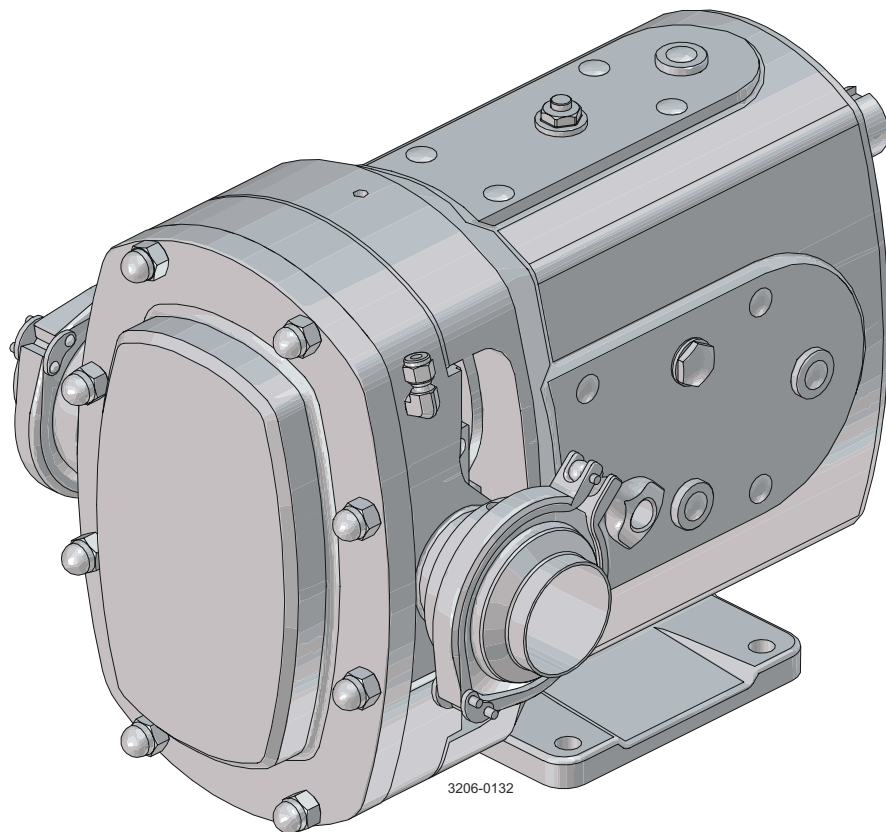


Alfa Laval DuraCirc® Aseptic Range

Circumferential Piston Pump



Lit. Code
Manual No.

200006290-1-EN-GB
100005233

**Aseptic Addendum
Manual**

Published by
Alfa Laval Kolding A/S
Albuen 31
DK-6000 Kolding, Denmark
+45 79 32 22 00

The original instructions are in English

© Alfa Laval Corporate AB 2022-02

This document and its contents are subject to copyrights and other intellectual property rights owned by Alfa Laval Corporate AB. No part of this document may be copied, re-produced or transmitted in any form or by any means, or for any purpose, without Alfa Laval Corporate AB's prior express written permission. Information and services provided in this document are made as a benefit and service to the user, and no representations or warranties are made about the accuracy or suitability of this information and these services for any purpose. All rights are reserved.

Contents

1	General information	5
1.1	General information.....	5
2	Safety	7
2.1	General Safety Information.....	7
3	Installation	9
3.1	Aseptic Barrier Flush arrangement and pre-start up checks.....	9
4	Maintenance	11
4.1	Dismantling.....	11
4.2	Assembly.....	12
5	Technical Data	13
5.1	Pump Data Table.....	13
6	Parts List	15
6.1	DuraCirc Aseptic Pump Range.....	15

1 General information

1.1 General information

This manual contains additional information relating to the DuraCirc Aseptic pump models only and is in supplement to the full Installation and Operating Manual which should be referred to in parallel.

The DuraCirc Aseptic pump model takes all the benefits of the DuraCirc pump range but provides the ability to use an aseptic barrier to areas of the pump with a pumped media to atmosphere interface (front cover, connection ports and mechanical seal).

To allow the use of an aseptic barrier additional channels are provided in the rotor case O-ring area and connection ports through which either steam or a sterile flush media can be passed reducing the risk of any contamination of the pumped product from the atmosphere.

2 Safety

2.1 General Safety Information

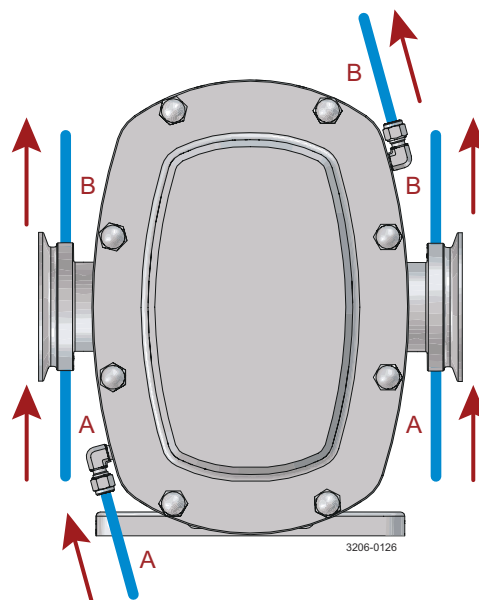
Before undertaking any installation, commissioning, maintenance or removal operations ensure to fully read and understand Section 3. Safety of the DuraCirc Installation manual.

3 Installation

3.1 Aseptic Barrier Flush arrangement and pre-start up checks

1 It is important that:

- The barrier flush is correctly connected to both connection ports and the rotorcase (see diagram).
- A compatible barrier fluid is used and supplied at the correct pressure and temperature (see Flush Pressure and Temperature Limits section below)
- The barrier flush is turned on before starting the pump to ensure a fully established aseptic barrier before pumping of product.
- A Flush inlet
- B Flush outlet



2 **Connecting the flush.** The following equipment is strongly recommended when using a flushing system:

- Control valve and pressure gauge, to enable the correct flushing pressure to be obtained and monitored.
- Isolation valve and check valve, so that the flush can be turned off, and to stop any unwanted substances flowing in the wrong direction.
- A method of visibly indicating flushing fluid flow.

Flush Connection Size (Female)

Model	Size BSP(G) / NPT w/Adapter
42	1/8"
53/54	1/8"
63	1/8"
73	1/8"

3 Barrier flush fluid. The choice of barrier fluid is dependent upon the fluid being pumped. Usually, to ensure an aseptic barrier, wet steam is used.

4 Barrier Flush Pressure & Temperature Limits:

Front Cover and Connections

Maximum Pressure: 4 barg

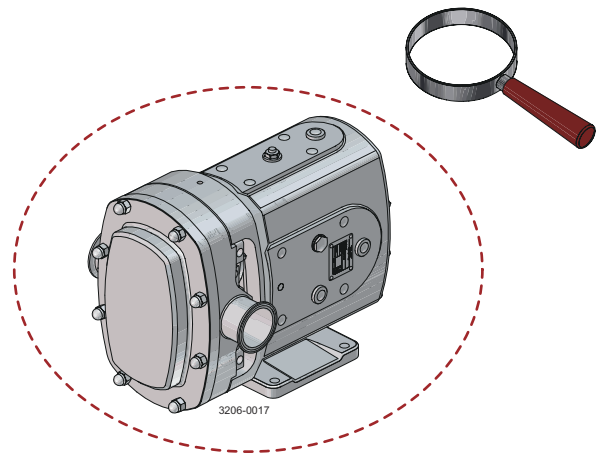
Maximum Temperature: 135°C

Recommend barrier fluid: Wet Steam

5 Pre-start up checks

In addition to the checks stated in the Installation and Operation manual:

- Check barrier flush connections are fitted correctly and are tight.
- Check the connection gaskets are correctly seated during installation.
- Slowly start the barrier flush and check for leaks.
- Check for barrier flush flow through all connections.



4 Maintenance

4.1 Dismantling

The instructions below only refer to those that are different to those shown in the standard installation and operation manual.

Before dismantling the pump refer to safety precautions in Section 3 of the Installation Manual.

Refer to the exploded diagram and parts list in Section 6.

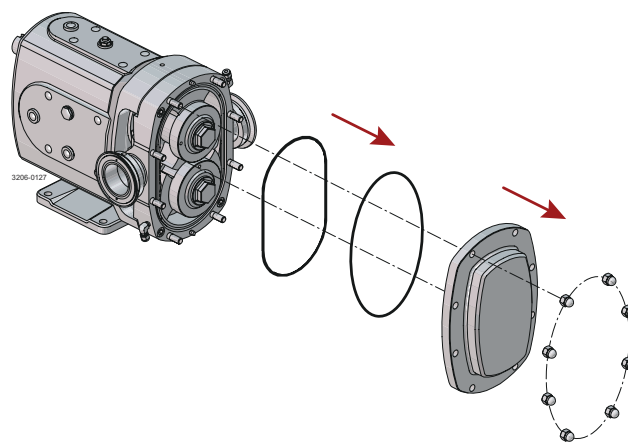
NOTE: It is recommended to mark the positions of the rotors and rotorcase (e.g. Top/Bottom or Left/Right) prior to removal to ensure parts are refitted in the same position.

1 Removing rotorcase cover

1. Remove rotorcase cover nuts (8) and cover (1).
2. Remove front cover P-ring (5).
3. Remove front cover outer O-ring (131).

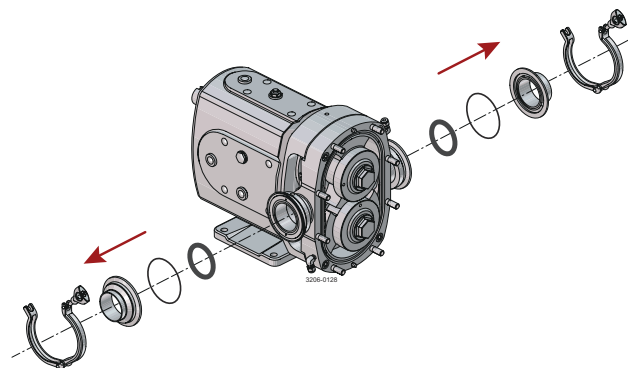
! NOTE

*) Pump models 63 and 73 are supplied with a M6 tapped hole in the front cover for use with a lifting eye (not supplied) to aid lifting



2 Remove clamp and connection gaskets

1. Remove the connection clamps (134)
2. Separate the pipe connection (135) from the pump connection.
3. Remove both the inner Triclamp type gasket (132) and outer O-ring (133). It is recommended to replace these parts during re-assembly.
4. Inspect the barrier flush holes and connections for debris and clean if necessary.

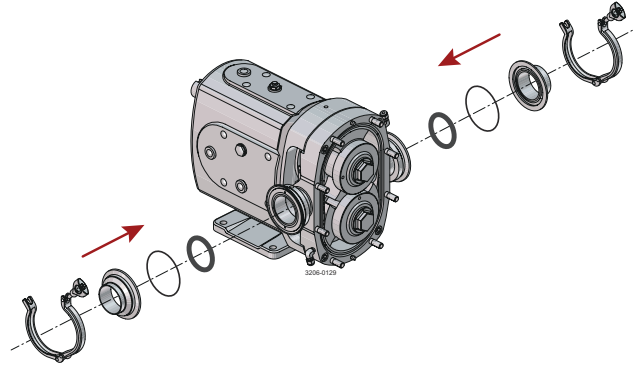


4.2 Assembly

NOTE: Ensure all screws and nuts are torqued to the values stated in Section 6 of the instruction manual.

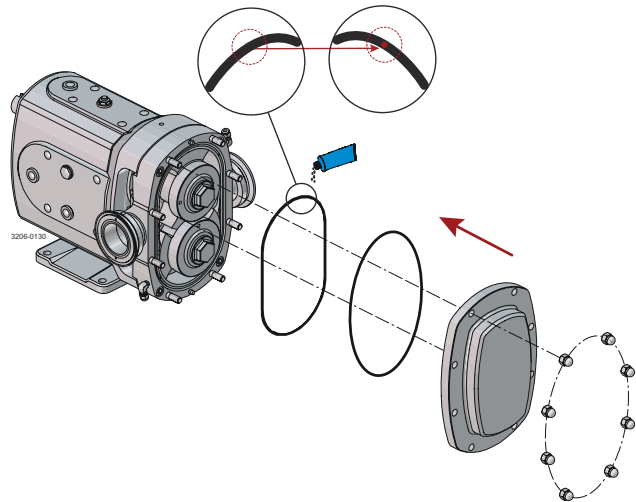
1 Fitting connection gaskets and clamps

1. Ensure the elastomer grooves are clean and free from any damage or debris.
2. Lubricate and fit new O-ring (133) to outer groove of the ports on the rotorcase (2).
3. Lubricate and fit new Triclamp gasket (132) to the inner groove of the ports on the rotorcase.
4. Replace the pipe connections (135) to the pump port connections ensuring the port elastomers remain in the correct position.
5. Replace clamps (134) and tighten.



2 Fitting rotorcase cover

1. Ensure the elastomer grooves are clean and free from any damage or debris.
2. Lubricate and fit new O-ring (131) to outer groove of the rotorcase (2).
3. Lubricate and fit new P-ring elastomer (11) (Red ID mark) to the rotorcase (2) ensuring the coloured mark is towards the rotorcase and fully seated in the groove.
4. Fit rotorcase cover (1) on to rotorcase, ensuring both elastomers remain in position, and tighten rotorcase cover nuts (8).
5. Refer to pump start up checks prior to operation.



5 Technical Data

5.1 Pump Data Table

Pump	Displacement			Port Size*		Max. Working Pressure		Max. Speed
	Model	litres/ rev	Imp gal / 100 rev	US gal / 100 rev	mm	inch	bar	
42	0,23	5,06	6,08	50	2	20	290	750
53	0,58	12,76	15,32	65	2,5	25	363	750
54	0,96	21,12	25,36	80	3	16	232	750
63	1,98	43,55	52,31	100	4	20	290	600
73	2,85	62,69	75,30	150	6	20	290	600

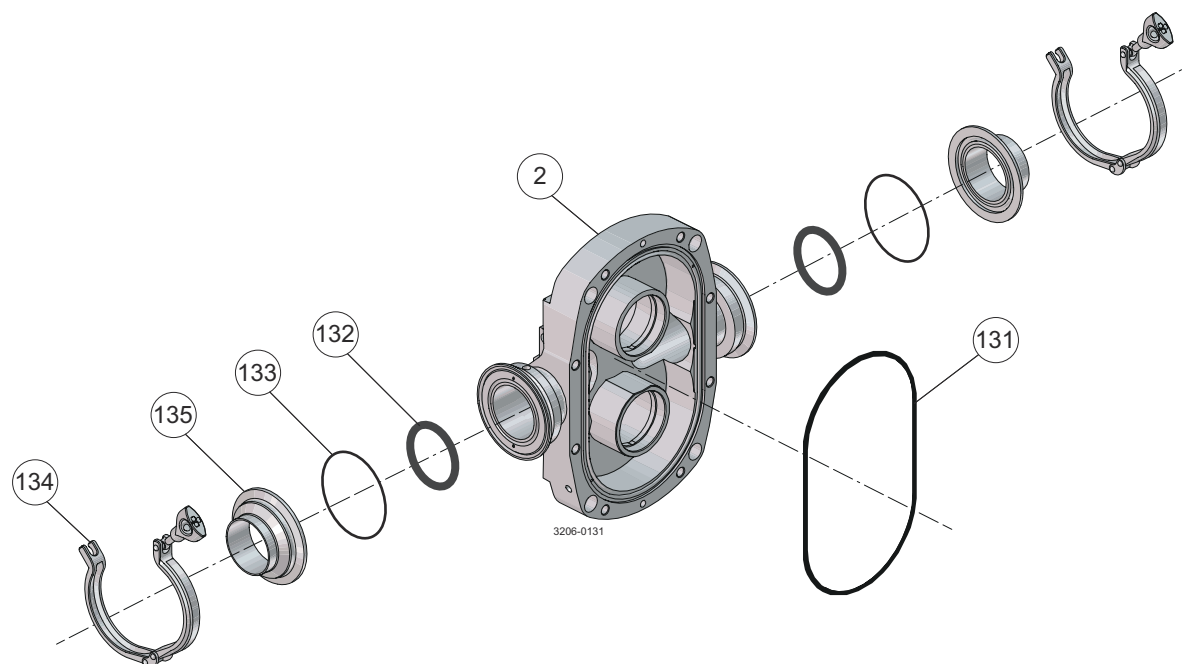
***NOTE:**

Pump connections are a proprietary Tricomp type design which includes the barrier flush. Counter connections, clamps and elastomers are supplied with the pump to allow connection to end user pipework. Counter connections are supplied suitable for ISO2037 pipe to the size shown above.

Tightening Torque - Clamp: 2.8 Nm / 2.1 ft.lbs

6 Parts List

6.1 DuraCirc Aseptic Pump Range



Pos.	QTY	Denomination
2	1	Rotorcase
131	1	O-Ring, Rotorcase
132	2	Seal Ring
133	2	O-Ring, Clamp
134	2	Clamp
135	2	Counter Connection