

Bronze massage station

GB Operator's Manual

Translation of the original

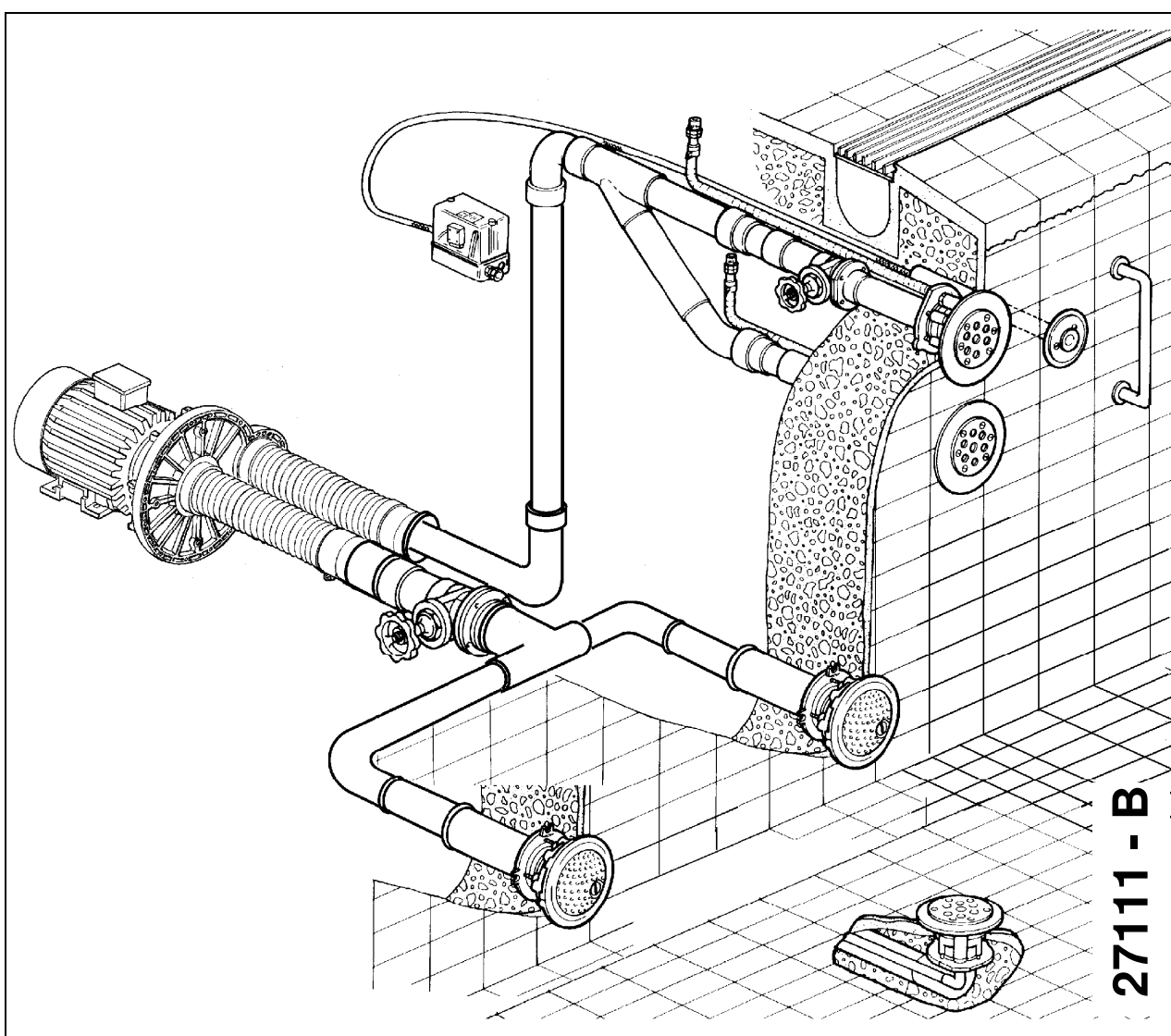


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1 General information

This massage station represents the state of the art. It has been manufactured with the greatest care and is subject to continuous quality control.

This Operator's Manual contains important information to ensure the massage station is operated safely, properly, and economically. Your strict observance is necessary to prevent dangers and ensure a long service life for the massage station.

This Operator's Manual does not take into consideration local requirements. The operator is responsible for ensuring these requirements are met, including personnel retained to assemble the system.

2 Proper use

The massage station was developed for use in private and public swimming pools. It can be installed in large swimming pools as well as private or hotel pools.

The entire system or parts of it are not suitable for use in other systems.

Accordingly we explicitly instruct you only to use such parts or the entire system for their intended purpose.

The massage station must not be operated beyond the values specified in the technical data. If you have any questions, please contact your Customer Service representative or the manufacturer.

Special brine-resistant installation kits are available for thermal brine baths.

3 Safety instructions

Please read this Operating Manual carefully before installing the massage station and placing it in operation. Make certain you have understood everything.

3.1 Safety instructions for the operator

1. The massage station must not be used until after pressure has been applied to the concrete after curing.
 2. Place handles in the vicinity of the massage station.
 3. The operator must ensure that
 - the Operator's Manual is always available for operating personnel
 - the instructions in the Operator's Manual are observed
- the massage station is stopped immediately if any abnormal electrical voltages, temperatures, noises, vibrations, leaks, or other faults occur.

4 Description of the device

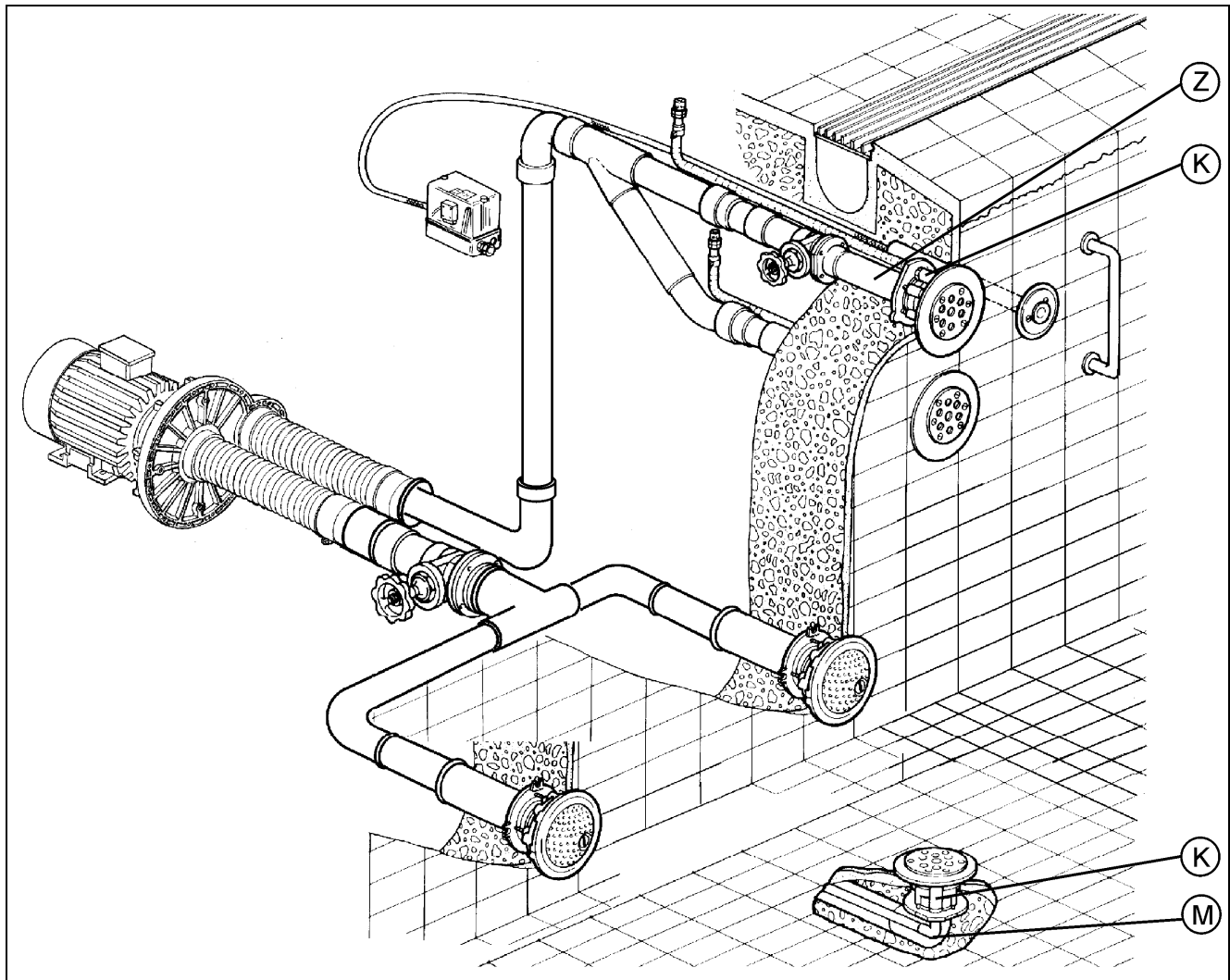


Fig. 1: *K* Installation kit
M 90° floor passage
Z Wall passage

fluvo the bronze massage station as a swimming pool accessory.

It is made of bronze/PVC and has a tile pattern gauge for problem-free installation.

The installation kit consists of the following components:

- Installation housing with attached floor passage leading vertically down or optionally with a 90° elbow.
- Cover plate for the installation housing

5 Technical data

The **fluvo** bronze massage station is available in various sizes and models.
 All parts in contact with media are designed for water quality according to **DIN 19643**.

	Value
Connection	DN 65 (PVC)
Material	Installation housing Bronze Fixing elements: 1.4401 / 1.4571 Jet insert: PVC
Usage limits	1.4401 (max. 3000 mg/l Cl ⁻) 1.4571 (max. 4500 mg/l Cl ⁻)
Operating pressure	0.5 - 0.8 bar
Max. permissible pressure	1.5 bar

Flow rate:

Jet type:	forte 30	forte 60	forte 90
Wall installation	24-42 m ³ /h	42-48 m ³ /h	48-60m ³ /h
Floor installation	42-48 m ³ /h	48-60 m ³ /h	60-96 m ³ /h

6 Pump circuit

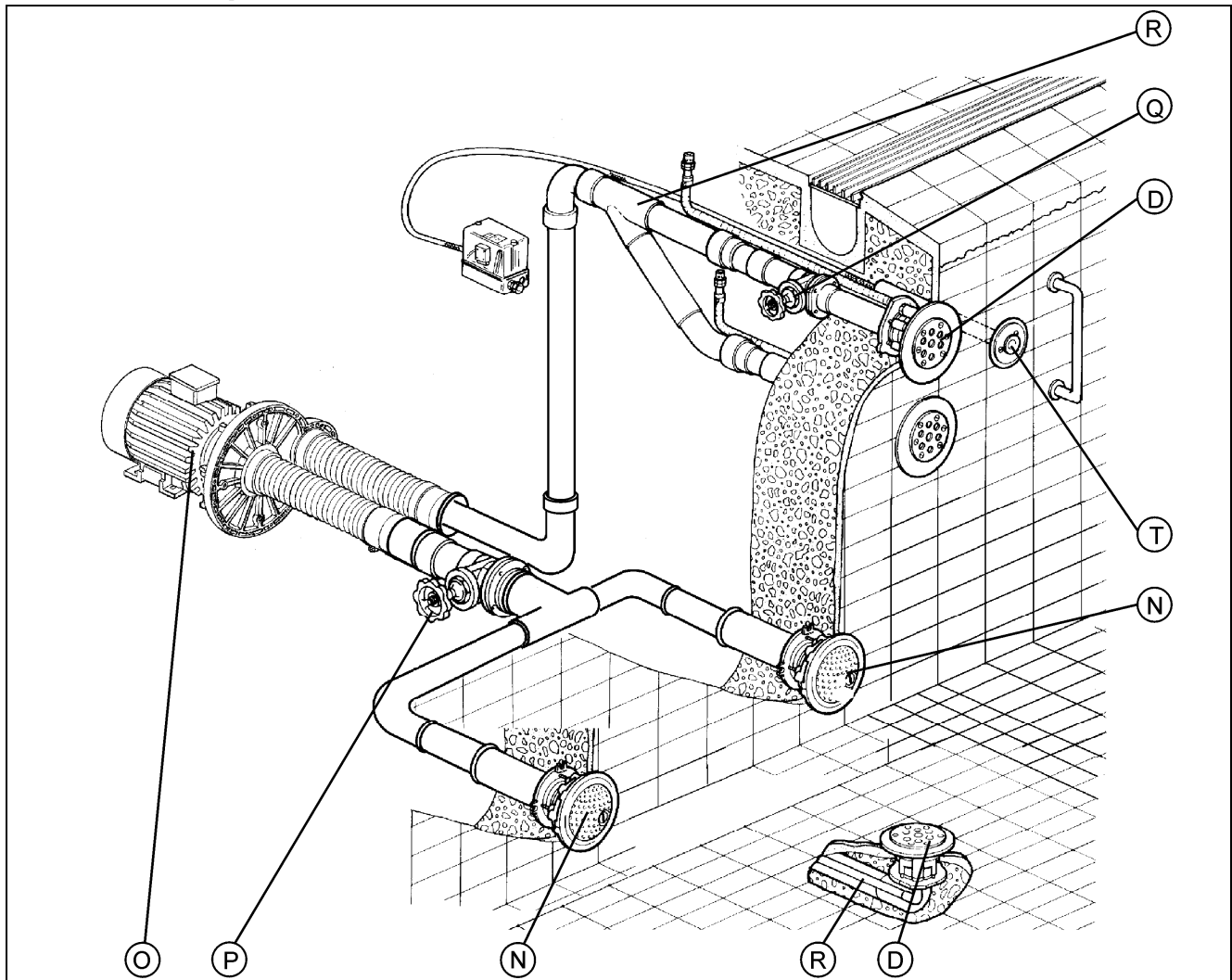


Fig. 2:

D	Massage jet
N	Suction connection
O	Centrifugal pump
P	Suction-end shut-off unit
Q	Pressure-end shut-off unit
R	Pipeline
T	Air button

The centrifugal pump (O) is non-self priming and must therefore be installed below the pool water level.

The centrifugal pump (O) draws the water out of the pool through the suction connection (N). The intake quantity can be adjusted through the suction-end shut-off unit (P). The suction-end shut-off unit (P) must always be completely open while the system is in operation! Water is fed in through the pipe system (R) to the massage jet (D) or massage jets. An additional shut-off unit (Q) is built into the pipe system for individual control of the flow rate. Water enriched with air flows through the massage jet (D) and back into the pool. The massage station can be started either by an air button (T) located directly in the pool or from a control panel outside the pool.

7 General description

The **fluvo** massage station consists of two massage jets, which act as wall jet, and one **fluvo** standard pump. See Fig. 3.

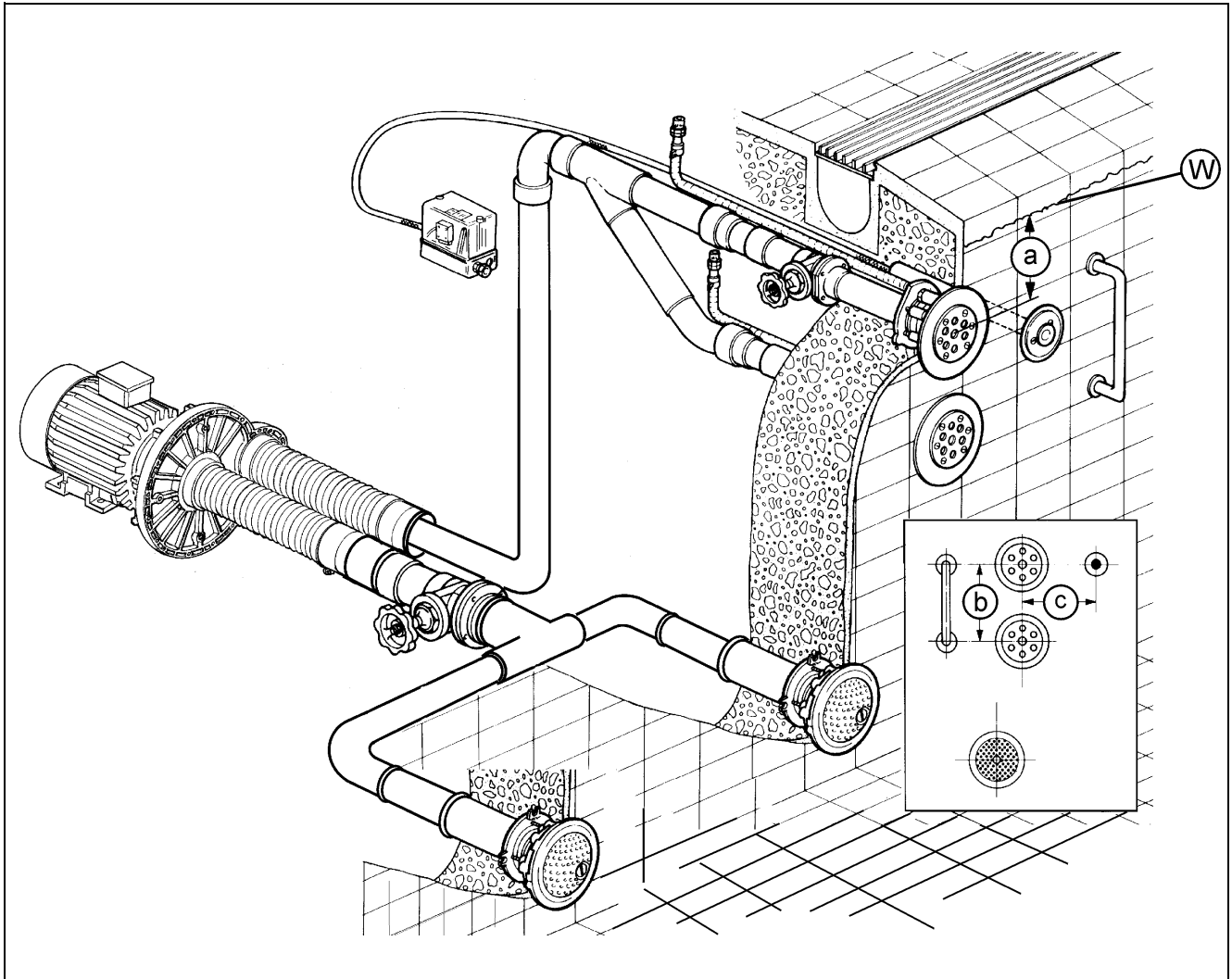


Fig. 3: W Water level
a=about 200 mm, Suggestion: b= about 350 mm, c= about 350 mm

or the *fluvo* massage station consists of a massage jet acting as a floor jet and one *fluvo* standard pump. See Fig. 4
(d = about 600-700 mm)

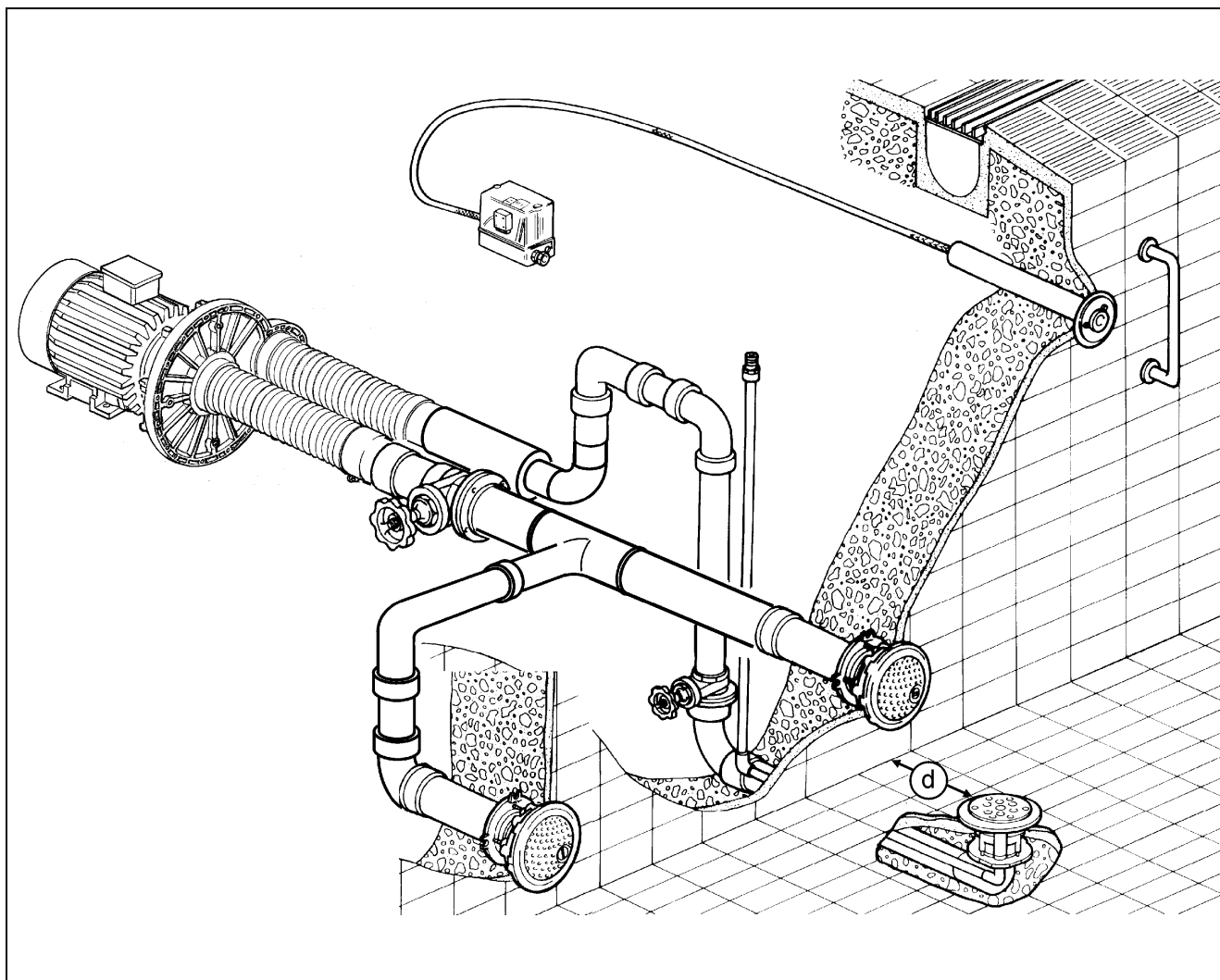


Fig. 4

Any number of massage stations can be individually designed as wall or floor jets. Then the pumps are specially designed for the system.

If the massage station will also be used as a counter-current system, we recommend installing one wall jet and one **fluvo** standard pump.

The system can be operated either by an air button circuit or by an external circuit, for example the Swim Master control panel.

The forte type with multiple-hole jets is designed for output from 24 m³/h to 96 m³/h. It has injector chambers arranged in cone shapes that produce a highly aerated flow for a wide-area massage.

At least two separate suction connections should be used for suction intake. The stipulations of the Deutsche Gesellschaft für das Badewesen e.V. (German Society for Bathing, reg.org.) as outline in pamphlet 60.03 and DIN EN 13451-1 must be observed.

All installation kits through which water flows are made of bronze/PVC. They are suitable for concrete/tile or concrete/liner pools, pre-fabricated pools, concrete pools with brush-applied sealant and for subsequent installation.

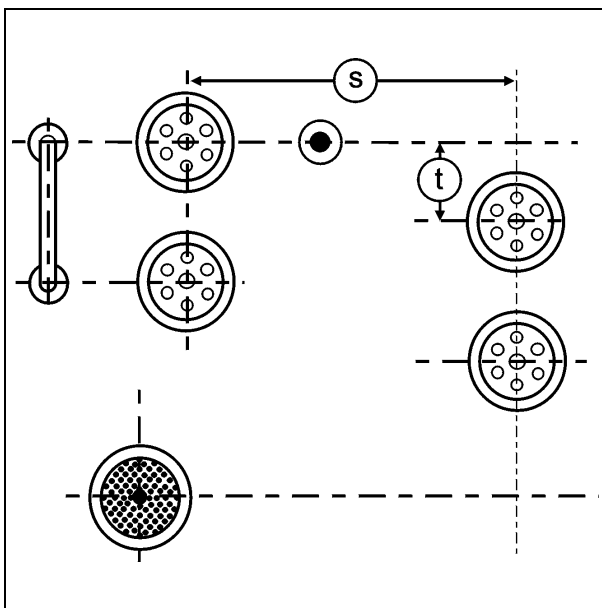


Fig. 5:

The jets can be arranged according to customer preference.

Recommendation for installation in the wall:

- Lateral spacing of jets:
 $s=1000\text{ mm}$
- Height offset from one jet to the next:
 $t=150\text{ mm}$ each.

8 Bronze massage station

8.1 Shuttering frame process / concrete pool

Fasten the installation kit (3 / 75) onto the inside form wall with the locking screws.

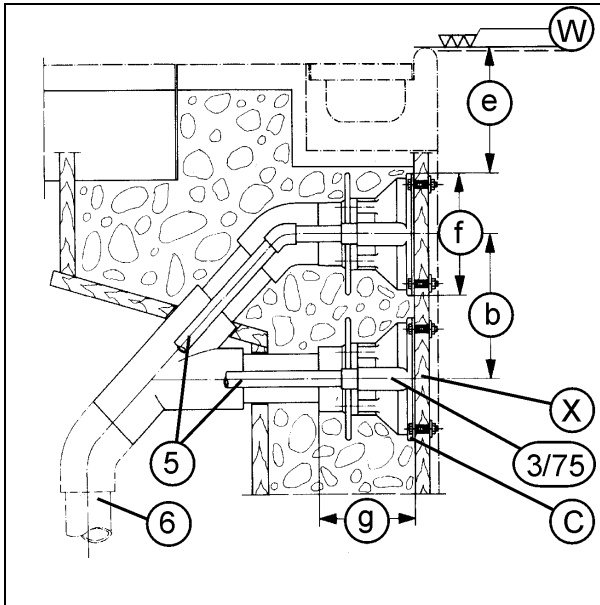


Fig. 6

- C* Protection film (only present for installation kit item 3)
W Water level
X Mould
- 3* Installation kit for concrete tile pools and concrete liner pools
5 Air pipe 25 / DN 20
6 Pressure pipe 75 / DN 65
75 Installation kit for concrete pools with brush-applied sealant

a = about 200 mm
b = about 350 mm
e = about 205 mm
f = 190 mm
g = 165 mm

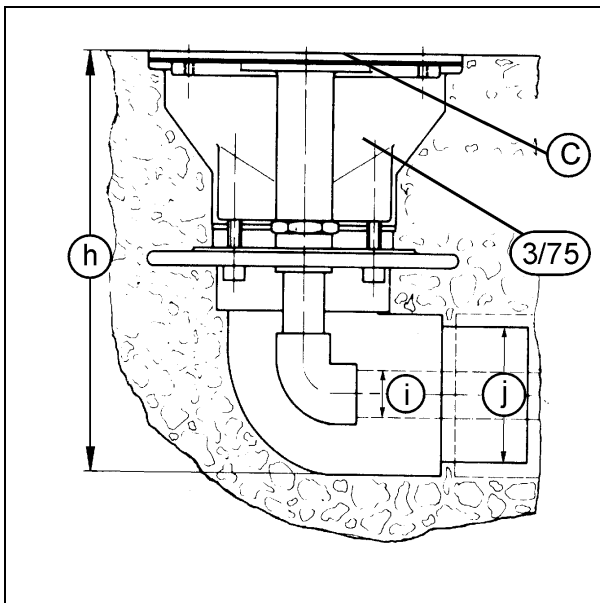


Fig. 7

Encase the floor jet installation kit (3 / 75) in concrete so that the top edge of the installation kit (3/75) is flush with the raw concrete.

- C* Protection film (only present for installation kit item 3)
3 Installation kit for concrete tile pools and concrete liner pools
75 Installation kit for concrete pools with brush-applied sealant

h = 235 mm
i = 25 mm
j = 75 mm

Installation kits with connection flange

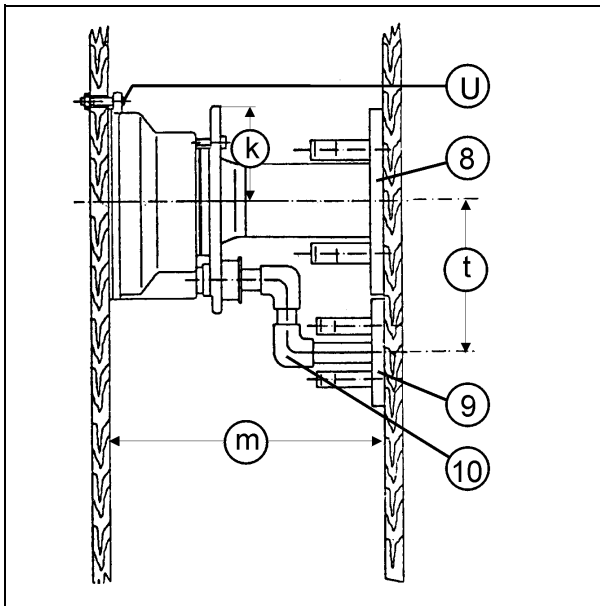


Fig. 8:

For installation kits (3) with connection flange (straight or stepped design), the connection flange must be fastened onto the outer form wall.

Depending on the nature of the mould, it may be best to nail it on.

<i>U</i>	<i>Locking screw</i>
<i>8</i>	<i>Flange DN 65</i>
<i>9</i>	<i>Flange DN 25</i>
<i>10</i>	<i>Flexible hose</i>

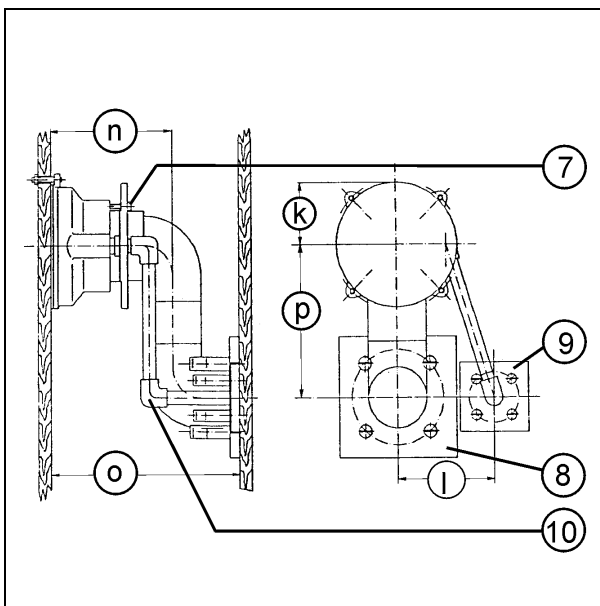


Fig. 9:

f= 190 mm

k= 100 mm

m= min. 220 mm

o= min. 290 mm

p= min. 170 mm

t= 150 mm



Note!

Installation kits must also be fastened onto the reinforcement rods with binding wire so they cannot move.

Before the concrete is brought in, the installation kits must be installed to correct dimensions and securely fastened so they cannot be moved between the form walls.

After the form wall is removed, the locking screws or nails that are no longer needed must be removed.

8.2 Installation process / concrete tile pools

see Fig. 6, Fig. 7 and Fig. 10.

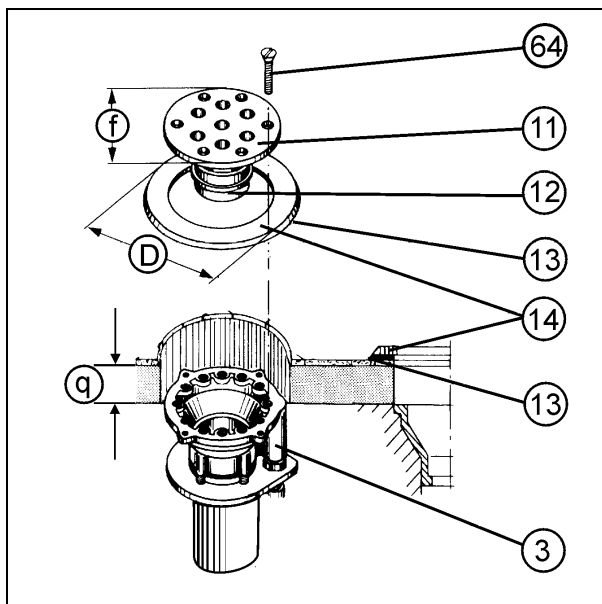
Apply a layer of mortar almost up to the protective sticker (C).

Remove the protective sticker (C). Measure the distance between the top edge of the housing and the top edge of the tiles (*q*).

The multiple-hole jet (11) is designed for a distance from the top edge of the tiles to the housing of 6-8 cm. Deviations can be compensated for by shortening or lengthening the pipe (12).

Place the tile ring (14) with clamp gasket (13) on the tiles so that no water can penetrate between the tile joint and tile ring (14).

Push the multiple-hole jet (11) in and screw it tight.



- 3 Installation kit for concrete tile pools and concrete liner pools
- 11 Multiple-hole jet
- 12 Pipe
- 13 Clamp gasket
- 14 Tile ring
- 64 Screw

$f = 190 \text{ mm}$
 $D = \varnothing 250 \text{ mm}$

Fig. 10:

8.3 Installation process / concrete liner pool

see Fig. 6, Fig. 7 and Fig. 11.

Before laying the liner, remove the protective sticker (C). Apply an insulating layer if necessary almost up to the mud cover.

Cut out the insulation layer (inner diameter 220 mm) and taper it outwards about 60°. Clamp pool liner (16) in place with the clamp ring (15) and clamp gasket (17) and cut it out.



Note!

The clamp ring (15) must lie neatly and smoothly in place to facilitate clamping without problems.

Push in the multiple-hole jet (11) and screw it onto the clamp ring (15).

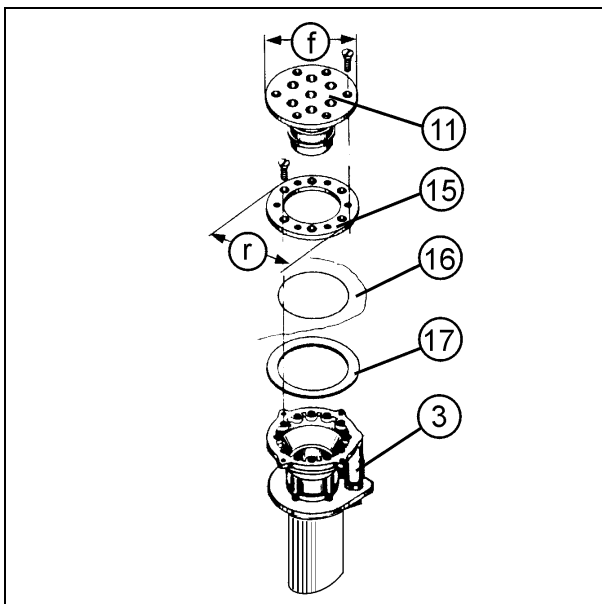


Fig. 11

- 3 Installation kit for concrete tile pools and concrete liner pools
- 11 Multiple-hole jet
- 15 Clamp ring
- 16 Liner
- 17 Clamp gasket

$f = 190 \text{ mm}$

$r = 150 \text{ mm}$

8.4 Installation process / pre-fabricated pools

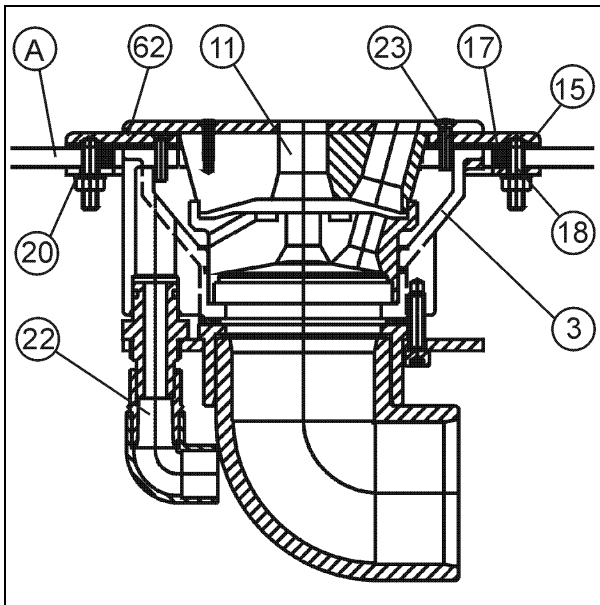


Fig. 12:

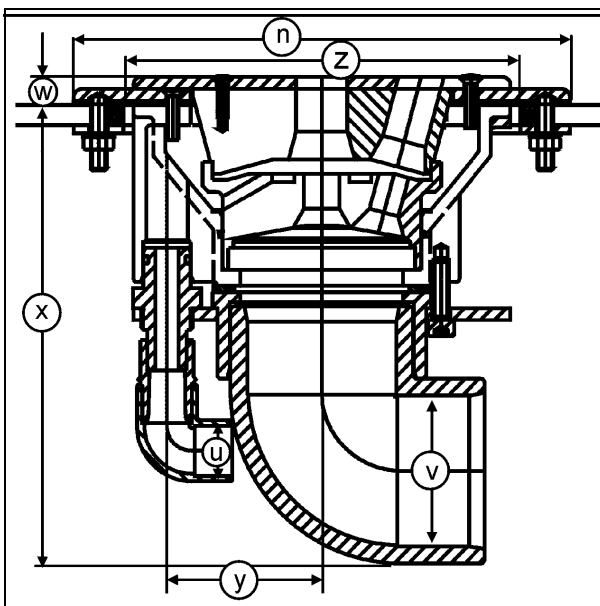


Fig. 13:

Using the hold ring (20) from the pool wall (A), cut an opening and holes for the stud bolts (18) with $\varnothing = 9 \text{ mm}$.

Set the clamp gasket (71) in place. Insert the stud bolts with clamp ring (72) in the holes provided for them, secure them from behind with the hold ring, and fasten onto the pool wall in this manner.

Fasten the installation kit (68) with the multiple-hole jet inserted (11) onto the clamp ring. Set the screen (62) in place and secure with screws.

A	Pool wall
11	Multiple-hole jet
18	Stud bolts
20	Hold ring
22	Air valve
23	Fastening screw
62	Screen
68	Installation kit
71	Clamp gasket
72	Clamp ring

$n = 200 \text{ mm}$

$u = \text{DN } 25$

$v = \text{DN } 65$

$w = 14 \text{ mm}$

$x = \text{about } 450 \text{ mm}$

$y = 78 \text{ mm}$

$z = 250 \text{ mm}$

8.5 Installation process / concrete pool with brush-applied sealant

After shuttering removal, the swimming pool can be covered brush-applied sealant (S) up to the flange (73).



Note!

The holes for the counter-sunk screws (16) must not be covered with sealant (S).

Then the pool can be tiled on the inside. Apply a layer of mortar and tiles almost up to the holes for the counter-sunk screws in the flange.

Cut out the clamp gasket (76) on the inside along the flange.

Then push the jet (11) in and fasten with screws (16).

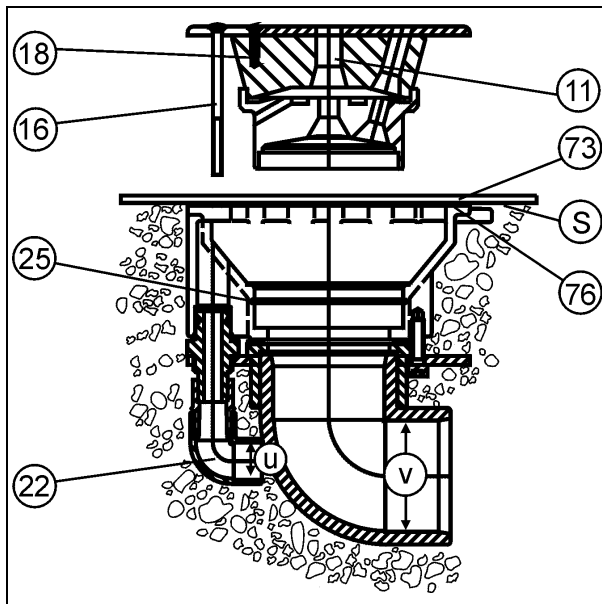


Fig. 14

S Brush-applied sealant

11 Multiple-hole jet

16 Counter-sunk screw

18 Counter-sunk screw

22 Air valve

25 O-ring

73 Flange

76 Clamp gasket

u= DN 20

v= DN 65

8.6 Installation process / subsequent installation

see Fig. 15, Fig. 16 and Fig. 17.

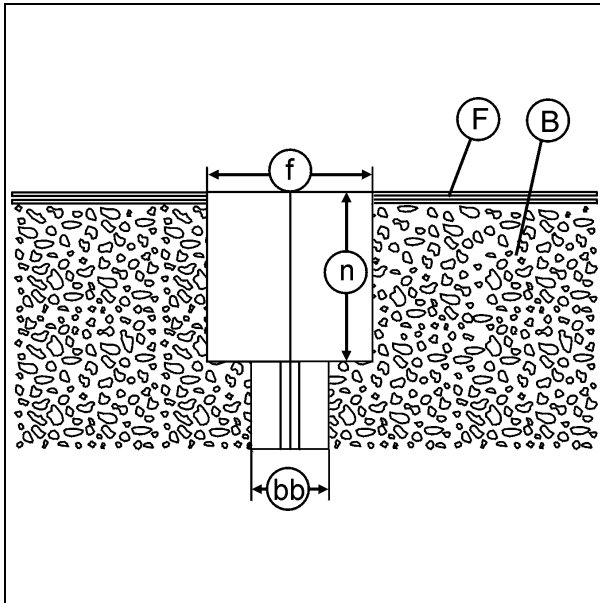


Fig. 15:

Make a core hole at the desired place (*dimension bb*) with $\varnothing=90\text{ mm}$ for the wall passage and a core hole (*dimensions n, f*) with $\varnothing=190\text{ mm}$ and a depth of 200 mm . Then insert the installation housing (75) into the holes with epoxy resin and allow it to cure.

Finally, push the jet (11) in and screw it tight onto the installation kit (75) with the fastening screw (64).

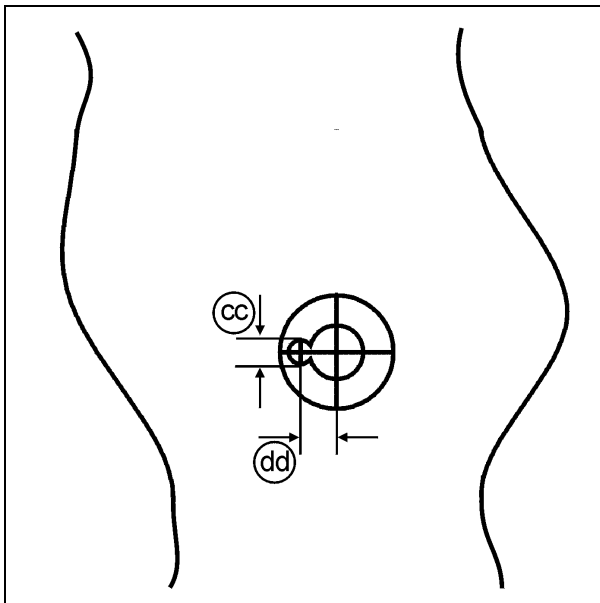
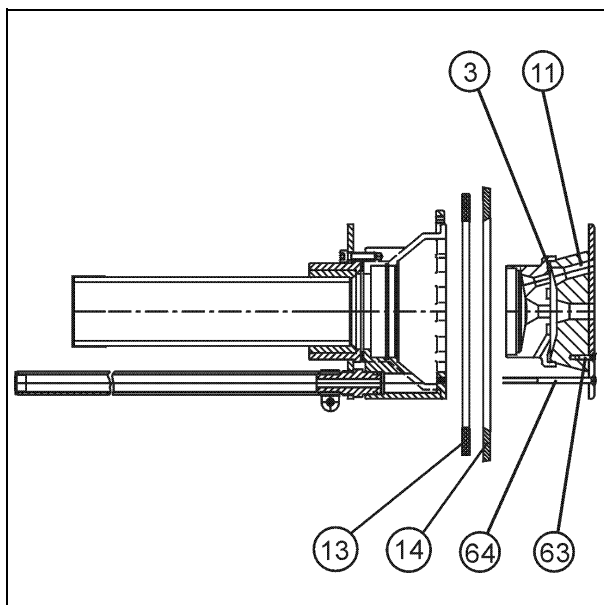


Fig. 16:

F Tiles
B Concrete

f: $\varnothing=190\text{ mm}$
n: 200 mm
bb: $\varnothing=90\text{ mm}$

cc: $\varnothing=40\text{ mm}$
dd: 60 mm



- 3 *Installation kit*
- 11 *Multiple-hole jet*
- 13 *Clamp gasket*
- 14 *Tile ring*
- 63 *Screw*
- 64 *Fastening screw*

Fig. 17:

9 Spare parts for bronze massage station

9.1 Concrete tile pools

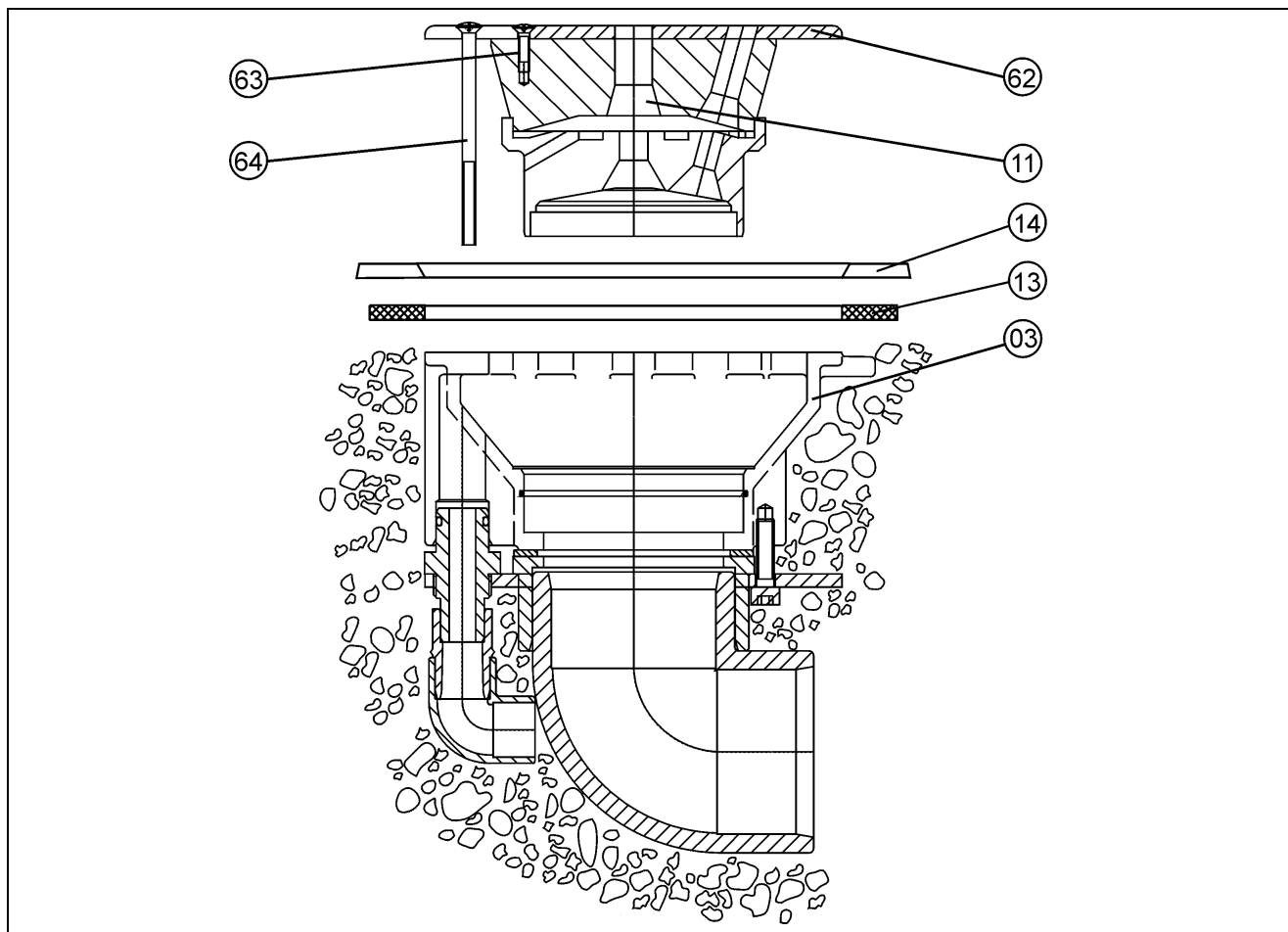


Fig. 18: Concrete tile pools

Item	Order No.	Description	Pieces	Comment
03.1	92009	Installation kit 90° complete		
03.2	92010	Installation kit straight complete		
11.1	92242	Jet type forte 30 complete		
11.2	92243	Jet type forte 60 complete		
11.3	92244	Jet type forte 90 complete		
13	22225	Clamp gasket		
14	51300	Tile ring		
62.1	56251	Screen for forte 30		
62.2	56250	Screen for forte 60 and 90		
63	10326	Counter-sunk screw		
64	10327	Fastening screw		

9.2 Concrete liner pool

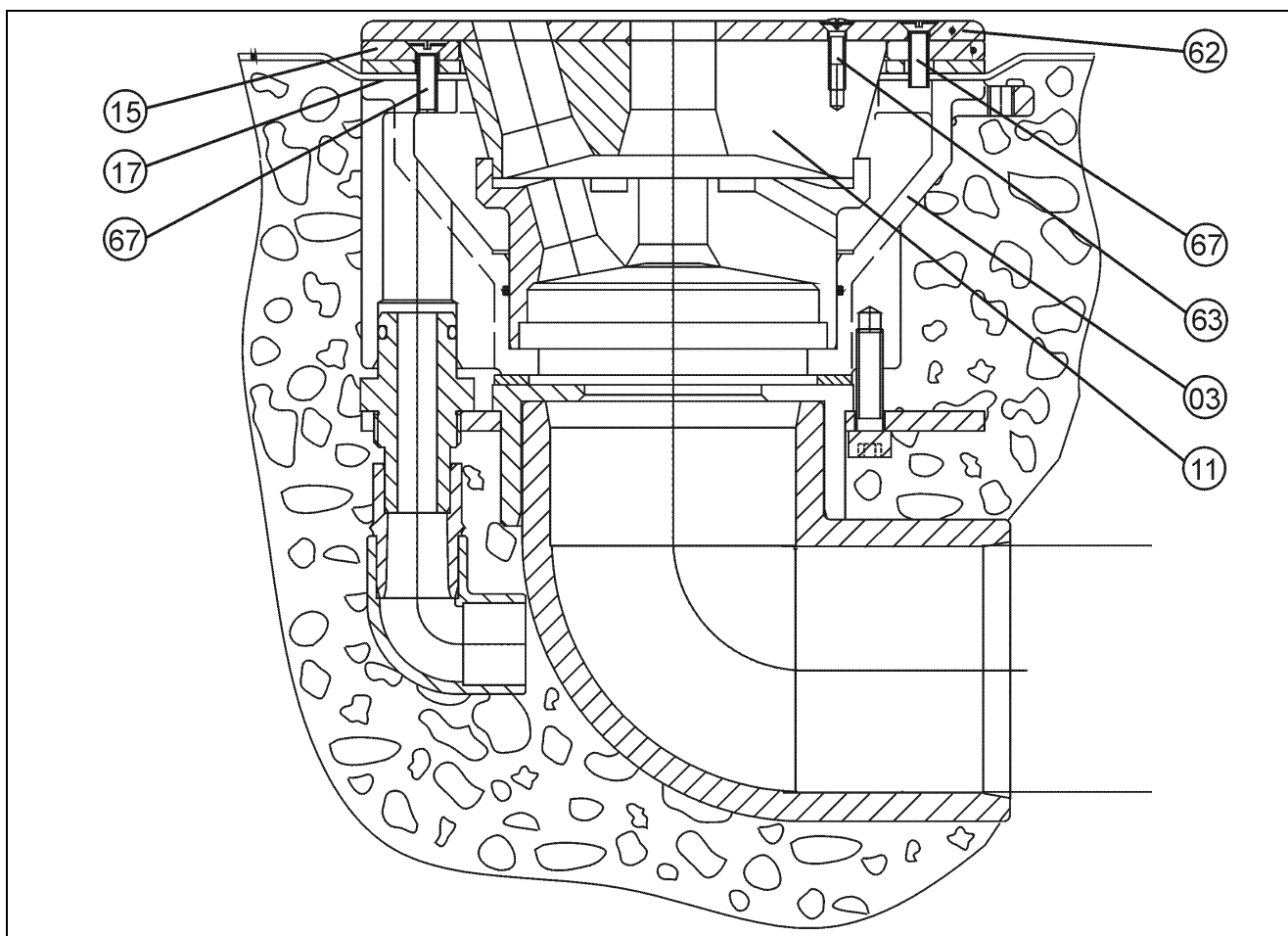


Fig. 19: **Concrete liner pool**

Item	Order No.	Description	Pieces	Comment
03.1	92009	Installation kit 90° complete		
03..2	92010	Installation kit straight complete		
11.1	92242	Jet type forte 30 complete		
11.2	92243	Jet type forte 60 complete		
11.3	92244	Jet type forte 90 complete		
15	58034	Clamp ring		
17	22238	Clamp gasket		
62.1	56251	Screen for forte 30		
62.2	56250	Screen for forte 60 and 90		
63	10326	Counter-sunk screw		
67	10449	Counter-sunk screw		

9.3 Pre-fabricated pool

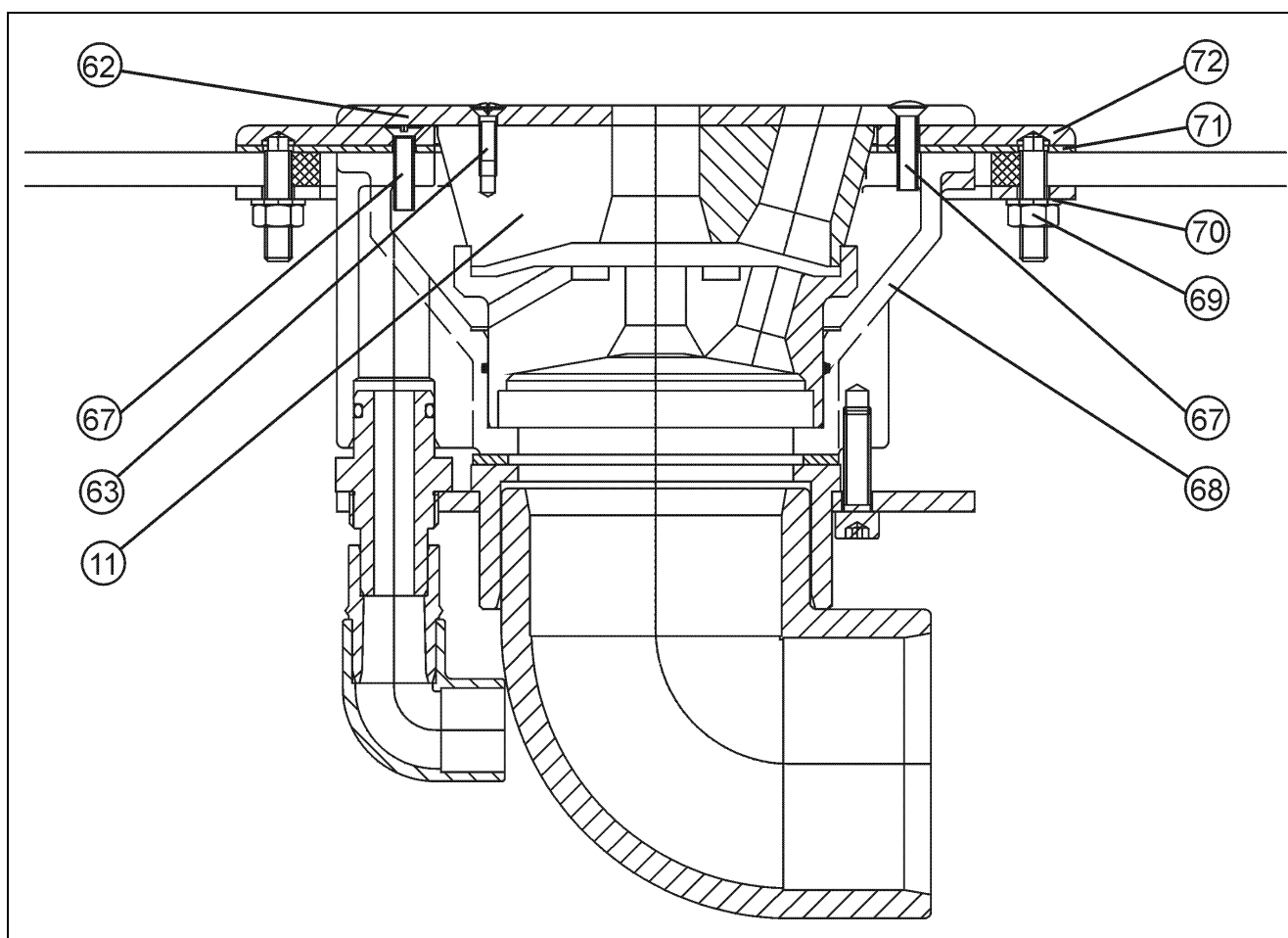


Fig. 20: Pre-fabricated pool

Item	Order No.	Description	Pieces	Comment
11.1	92242	Jet type forte 30 complete		
11.2	92243	Jet type forte 60 complete		
11.3	92244	Jet type forte 90 complete		
62.1	56251	Screen for forte 30		
62.2	56250	Screen for forte 60 and 90		
63	10326	Counter-sunk screw		
68.1	94346	Installation kit 90° complete		
68.2	92689	Installation kit straight complete		
69	12181	Nut M8		
70	12392	Distance washer A8.4		
71	22228	Clamp gasket		
72	48461	Clamp ring		

9.4 Concrete pool with brush-applied sealant

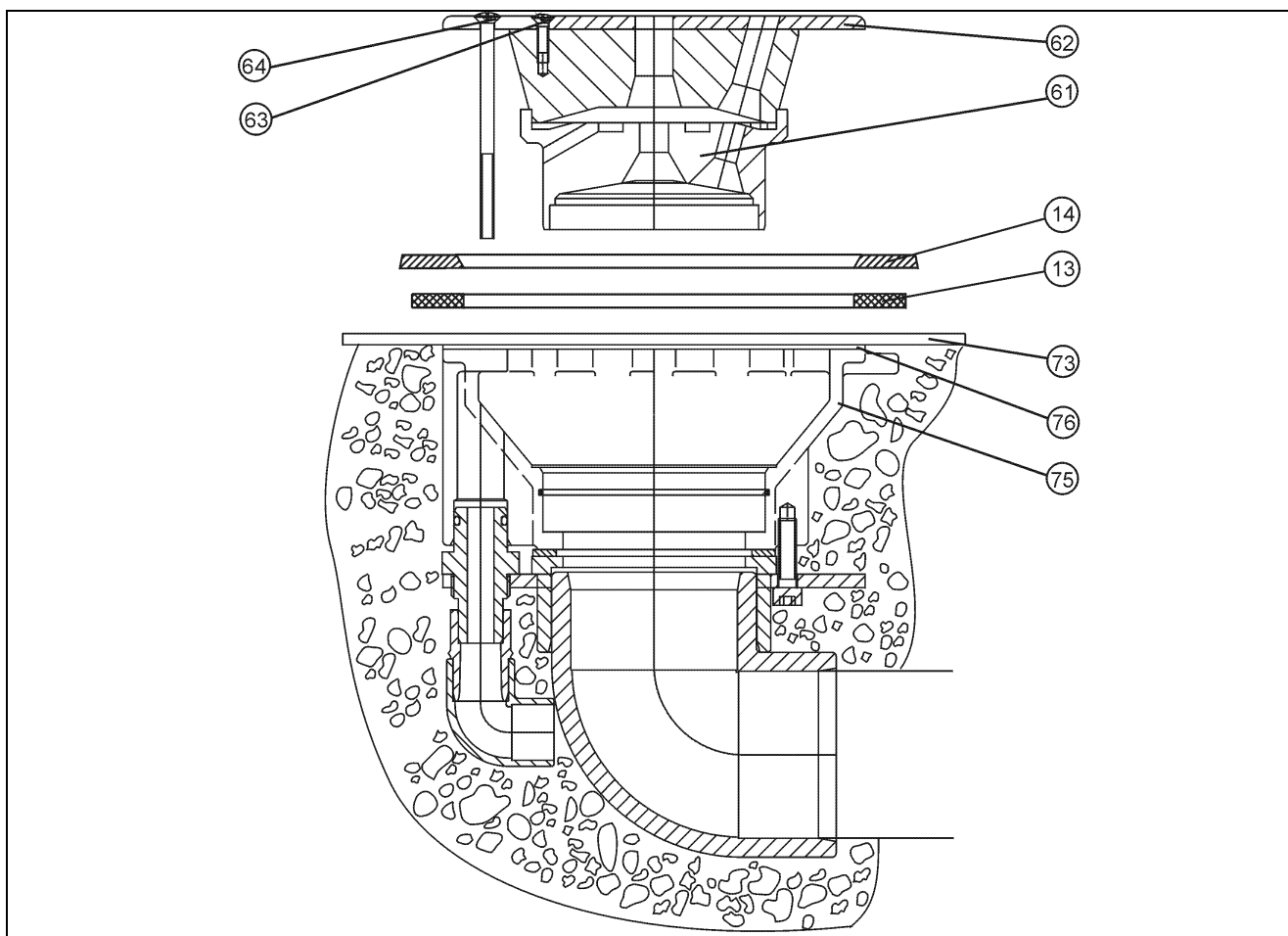


Fig. 21: **Concrete pool with brush-applied sealant**

Item	Order No.	Description	Pieces	Comment
11.1	92242	Jet type forte 30 complete		
11.2	92243	Jet type forte 60 complete		
11.3	92244	Jet type forte 90 complete		
13	22225	Clamp gasket		
14	51300	Tile ring		
62.1	56251	Screen for forte 30		
62.2	56250	Screen for forte 60 and 90		
63	10326	Counter-sunk screw		
64	10327	Counter-sunk screw		
73	56714	Flange		
75.1	92009.0	Installation kit 90° complete		
75.2	92670	Installation kit straight complete		
76	22141	Clamp gasket		

9.5 Subsequent installation

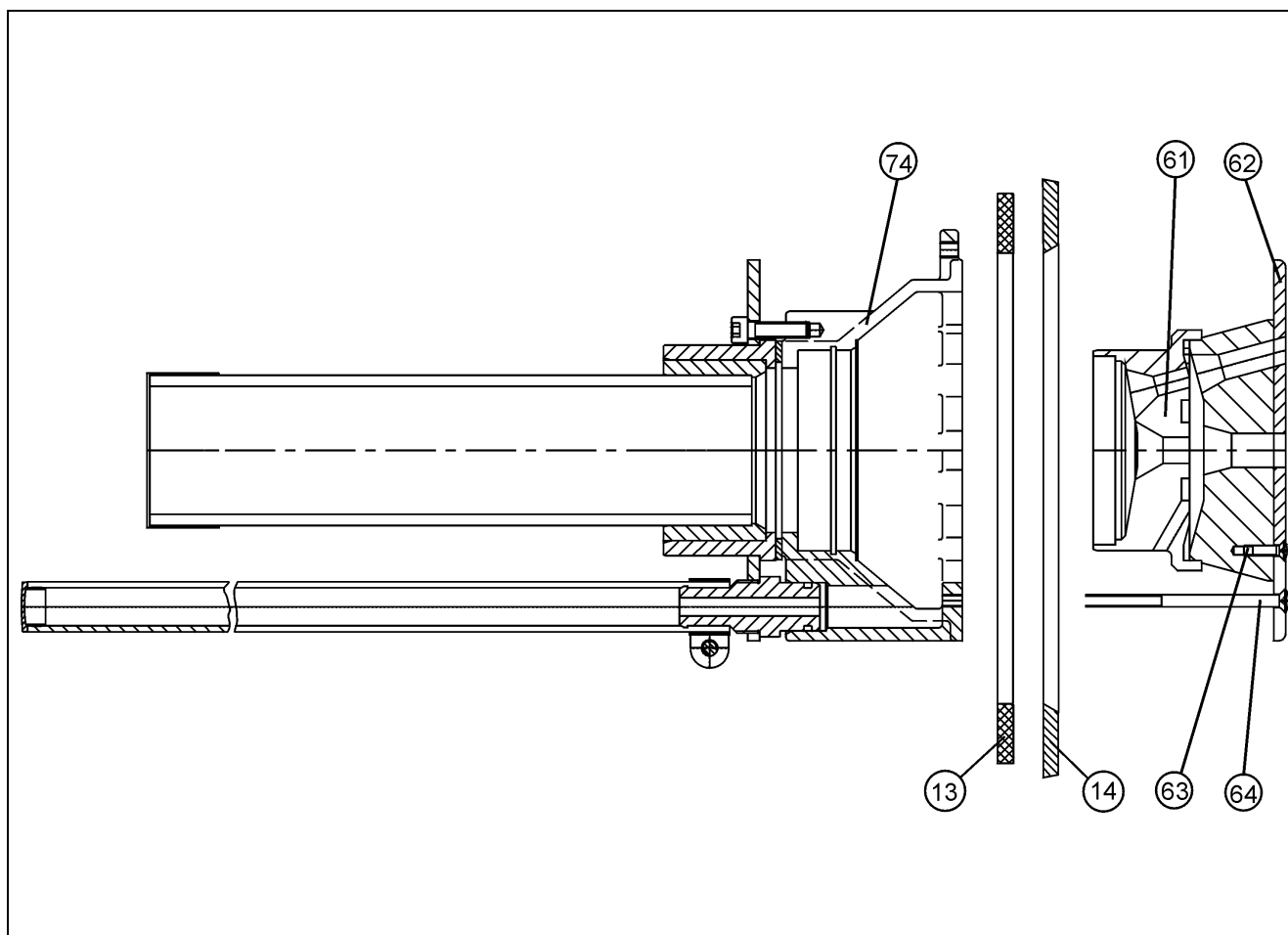


Fig. 22: Subsequent installation

Item	Order No.	Description	Pieces	Comment
13	22225	Clamp gasket		
14	51300	Tile ring		
61.1	92242	Jet type forte 30 complete		
61.2	92243	Jet type forte 60 complete		
61.3	92244	Jet type forte 90 complete		
62.1	56251	Screen for forte 30		
62.2	56250	Screen for forte 60 and 90		
63	10326	Counter-sunk screw		
64	10346	Counter-sunk screw		
74	92216	Installation kit complete		

10 Technical information

- Avoid pipe constrictions!
- When laying pipe, do not use any angles. Use elbows instead.
- Special brine-resistant installation kits are available for thermal brine baths.
- For types of pools other than concrete/tile, concrete/liner, pre-fabricated, concrete with brush-applied sealant, for subsequent installation, please consult with the factory.

**Note!**

Handles can be very useful in massage stations!

**Please note!**

- Install the air valve above the water level!
- Keep the air line as short as possible!
- Install the air valve vertically!



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Massagestation Bronze
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