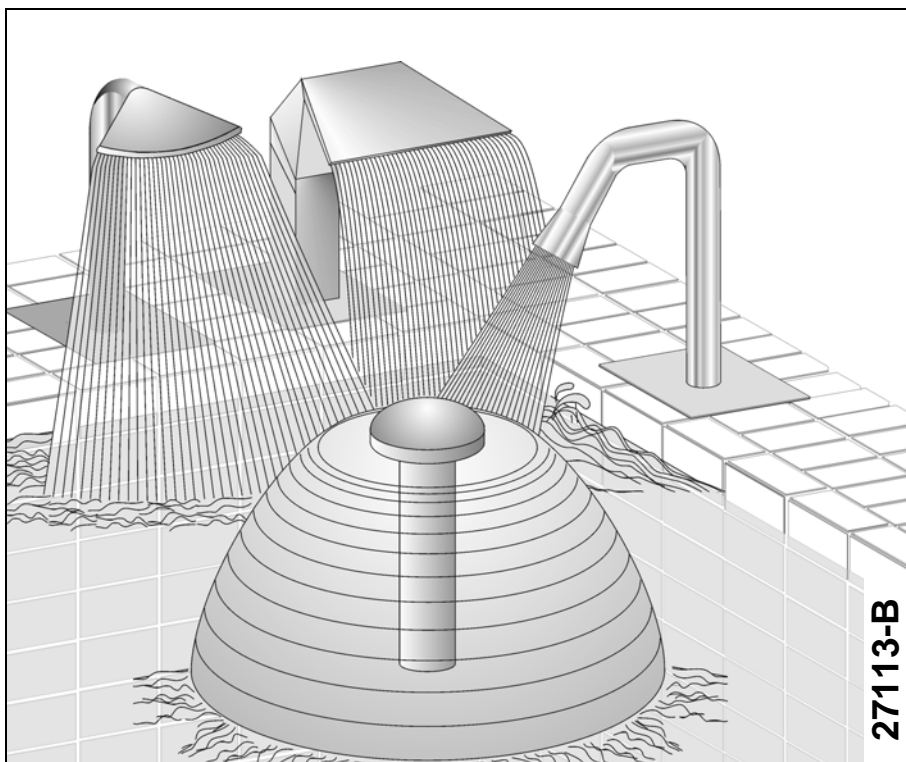


Water Curtains / Water Cannons / Water Umbrella

GB Operator's Manual

Translation of the original



27113-B

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1 General information / proper use

1.1 General information

As part of its wide assortment of swimming pool accessories, **fluvo** also offers the water curtains, water cannons and water umbrellas suitable for installation in large swimming pools as well as private pools.

Water curtains, water cannons and water umbrellas are all made of stainless steel 1.4571.

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

Water curtains, water cannons and water umbrellas represent the state of the art. They have been manufactured with the greatest care and are subject to continuous quality control.

This Operator's Manual contains important information to ensure that water curtains, water cannons and water umbrellas are operated safely, properly and economically. Your strict observance is necessary to prevent dangers and ensure a long service life for water curtains, water cannons and water umbrellas.

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.

1.2 Proper use

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. Water curtains, water cannons and water umbrellas 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.

2 Safety instructions

Please read this Operating Manual carefully before installing water curtains, water cannons and water umbrellas and placing them in operation. Make certain you have understood everything.

2.1 Safety instructions for the operator

1. Repairs of any nature must only be made by qualified professionals. The pool must be emptied if necessary to make repairs.
2. The operator must ensure that
 - the Operator's Manual is always available for operating personnel
 - the instructions in the Operator's Manual are observed

All parts that come in contact with medium are resistant up to an absolute salt content of 0.75% (4500 mg/l Cl⁻). If higher concentrations of salt are present, please contact the manufacturer.

3 Description of the device / general technical data

The system meets the requirements of **VDE regulations**.

Water curtains, water cannons and water umbrellas are delivered in 2 modules:

- Installation kit
- Assembly kit

3.1 Technical data

Design	Compressed air connection	Flow rate	Operating pressure	Max. perm. pressure
Water curtain straight	DN 100	60 - 96 m ³	0.4 - 0.6 bar	0.8 bar
Water curtain semicircular	DN 100	60 - 96 m ³	0.4 - 0.6 bar	0.8 bar
Umbrella curtain 140°	DN 100	42 - 48 m ³	0.4 - 0.6 bar	0.8 bar
Bell jet	DN 100	48 - 60 m ³	0.4 - 0.6 bar	0.8 bar
Flat jet	DN 100	42 - 48 m ³	0.4 - 0.6 bar	0.8 bar
High jet	DN 100	42 - 48 m ³	0.4 - 0.6 bar	0.8 bar
Tri jet	DN 100	60 - 96 m ³	0.4 - 0.6 bar	0.8 bar
Water cannon	DN 100	60 - 96 m ³	0.4 - 0.6 bar	0.8 bar
Water umbrella	DN 100	60 - 96 m ³	0.4 - 0.6 bar	0.8 bar

4 Water curtains

4.1 Shuttering / concrete pool

see Fig. 1, Fig. 2 and Fig. 3.

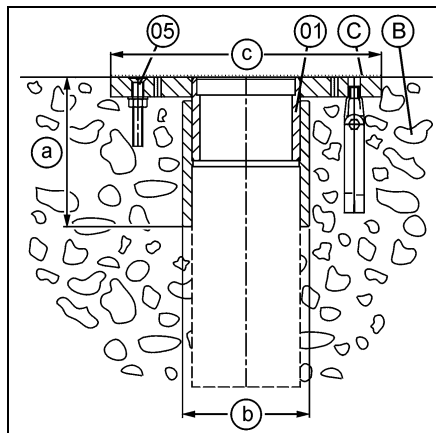


Fig. 1

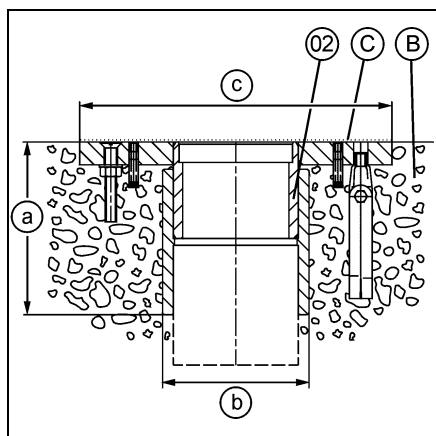


Fig. 2

The installation kit is available in designs for concrete tile pools (01) (Fig.1), concrete liner pools (02) (Fig. 2) and concrete pools with brush-applied sealant (21) (Fig.3).

Encase the installation kit (01, 02 or 21) in concrete so that the top edge is flush with the raw concrete (B).

Make certain as well that the alignment is parallel to the water line.

The distance from the middle of the installation kit (01, 02 or 21) to the edge of the pool must be between 150 mm and 650 mm.

Note!

Always make certain before concrete encasing that the installation kit (01, 02 or 21) is horizontal, assembled to correct dimensions and secured to prevent it from moving on the form walls or between the form walls. It will not be possible to adjust it later.

In addition, fasten the installation kit (01, 02 or 21) onto the reinforcing iron.

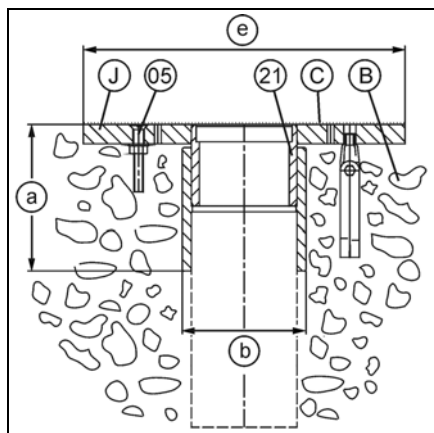


Fig. 3

- a = 152 mm*
b = DN 100
c = 245 mm x 275 mm
e = 335 mm

- B Raw concrete*
C Protection film
J Flange

- 01 Installation kit for concrete tile pools*
02 Installation kit for concrete liner pools
05 Adjusting screw
21 Installation kit for concrete pool with brush-applied sealant

4.2 Installation process / concrete tile pools

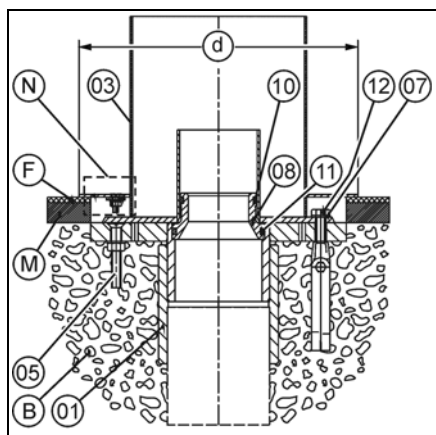


Fig. 4

See Fig. 4 and Fig. 5.

N For detail see Fig. 5

Remove the protection film C (Fig. 1) from the installation kit (01).

Apply a layer of mortar (M) and tiles (F) up to the installation kit (01).

Push the transition piece (08) with the two O-rings (10 and 11) into the installation kit (01).

Place the water curtain (03) on the transition piece (08).

Note!

If the installation kit (01) was not installed exactly horizontally, you can use the four adjusting screws (05) to adjust the water curtain (03) to the correct position.

Using the screws (12) and distance washers (07), screw the baseplate of the water curtain (03) onto the installation kit (01).

Position the two tile screens (04) and screw them together with the fixing elements (06, 09, 14 and 31). Finally, fasten the tile screens (04) on the tiles (F) with sealing compound.

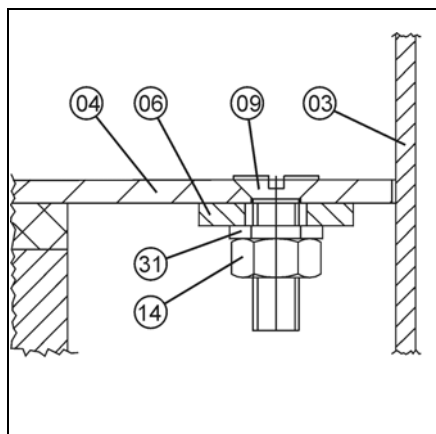


Fig. 5

- d = 300 mm
- B Raw concrete
- C Protection film
- F Tiles
- M Mortar
- S Stud bolt
- 01 Installation kit
- 03 Water curtain
- 04 Tile screen
- 06 Shackle
- 07 Distance washer
- 08 Transition piece
- 09 Counter-sunk screw
- 10 O-ring
- 11 O-ring
- 12 Screw
- 14 Hexagonal nut
- 31 Distance washer

4.3 Installation process / concrete liner pool

Remove the protection film C (Fig. 1) from the installation kit (02).

Insert the transition piece (08) with the two O-rings (10 and 11) into the installation kit (02). Clamp the pool liner (L) in place with the clamp gasket (18), clamp ring (15) and counter-sunk screws (09) and cut out the middle hole.


Note!

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

Finally screw the baseplate of the water curtain (03) onto the installation kit (02) using the fixing elements (07, 16 and 17).

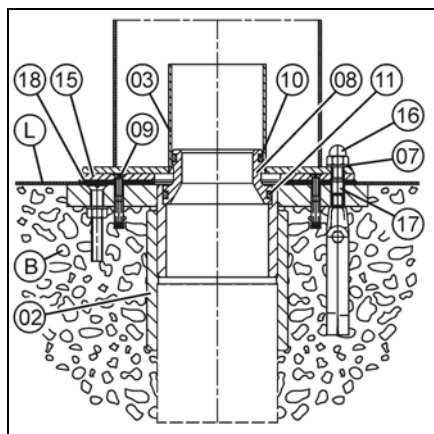


Fig. 6

- | | |
|-----------|----------------------------------|
| <i>B</i> | <i>Raw concrete</i> |
| <i>C</i> | <i>Protection film</i> |
| <i>L</i> | <i>Pool liner</i> |
| <i>S</i> | <i>Stud bolt</i> |
|
 | |
| <i>02</i> | <i>Installation kit</i> |
| <i>03</i> | <i>Water curtain</i> |
| <i>07</i> | <i>Distance washer</i> |
| <i>08</i> | <i>Transition piece</i> |
| <i>09</i> | <i>Counter-sunk screw</i> |
| <i>10</i> | <i>O-ring</i> |
| <i>11</i> | <i>O-ring</i> |
| <i>15</i> | <i>Clamp ring</i> |
| <i>16</i> | <i>Hexagonal castellated nut</i> |
| <i>17</i> | <i>Locking screws</i> |
| <i>18</i> | <i>Clamp gasket</i> |

4.4 Installation process / concrete pool with brush-applied sealant

See Fig. 7 and Fig. 8.

N For detail see Fig. 8.

Remove the protection film C (Fig. 1) from the installation kit (21).

Brush on the brush-applied sealant (S) and if applicable the layer of mortar (M) and tiles (F) up to about 30 mm above the flange (J) of the installation kit (21).

fasten with nuts (07).



Note!

Do not cover over the adjusting screw (05) with brush-applied sealant (S), mortar (M) or tiles (F).

Push the transition piece (08) with the two O-rings (10 and 11) into the installation kit (21).

Place the water curtain (03) on the transition piece (08).



Note!

If the installation kit (21) was not installed exactly horizontally, you can use the four adjusting screws (05) to adjust the water curtain (03) to the correct position.

Using the screws (12) and distance washers (07), screw the baseplate of the water curtain (03) onto the installation kit (21).

Position the two tile screens (04) and screw them together with the fixing elements (06, 09, 14 and 31).

If applying mortar and tiles (M and F), fasten the tile screens (04) on the tiles (F) with sealing compound.

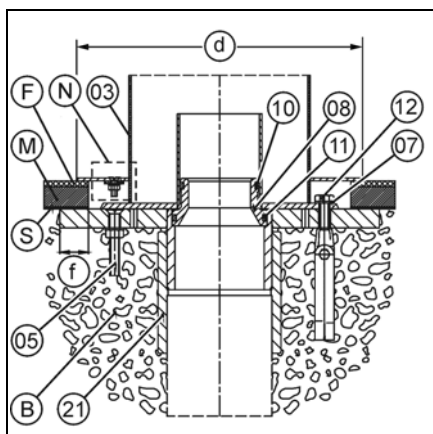


Fig. 7

$d = 300 \text{ mm}$

$f = 30 \text{ mm}$

F Tiles
J Flange
M Mortar
S Brush-applied sealant

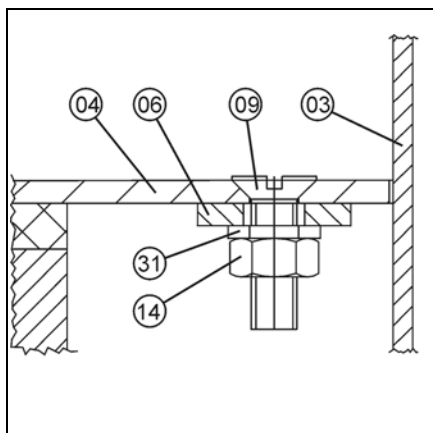


Fig. 8

03 Water curtain
04 Tile screens
05 Adjusting screw
06 Shackle
07 Distance washer
08 Transition piece
09 Counter-sunk screw
12 Hex. socket head cap screw
14 Hexagonal nut
21 Installation kit
31 Distance washer

4.5 Installation process / pre-fabricated pools

Use the hold ring (26) as a template and drill holes at the appropriate places for the threaded rods (G).

Screw the water curtain (25) with the clamp gasket (27), hold ring (26) and fixing elements (28 and 29) onto the pool (A).

Shorten the threaded rods (G) if necessary!



Note!

The clamp ring (27) must be clean and smooth. Do not use any additional adhesive or sealing compound since they contain chemicals that will damage the clamp ring (27).

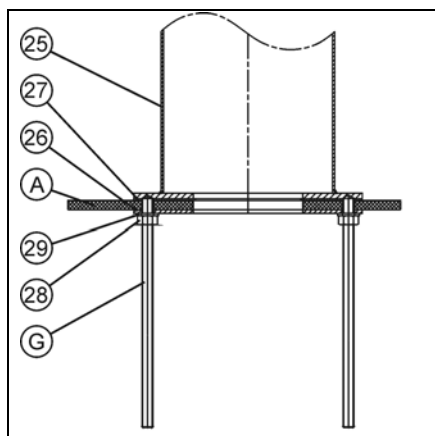


Fig. 9

A	Pool
G	Threaded rod
25	Water curtain
26	Hold ring
27	Clamp gasket
28	Hexagonal nut
29	Distance washer

4.6 Installation process / subsequent installation

See Fig. 10 and Fig. 11.

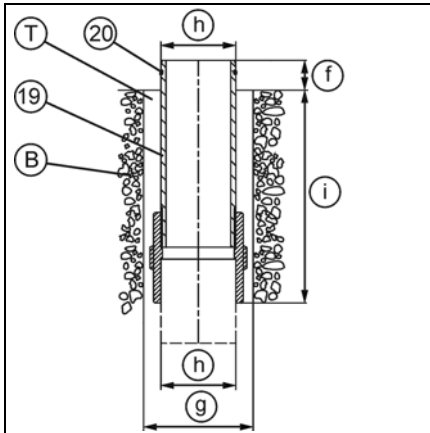


Fig. 10

Drill a core hole with Ø 110 mm.

Coat the installation kit (19) with epoxy resin (T). Fill the core hole with epoxy resin (T). Then guide the installation kit (19) into the hole so that its top edge is resting about 30 mm above the top of the concrete.

Remove the epoxy resin (T) that oozes out of the opening.



Note!

Make certain the installation kit (19) is resting vertically in the core hole since it will no longer be possible to adjust it later.

After the epoxy resin (T) has completely cured, push the transition piece (23) with the O-ring (10) into the installation kit (19). Then place the water curtain (03) on the transition piece (23).

Divide the threaded rod (22) into four pieces of equal length.

Then drill holes for the four plugs (D). You can use the baseplate (P) of the water curtain (03) as a template.

Drive in the four plugs (D) and screw in the threaded rods (22).

Finally screw the water curtain (03) onto the threaded rods (22) using the nuts (12). You may need to shorten the threaded rods (22) to the appropriate length.

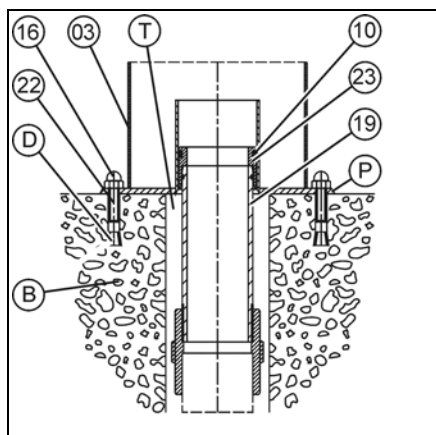


Fig. 11

$f = 30 \text{ mm}$
 $g = \varnothing 110 \text{ mm}$
 $h = \text{DN } 65$
 $i = 244 \text{ mm}$

D Plug
P Baseplate
T Epoxy resin

03 Water curtain
 10 O-ring
 12 Nut
 14 Hexagonal nut
 19 Installation kit
 22 Threaded rod
 23 Transition piece
 31 Distance washer

5 Water cannons

5.1 Shuttering / concrete pool

See Fig. 12, Fig. 13 and Fig. 14.

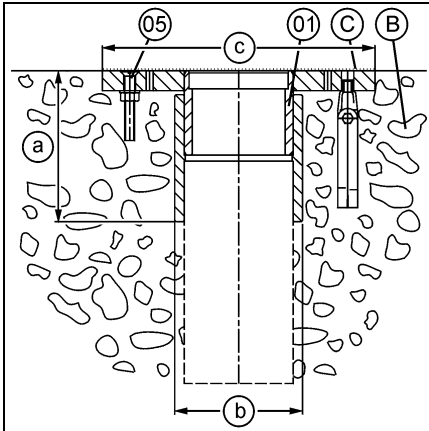


Fig. 12

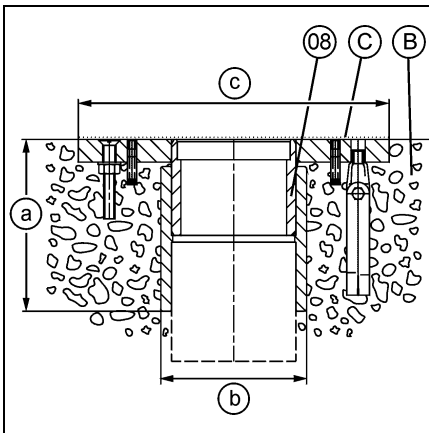


Fig. 13

The installation kit is available in designs for concrete tile pools (01) (Fig. 1), concrete liner pools (02) (Fig. 2) and concrete pools with brush-applied sealant (21) (Fig. 3).

Encase the installation kit (01, 02 or 21) in concrete so that the top edge is flush with the raw concrete (B).

Make certain as well that the alignment is parallel to the water line.

The distance from the middle of the installation kit (01, 02 or 21) to the edge of the pool must be between 150 mm and 650 mm.

Note!

Always make certain before concrete encasing that the installation kit (01, 02 or 21) is horizontal, assembled to correct dimensions and secured to prevent it from moving on the form walls or between the form walls. It will not be possible to adjust it later.

In addition, fasten the installation kit (01, 02 or 21) onto the reinforcing iron.

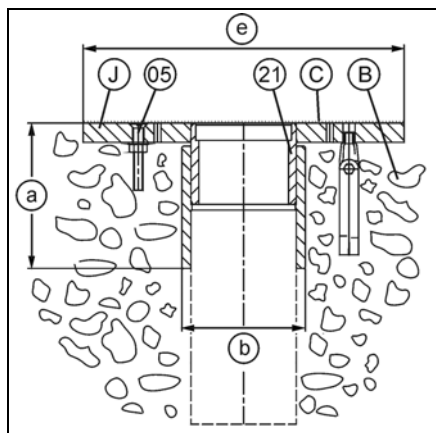


Fig. 14

- a = 152 mm*
b = DN 100
c = 245 mm x 275 mm
e = 335 mm

- B Raw concrete*
C Protection film
J Flange

- 01 Installation kit for concrete tile pools*
02 Installation kit for concrete liner pools
05 Adjusting screw
21 Installation kit for concrete pools with brush-applied sealant

5.2 Installation process / concrete tile pools

Remove the protection film C (Fig. 10) from the installation kit (01).

Apply a layer of mortar (M) and tiles (F) up to the installation kit (01).

Push the transition piece (08) with the two O-rings (10 and 11) into the installation kit (01).

Place the jet (30) on the transition piece (08).



Note!

If the installation kit (01) was not installed exactly horizontally, you can use the four adjusting screws (05) to adjust the jet (30) to the correct position.

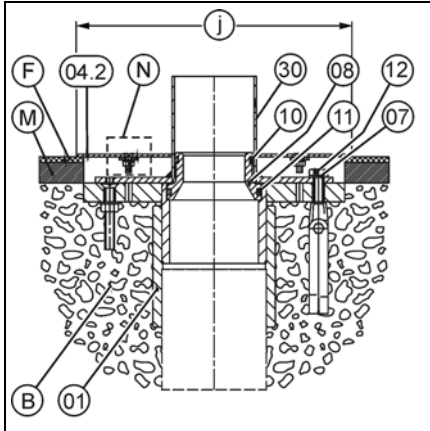


Fig. 15

Using the screws (12) and distance washers (07), screw the baseplate of the jet (30) onto the installation kit (01).

Position the two tile screens (04.2) and screw them together with the fixing elements (06, 09, 14 and 31). Finally, fasten the tile screens (04.2) on the tiles (F) with sealing compound.

$j =$ q 290 mm

F Tiles

M Mortar

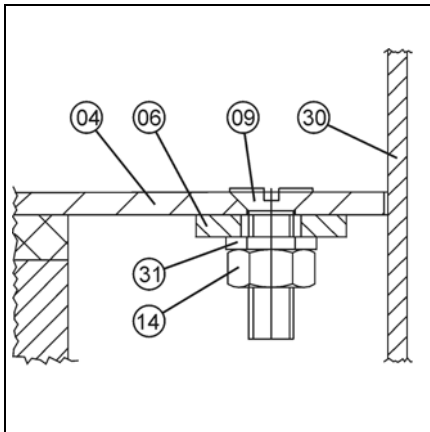


Fig. 16: N Detail

- 01 Installation kit
- 04.2 Tile screen
- 05 Adjusting screw
- 06 Shackle
- 07 Distance washer
- 08 Transition piece
- 09 Counter-sunk screw
- 10 O-ring
- 11 O-ring
- 12 Hex. socket head cap screw
- 14 Hexagonal nut
- 30 Jet
- 31 Distance washer

5.3 Installation process / concrete liner pool

Remove the protection film C (Fig. 10) from the installation kit (02).
Insert the transition piece (08) with the two O-rings (10 and 11) into the installation kit (02).
Clamp the pool liner (L) in place with the clamp gasket (18), clamp ring (15) and counter-sunk screws (09) and cut out the middle hole.



Note!

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

Screw the baseplate of the jet (30) onto the installation kit (02) with the fixing elements (07, 16 and 17).

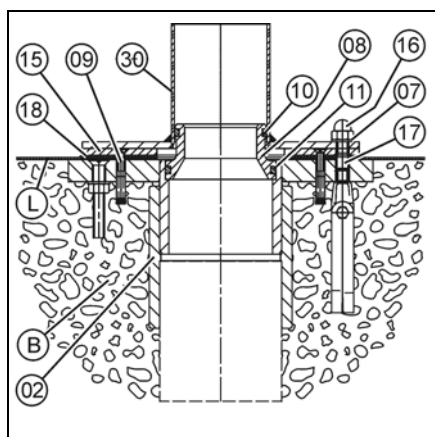


Fig. 17

C	Protection film
L	Pool liner
02	Installation kit
07	Distance washer
08	Transition piece
09	Counter-sunk screw
10	O-ring
11	O-ring
15	Clamp ring
16	Hexagonal castellated nut
17	Locking screws
18	Clamp gasket
30	Jet

5.4 Installation process / concrete pool with brush-applied sealant

See Fig. 18 and Fig. 19.

Remove the protection film C (Fig. 10) from the installation kit (21).

Brush on the brush-applied sealant (S) and if applicable the layer of mortar (M) and tiles (F) almost up to the counter-sunk screws (05).

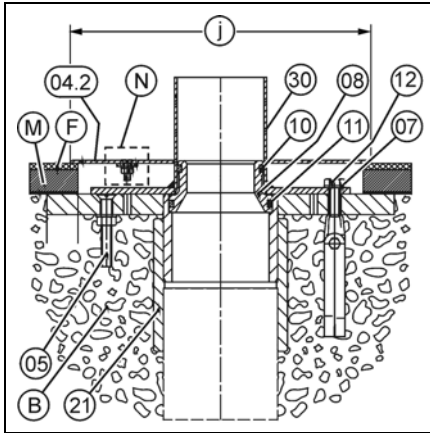


Fig. 18

Note!

Do not cover over the adjusting screw (05) with brush-applied sealant (S), mortar (M) or tiles (F).

Push the transition piece (08) with the two O-rings (10 and 11) into the installation kit (21).

Place the jet (03) on the transition piece (08).

Note!

If the installation kit (21) was not installed exactly horizontally, you can use the four adjusting screws (05) to adjust the jet (30) to the correct position.

Using the screws (12) and distance washers (07), screw the baseplate of the jet (30) onto the installation kit (21).

Position the two tile screens (04.2) and screw them together with the fixing elements (06, 09, 14 and 31).

If applying mortar and tiles (M and F), fasten the tile screens (04.2) on the tiles (F) with sealing compound.

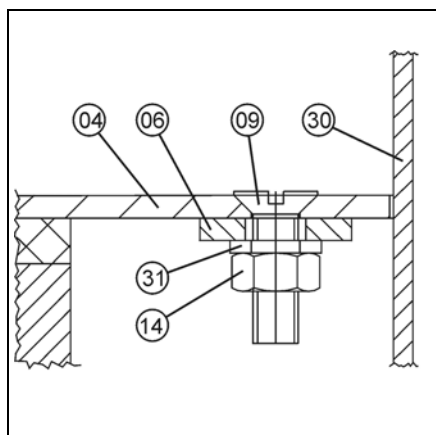


Fig. 19: N Detail

$f = 30 \text{ mm}$
 $j = 244 \text{ mm}$

C Protection film
F Tiles
M Mortar
S Brush-applied sealant

04.2 *Installation kit*
05 *Adjusting screw*
06 *Shackle*
08 *Transition piece*
09 *Counter-sunk screw*
10 *O-ring*
11 *O-ring*
12 *Hex. socket head cap screw*
14 *Hexagonal nut*
21 *Installation kit for concrete*
Pool with brush-applied sealant
30 *Jet*
31 *Distance washer*

5.5 Installation process / subsequent installation

See Fig. 20 and 21

Drill a core hole with \varnothing 110 mm.

Coat the installation kit (19) with epoxy resin (T). Fill the core hole with epoxy resin (T). Then guide the installation kit (19) into the hole so that its top edge is resting about 30 mm above the top of the concrete.

Remove the epoxy resin (T) that oozes out of the opening.

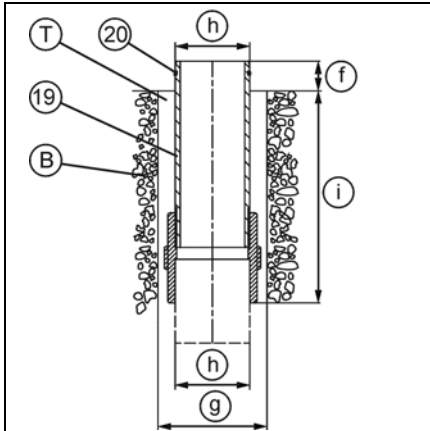


Fig. 20

Note!

Make certain the installation kit (19) is resting vertically in the core hole since it will no longer be possible to adjust it later.

After the epoxy resin (T) has completely cured, push the transition piece (23) with the O-ring (10) into the installation kit (19). Then place the jet (30) on the transition piece (23).

Divide the threaded rod (22) into four pieces of equal length.

Then drill holes for the four plugs (D). You can use the baseplate (P) of the jet (30) as a template.

Drive in the four plugs (D) and screw in the threaded rods (22).

Finally screw the jet (03) onto the threaded rods (22) using the nuts (12). You may need to shorten the threaded rods (22) to the appropriate length.

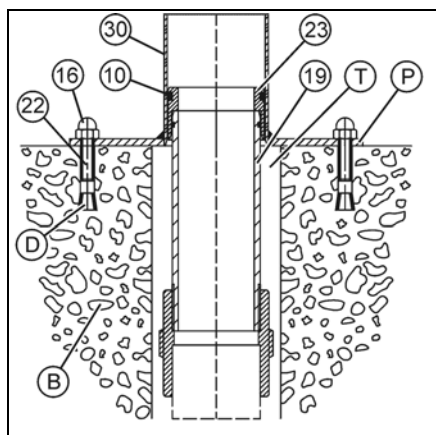


Fig. 21: N Detail

- | | |
|-----------|---|
| <i>D</i> | <i>Plug</i> |
| <i>P</i> | <i>Baseplate</i> |
| <i>T</i> | <i>Epoxy resin</i> |
|
 | |
| <i>10</i> | <i>O-ring</i> |
| <i>12</i> | <i>Hex. socket head cap screw</i> |
| <i>19</i> | <i>Installation kit for subsequent installation</i> |
|
 | |
| <i>22</i> | <i>Threaded rod</i> |
| <i>23</i> | <i>Transition piece</i> |
| <i>30</i> | <i>Jet</i> |

6 Water umbrella

6.1 Shuttering / concrete pool

See Fig. 22, Fig. 23 and Fig. 24.

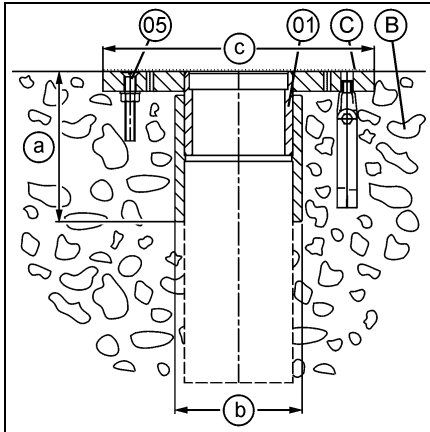


Fig. 22

The installation kit is available in designs for concrete tile pools (01) (Fig.19), concrete liner pools (02) (Fig. 20) and concrete pools with brush-applied sealant (21) (Fig. 21).

Encase the installation kit (01, 02 or 21) in concrete so that the top edge is flush with the raw concrete (B).

Make certain as well that the alignment is parallel to the water line.

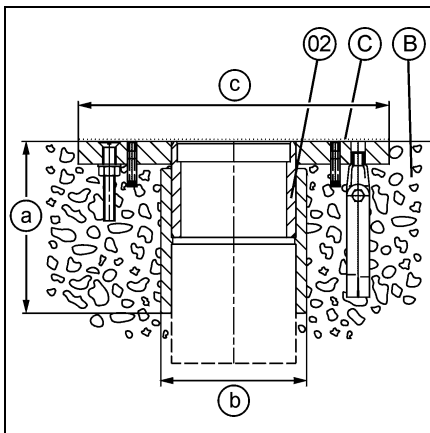


Fig. 23

Note!

Always make certain before concrete encasing that the installation kit (01, 02 or 21) is horizontal, assembled to correct dimensions and secured to prevent it from moving on the form walls or between the form walls. It will not be possible to adjust it later.

In addition, fasten the installation kit (01, 02 or 21) onto the reinforcing iron.

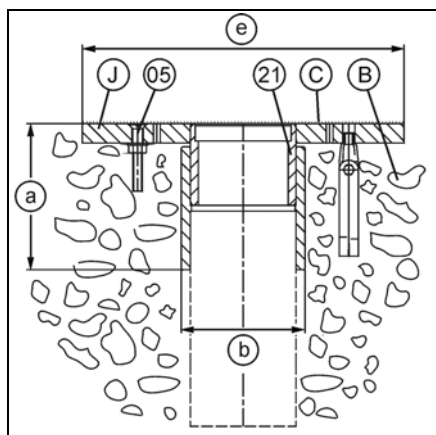


Fig. 24

a = 152 mm
b = DN 100
c = 245 mm x 275 mm
e = 335 mm

B Raw concrete
C Protection film
J Flange

01 Installation kit for concrete
tile pools
02 Installation kit for concrete
liner pools
05 Adjusting screw
21 Installation kit for concrete
pools with brush-applied sealant

6.2 Installation process / concrete tile pools

See Fig. 25 and Fig. 26.

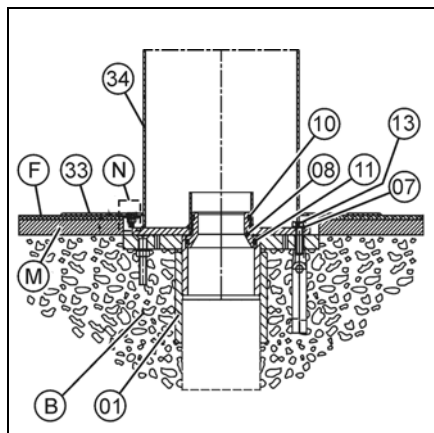


Fig. 25

Remove the protection film C (Fig. 19) from the installation kit (01).

Apply a layer of mortar (M) and tiles (F) up to the installation kit (01).

Push the transition piece (08) with the two O-rings (10 and 11) into the installation kit (01).

Place the water umbrella (03) on the transition piece (08).



Note!

If the installation kit (01) was not installed exactly horizontally, you can use the four adjusting screws (05) to adjust the water umbrella (34) to the correct position.

Using the screws (12) and distance washers (07), screw the baseplate of the water umbrella (34) onto the installation kit (01).

Position the two tile screens (33) and screw them together with the fixing elements (06, 09, 14 and 31). Finally, fasten the tile screens (33) on the tiles (F) with sealing compound.

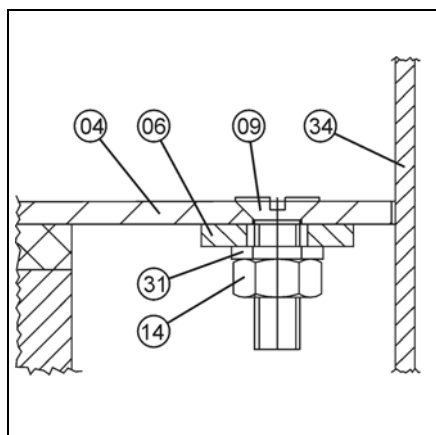


Fig. 26: N Detail

$d = 300 \text{ mm}$

C Protection film

F Tiles

M Mortar

S Stud bolt

01 Installation kit

03 Water curtain

04 Tile screen

06 Shackle

07 Distance washer

08 Transition piece

09 Counter-sunk screw

10 O-ring

11 O-ring

12 Screw

14 Hexagonal nut

6.3 Installation process / concrete liner pool

See Fig. 27 and Fig. 28.

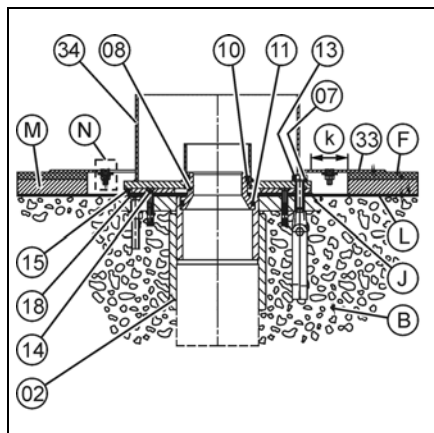


Fig. 27

Remove the protection film C (Fig. 19) from the installation kit (02).

Insert the transition piece (08) with the two O-rings (10 and 11) into the installation kit (02).

Clamp the pool liner (L) in place with the clamp gasket (18), clamp ring (15) and counter-sunk screws (09) and cut out the middle hole.



Note!

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

If mortar and tiles (M and F) are applied, they should only reach up to about 50 mm on the clamp gasket (15).

Screw the baseplate of the water umbrella (34) onto the installation kit (02) with the fixing elements (07 and 13).

If mortar and tiles (M and F) are applied, position the two tile screens (33) and screw them together with the fixing elements (06, 09, 14 and 31). Finally, fasten the tile screens (33) on the tiles (F) with sealing compound.

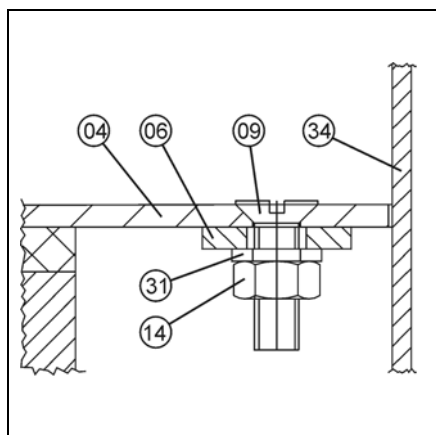


Fig. 28: N Detail

- C Protection film
- F Tiles
- L Pool liner
- M Mortar
- 02 Installation kit for concrete liner pools
- 06 Shackle
- 07 Distance washer
- 08 Transition piece
- 09 Counter-sunk screw
- 10 O-ring
- 11 O-ring
- 13 Hex. socket head cap screw
- 14 Hexagonal nut
- 15 Clamp ring
- 18 Clamp gasket
- 31 Distance washer
- 33 Tile screens for water umbrella
- 34 Water umbrella

6.4 Installation process / concrete pool with brush-applied sealant

See Fig. 29 and Fig. 30.

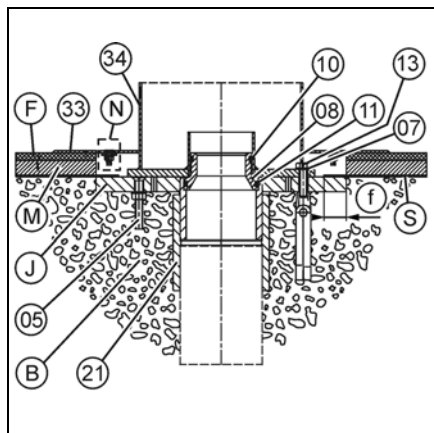


Fig. 29:

Push the transition piece (08) with the two O-rings (10 and 11) into the installation kit (21). Place the water umbrella (03) on the transition piece (08).



Note!

If the installation kit (21) was not installed exactly horizontally, you can use the four adjusting screws (05) to adjust the water umbrella (34) to the correct position.

Using the screws (12) and distance washers (07), screw the baseplate of the water umbrella (34) onto the installation kit (21).

If mortar and tiles (M and F) are applied, position the two tile screens (33) and screw them together with the fixing elements (06, 09, 14 and 31).

Finally, fasten the tile screens (33) on the tiles (F) with sealing compound.

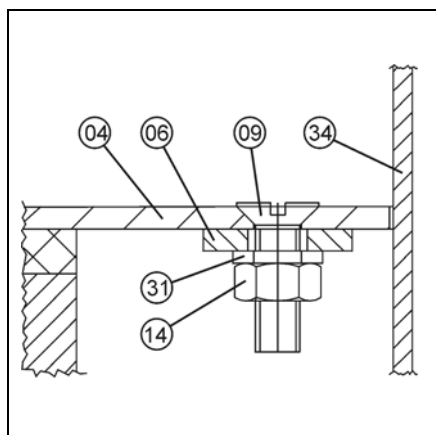


Fig. 30: N Detail

$d = 300 \text{ mm}$

$f = 30 \text{ mm}$

C Protection film
F Tiles
J Flange
M Mortar
S Brush-applied sealant

05 Adjusting screw
06 Shackle
07 Distance washer
08 Transition piece
09 Counter-sunk screw
10 O-ring
11 O-ring
12 Hex. socket head cap screw
14 Hexagonal nut
21 Installation kit for concrete pool
with brush-applied sealant
31 Distance washer
33 Tile screens for water umbrella
34 Water umbrella

6.5 Installation process / subsequent installation

See Fig. 31 and Fig. 32.

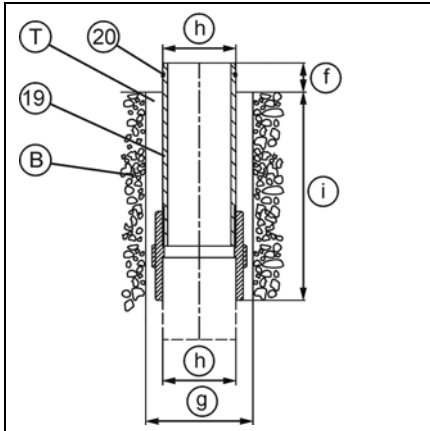


Fig. 31

Drill a core hole with \varnothing 110 mm.

Coat the installation kit (19) with epoxy resin (T). Fill the core hole with epoxy resin (T). Then guide the installation kit (19) into the hole so that its top edge is resting about 30 mm above the top of the concrete.

Remove the epoxy resin (T) that oozes out of the opening.



Note!

Make certain the installation kit (19) is resting vertically in the core hole since it will no longer be possible to adjust it later.

After the epoxy resin (T) has completely cured, push the transition piece (23) with the O-ring (10) into the installation kit (19). Then place the water umbrella (34) on the transition piece (23).

Divide the threaded rod (22) into four pieces of equal length.

Then drill holes for the four plugs (D). You can use the baseplate (P) of the water umbrella (34) as a template.

Drive in the four plugs (D) and screw in the threaded rods (22).

Finally screw the water umbrella (03) onto the threaded rods (22) using the nuts (12). You may need to shorten the threaded rods (22) to the appropriate length.

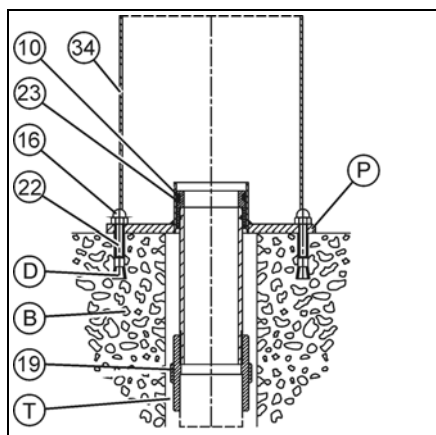


Fig. 32

- | | |
|-----------|---|
| <i>D</i> | <i>Plug</i> |
| <i>P</i> | <i>Baseplate</i> |
| <i>T</i> | <i>Epoxy resin</i> |
|
 | |
| <i>10</i> | <i>O-ring</i> |
| <i>12</i> | <i>Hex. socket head cap screw</i> |
| <i>19</i> | <i>Installation kit for subsequent installation</i> |
|
 | |
| <i>22</i> | <i>Threaded rod</i> |
| <i>23</i> | <i>Transition piece</i> |
| <i>34</i> | <i>Water umbrella</i> |

7 Spare parts for water curtains

7.1 Concrete tile pools

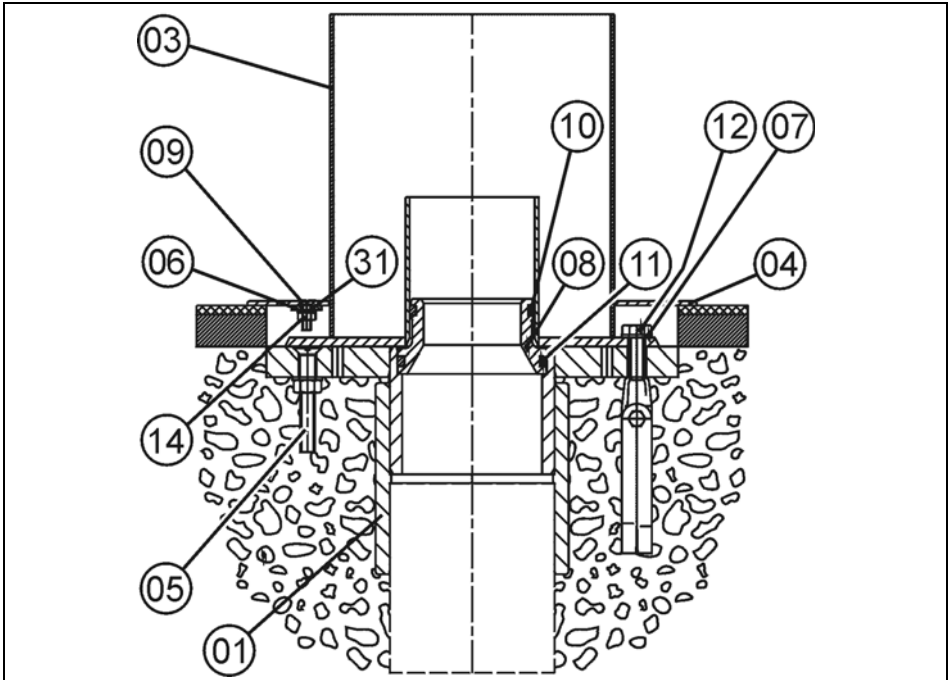


Fig. 33: Concrete tile pools

Item	Order No.	Description	Pcs.	Comment
01	91548	Installation kit	1	Complete
03.1	56876	Water curtain straight	1	
03.2	89000	Water curtain semicircular	1	
03.3	56138	Umbrella curtain 140°	1	
04.1	56877	Tile screen for water curtain straight	2	
04.2	57378	Tile screen for water curtain semicircular	2	
05	10626	Adjusting screw	4	M 10 x 70
06	56868	Shackle	2	
07	12397	Distance washer	4	
08	56336	Transition piece	1	
09	10448	Counter-sunk screw	4	M 6 x 20
10	24237	O-ring	1	
11	24146	O-ring	1	

Item	Order No.	Description	Pcs.	Comment
12	10609	Hex. socket head cap screw	4	M 10 x 30
14	12182	Hexagonal nut	4	M 6
31	12416	Distance washer	4	
	91720	Assembly kit for water curtain straight	1	Complete
	91721	Assembly kit for water curtain semicircular	1	Complete
	91090	Assembly kit for water curtain for umbrella curtain 140°	1	Complete

7.2 Concrete liner pool

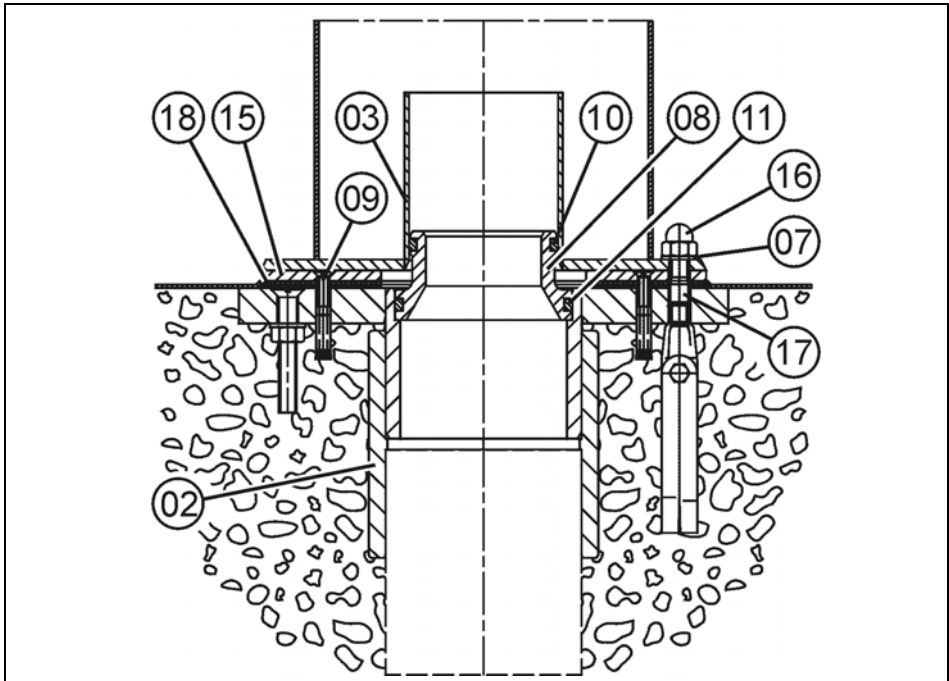


Fig. 34: Concrete liner pool

Item	Order No.	Description	Pcs.	Comment
02	92563	Installation kit	1	Complete
03.1	56876	Water curtain straight	1	
03.2	56935	Water curtain semicircular	1	
07	12397	Distance washer	4	
08	56336	Transition piece	1	
09	10448	Counter-sunk screw	4	M 6 x 20
10	24237	O-ring	1	
11	24146	O-ring	1	
15	56985	Clamp ring	1	
16	12138	Hexagonal castellated nut	4	M 10
17	10678	Plug screw	4	M 10 x 35
18	22169	Clamp gasket	1	
	91722	Assembly kit for water curtain straight	1	Complete
	91723	Assembly kit for water curtain semicircular	1	Complete

7.3 Concrete pool with brush-applied sealant

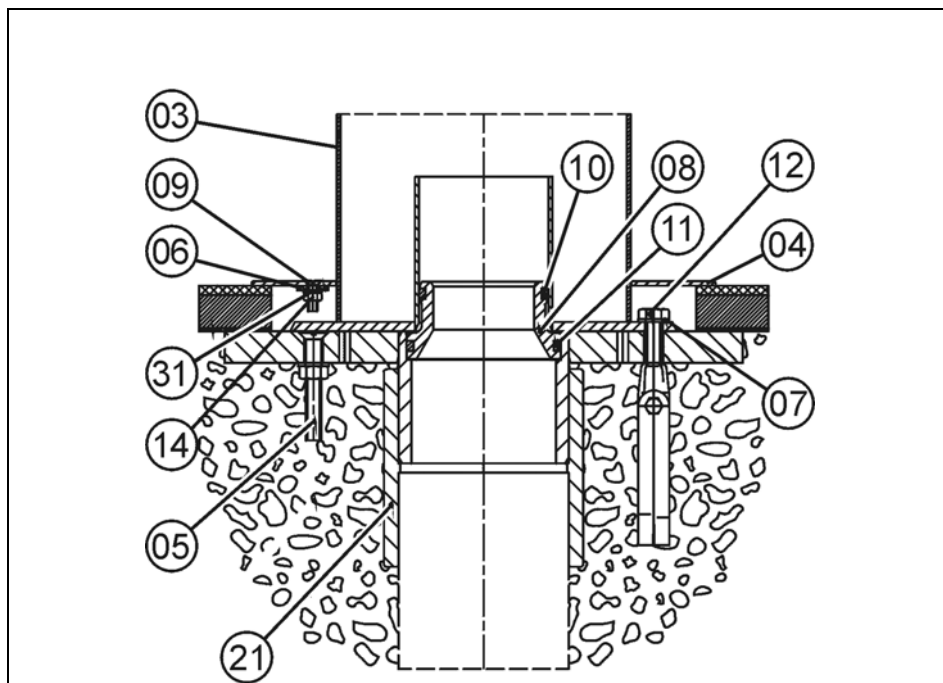


Fig. 35: Concrete pool with brush-applied sealant

Item	Order No.	Description	Pcs.	Comment
03.1	56876	Water curtain straight	1	
03.2	56935	Water curtain semicircular	1	
04.1	56877	Tile screen for water curtain straight	2	
04.2	57378	Tile screen for water curtain semicircular	2	
05	10626	Adjusting screw	4	M 10 x 70
06	56868	Shackle	2	
07	12397	Distance washer	4	
08	56336	Transition piece	1	
09	10448	Counter-sunk screw	4	M 6 x 20
10	24237	O-ring	1	
11	24146	O-ring	1	
12	10609	Hex. socket head cap screw	4	M 10 x 30
14	12182	Hexagonal nut	4	M 6
21	91083	Installation kit	1	Complete

Item	Order No.	Description	Pcs.	Comment
31	12416	Distance washer	4	
	91720	Assembly kit for water curtain straight	1	Complete
	91721	Assembly kit for water curtain semicircular	1	Complete
	91090	Assembly kit for water curtain for umbrella curtain 140°	1	Complete

7.4 Pre-fabricated pool

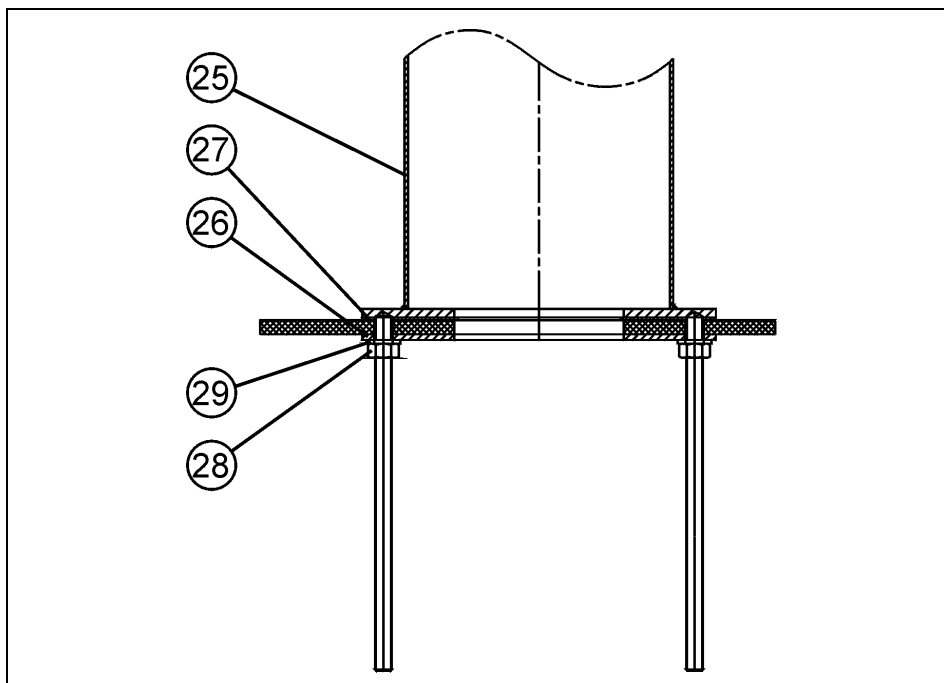


Fig. 36: Pre-fabricated pool

Item	Order No.	Description	Pcs.	Comment
25	55694	Water curtain straight	1	
26	45543	Hold ring	1	
27	22169	Clamp gasket	1	
28	12115	Hexagonal nut	4	M 12
29	12432	Distance washer	4	
	91387	Assembly kit for water curtain straight	1	Complete

7.5 Subsequent installation

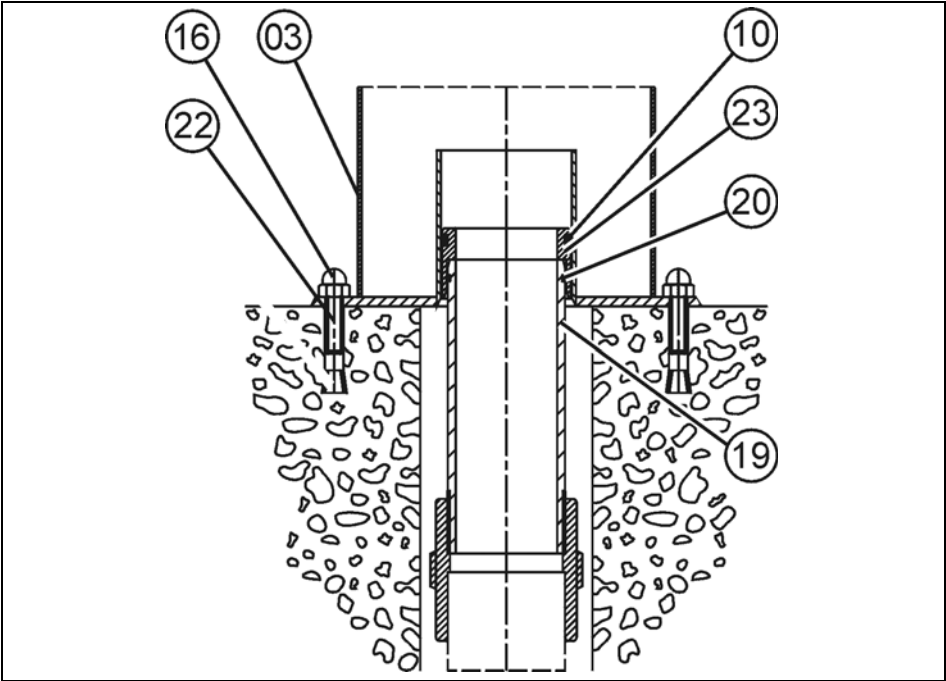


Fig. 37: Subsequent installation

Item	Order No.	Description	Pcs.	Comment
03.1	56876	Water curtain straight	1	
03.2	56935	Water curtain semicircular	1	
10	24237	O-ring	1	
16	12138	Hexagonal castellated nut	4	M 10
19	92460	Installation kit	1	Complete
20	24111	O-ring	1	
22	10822	Threaded rod	1	1000 mm
23	56347	Transition piece	1	
	91725	Assembly kit for water curtain straight	1	Complete
	91726	Assembly kit for water curtain semicircular	1	Complete

8 Spare parts for water cannons

8.1 Concrete tile pools

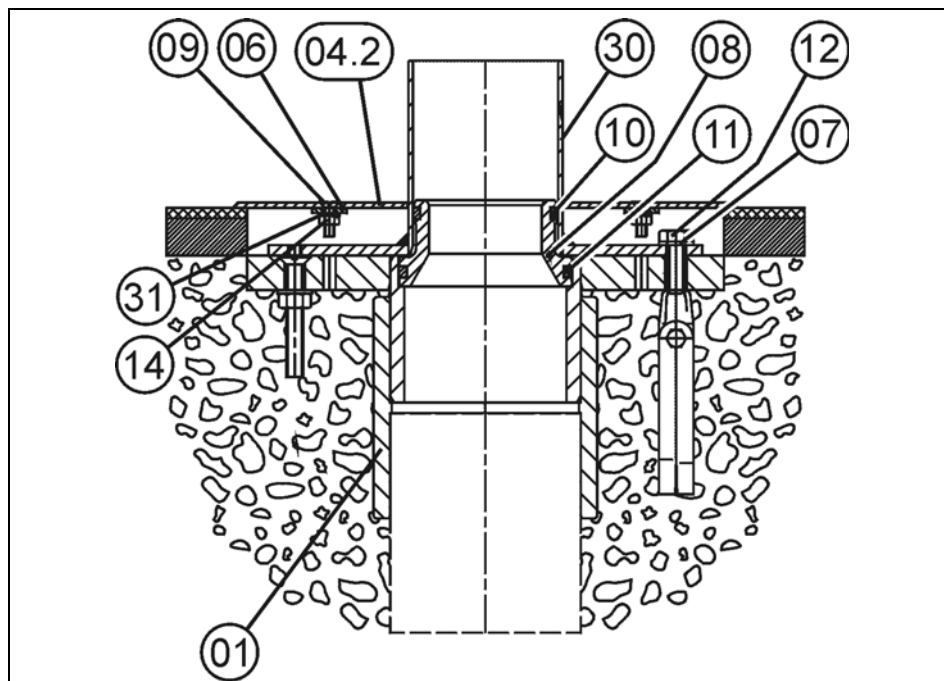


Fig. 38: Concrete tile pools

Item	Order No.	Description	Pcs.	Comment
01	91548	Installation kit	1	Complete
04.2	57378	Tile screen	2	
06	56868	Shackle	2	
07	12397	Distance washer	4	
08	56336	Transition piece	1	
09	10448	Counter-sunk screw	4	M 6 x 20
10	24237	O-ring	1	
11	24146	O-ring	1	
12	10609	Hex. socket head cap screw	4	M 10 x 30
14	12182	Hexagonal nut	4	M 6
30.1	57817	Bell jet	1	
30.2	57851	Flat jet	1	
30.3	57885	High jet	1	

Item	Order No.	Description	Pcs.	Comment
30.4	57919	Tri jet	1	
30.5	55586	Long shot water cannon	1	
31	12416	Distance washer	4	
	94058	Assembly kit for bell jet	1	Complete
	94059	Assembly kit for flat jet	1	Complete
	94060	Assembly kit for high jet	1	Complete
	94061	Assembly kit for tri jet	1	Complete
	88888	Assembly kit for water cannon	1	Complete

8.2 Concrete liner pool

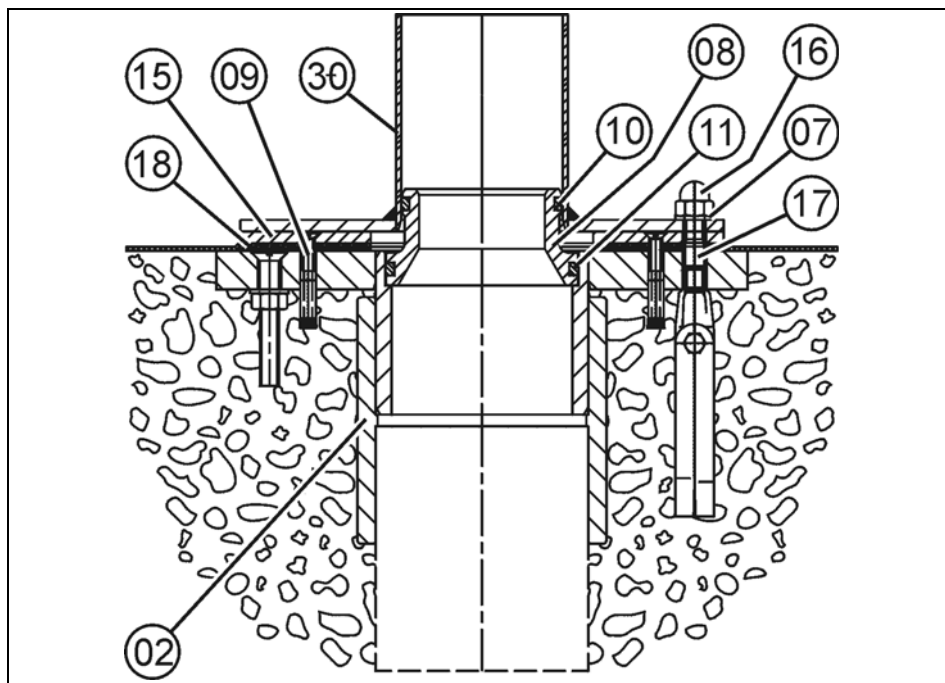


Fig. 39: Concrete liner pool

Item	Order No.	Description	Pcs.	Comment
02	92563	Installation kit	1	Complete
07	12397	Distance washer	4	White
08	56336	Transition piece	1	
09	10448	Counter-sunk screw	4	M 6 x 20
10	24237	O-ring	1	
11	24146	O-ring	1	
15	56985	Clamp ring	1	
16	12138	Hexagonal castellated nut	4	M 10
17	10678	Plug screw	4	M 10 x 35
18	22169	Clamp gasket	1	
30.1	57817	Bell jet	1	
30.2	57851	Flat jet	1	
30.3	57885	High jet	1	
30.4	57919	Tri jet	1	

Item	Order No.	Description	Pcs.	Comment
30.5	55586	Long shot water cannon	1	
	94062	Assembly kit for bell jet	1	Complete
	94063	Assembly kit for flat jet	1	Complete
	94064	Assembly kit for high jet	1	Complete
	94065	Assembly kit for tri jet	1	Complete

8.3 Concrete pool with brush-applied sealant

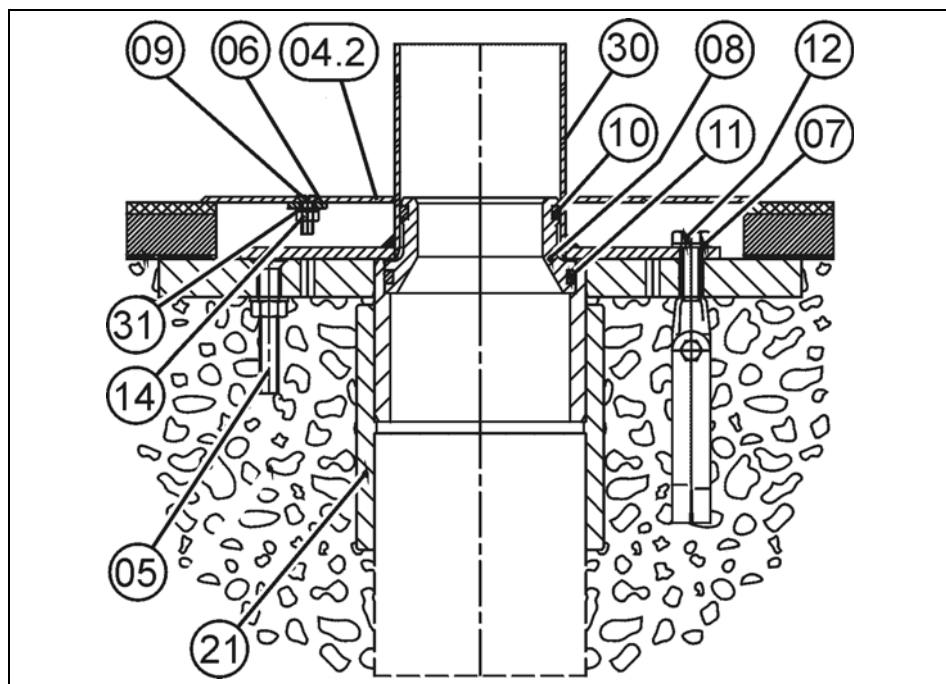


Fig. 40: Concrete pool with brush-applied sealant

Item	Order No.	Description	Pcs.	Comment
04.2	57378	Tile screen	2	
05	10626	Adjusting screw	4	M 10 x 70
06	56868	Shackle	2	
07	12397	Distance washer	4	
08	56336	Transition piece	1	
09	10448	Counter-sunk screw	4	M 6 x 20
10	24237	O-ring	1	
11	24146	O-ring	1	
12	10609	Hex. socket head cap screw	4	M 10 x 30
14	12182	Hexagonal nut	4	M 6
21	91083	Installation kit	1	Complete
30.1	57817	Bell jet	1	
30.2	57851	Flat jet	1	
30.3	57885	High jet	1	

Item	Order No.	Description	Pcs.	Comment
30.4	57919	Tri jet	1	
30.5	55586	Long shot water cannon	1	
31	12416	Distance washer	4	
	94058	Assembly kit for bell jet	1	Complete
	94059	Assembly kit for flat jet	1	Complete
	94060	Assembly kit for high jet	1	Complete
	94061	Assembly kit for tri jet	1	Complete
	88888	Assembly kit for water cannon	1	Complete

8.4 Subsequent installation

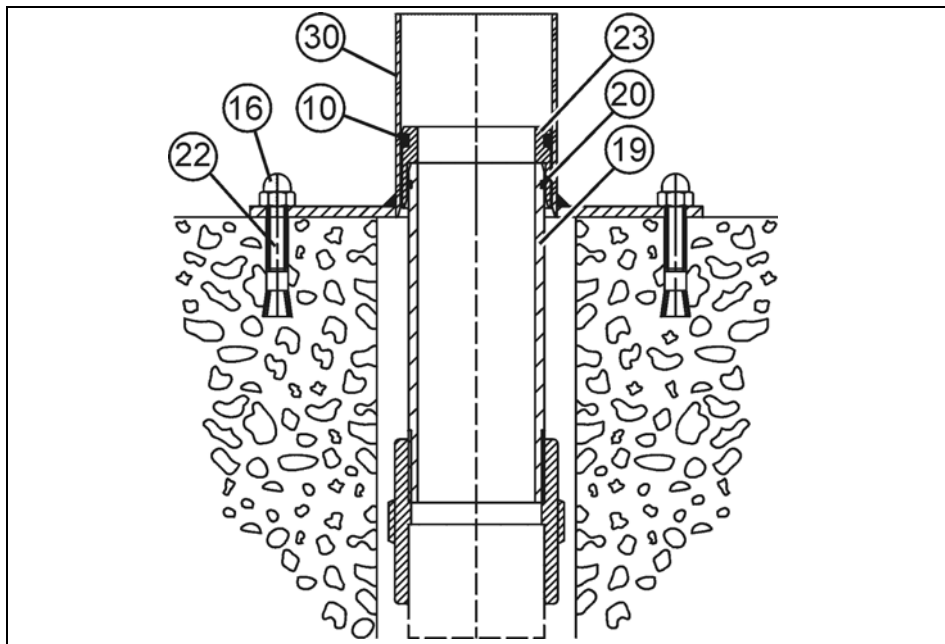


Fig. 41: Subsequent installation

Item	Order No.	Description	Pcs.	Comment
10	24237	O-ring	1	
16	12138	Hexagonal castellated nut	4	M 10
19	92460	Installation kit	1	Complete
20	24111	O-ring	1	
22	10822	Threaded rod	1	1000 mm
23	56347	Transition piece	1	
30.1	57817	Bell jet	1	
30.2	57851	Flat jet	1	
30.3	57885	High jet	1	
30.4	57919	Tri jet	1	
30.5	55586	Long shot water cannon	1	
	93240	Assembly kit for bell jet	1	Complete
	93241	Assembly kit for flat jet	1	Complete
	93242	Assembly kit for high jet	1	Complete
	93243	Assembly kit for tri jet	1	Complete

9 Spare parts for water umbrella

9.1 Concrete tile pools

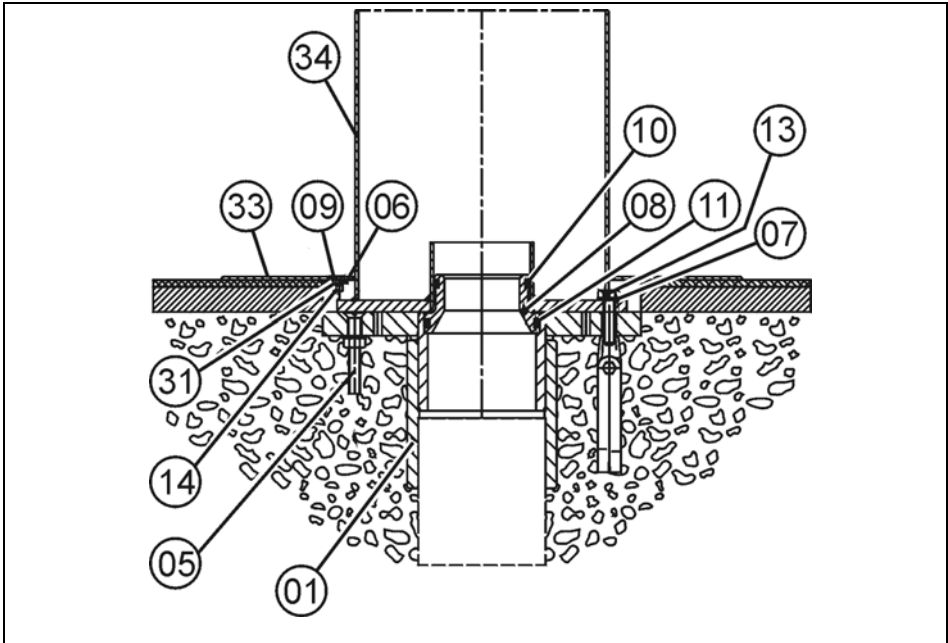


Fig. 42: Concrete tile pools

Item	Order No.	Description	Pcs.	Comment
01	91548	Installation kit	1	Complete
05	10626	Adjusting screw	4	M 10 x 70
06	56868	Shackle	2	
07	12397	Distance washer	4	
08	56336	Transition piece	1	
09	10448	Counter-sunk screw	4	M 6 x 20
10	24237	O-ring	1	
11	24146	O-ring	1	
13	10646	Hex. socket head cap screw	4	M 10
14	12182	Hexagonal nut	4	M 6
31	12416	Distance washer	4	
33	56995	Tile screen	2	
34	91519	Water umbrella	1	
	93255	Assembly kit for water umbrella	1	Complete

9.2 Concrete liner pool

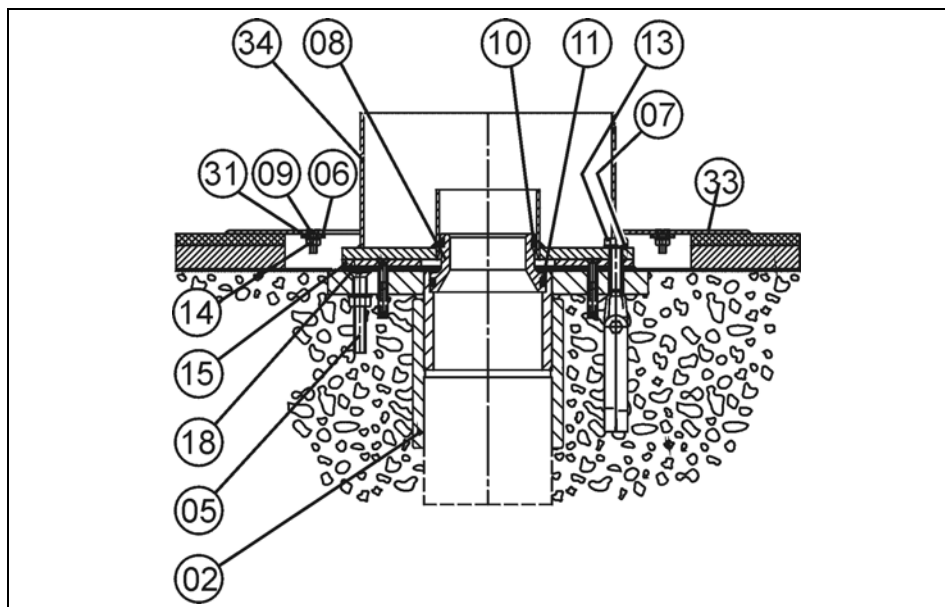


Fig. 43: Concrete liner pool

Item	Order No.	Description	Pcs.	Comment
02	92563	Installation kit	1	Complete
05	10626	Adjusting screw	4	M 10 x 70
06	56868	Shackle	2	
07	12397	Distance washer	4	
08	56336	Transition piece	1	
09	10448	Counter-sunk screw	4	M 6 x 20
10	24237	O-ring	1	
11	24146	O-ring	1	
13	10646	Hex. socket head cap screw		
14	12182	Hexagonal nut	4	M 6
15	56985	Clamp ring	1	
18	22169	Clamp gasket	1	
31	12416	Distance washer	4	
33	56995	Tile screen	2	
34	91519	Water umbrella	1	
	93255	Assembly kit for water umbrella	1	Complete

9.3 Concrete pool with brush-applied sealant

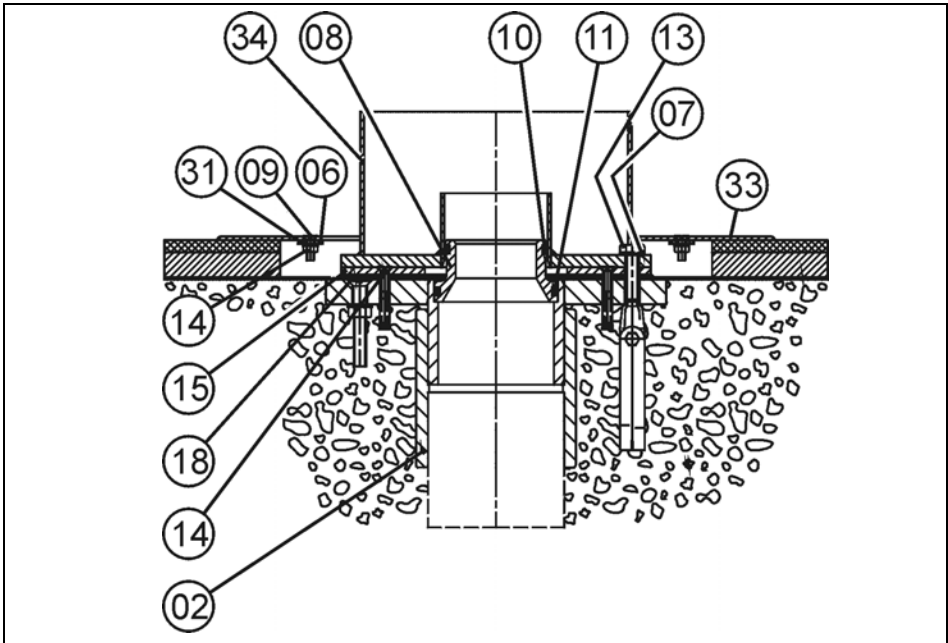


Fig. 44: Concrete pool with brush-applied sealant

Item	Order No.	Description	Pcs.	Comment
05	10626	Adjusting screw	4	M 10 x 70
06	56868	Shackle	2	
07	12397	Distance washer	4	
08	56336	Transition piece	1	
09	10448	Counter-sunk screw	4	M 6 x 20
10	24237	O-ring	1	
11	24146	O-ring	1	
13	10646	Hex. socket head cap screw	4	M 10
14	12182	Hexagonal nut	4	M 6
21	91083	Installation kit	1	Complete
31	12416	Distance washer	4	
33	56995	Tile screen	2	
34	91519	Water umbrella	1	
	93255	Assembly kit for water umbrella	1	Complete

9.4 Subsequent installation

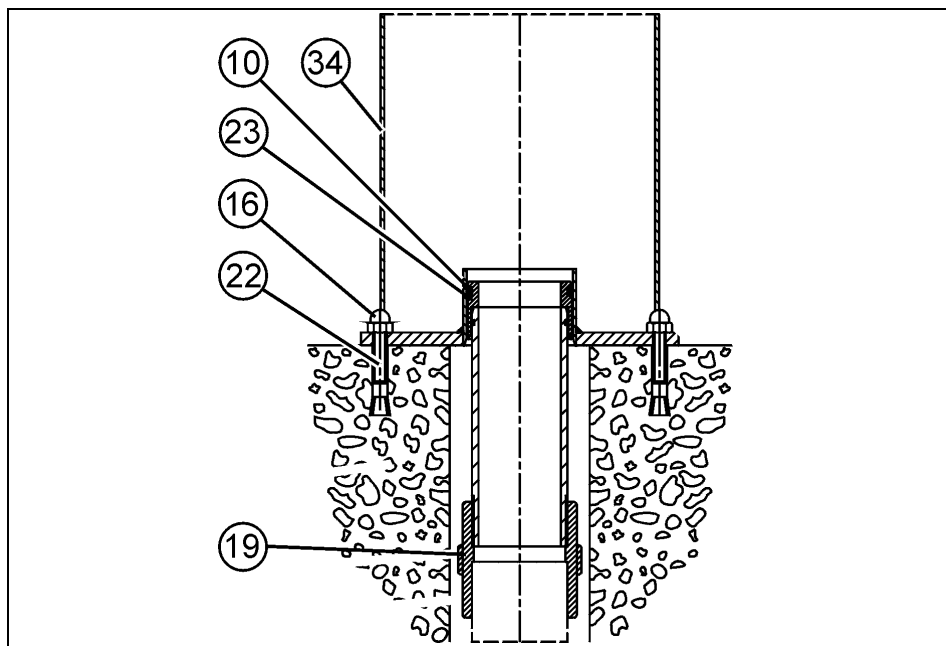


Fig. 45: Subsequent installation

Item	Order No.	Description	Pcs.	Comment
10	24237	O-ring	1	
16	12138	Hexagonal castellated nut	4	M 10
19	92460	Installation kit	1	Complete
22	10822	Threaded rod	1	1000 mm
23	56347	Transition piece	1	
34	91519	Water umbrella	1	
	93257	Assembly kit for water umbrella	1	Complete

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