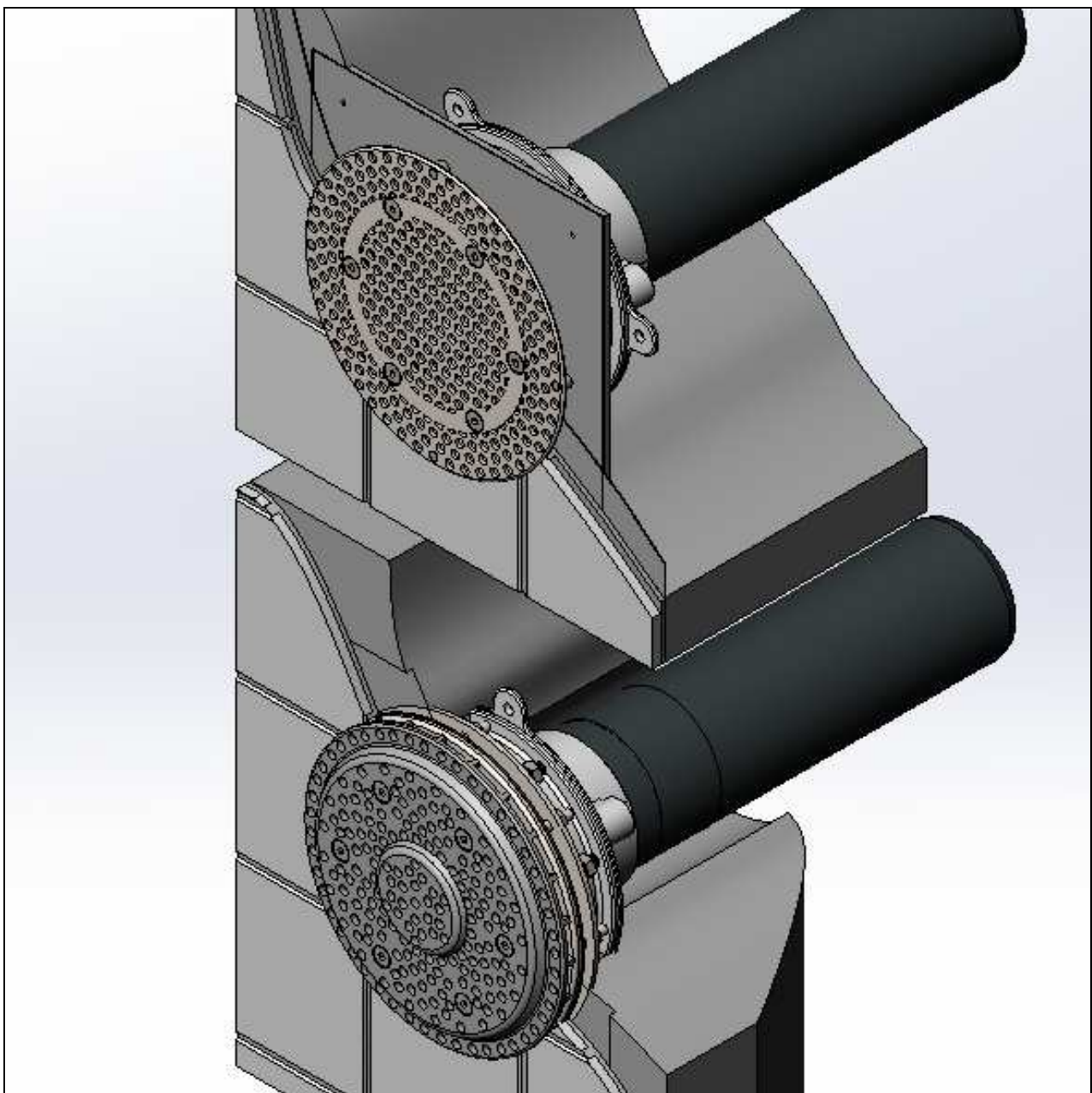


## Suction units

**GB** Operator's Manual  
Translation of the original



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## 1 Suction units

### 1.1 General description

**fluvo** suction sets are available in various sizes and models.

All parts in contact with media are designed for water quality according to **DIN 19643**.

#### 1.1.1 Warranty claims

**Failure to comply with the information provided in this operator's manual voids all claims under warranty.**

#### 1.1.2 Suction unit DN 100

The **DN 100** suction unit is available in two designs with different materials.

**DN 100** suction units are only suitable for wall installation.

#### 1.1.3 Suction niches

Suction niches are available in two different designs (suction sieve and suction grille) and three different sizes as well as a combination suction unit (2x and 3x) for several attractions simultaneously. The calculations and dimensioning for the combination line must take into account special local features. The design and shape of the suction niches reduce suction danger.

### 1.2 Marking

The following symbols are used in this operator's manual to make special reference to dangers:



#### **Caution!**

This symbol refers to dangers for the technical equipment.

### 1.3 Safety instructions

**At least** two suction units must be provided and installed in such a way that only one of the two openings can be covered by a human body. 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 also be observed. According to these stipulations, the suction units must be selected so that the maximum incoming flow speed of **0.3 m/s per suction unit** is not exceeded.

For a diameter of the individual openings of  $\varnothing$  [ **8 mm** the distance from the water level of the pool to the top of the suction units must be **at least 60 cm**. If the distance to the water level is greater than 60 cm, the diameter of the individual openings must be  $\varnothing$  [ **3 mm**.

## 2 Suction unit DN 100 ABS

### 2.1 Technical data

Connection	DN 100 (PVC)
Material	Installation housing: ABS Fixing elements: 1.4401 / 1.4571 Sieve insert: ABS and INOX
Usage limits	1.4401 (max. 3000 mg/l Cl <sup>-</sup> ) 1.4571 (max. 4500 mg/l Cl <sup>-</sup> )
Flow rate	Screen INOX: max. 30 m <sup>3</sup> /h Screen ABS: max. 40 m <sup>3</sup> /h

### 2.2 Shuttering / concrete pool

Fasten the installation kit (01) with protection film (02) onto the inside form wall (W) with the locking screws (03), nuts (04) and distance washers (05).



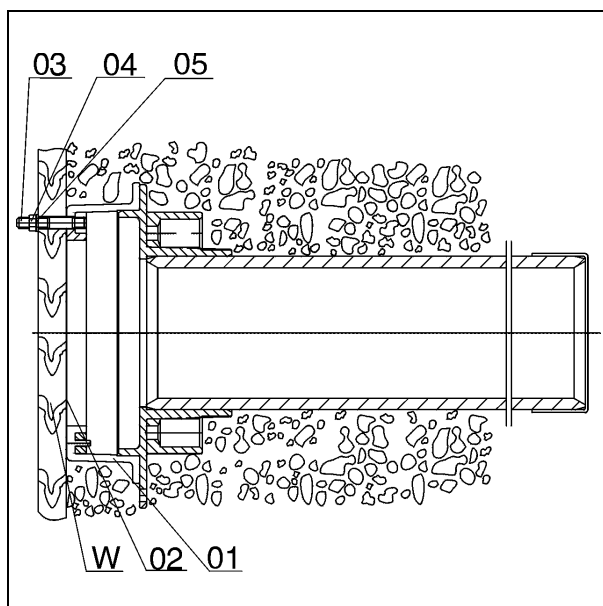
**Note!**

Distance from centre of installation kit (01) to bottom of pool should be about 300 mm.

Always fasten the installation kit (01) onto the reinforcement with the binding wire in addition.

Before the concrete is brought in, the installation kit (01) must be installed to correct dimensions and securely fastened so it cannot be moved between the form walls.

Make certain the installation kit is resting fully against the form wall.



- W*     *Form wall*
- 01*    *Installation kit*
- 02*    *Protection film*
- 03*    *Locking screw*
- 04*    *Nut*
- 05*    *Distance washer*

Fig. 1

### 2.3 Form removal / concrete pool

see Fig. 1

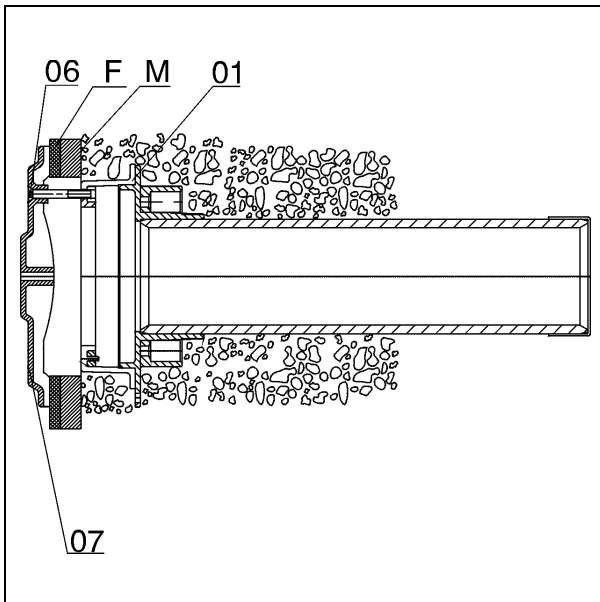
After the form wall (W) is removed, the locking screws (03) that are no longer needed must be removed.

### 2.4 Installation process / concrete tile pools

Apply a layer of mortar (M) and tiles (F) almost up to the protection film (02).

Remove the protection film (02). Screw counter-sunk screws (06) included with delivery into the threaded connection of the installation kit (01).

The intake sieve (07) must be resting against the top of the swimming pool after the screws (06) are tightened.



<i>F</i>	<i>Tiles</i>
<i>M</i>	<i>Mortar</i>
<i>01</i>	<i>Installation kit</i>
<i>02</i>	<i>Protection film</i>
<i>06</i>	<i>Counter-sunk screw</i>
<i>07</i>	<i>Intake sieve</i>

Fig. 2

## 2.5 Installation process / concrete liner pool

see Fig. 1 and Fig. 3

After the pool liner (L) is laid, remove the protection film (02) from the installation kit (01).  
 If an insulation layer (D) is required, install it only up to just below the protection film (02).

Cut out the insulation layer (D, inner diameter 220 mm) and taper it outwards about 60°.

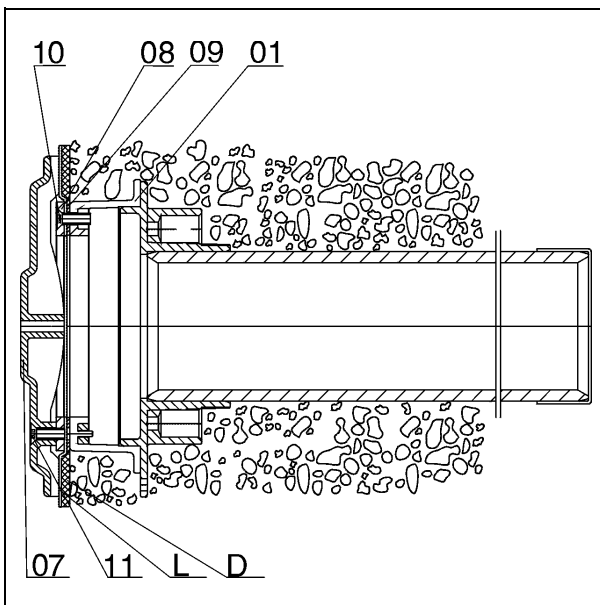
Place the clamp gasket (09) between the pool liner (L) and installation kit (01). Use the counter-sunk screws (10) to clamp together the clamp ring (08) and the installation kit (01).  
 Cut out the pool liner (L) along the inside of the clamp ring (08).

The screen (07) must be resting against the top of the swimming pool after the screws (11) are tightened.



### Caution!

The clamp ring (08) must lie neatly and smoothly in place to facilitate clamping without problems.



- |           |                           |
|-----------|---------------------------|
| <i>D</i>  | <i>Insulation layer</i>   |
| <i>L</i>  | <i>Pool liner</i>         |
| <i>01</i> | <i>Installation kit</i>   |
| <i>02</i> | <i>Protection film</i>    |
| <i>07</i> | <i>Screen</i>             |
| <i>08</i> | <i>Clamp ring</i>         |
| <i>09</i> | <i>Clamp gasket</i>       |
| <i>10</i> | <i>Counter-sunk screw</i> |
| <i>11</i> | <i>Screw</i>              |

Fig. 3

## 2.6 Installation process / pre-fabricated pools

Using the hold ring (12) as a template, cut out or drill out the pool wall (A).



### Caution!

Do not screw the installation kit (01) onto the swimming pool wall (A) from behind. Install it instead so that the front edge of the installation kit (01) is flush with the inside of the pool.

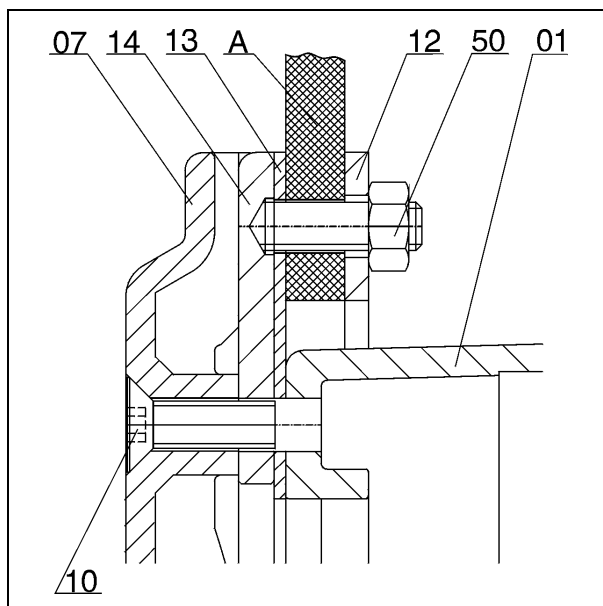
Place the clamp gasket (13) and clamp ring (14) against the inside of the pool. Fasten the installation kit (01) using the hold ring (12) and clamp ring (14) with the nuts (50).

The screen (07) must be resting against the top of the swimming pool after the screws (10) on the clamp ring (14) are tightened.



### Caution!

The pipes must be laid in the installation kit with no tension.



- |    |                  |
|----|------------------|
| A  | Pool wall        |
| 01 | Installation kit |
| 07 | Screen           |
| 10 | Screw            |
| 12 | Hold ring        |
| 13 | Clamp gasket     |
| 14 | Clamp ring       |
| 50 | Nut              |

Fig. 4

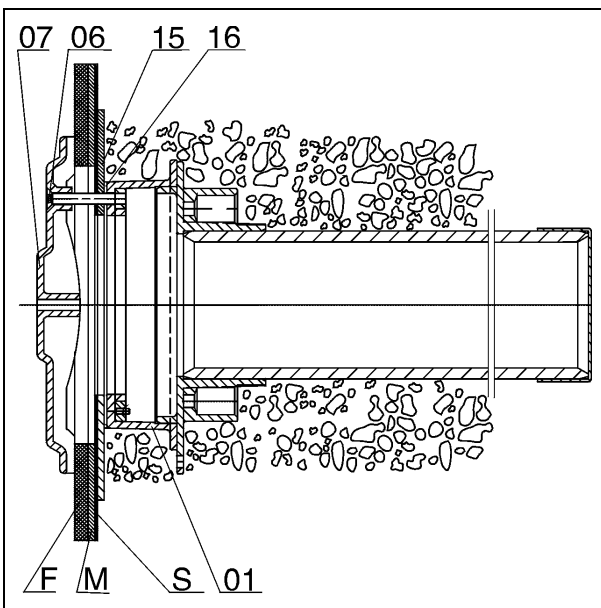
## 2.7 Installation process / concrete pool with brush-applied sealant

The swimming pool can be lined with brush-applied sealant (S) up to the inner contour of the flange (15) of installation kit (01).

Then the pool can be tiled on the inside. Apply a layer of mortar (M) and tiles (F) almost up to the opening of the flange (15).

Cut out the clamp gasket (16) on the inner edge of the flange (15).

The screen (07) must be resting against the top of the swimming pool after the counter-sunk screws (06) are tightened.



*F* Tiles  
*M* Mortar  
*S* Brush-applied sealant

*01* Installation kit  
*06* Counter-sunk screw  
*07* Screen  
*15* Flange  
*16* Clamp gasket

Fig. 5

## 3 Suction unit DN 100 Bronze

### 3.1 Technical data

Connection	DN 100 (optionally PVC or PE-HD)
Material	Installation housing: Bronze Mat. No. 2.1050 Fixing elements: 1.4401 / 1.4571 Sieve insert: ABS
Usage limits	Bronze (max. 18,000 mg/l Cl <sup>-</sup> ) 1.4401 (max. 3000 mg/l Cl <sup>-</sup> ) 1.4571 (max. 4500 mg/l Cl <sup>-</sup> )



### 3.2 Shuttering / concrete pool

Fasten the installation kit (26) with protection film (02) onto the inside form wall with the locking screws (03), nuts (04) and distance washers (05).



**Note!**

Distance from centre of installation kit (26) to bottom of pool should be about 300 mm.

Always fasten the installation kit (26) onto the reinforcement with binding wire in addition so it cannot move.

Before the concrete is brought in, the installation kit (26) must be installed to correct dimensions and securely fastened so it cannot be moved between the form walls.

Make certain the installation kit (26) is resting fully against the form wall (W).

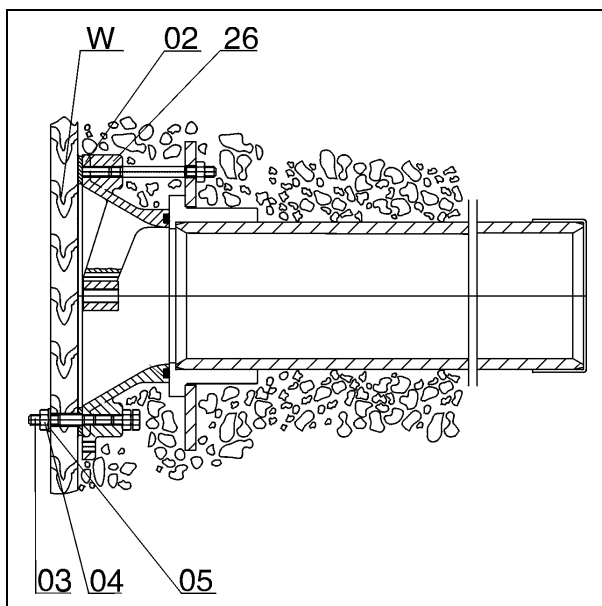


Fig. 6

*W Form wall*

*02 Protection film*

*03 Locking screw*

*04 Nut*

*05 Distance washer*

*26 Installation kit*

### 3.3 Form removal / concrete pool

See Fig. 6

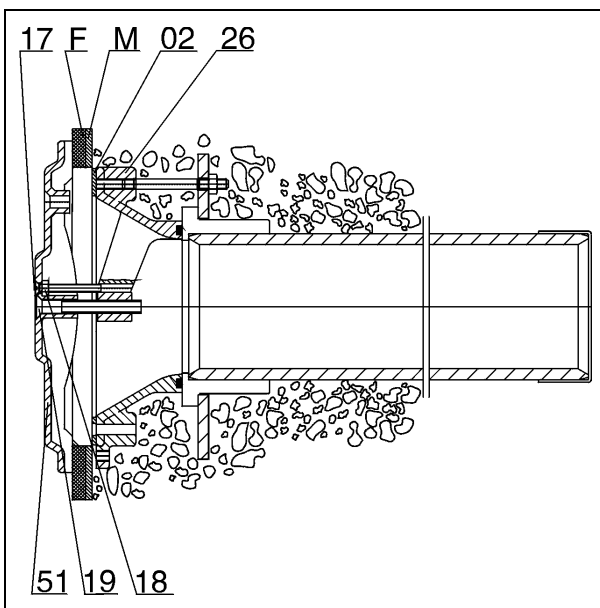
After the form wall (W) is removed, the locking screws (03) that are no longer needed must be removed.

### 3.4 Installation process / concrete tile pools

Apply a layer of mortar (M) and tiles (F) almost up to the protection film (02).  
 Remove the protection film (02).

Secure the anti-torsion lock (17 and 18) onto the screen (51). Insert the anti-torsion lock (17 and 18) together with the screen (51) into the corresponding opening in the installation kit (26).

The screen (51) must be resting against the top of the swimming pool after the counter-sunk screw (19) is tightened.



- |           |                           |
|-----------|---------------------------|
| <i>F</i>  | <i>Tiles</i>              |
| <i>M</i>  | <i>Mortar</i>             |
| <br>      |                           |
| <i>02</i> | <i>Protection film</i>    |
| <i>17</i> | <i>Counter-sunk screw</i> |
| <i>18</i> | <i>Hexagonal nut</i>      |
| <i>19</i> | <i>Counter-sunk screw</i> |
| <i>26</i> | <i>Installation kit</i>   |
| <i>51</i> | <i>Screen</i>             |

Fig. 7

### 3.5 Installation process / concrete liner pool

After the pool liner (L) is laid, remove the protection film (02) from the installation kit (26). If an insulation layer (D) is required, install it only up to just below the protection film (02).

Cut out the insulation layer (D, inner diameter 220 mm) and taper it outwards about 60°. Clamp the pool liner (L) in place with the clamp ring (20) and clamp gasket (09).

Cut out the pool liner (L) along the inside of the clamp ring (20). Secure the anti-torsion lock (17 and 18) onto the screen (51). Insert the anti-torsion lock (17 and 18) together with the screen (51) into the corresponding opening in the installation kit (26).

The screen (51) must be resting against the top of the swimming pool after the counter-sunk screw (19) is tightened.



#### Caution!

The clamp ring (20) must lie neatly and smoothly in place to facilitate clamping without problems.

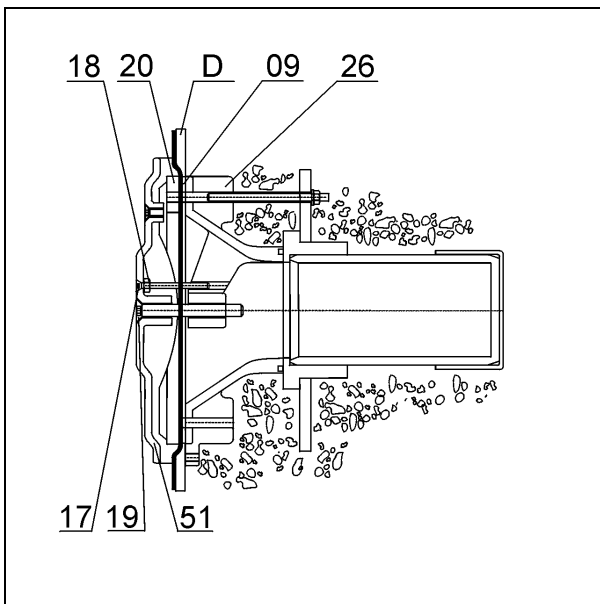


Fig. 8

D	Insulation layer
L	Pool liner
02	Protection film
09	Clamp gasket
17	Counter-sunk screw
18	Hexagonal nut
19	Counter-sunk screw
20	Clamp ring
26	Installation kit
51	Screen

### 3.6 Installation process / pre-fabricated pools

Using the hold ring (21) as a template, cut out or drill out the pool wall (A).



**Caution!**

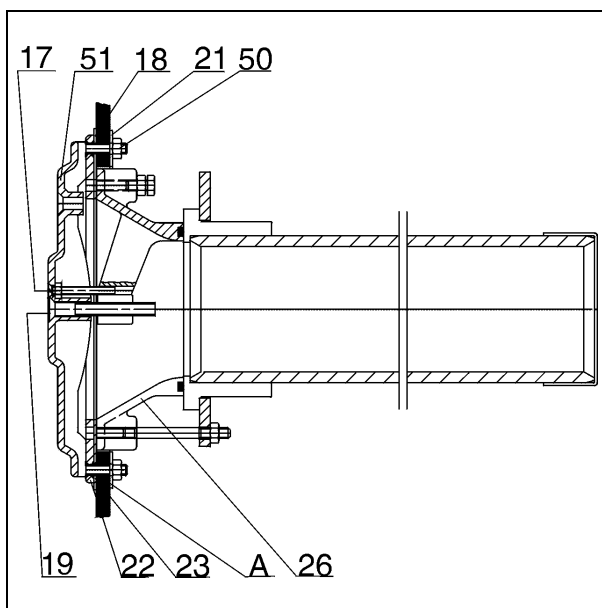
Do not screw the installation kit (26) onto the swimming pool wall (A) from behind. Install it instead so that the front edge of the installation kit (26) is flush with the inside of the pool.

Place the clamp gasket (22) and clamp ring (23) against the inside of the pool. Fasten the installation kit (26) using the hold ring (21), clamp ring (23) and nuts (50).

The screen (51) must be resting against the top of the swimming pool after the screw (19) is tightened.

Secure the anti-torsion lock (17 and 18) onto the screen (51).

Insert the anti-torsion lock (17 and 18) together with the screen (51) into the corresponding opening in the installation kit (26). The screen (51) must be resting against the top of the swimming pool after the counter-sunk screw (19) is tightened.



- |    |                    |
|----|--------------------|
| A  | Pool wall          |
| 17 | Counter-sunk screw |
| 18 | Hexagonal nut      |
| 19 | Counter-sunk screw |
| 21 | Hold ring          |
| 22 | Clamp gasket       |
| 23 | Clamp ring         |
| 26 | Installation kit   |
| 50 | Nut                |
| 51 | Screen             |

Fig. 9

### 3.7 Installation process / concrete pool with brush-applied sealant

The swimming pool can be covered with stretch sheet (S) up over the flange (24) of the installation kit (26). Then the pool can be tiled on the inside.

Apply a layer of mortar (M) and tiles (F) almost up to the opening of the flange (24). Cut out the clamp gasket (25) on the inner edge of the flange (24).

Secure the anti-torsion lock (17 and 18) onto the screen (51).

Insert the anti-torsion lock (17 and 18) together with the screen (51) into the corresponding opening in the installation kit (26).

The screen (51) must be resting against the top of the swimming pool after the counter-sunk screw (19) is tightened.

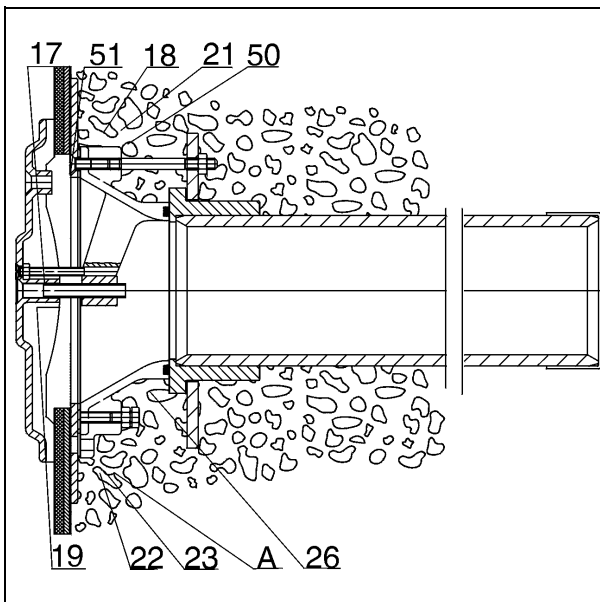


Fig. 10

<i>F</i>	<i>Tiles</i>
<i>M</i>	<i>Mortar</i>
<i>S</i>	<i>Brush-applied sealant</i>
<i>17</i>	<i>Counter-sunk screw</i>
<i>18</i>	<i>Hexagonal nut</i>
<i>19</i>	<i>Counter-sunk screw</i>
<i>24</i>	<i>Flange</i>
<i>25</i>	<i>Clamp gasket</i>
<i>26</i>	<i>Installation kit</i>
<i>51</i>	<i>Screen</i>

### 3.8 Installation process / subsequent installation

Drill a core hole with  $\varnothing$  130 mm through the pool wall.

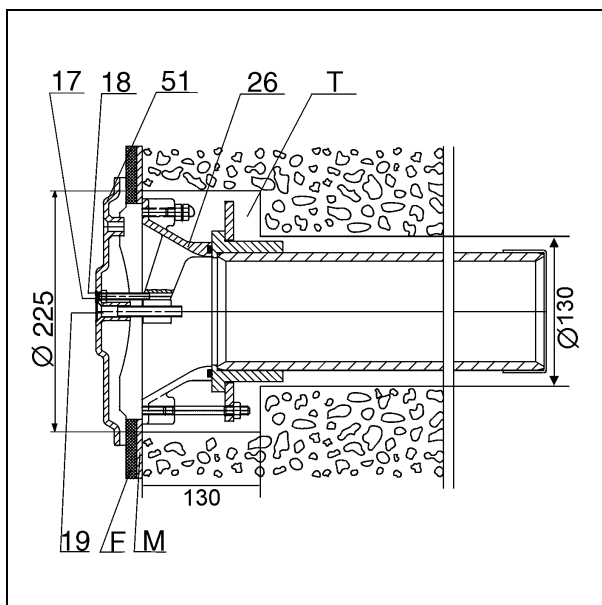
Make a second hole from the inside of the pool with  $\varnothing$  225mm and a depth of 130 mm from front edge of the concrete.

Coat the installation kit (26) with epoxy resin (T). Fill the core hole with epoxy resin (T). Then insert the installation kit (26) into the hole so that the front edge of the installation kit (26) is flush with the front edge of the concrete. Remove the epoxy resin (T) that oozes out of the opening during the process.

After the epoxy resin (T) has cured completely, secure the anti-torsion lock (17 and 18) onto the screen (51).

Push the screen (51) into the installation kit (26) and fasten it to the counter-sunk screw (19) on the installation kit (26).

The screen (51) must be resting against the top of the swimming pool after the counter-sunk screw (19) is tightened.



<i>F</i>	<i>Tiles</i>
<i>M</i>	<i>Mortar</i>
<i>T</i>	<i>Epoxy resin</i>
<b>17</b>	<b>Counter-sunk screw</b>
<b>18</b>	<b>Hexagonal nut</b>
<b>19</b>	<b>Counter-sunk screw</b>
<b>26</b>	<b>Installation kit</b>
<b>51</b>	<b>Screen</b>

Fig. 11



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Suction units  
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