

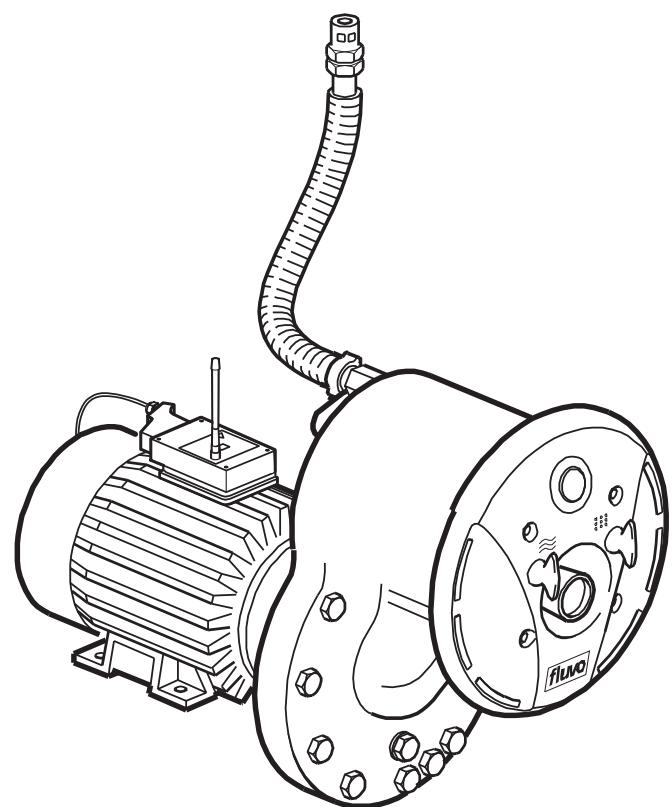
D

F

GB NT2 rondo

I Translation of the original

E



27211 - F.1

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1 General

1.1 Guarantee notice

If the instructions contained in this operator's manual are not observed then any claims under guarantee shall be void.

1.2 General

All parts coming into contact with media are designed for water quality to DIN 19643.

This counter-current swimming system is of state-of-the-art technology.

This manual does not take into account local regulations, the observance of which is the responsibility of the operator – also on behalf of installation personnel that may be involved.

The type plate specifies the machine series, the frame size, the most important operating data and the serial number. Please be sure to quote it in case you require more information and also when placing subsequent orders or ordering spare parts.

1.3 Usage Instructions

The counter-current system was designed for use in private swimming pools. Consequently it must not be installed in public swimming pools. Neither the entire unit nor parts thereof must be used in other systems. You are expressly directed to use it only in accordance with these instructions.

The counter-current system must not be operated beyond the parameters stated in the technical data (3.1) . In case of doubt, please contact your customer service or the manufacturer.

2 Safety Instructions

2.1 General

- Prior to starting up, make sure that the operators have read and understood the operator's manual. Not the operator but the owner is responsible for safety!
- Make sure that the relevant safety regulations and laws are observed in the operating company and / or country where the counter-current systems are to be used.
- All parts that come into contact with the medium are resistant to an absolute salt content of up to 0.75% (4,500 mg/l Cl⁻). If the salt concentrations are greater than this, the manufacturer must be consulted.
- Use the counter-current system only if it is in perfect technical condition, in accordance with the regulations, observing safety requirements and danger conditions and strictly adhering to all the instructions in the operator's manual!
- Promptly remedy any faults that could influence safety.



For more details of safety instructions please see the operator's manual WK (27220).

2.2 Symbols

In these operating instructions the following symbols are used to draw your special attention to dangers:

Warning! Danger of injury! / Warning! Risk of damage!



This symbol warns you of dangers through mechanical effects and also warns of handling that could damage the product.

Warning! Mortal danger!



This sign warns you of the danger from electric shocks.

Notices attached directly to the counter-current system, e.g. the arrow indicating the direction of rotation, must always be observed and maintained in a clearly legible condition.

2.3 Safety Instructions for the Operator

1. Electrical equipment must be installed and maintained by qualified electricians. The appropriate local safety requirements and installation regulations must be observed. The expression "qualified person" is defined in VDE 0105 and IEC 364. There is no information contained in this operator's manual for unqualified persons. It must be pointed out that EU regulations prohibit the use of unqualified persons on electrical systems.
2. The details on the type plate must correspond to the electrical supply being connected to.
3. The counter-current system may only be operated using an earth leakage circuit breaker.
4. Under no circumstances must there be any conducting connection between the metal parts of the motor and the water.
5. If the counter-current system is built into a pump pit then it must be ensured that there is enough ventilation (for cooling the motor) and enough drainage facility for leaked water (at least DN 40).
6. Prior to carrying out repairs to the counter-current system it must be isolated from the electrical supply and protected from unintentional switching on.
7. Regardless of what nature they may be, repairs must only be carried out by qualified persons and the counter-current system must be emptied first.
8. The operator must ensure that
 - the operator's manual is always available for users to read,
 - instructions in the operator's manual are being observed,
 - the counter-current system is immediately stopped if abnormal electrical voltages, temperatures, noises, vibrations, leakages or other faults should arise.



9. Persons who are likely to be endangered by radio waves (e.g. wearers of heart pace makers) should not linger close to this counter-current swimming system with radio control. In such cases it is recommended to employ some other form of control (external or pneumatic).

3 Unit Description / General Technical Data

- The counter-current system complies with VDE (Association of German Engineers) regulations.
- The electric motor and the water conducting plastic pump are electrically separated.
- The electric motor complies with protection class IP 55.
- The entire counter-current system complies with protection class I.

The counter-current system is delivered as 3 assemblies:

1. Pump kit
2. Assembly kit
3. Installation kit

3.1 Technical Data

System type:	NT2 rondo 1.5	NT2 rondo 1.5 AC*	NT2 rondo 1.9	NT2 rondo 1.9 AC*	NT2 rondo 3.0
Power	1.5 kW	1.5 kW	1.9 kW	1.9 kW	3.0 kW
Voltage [V]	400 Y / 230 Δ	230	400 Y / 230 Δ	230	400 Y / 230 Δ
Frequency	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz
Current	2,86 A	9.5 A	3.6 A	11.5 A	5,75 A
RPM	2840 rpm	2790 rpm	2850 rpm	2820 rpm	2810 rpm
Delivery	42 cbm/h	42 cbm/h	48 cbm/h	48 cbm/h	60 cbm/h
Delivery pressure	1.2 bar	1.2 bar	1.4 bar	1.4 bar	1.9 bar
Max. speed 2 m from the nozzle	1.15 m/s	1.15 m/s	1.3 m/s	1.3 m/s	1.6 m/s
Max. water temperature	50 °C	50 °C	50 °C	50 °C	50 °C
Expected sound pressure level	65 + 2 dB (A)	65 + 2 dB (A)	67 + 2 dB (A)	65 + 2 dB (A)	70 + 2 dB (A)
Weight	26 kg	26 kg	27 kg	27 kg	39 kg

*AC = Alternating current

3.2 Device Units

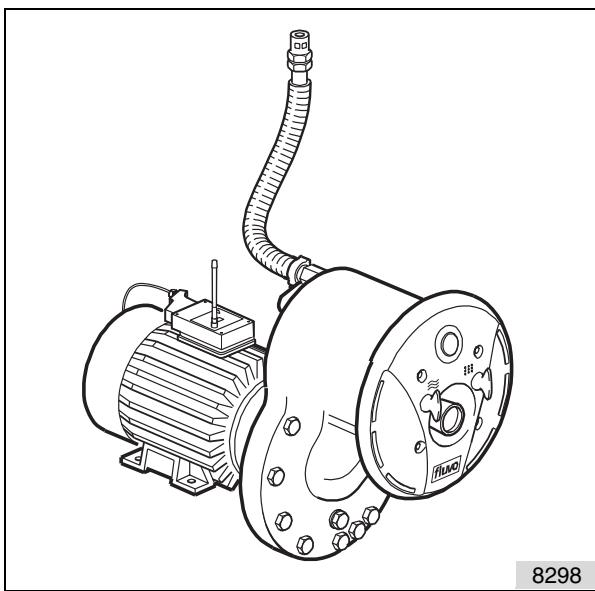


fig. 1

* The item numbers correspond to the numbers in the parts list.

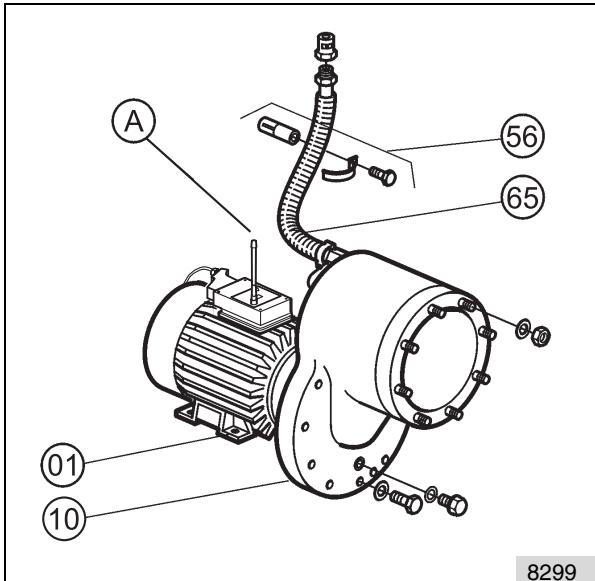


fig. 2

I - Pump kit

The pump kit consists of:

- | | |
|----------------------------|----------|
| 1. Pump assembly | Item 01* |
| 2. Housing | Item 10 |
| 3. Air line fixing bracket | Item 56 |
| 4. Aerial | Item A |
| 5. Air hose | Item 65 |

*The pump kit is always identical no matter what sort of pool it is intended for.

Overview of the Counter-current System

The counter-current system consists of:

1. Pump kit
2. Assembly kit
3. Installation kit

The installation kit is always different depending on the pool type.

There are 4 kinds of pool:

- Concrete-tile pool
- Concrete-liner pool
- Pre-fabricated pool (steel, plastic or similar)
- Wood-liner pool

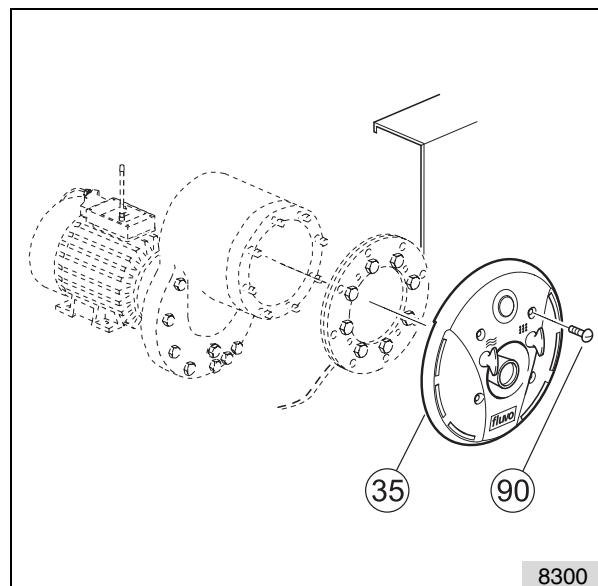


fig. 3

II - Assembly kit

The assembly kit includes:

1. Face plate assembly Item 35
2. Mounting screws Item 90

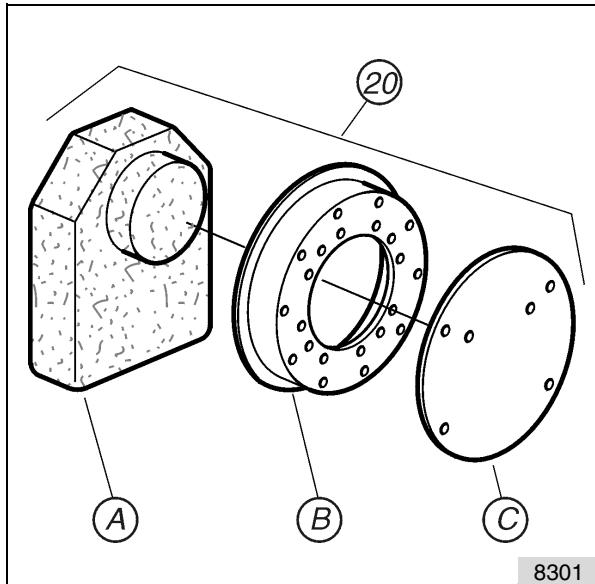


fig. 4

The installation kit (Item 20)* consists of:

- C Protection film
- G Housing
- I Polystyrene filler piece

The housing is concreted into the concrete wall of the pool. Details of this can be found in section 4 of this manual.

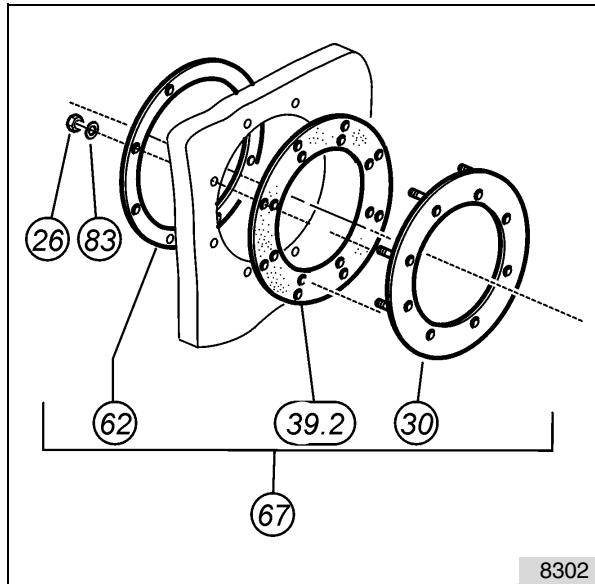


fig. 5

III - Installation kit for pre-fabricated pools

The installation kit (Item 67) consists of:

- | | |
|---------------------|-------------|
| 1. Clamp ring | Item 30 |
| 2. Clamp gasket | Item 39.2 |
| 3. Hold-ring | Item 62 |
| 4. Nuts and washers | Items 26/83 |

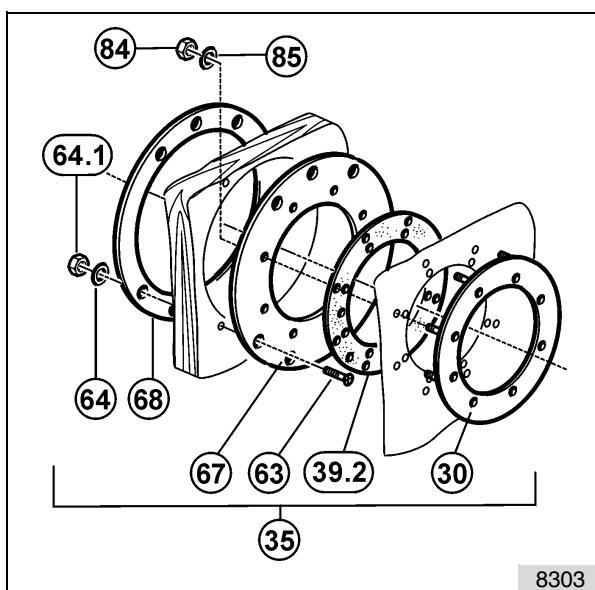


fig. 6

III - Installation kit for wood-liner pool

The installation kit (Item 35) consists of:

- | | |
|---------------------|-------------------------|
| 1. Clamp ring | Item 30 |
| 2. Clamp gasket | Item 39.2 |
| 3. Hold-ring | Item 67 |
| 4. Hold-ring | Item 68 |
| 5. Mounting screws | Item 63 |
| 6. Nuts and washers | Items 64/
64.1/84/85 |

4 Installation Site Specifications / Installation



Warning! Mortal danger!

If the motor is to be installed with a metal supporting foot, then it must be fastened insulated against the floor to avoid the transfer of spurious voltages to the device and swimming pool water.



Warning! Risk of damage!

As the pumps are not self-priming, the installation must be under water level. Make sure you take this into account during the installation planning phase.

4.1 Planning the pump pit

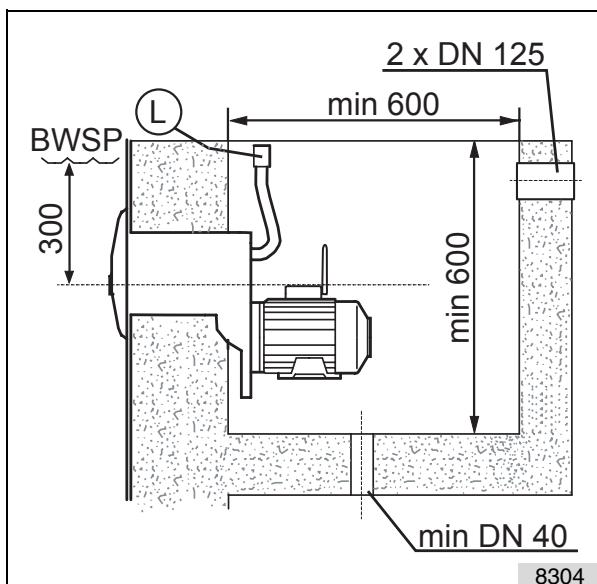


fig. 7: Cross-sectional view of the pump pit

BWSP Pool water level (PWL)

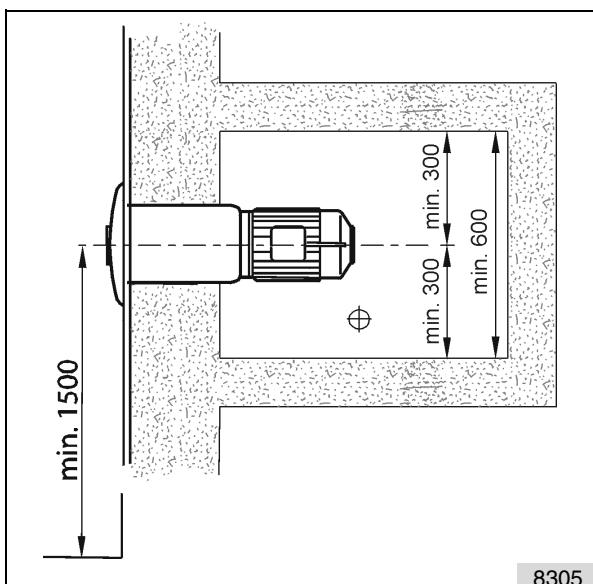


fig. 8: Top view of the pump pit

L Non-return air valve

When planning a pump pit take into account:

1. Clear dimensions min. 600 x 600 x 600
2. Return connection min. 300 mm under the pool water level.
3. Leakage water discharge pipe-end min. DN 40
4. Opening for cooling air min. 2x DN 125
5. Be sure to cover the pump pit if it is installed in the open air.



Warning! Mortal danger!

The mains power supply cable must be equipped with an all-pole separator with a contact opening of 3 mm.

6. The position of the non-return air valve (L) must always be over the **pool water level**.
7. In case of leakage from the pump, a suitable water drainage must be provided!

4.2 Installation Preparations / Concrete pool

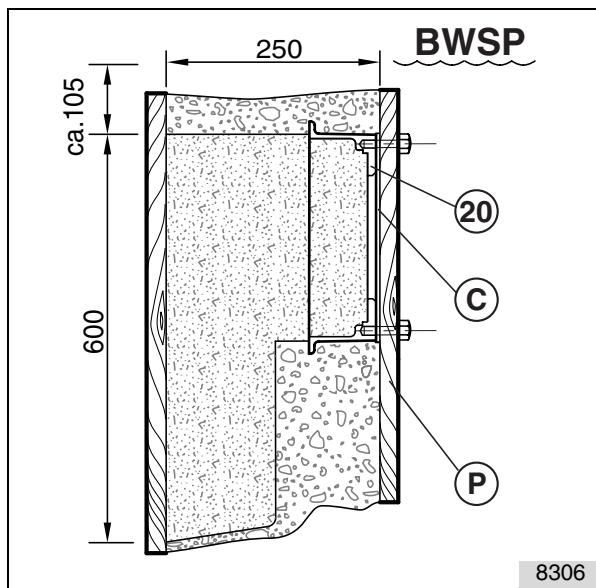


fig. 9

- A Polystyrene filling piece
C Mounting protection film

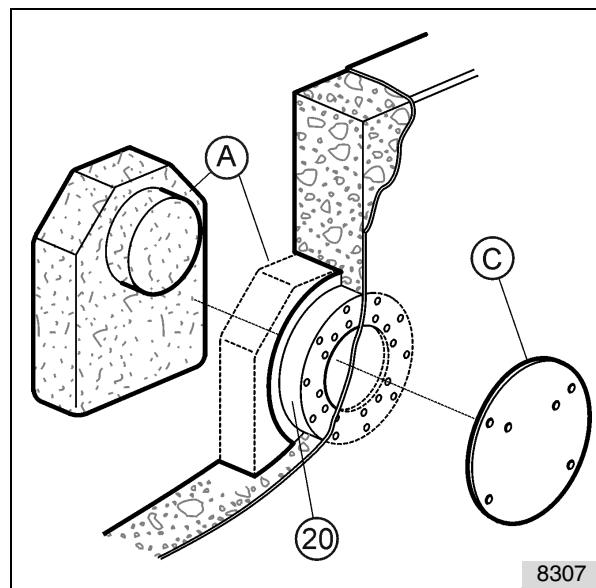


fig. 10

- P Pool-side formwork board
20 Installation kit

Tailor the installation kit:

Place the installation kit on the formwork board and transfer the bore holes. Bore the holes into the pool-side formwork board (P_b).

Screw the installation kit complete with the mounting protection film (C) tightly to the pool-side formwork board (P_b).

After removing the shuttering take off the polystyrene filling piece (A). Also remove the protection film (C).

4.3 Installation Preparations / Pre-fabricated pool

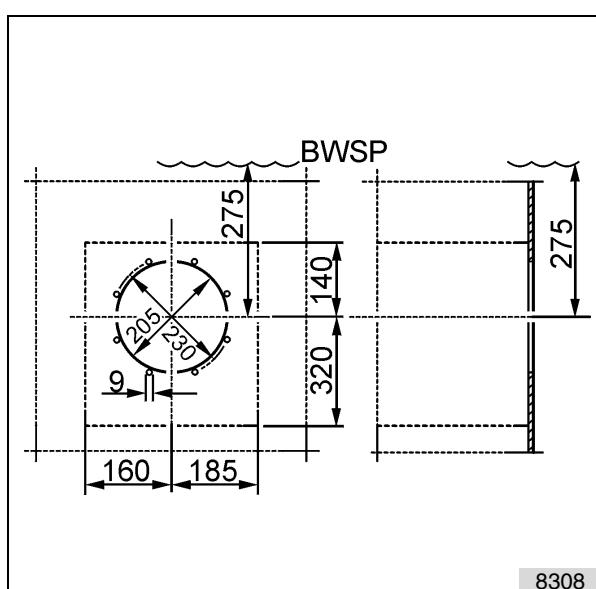


fig. 11: Boring diagram

Tailor the installation kit:

Apply the cavity Ø 205 and the mounting holes Ø 9 to the pool wall.



Warning! Risk of damage!

The hold-ring (Item 62) must be used as a template.

For backfilling the pool ensure that there is a cavity at least the size of the dotted lines.

4.4 Installation Preparations / Wood-liner pool

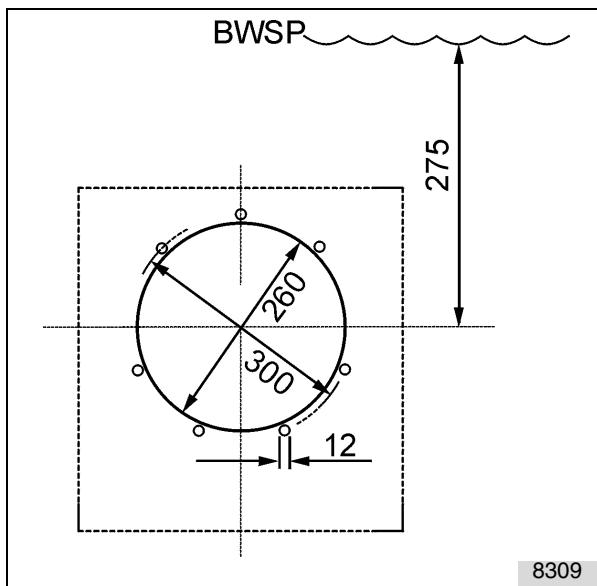


fig. 12: Boring diagram

Tailor the installation kit:

Apply the cavity Ø 260 and the mounting holes Ø 12 to the pool wall.



Warning! Risk of damage!

The hold-ring (Item 68) must be used as a template.

Take note of the asymmetrical position of the holes!

4.5 Pump kit Installation / Concrete-tile pool

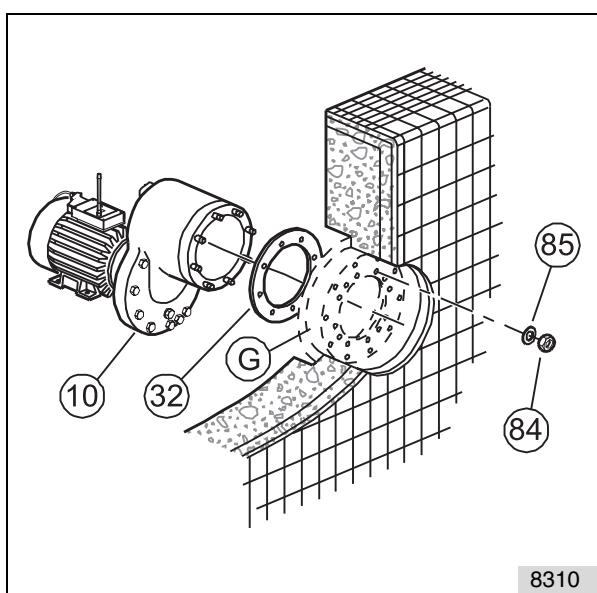


fig. 13

G	Outer housing
10	Housing
32	Clamp gasket
84	Nut
85	Distance washer

Mount the housing (10) with the clamp gasket (32) and the nuts (84) and washers (85) on the outer housing (G). The sealing contact faces must be clean and smooth.

4.6 Pump kit Installation / Concrete-liner pool

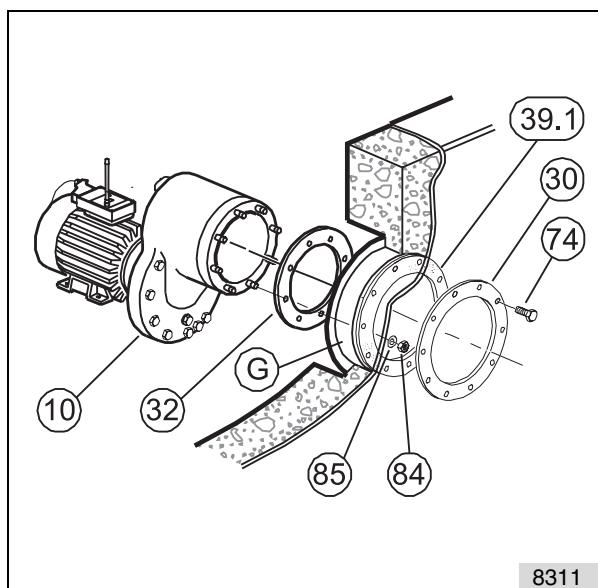


fig. 14

G	<i>Outer housing</i>
10	<i>Housing</i>
30	<i>Clamp ring</i>
32	<i>Clamp gasket</i>
39.1	<i>Clamp gasket</i>
74	<i>Screw</i>
84	<i>Nut</i>
85	<i>Distance washer</i>

Hang in the liner, mount with the clamp ring (30) and the screws (74) to the outer housing (G). The first gasket (39.1) must be between the outer housing (G) and the liner, the second gasket (32) between the outer housing (G) and the housing (10). Pierce the liner on the clamp ring (30) for the eight housing stay bolts.

4.7 Installation kit and Pump kit Installation / Pre-fabricated pool

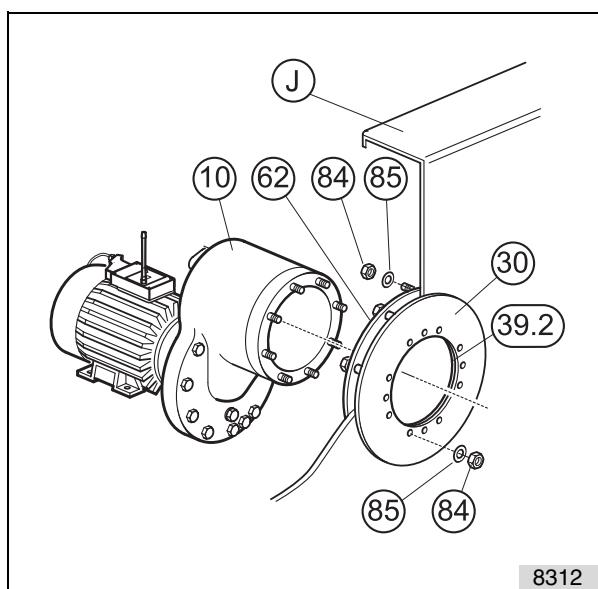


fig. 15

J	<i>Pool Wall</i>
10	<i>Housing</i>
30	<i>Clamp ring</i>
39.2	<i>Clamp gasket</i>

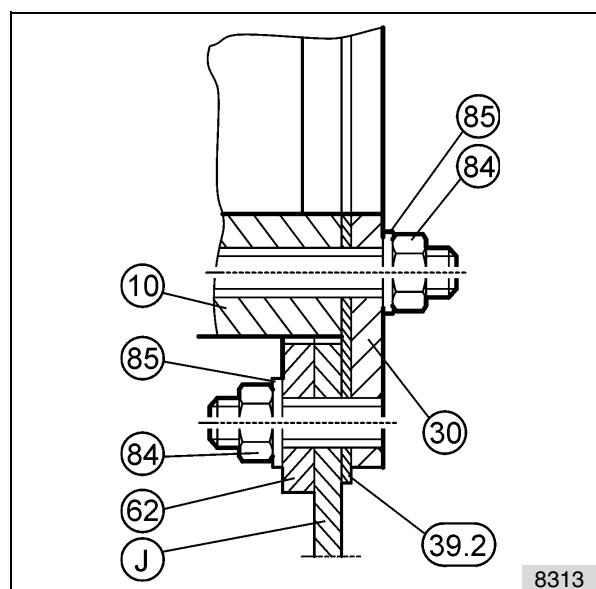


fig. 16: Detail from fig. 15

62	<i>Hold ring</i>
84	<i>Nut</i>
85	<i>Screw</i>

Mount the clamp ring (30) with the clamp gasket (39.2), the hold-ring (62) and the fixing elements (84+85) to the pool wall (J). The sealing contact faces must be clean and smooth.

Mount the housing (10) to the clamp ring (30) with the nuts (84) and distance washers (85).

4.8 Installation kit and Pump kit Installation / Wood-liner pool

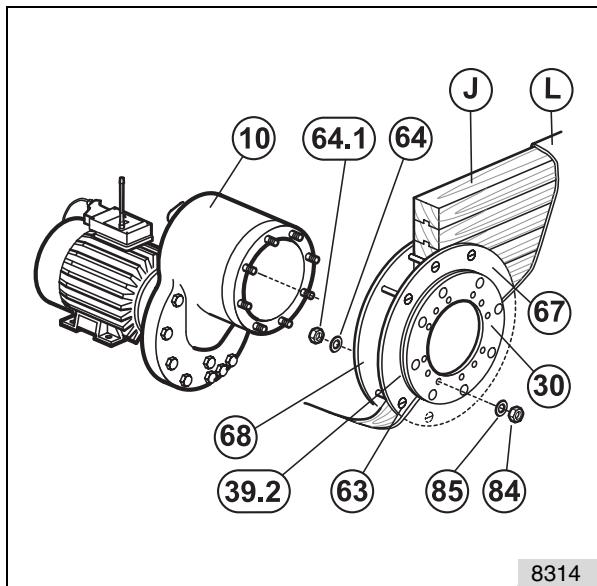


fig. 17

- | | |
|------|--------------------|
| J | Pool Wall |
| L | Liner |
| 10 | Housing |
| 30 | Clamp ring |
| 39.2 | Clamp gasket |
| 63 | Counter-sunk screw |
| 64 | Distance washer |

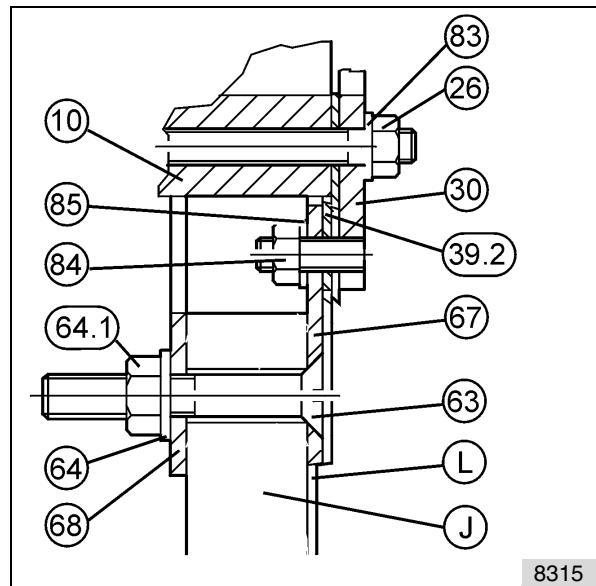


fig. 18: Detail aus Abb. 17

- | | |
|------|-----------------|
| 64.1 | Hexagon nut |
| 67 | Clamp ring |
| 68 | Hold ring |
| 83 | Distance washer |
| 84 | Hexagon nut |
| 85 | Distance washer |

Mount the clamp ring (67) with the hold-ring (68) and the fixing elements (64+64.1) to the pool wall (J).

Hang in the liner (L). Fasten the liner (L) and the clamp gasket (39.2) together with the clamp ring (30) and cut out the liner (L).

Mount the housing (10) to the clamp ring (30) with the nuts (84) and distance washers (85).

4.9 Non-return air valve Installation

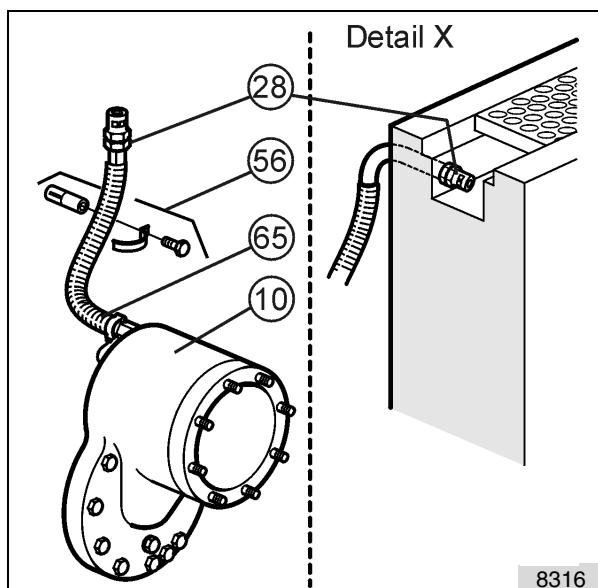


fig. 19

- 10 *Housing*
- 28 *Non-return valve*
- 56 *Fixing elements*
- 65 *Air hose complete*

Mount the air hose (65) to one side of the housing (10). Fasten the non-return air valve side (28) with the clamp set (56) to the pool wall or similar.

The air hose (65) including the non-return air valve (28) can also be mounted in the overflow, in special cases. (See fig. 23, detail X).



Warning!

For the positioning of the non-return air valve also please be sure to observe the details under 4.1, Planning the pump pit (figs. 7 and 8)

4.10 Installation of the face plate assembly - general

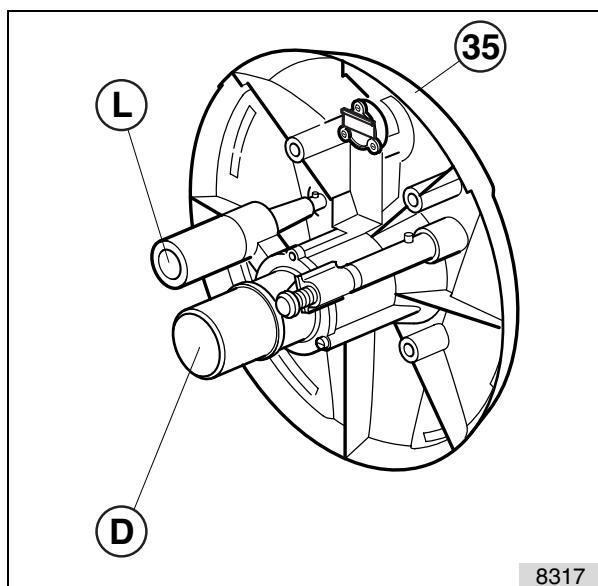


fig. 20

- 35 *Face plate assembly for concrete pool*
- D *Return connection*
- L *Air connection*

4.10.1 Face plate assembly Installation / Concrete-tile pool

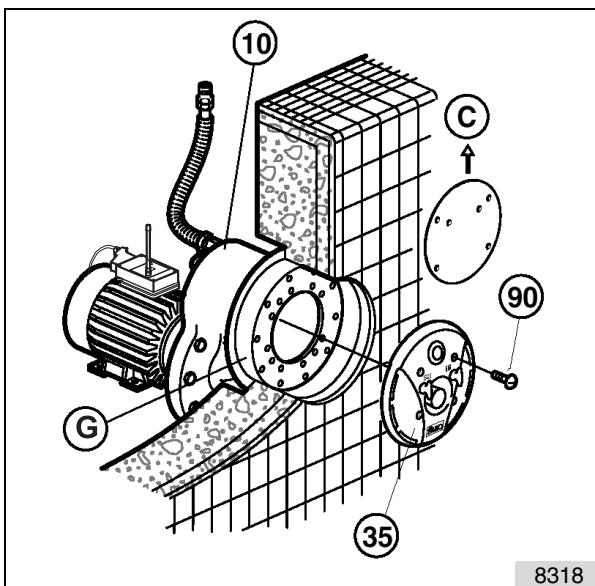


fig. 21

C	Mounting protection film
G	Outer housing
10	Housing
35	Face plate assembly
90	Screw

Remove the mounting protection film (C). Put on the face plate assembly (35), this allows the pressure connection (D) and air connection (L) to slide into one another. Fasten to the outer housing (G) with the screws (90.1).

4.10.2 Face plate assembly Installation / Concrete-liner pool

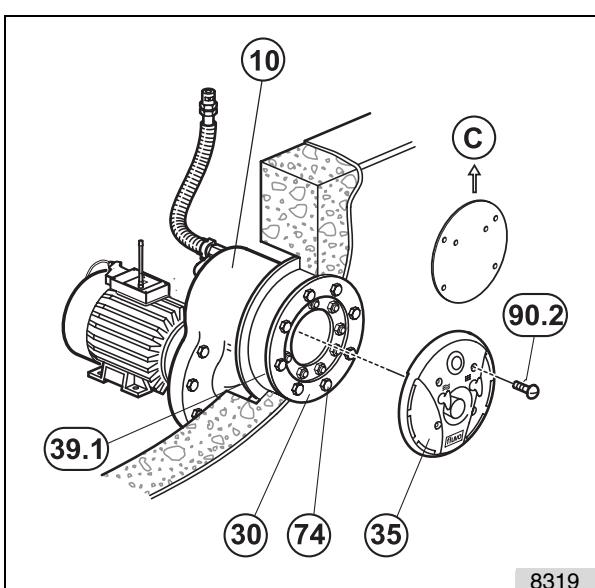


fig. 22

C	Mounting protection film
10	Housing
30	Clamp ring
35	Face plate assembly
39.1	Screw
74	Screw
90.2	Screw

Remove the mounting protection film (C). Place the clamp gasket (39.1) between the housing (10) and the liner and screw the clamp ring (30) to the housing (10) using the screws (74). The sealing contact faces must be clean and smooth.

Put on the face plate assembly (35), this allows the pressure connection (D) and air connection (L) to slide into one another. Fasten to the clamp ring (30) with the screws (90.2).

4.10.3 Face plate assembly Installation / Pre-fabricated pool

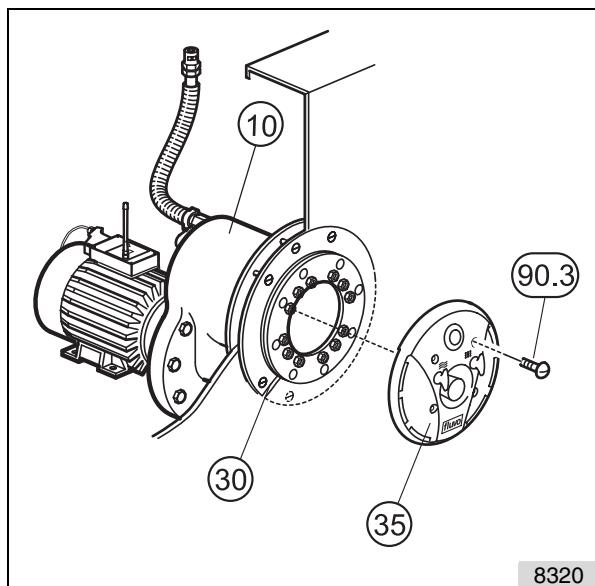


fig. 23

- 10 Housing
- 30 Clamp ring
- 35 Face plate assembly
- 90.3 Screw

Put on the face plate assembly (35), this allows the pressure connection and air connection to slide into one another. Fasten to the clamp ring (30) with the screws (90.3).

4.10.4 Face plate assembly Installation / Wood-liner pool

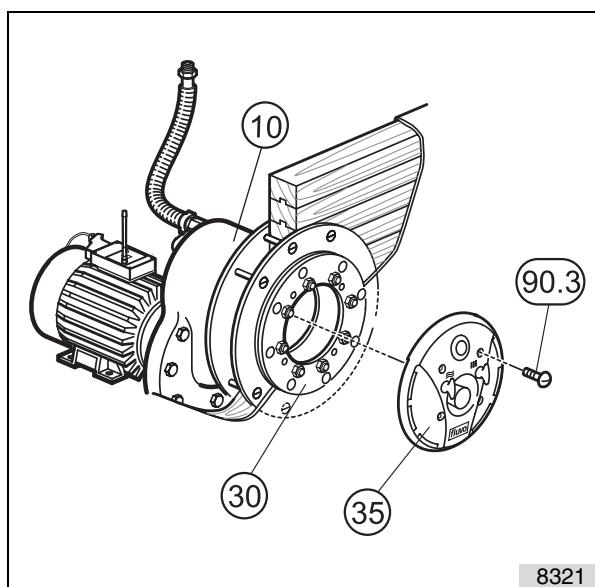


fig. 24

- 10 Housing
- 30 Clamp ring
- 35 Face plate assembly
- 90.3 Screw

Put on the face plate assembly (35), this allows the pressure connection and air connection to slide into one another. Fasten to the clamp ring (30) with the screws (90.3).

5 Electrical Connections

5.1 Electrical Connections - general

The electrical connections to the counter-current swimming system must be carried out by a specialised company in the electrical engineering branch approved by the local energy provider, taking into account the technical connection requirements.



Warning! Mortal danger!

The connections must be carried out by a qualified electrician.

For this refer to the **TAB of the EVS**, the **VBG 4(§3)** and **DIN VDE 1000-10/1995-5, for example**.

The relevant **DIN VDE (Association of German Engineers) regulations 0100** and in the case of explosion protection **0165** must be observed.

If the installation is not carried out properly, there is a risk of getting electric shocks!



Warning!

Compare the available power supply voltage with the details on the motor's factory plate and select the appropriate switching.

We recommend the use of a motor protection facility. Explosion protected motors, increased safety (Ex)-e and temperature class T3, must always be connected in accordance with DIN VDE 0170/0171 via a motor protection switch. Connect the motor in accordance with the circuit diagrams in sections 5.3 and 5.4.

Please observe:

- The mains power connection must be a fixed connection.
- Under no circumstances must there be any conducting connection between the metal parts of the motor and the water.
- An earth leakage circuit breaker (nominal fault current $\leq 30 \text{ mA}$) must be fitted to the mains power connection.
- The mains power supply cable must be equipped with an all-pole separator with a contact opening of 3 mm.
- At the marked connection terminal (at the foot of the motor or next to the terminal box) an equalising potential with a cross-section of 10 mm^2 must be fitted.
- The counter-current swimming system must only be operated provided that the terminal box lid is closed!

5.1.1 Direction of rotation check

In the case of 3~ motors the direction of rotation must be the same as the direction of rotation arrow on the blower cover of the counter-current swimming system .



Warning!

Check by rapidly switching on and off.

If the direction of rotation is wrong for 3~ motors, change any two phases L1, L2 or L3 of the power supply in the motor terminal box over.

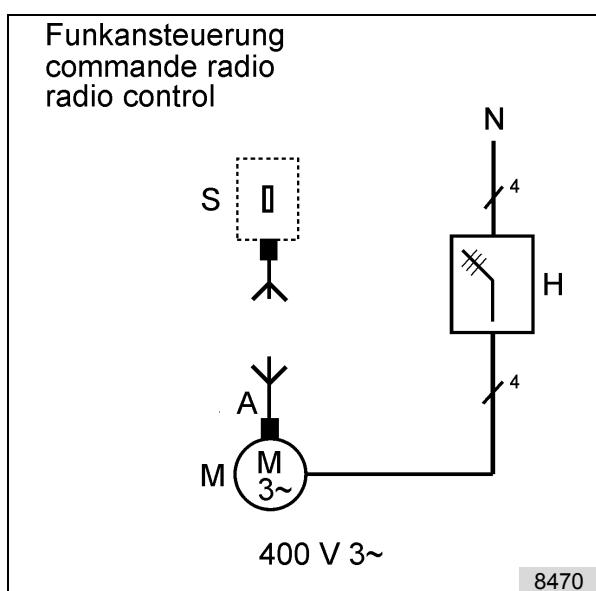
5.1.2 Additional motor equipment



Warning!

If particular control devices are to be used e.g. in connection with the installation of the counter-current swimming system in a process engineering facility, the instructions of the manufacturer of the control device must be strictly observed.

5.2 Electrical connections three-phase current



Mains voltage: 400 V for 3~ AC

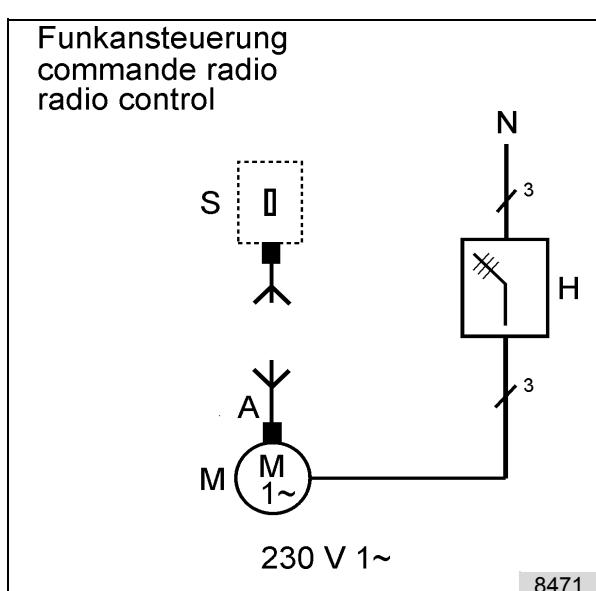
Mains power supply cable: 4 x 2.5 mm²

Fuse: 16 A passive

Connection cable: HO7RNF

fig. 25: Schematic 3 ~ AC circuit diagram

5.3 Electrical connections AC



Mains voltage: 230 V for 1 ~ AC

Mains power supply cable: 3 x 2.5 mm²

Fuse: 16 A passive

Connection cable: HO7RNF

Legend for figs. 25 and 26:

- Aerial
- Master switch
- Motor of the circulation pump with receiver
- mains connection 230 V 1~/400 V 3~
- Transmitter

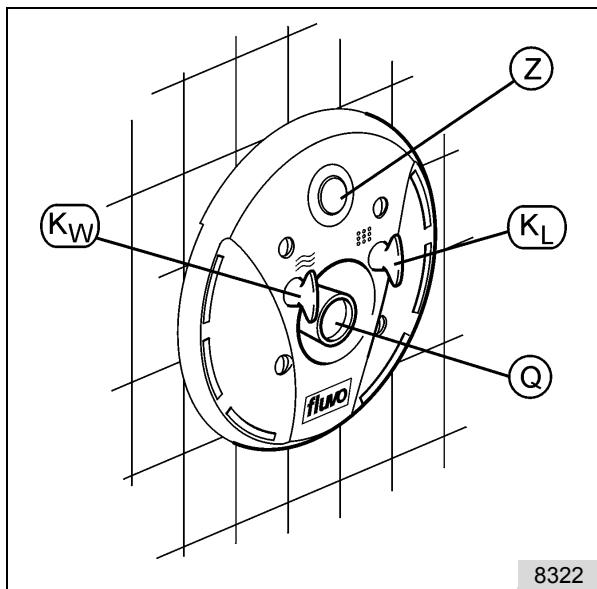
fig. 26: Schematic AC circuit diagram

6 Start-up / Operating

Never carry out a trial run with the motor as long as there is no water in the pump. A dry run will destroy the mechanical seal in the pump!

- **Switch on the master switch**

After switching on the master switch, wait for approx. 10 seconds until the initialisation of the controller is complete.



K_L	Air supply regulator knob
K_W	Water supply regulator knob
Q	Nozzle
Z	Switching button

fig. 27

- **Switching the pump on and off**

The pump is switched on by pressing the switching button (Z). After 2 seconds the pump can be switched off by pressing the button again or a signal can be sent to the pump (on-off function).

The operating time of the pump can be set by a trained specialist in 4 minute intervals from 4 to 60 minutes. At the factory the operating time is set to D (continuous operation), see section 5.5 (Setting the operating time).

- **Water supply control**

By turning the knob (K_W) clockwise the water supply decreases, anti-clockwise it increases.

- **Air supply control / Air bubble bath**

By turning the knob (K_L) clockwise the air supply decreases, anti-clockwise it increases. The air supply to the water causes the water jet to become softer (air bubble bath).

- **Direction of jet**

The nozzle can be turned in any direction.

- **Counter-current swimming**

Set the maximum jet speed. Swing the nozzle (Q) so that the water layer just under the surface of the water begins to flow quickly.

- Attaching the massage set**

Switch off the counter-current swimming system prior to attaching the impulse-massage nozzle.

Pull back the sliding sleeve (V), push the hose coupling (F) into the nozzle (D), press the sliding sleeve (V) against the nozzle (D) and pull back on the hose coupling (F). That causes the hose coupling to be locked in place..

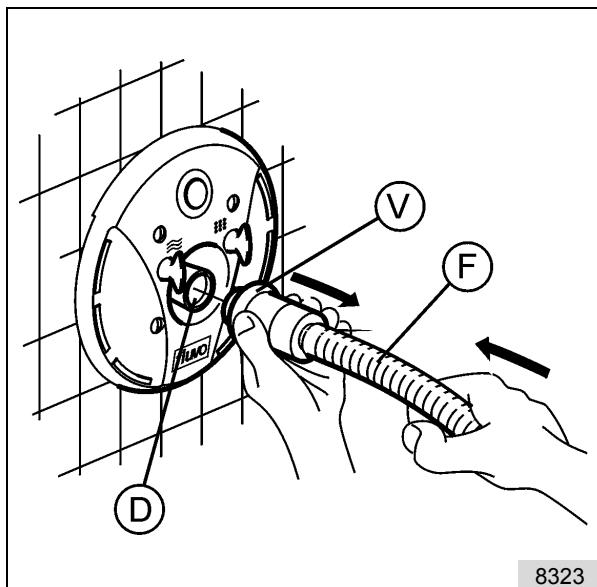


fig. 28: Attaching the massage set

D Nozzle

F Hose coupling

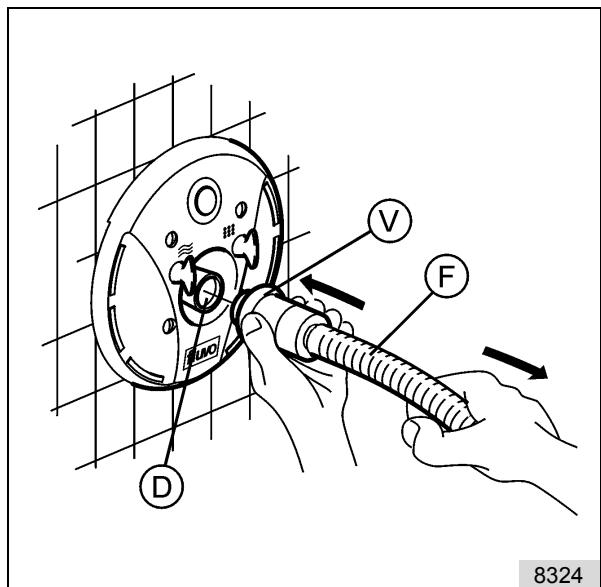


fig. 29: Detaching the massage set

V Sliding sleeve

- Detaching the massage set**

Switch off the counter-current swimming system prior to detaching the impulse-massage nozzle.

Press the hose coupling (F) against the sliding sleeve (V), take a hold of it and pull it back, pull out the hose coupling.

7 Shutdown / Overwintering



Warning! Risk of damage!

If there is a risk of freezing, then the facility must be made winterproof. For this observe the following recommendations:

7.1 Empty the pool

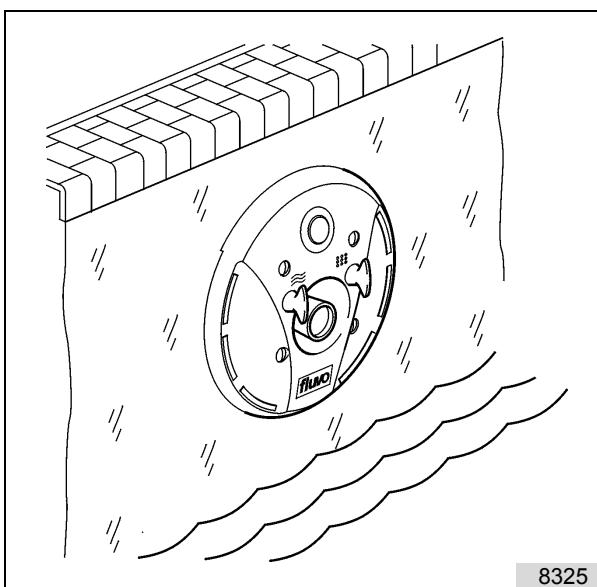


fig. 30



Warning! Risk of damage!

Make sure you have protected the whole swimming complex adequately against frost. Observe the instructions issued by the manufacturer of the pool!

- Empty all the water out of the pool,
- or let the water out at least until it is 15-20 cm below the level of the face plate assembly.
- Switch off the master switch!

7.2 Face plate assembly overwintering

To prevent the transmitter battery from becoming discharged prematurely, remove the face plate assembly and store at room temperature.

7.3 Emptying the pump

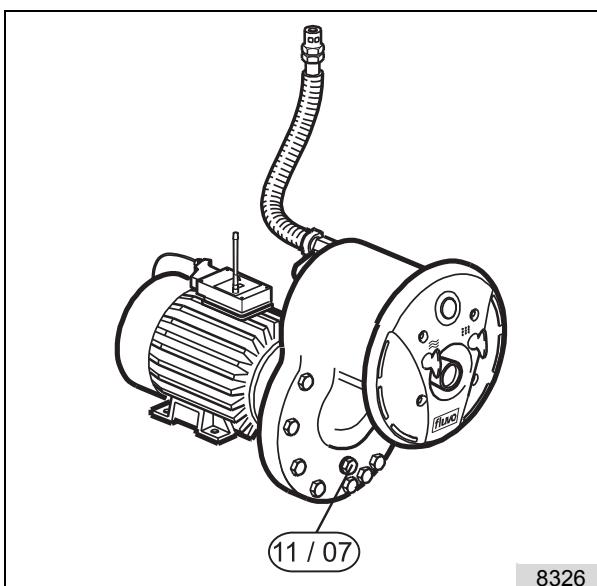


fig. 31

07 O-Ring
11 Plug screw

Screw out the plug screw (11) and drain the water.



Warning! Risk of damage!

Make sure that all the water runs off! Also empty the pipework connected to the pump, if any!

Then screw the plug screw (11) back in again with a new O-ring (07).

When restarting please observe the instructions in section 6.

8 Maintenance / Repairs

8.1 General Instructions



Warning! Mortal danger!

In order to prevent electric shocks, work on the terminal box and the machine controller must never be carried out before the electrical connections have been isolated or disconnected.

The counter-current system must be protected against unintentional switching on!

8.2 Maintenance / Service

- The counter-current system is largely maintenance-free.
- Make sure that all the parts of the counter-current swimming system are kept clean.
- The gaskets on the motor shaft must be checked at regular intervals (at least once a year) by a trained engineer. If necessary, they must be replaced by original spare parts.

8.3 Repairs

- For repairs to the counter-current swimming system please observe the instructions for installation and start-up in this manual.
- Use exclusively original spare parts when carrying out repairs to the counter-current swimming system.

9 Spare parts

In the spare parts list there are all the parts required for your counter-current swimming system.

When ordering spare parts please do not fail to give us the following important information:

- Pump serial number and type description or alternatively the motor serial number
- Part number from the spare parts list
- Part description
- Material data from the specifications or the order confirmation

The pump serial number is on the type plate which is fastened to the blower cover of the motor.

The order confirmation or motor serial number may also be of assistance.

With this information you make it much easier for us to deliver the correct spare part for your counter-current swimming system!

The spare parts list and drawings are to be found in section 12 of the operating instructions.

10 Ersatzteilliste und Zeichnung

10.1 Ersatzteilliste

10 Liste de pièces détachées et schéma

10.1 Liste de pièce détachées

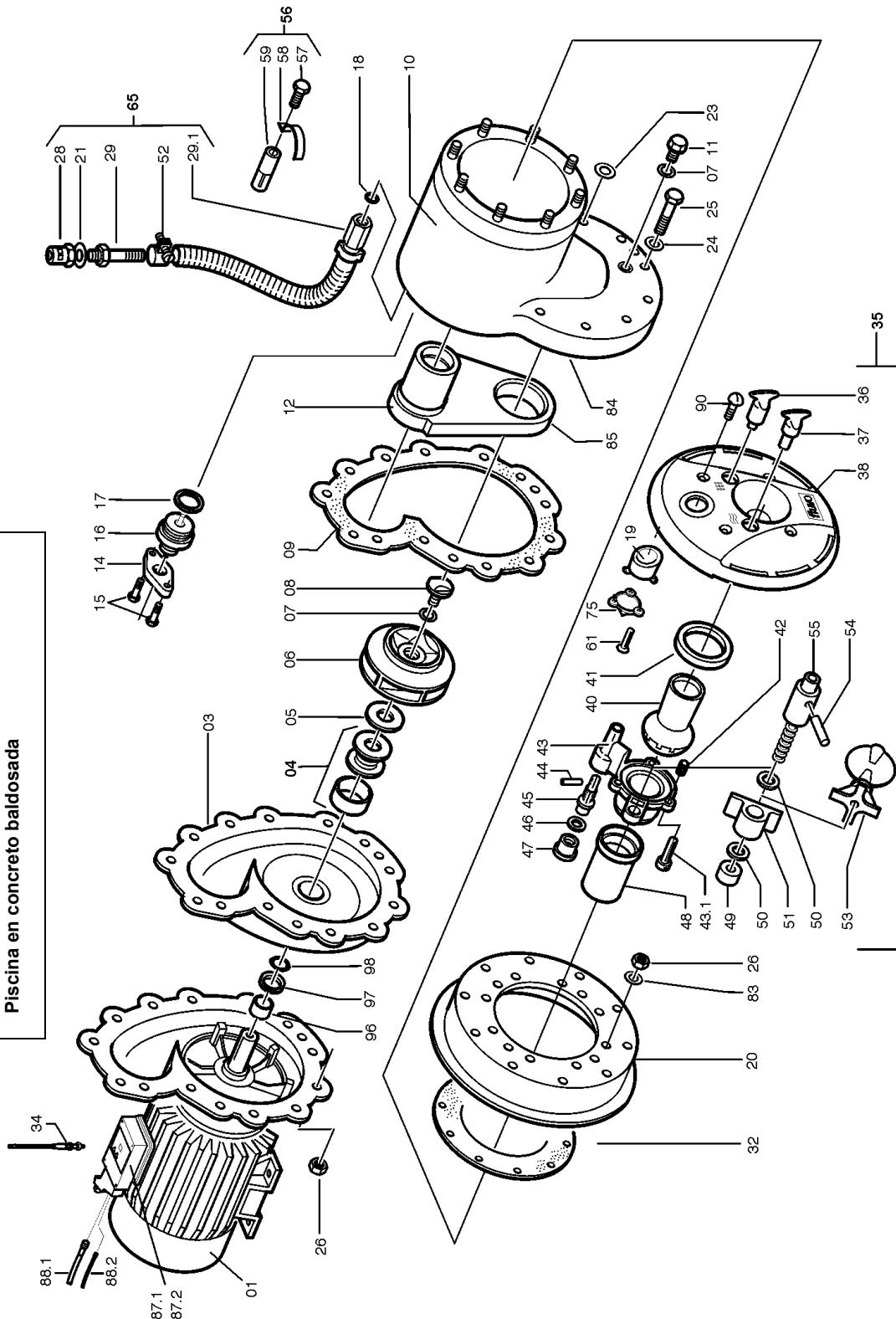
10 Spare Parts List and Drawing

10.1 Spare Parts List

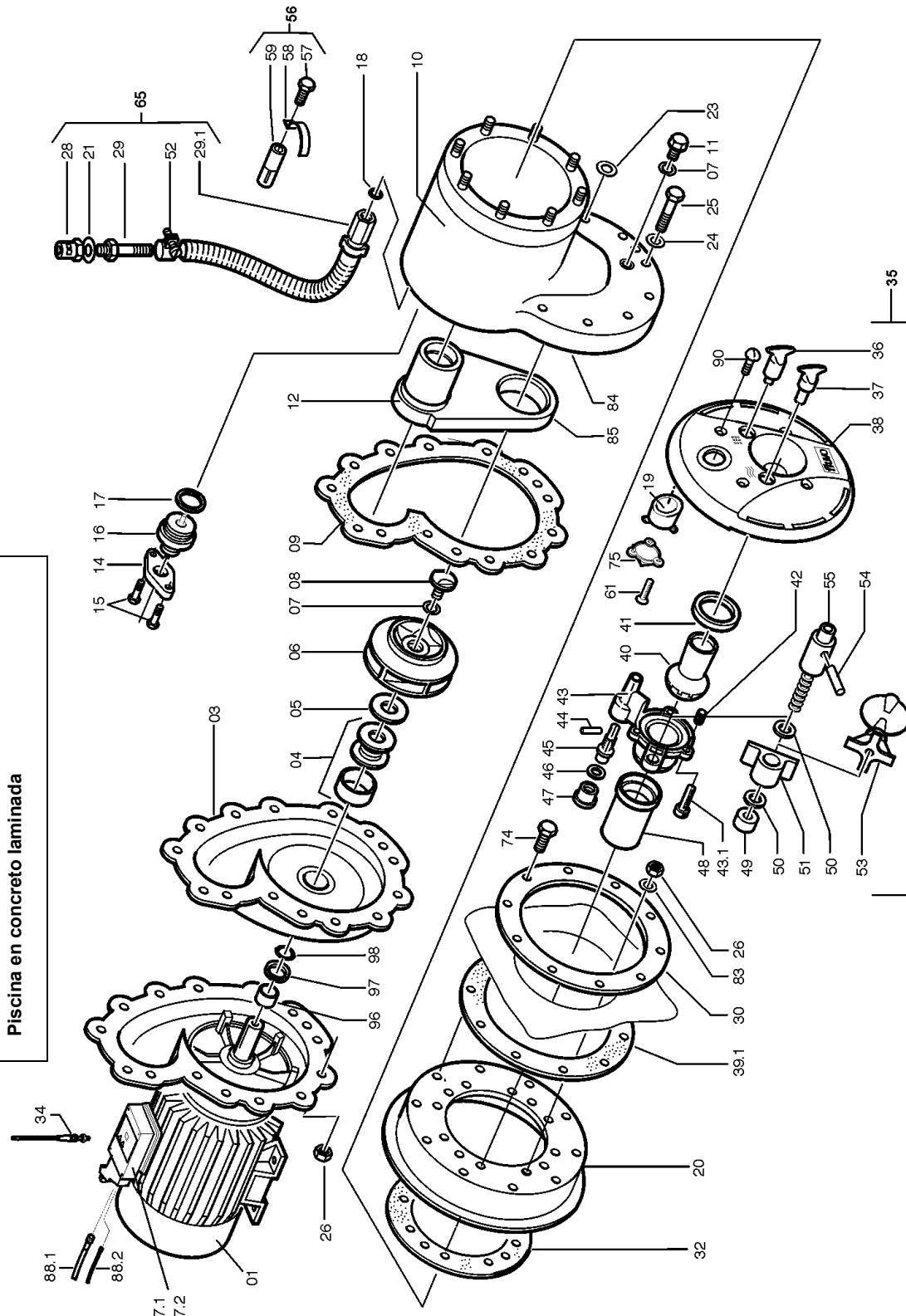
Pos.	Best. Nr. No. de réf. Order No.	Bezeichnung	Désignation	Description	Stck. Nbre. Qty.	Bemerkung Remarque Remark
01	365450	Wechselstrommotor	Moteur monophasé	Motor 1-phase	1	1,9 kW IEC 38 230 V
01.1	363667	Drehstrommotor	Moteur triphasé	Motor 3-phase	1	1,9 kW IEC 38 400 V
01.2	02440	Drehstrommotor	Moteur triphasé	Motor 3-phase	1	3,0 kW IEC 38 400 V
03	R47505	Spiralgehäuse	Carter spirale	Spiral housing	1	
04	21140	Gleitringdichtung	Joint Méchanique	Mechanical seal	1	
05	51066	Unterlegscheibe	Rondelle	Distance washer	1	
06	51021	Laufrad	Turbine	Impeller	1	1,9 kW Ø 110
06.1	51022	Laufrad	Turbine	Impeller	1	3,0 kW Ø 125
07	24133	O-Ring	Joint torique	O-ring	2	10,0 x 2,0
08	56033	Laufradschraube	Vis turbine	Impeller cap screw	1	
09	22113	Flachdichtung	Joint plat	Clamp Gasket	1	
10	56121	Ansauggehäuse	Corps d'aspiration	Suction housing	1	
11	11104	Verschluss-Schraube	Bouchon	Plug screw	2	G1/4"
12	56122	Druckrohr	Tuyau pression	Pressure pipe	1	
14	59070	Halterung	Fixation	Holding device	1	
15	10469	Sechskantschraube	Vis six pans	Hexagon screw	2	M6 x 25
16	55700	Stopfen	Bouchon	Stopper	1	
17	23082	Dichtung	Joint	Gasket	1	
18	28022	O-Ring	Joint torique	O-ring	1	
19	72203-0	Sender	Émetteur	Transmitter	1	Adresse 0
20	93115	Einbausatz	Pièce à sceller	Installation kit	1	
21	22213	Flachdichtung	Joint plat	Clamp Gasket	1	
22	45161	Klemmring	Bague de serrage	Clamp ring	1	
23	12424	Unterlegscheibe	Rondelle	Distance washer	1	Ø 8
24	12422	Unterlegscheibe	Rondelle	Distance washer	9	A 8
25	10587	Sechskantschraube	Vis six pans	Hexagon screw	10	M8 x 55
26	12181	Sechskantmutter	Écrou six pans	Hexagon nut	15	M8
28	56031	Rückschlagventil	Clapet anti-retour	Non-return valve	1	

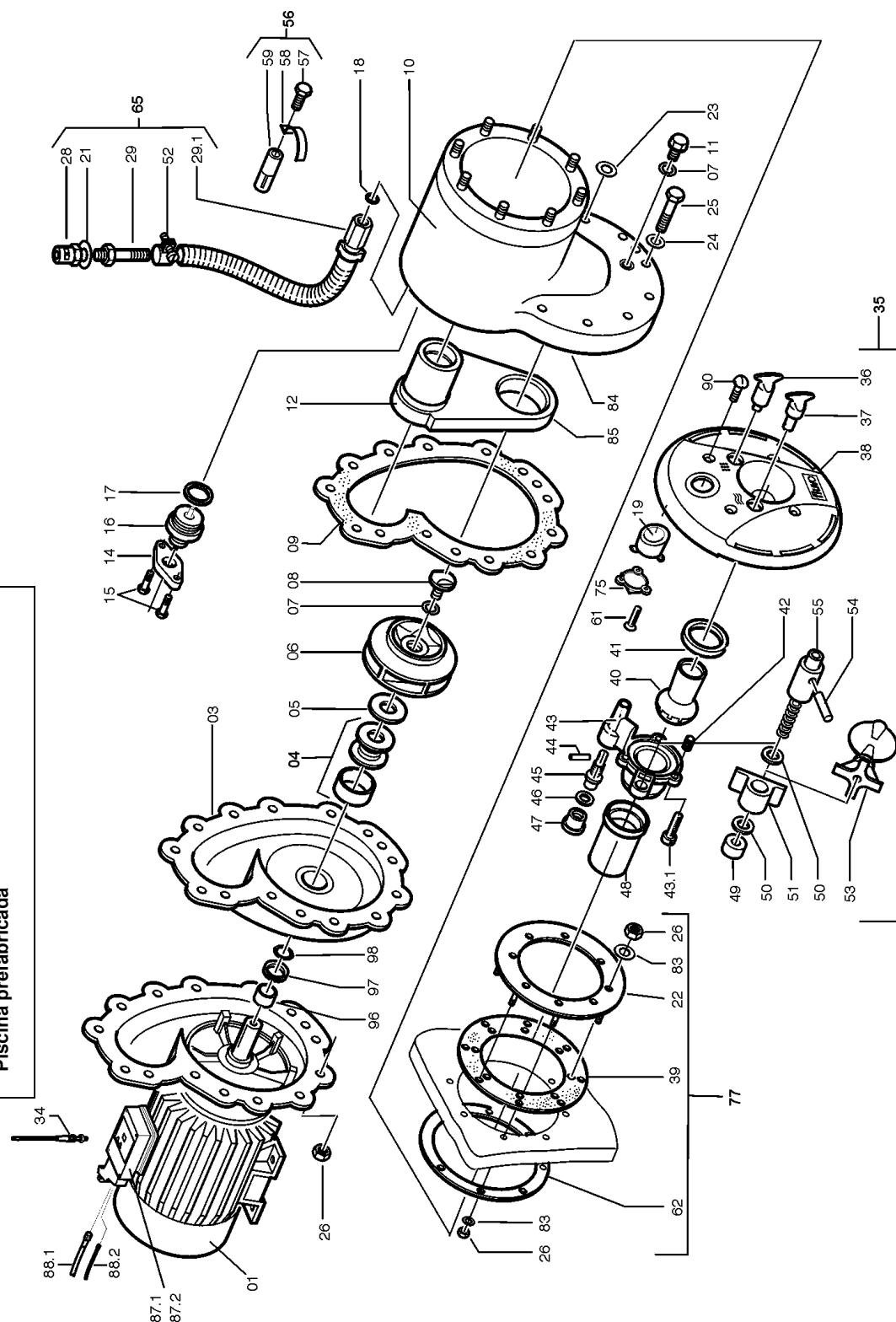
Pos.	Best. Nr. No. de réf. Order No.	Bezeichnung	Désignation	Description	Stck. Nbre. Qty.	Bemerkung Remarque Remark
29	63127	Übergangsnippel	Embout de réduction mâle	Air line hose tail	1	incl. Pos. 33
29.1	56128	Schlauchkupplung	Accouplement de tuyau	Hose coupling	1	
30	48456	Klemmring	Cable	Cable	1	
32	22235	Flachdichtung	Joint plat	Clamp gasket	1	200x150x2,0
34	55673	Antenne	Antenne	Aerial	1	
35	92192	Düsenkopf	Tête de buse complète	Face plate assembly	1	
36	65032	Drehgriff Luftreg.	Bouton régul. air	Air regul. knob	1	
37	65033	Drehgriff Wasserreg.	Bouton régul. débit	Water flow knob	1	
38	56232	Düsengehäuse	Tête de buse	Face plate	1	
39	22227	Flachdichtung	Joint plat	Clamp gasket	1	250x198x2,0
39.1	22226	Flachdichtung	Joint plat	Clamp gasket	1	250x150x2,0
40	56035	Düse	Buse	Nozzle	1	
41	56050	Kugelgleitring	Anneau de glissement à boule	Nozzle clamp seal	1	
42	15103	Druckfeder	Ressort de pression	Pressure spring	4	
43	56036	Gehäuse	Boîtier	Housing	1	
43.1	10401	Schneidschraube	Vis coupante	Socket head cap screw	3	5,5 x 25
44	13154	Zylinderstift	Goupille cylindrique	Parallel pin	1	
45	55602	Welle f. Luftregelung	Broche de régul.de l'air	Air regulator shaft	1	
46	22008	Flachdichtung	Joint plat	Clamp gasket	1	16x08x3,0
47	56068	Bundhülse	Douille à embase	Shaft collar	1	
48	57952	Zentrierhülse	Douille de centrage	Nozzle case sleeve	1	
48.1	56069	Zentrierhülse	Douille de centrage	Nozzle case sleeve	1	
49	56682	Gewindeführhülse	Douille filetée	Threaded sleeve	1	
50	23073	Dichtung	Joint	Gasket	2	
51	56681	Gleitmutter	Écrou-coulisseau	Regulator nut	1	
52	16102	Zwei-Ohrklemme	Collier de serrage	Air pipe clamp	1	
53	56070	Drosselklappe	Vanne papillon	Regulating flap	1	
54	13226	Zylinderkerbstift	Goupille encochée cylindrique	Locking pin	1	
55	56680	Verstellspindel	Broche de réglage	Water regulator shaft	1	
56	67122	Befestigungssatz Luftventil	Fixation pour valve à air	Fixing bracket for air valve	1	
57	10561	Sechskantschraube	Vis six pans	Hexagon screw	1	M8 x 30
58	55272	Befestigungsschelle	Collier de fixation	Clamp	1	
59	67005	Spreizdübel	Cheville d'écartement	Rawl plug	1	SD 8
61	10244	Blechschaube	Vis parker	Tapping screw	3	4,2x13
62	56229	Haltering	Bague de retenue	Hold-ring	1	204x155x4
63	10626	Senkschraube	Vis à tête conique	Counter-sunk screw	7	M10 x 70
64	12392	Unterlegscheibe	Rondelle	Distance washer	7	A 10
64.1	12192	Sechskantmutter	Écrou six pans	Hexagon nut	7	M 10
65	92088	Luftleitung	Flexible d'air	Air hose	1	

Pos.	Best. Nr. No. de réf. Order No.	Bezeichnung	Désignation	Description	Stck. Nbre. Qty.	Bemerkung Remarque Remark
66	93117	Anbauteile	Kit de montage	Adaptor kit	1	
67	51303	Haltering	Bague de retenue	Hold-ring	1	
68	56241	Klemmring	Bague de serrage	Clamp ring	1	
74	10503	Sechskantschraube	Vis à tête conique	Counter-sunk screw	10	M8x20
75	70226	Deckel	Couvercle	Cover	1	DR 59
77	93118	Anbauteile	Kit de montage	Adaptor kit	1	
83	12392	Unterlegscheibe	Rondelle	Distance washer	10	8,4x10
84	12181	Sechskantmutter	Écrou six pans	Hexagon nut	8	M 8
85	12392	Unterlegscheibe	Rondelle	Distance washer	8	A 8
87.1	55808	Pump Control Empfänger Drehstrom	Pump Control Récepteur	Pump Control Reciever 3-phase	1	400 V
87.2	55811	Pump Control Empfänger Wechsel- strom	Pump Control Récepteur courant alternatif	Pump Control Reciever alternating current	1	230 V
88.1	55789	Kabel Drehstrom	Cable triphasé	Cable 3-phase	1	
88.2	55791	Kabel Wechselstrom	Cable courant alternatif	Cable alternating cur- rent	1	
90	10779	Linsensenzschraube	Vis à tête conique bombée	Face plate screw	4	M8 x 70
96	555390	Abstandshülse	Douille distance	Distance washer	1	
97	24424	V-Ring	Bague en V	V-ring	1	
98	22213	Flachdichtung	Joint plat	Clamp Gasket	1	

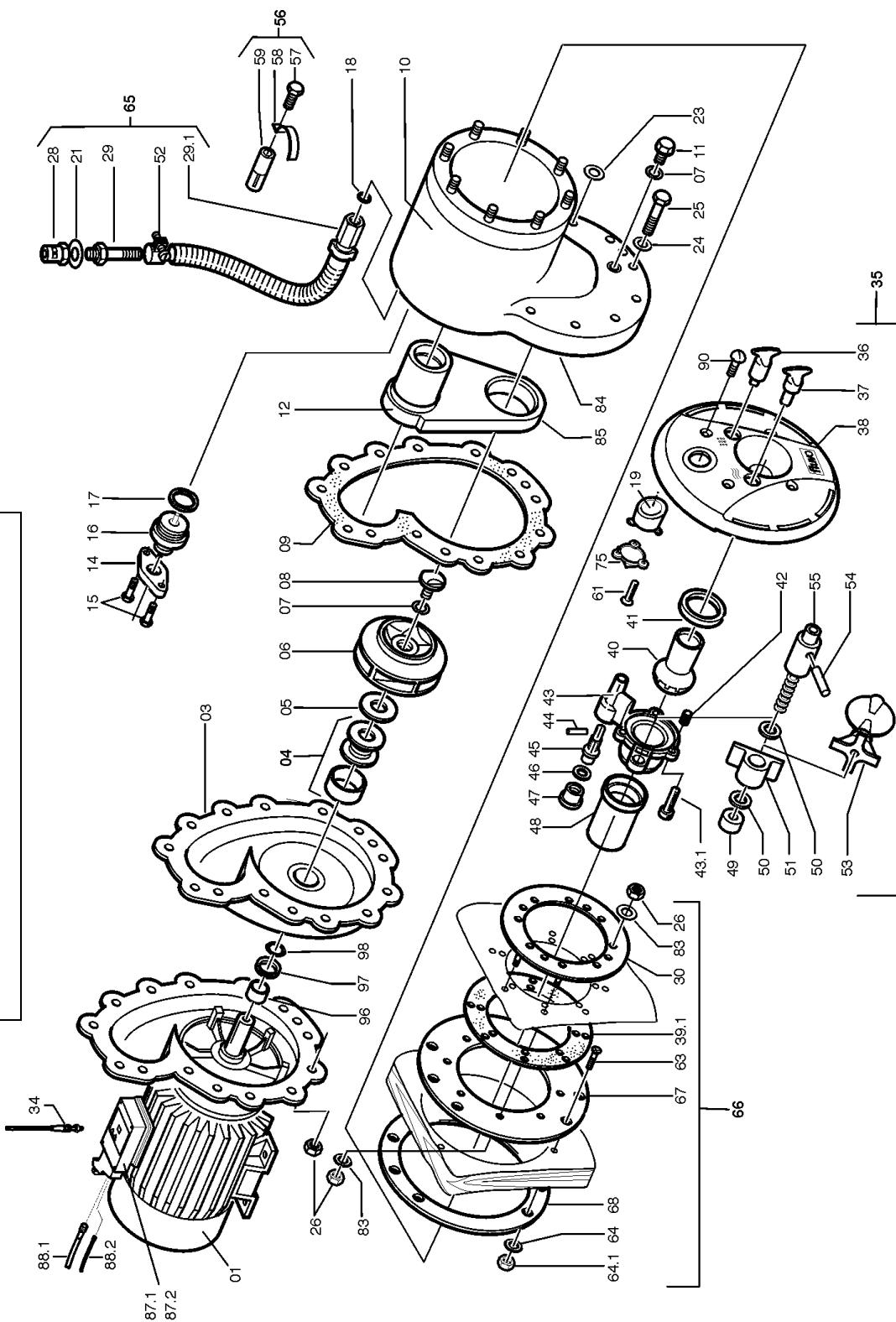


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