numbers of tools (letters) refer to section 5. *Service tools*. For parts without position numbers, see the parts list of the standard CR pump in WinCAPS or WebCAPS.



### Warning

If there is a risk of getting into contact with the pumped liquid, use personal protective equipment.

Observe local regulations.

### Before dismantling



### Warning

Before starting work on the product, switch off the power supply. Make sure that the power supply cannot be accidentally switched on.



### Warning

Check that other pumps or sources do not force flow through the pump even if the pump is stopped. This will cause the motor to act like a generator, resulting in voltage on the pump.

- Close the isolating valves, if fitted, and make sure that they cannot be accidentally opened.
- Before starting work on the product, let the product and pumped liquid cool off.

### Before assembly

- Clean and check all parts.
- Replace defective parts with new parts.
- Always replace gaskets and O-rings.

### During assembly

- Tighten screws and nuts according to section 3. *Torques*.
- Lubricate rings and screws according to section 4. *Lubricants*.

### After assembly

If analog or digital inputs, the relay output or the CIM module has been removed from the pump, check the communication with external units after service.

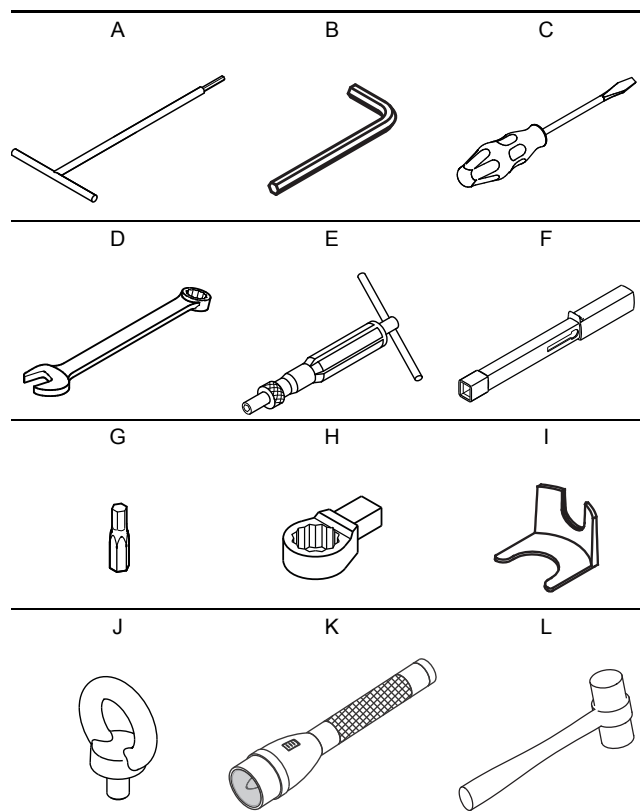
### 3. Torques

Pos.	Description	Torque
9	Coupling screws	85
7a	Coupling guard screws	6
18, 18b	Air vent screws	35
23, 23a, 23b	Drain plugs	
28	Motor stool screws	62
36	Pump head nuts	100
58a, 58c	Seal carrier screws	62
105a, 105b	Shaft seal	35
113	Shaft seal set screws	6

### 4. Lubricants

Pos.	Designation	Product No
9		
28, 28a	THREAD-EZE	00SV9997
58a, 58c		
51	Soapy water	-
105a, 105b		
37a, 37b		
109	Rocol Sapphire Aqua-Sil	00RM2924
110		

### 5. Service tools



Pos.	Designation	For pos.	Tool size	Product No
A	Tee screwdriver	113	3	00SV0153
B	Hexagon key	9, 28, 58a	8	
C	Slot screwdriver	7a	1.4	-
D	Ring/open-end spanner	18b, 23a, 23b, 36	24	00SV0122
		28	8	00SV0273
E	Torque screwdriver	113, 7a	1-6 Nm	00SV0438
F	Torque wrench	9, 18b, 23a, 23b, 28, 36, 58a, 58c	20-100 Nm	00SV0269
G	Hexagon bit	9, 28	8	00SV0010
		113	3	-
H	Ring insert tool	18b, 23a, 23b, 36	24	00SV0524
		28	8	00SV0411
I	Adjusting fork	105a	22	985924
			32	96731316
J	Eye bolt	28b	-	00ID2779
K	Torch	113	-	-
L	Rubber hammer	2, 2b, 8	-	00SV0349

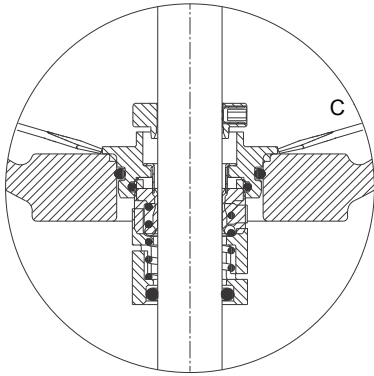
## 6. Instructions for dismantling and assembly

### 6.1 Dismantling

1. Remove screws (pos. 7a) and coupling guards (pos. 7).
2. Remove screws (pos. 9) and coupling (pos. 8). It may be necessary to loosen the coupling with a rubber hammer.
3. Attach lifting device to eyebolts (pos. 28b).
4. Remove screws (pos. 28). Lift and remove motor and motor stool (pos. 1a).

**Caution** To prevent the motor from tipping over, hold it straight when using a lifting device.

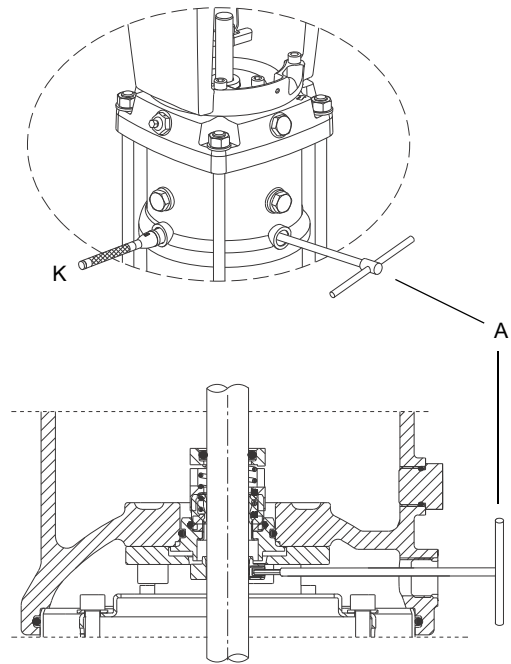
5. Remove screws (pos. 58a) and retainer (pos. 58).
6. Clean the shaft end.
7. Slacken the socket screws (pos. 113) of the upper shaft seal (pos. 105a).
8. Carefully press upper shaft seal (pos. 105a) out of the secondary pump head (pos. 2) using two slot screwdrivers, and pull it off the shaft. See fig. 1.



**Fig. 1** Removing upper shaft seal

9. Remove nuts (pos. 36) and washers (pos. 66a).
10. Remove secondary pump head (pos. 2). It may be necessary to loosen it with a rubber hammer.
11. Remove air vent screw (pos. 18b) and drain plug (pos. 23b).

12. Light up the chamber with a torch through one of the holes (air vent or drain). Through the other hole, slacken the socket screws (pos. 113) of the lower shaft seal (pos. 105b). See fig. 2.



**Fig. 2** Tightening socket screws of lower shaft seal

13. Carefully lift the pump head (pos. 2b) up and remove it from the shaft. It may be necessary to loosen it with a rubber mallet.

**Caution** Be sure not to damage the lower shaft seal when lifting the lower pump head.

14. Remove screws (pos. 58c) and retainer (pos. 58b).
15. Press lower shaft seal out of the pump head (pos. 2b) using two slot screwdrivers.
16. Remove O-ring (pos. 37a) and rubber springs (pos. 60) from pump head.
17. Continue the dismantling according to the instructions for dismantling of the standard CR pump.

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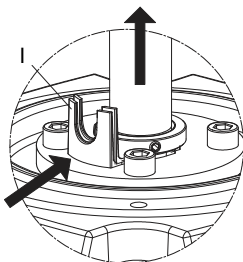
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## 6.2 Assembly

1. Fit rubber springs (pos. 60) and O-ring (pos. 37) in pump head (pos. 2b).
2. Press lower shaft seal (pos. 105b) down in pump head. Make sure to fit it from underneath the pump head.
3. Fit retainer (pos. 58b) and cross-tighten screws (58c).
4. Carefully fit pump head on outer sleeve (pos. 55).

**Caution** *Be sure not to damage the lower shaft seal when fitting the lower pump head.*

5. Fit secondary pump head (pos. 2) on pump head.
6. Fit washers (pos. 66a) and cross-tighten nuts (36).
7. Press upper shaft seal (pos. 105a) down the shaft and into the upper pump head.
8. Fit retainer (pos. 58) and cross-tighten screws (58a).
9. Press pump shaft home and tighten the socket screws (pos. 113) of the upper shaft seal.
10. Lift pump shaft and insert two adjusting forks between the shaft seal driver and its retainer. See fig. 3.



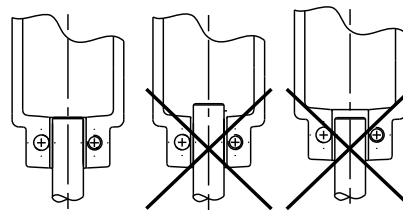
**Fig. 3** Fitting adjusting forks

11. Light up the chamber with a torch through either the hole for the air vent screw (pos. 18b) or drain plug (pos. 23b). Through the other hole, tighten the socket screws (pos. 113) of the lower shaft seal (pos. 105b) in the same way as shown in fig. 2.
12. Remove one adjusting fork, and place it under one of the screws (pos. 58a).
13. Fit drain plug and air vent screw in pump head.
14. Attach lifting device to eyebolts. Lift and fit motor and motor stool on upper pump head (pos. 2).

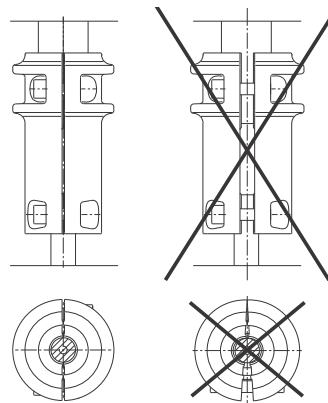
**Caution** *To prevent the motor from tipping over, hold it straight when using a lifting device.*

15. Cross-tighten screws (pos. 28).

16. Fit coupling (pos. 8), according to figs 4 and 5, and tighten screws (pos. 9).



**Fig. 4** Fitting coupling



**Fig. 5** Adjusting coupling

17. Remove the other adjusting forks, and place it under one of the screws (pos. 58a).
18. Check that the pump shaft can rotate freely.
19. Fit coupling guards (pos. 7) and screws (pos. 7a).

TM04 5027 2409

TM03 9607 4207

TM05 7578 1213

7. Exploded view

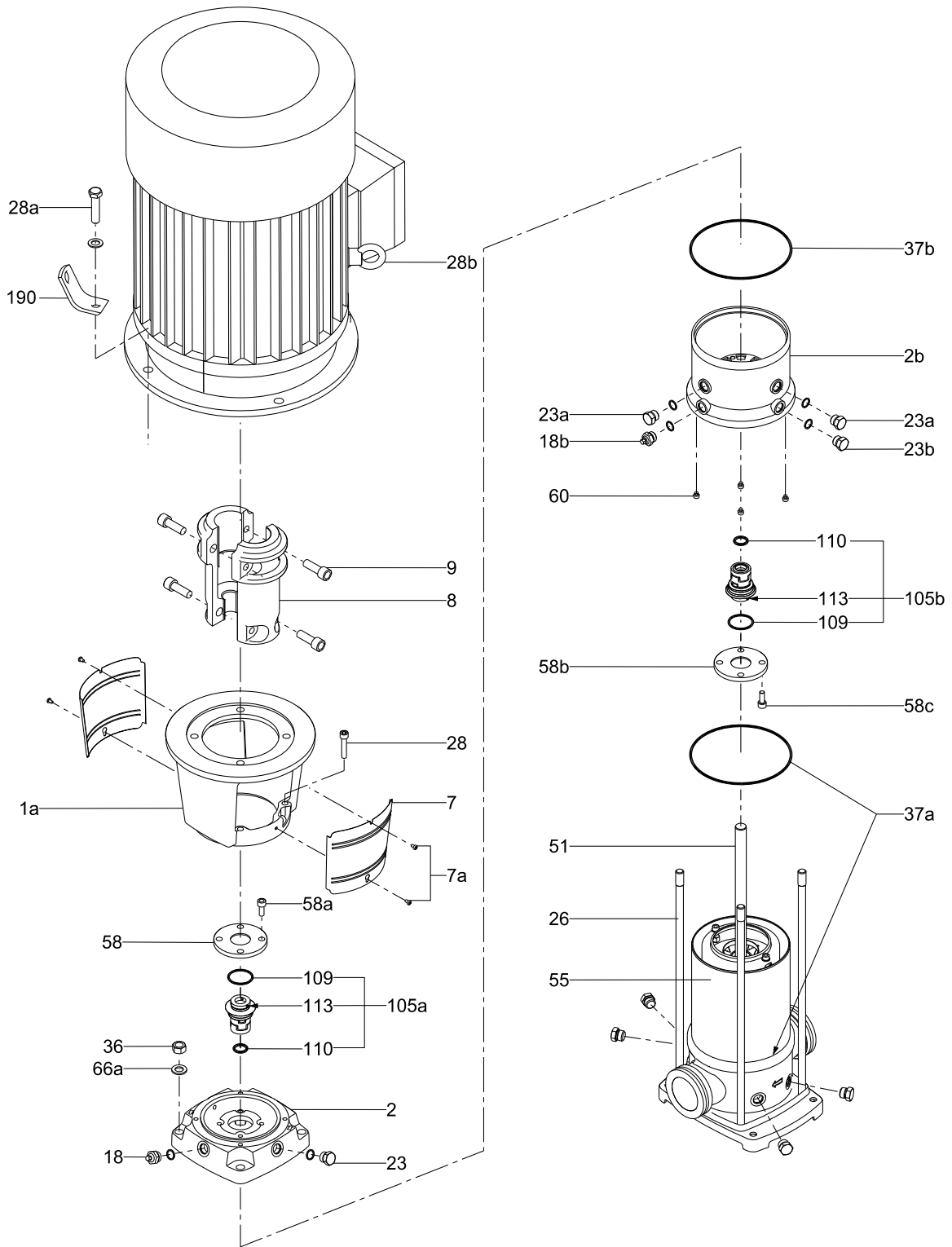


Fig. 6 Exploded view, CR, CRN 32, 45, 64, 90, model B (back-to-back)

Subject to alterations.

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