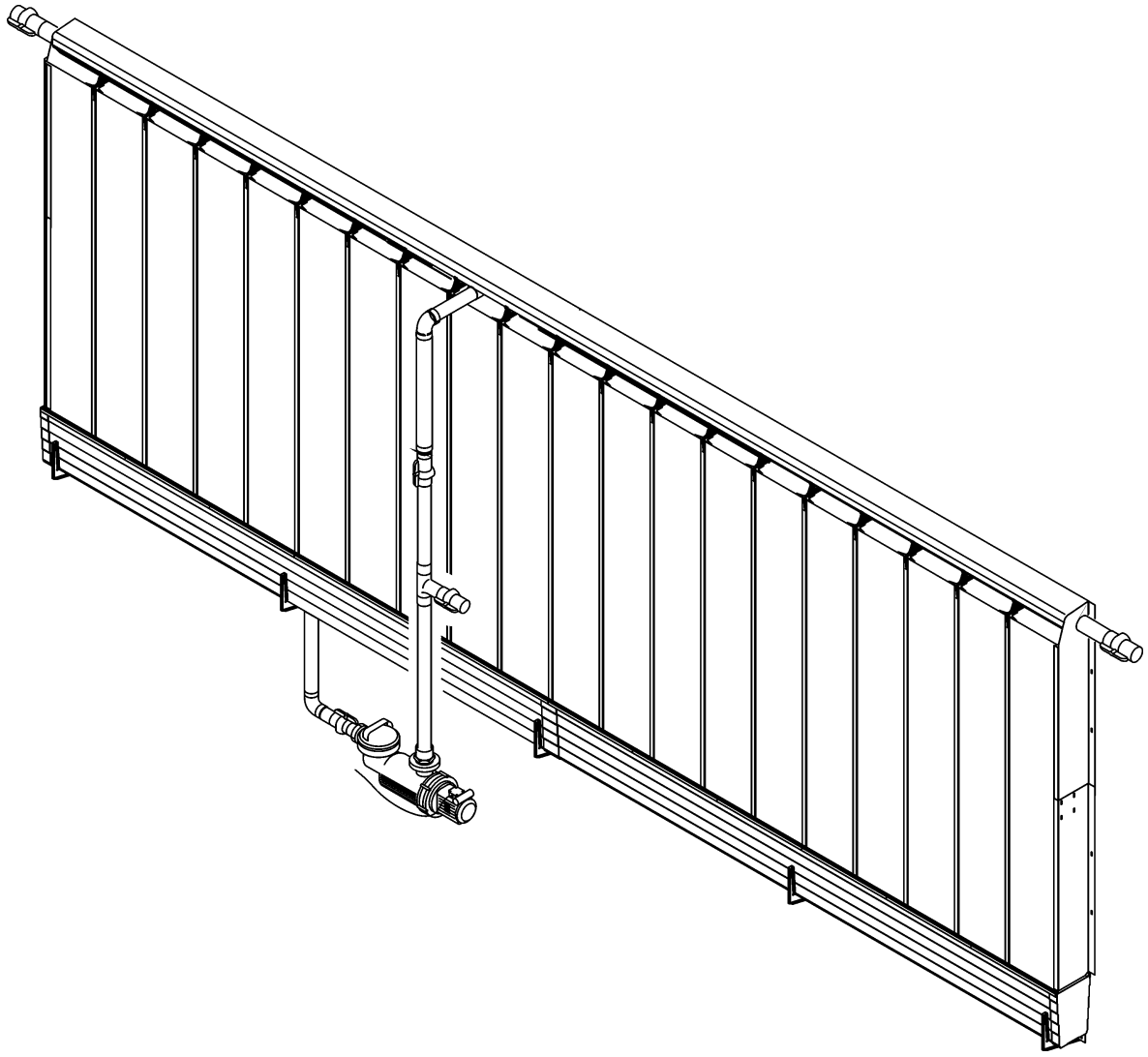
Assembly- and Usermanual

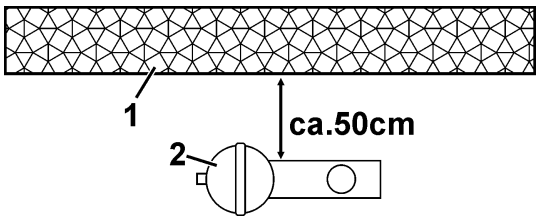
Rainmaker®

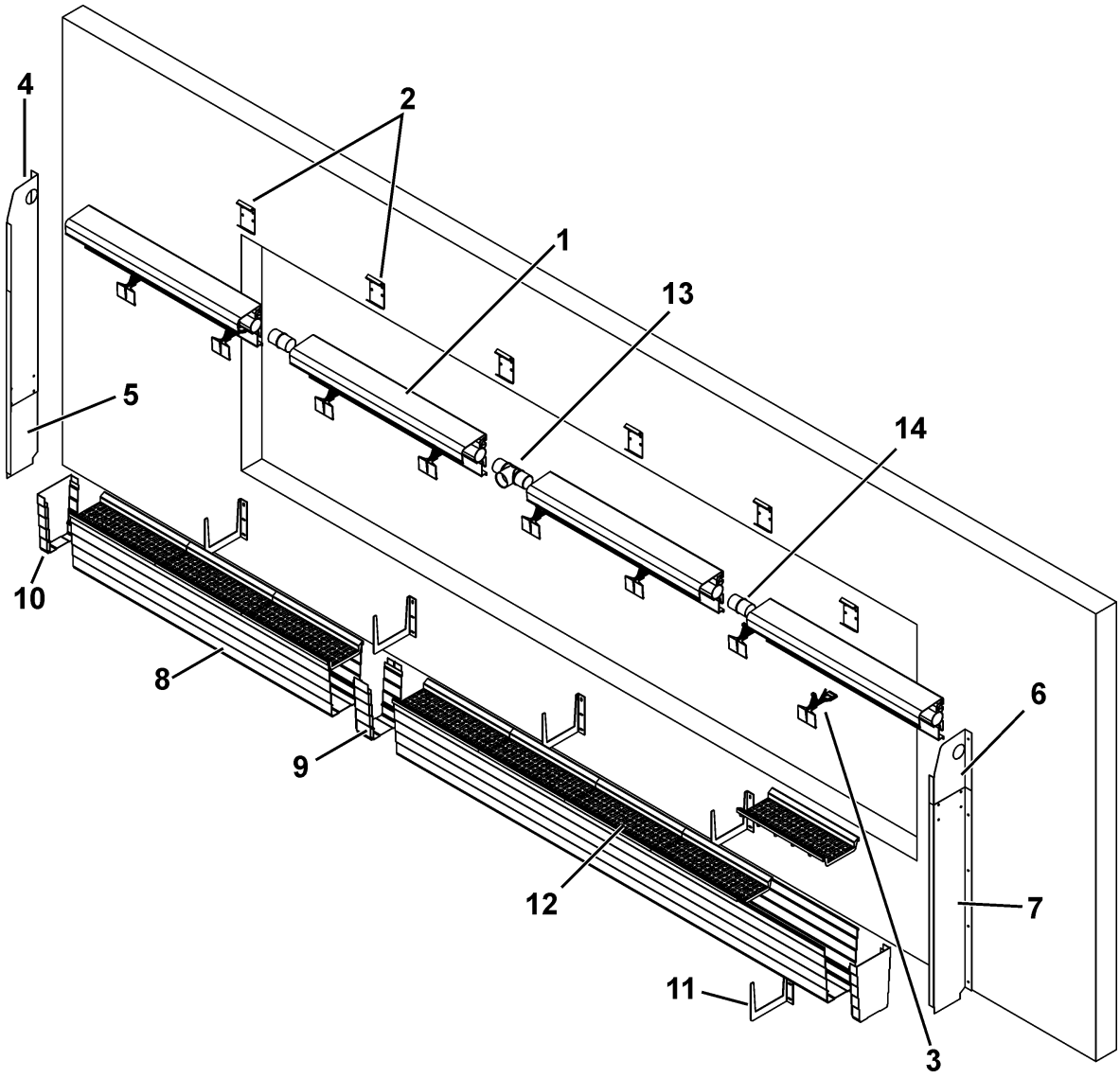
Code No. 99-97-1729 GB

Edition: 09/2007

1 Overview and system specifications



Important:	**Top view:**
The pump (2) has to be installed at a distance of approximately 50 cm from the pads (1). **The tubes have to be cut accordingly!**	
Protection against splash water: the pump has to be covered with suitable materials. (Attention: do not wrap the pump completely.)	



Pos.	Code No.	Description
1	62-00-3500	Top-profile 100/150x3000 PVC
2	60-05-1107	Bracket 2,00mm for top-profile
3a	60-05-1108	Retainer PVC for Pad 150/6"
3b	62-00-3514	Bracket PVC for Pad 100/4"
4a	60-05-1142	Side plate rh top SST RM150
4b	62-00-3518	Side plate rh upper SST RM100
5a	60-05-1143	Side plate rh bottom SST RM150
5b	62-00-3519	Side plate rh lower SST 100
6a	60-05-1140	Side plate lh top SST RM150
6b	62-00-3520	Side plate lh upper SST RM100
7a	60-05-1141	Side plate lh bottom SST RM150
7b	62-00-3521	Side plate lh lower SST RM100
8	62-00-3505	Driptrough 3000 PVC

Pos.	Code No.	Description
9	60-05-1112	Coupler for driptrough
10	60-05-1116	End piece for driptrough
11	83-02-9984	Bracket 3,00mm SST for driptrough
12a	62-00-3508	Cover for driptrough 150/500 PVC Rainmaker
12b	62-00-3507	Cover for driptrough 100/500 PVC Rainmaker
13	60-05-1162	T-piece for top-profile PVC
14	62-00-3503	Coupler for top-profile PVC

1.1 Purpose of Evaporative Cooling

The evaporative cooling is an efficient way of reducing the air temperature by drawing the air across a wetted surface (the pads). Due to contact with the large surface of the pads the air from the outside absorbs the humidity and cools off. As a result the efficiency and cooling ability of the evaporative cooling is suited for agricultural and horticultural buildings.

1.2 Description of System

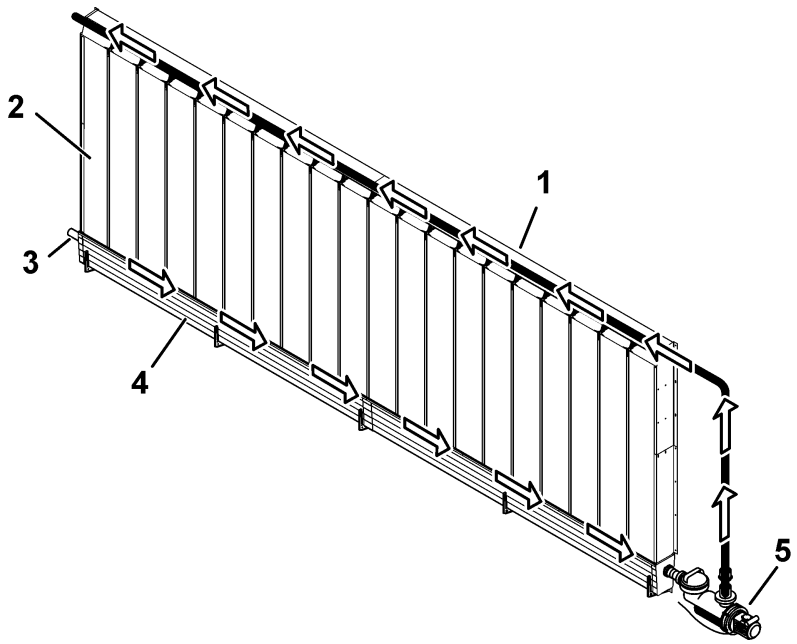
Rainmaker® evaporative cooling systems may be broken down into individual groups. The basic groups are defined by their collective purposes. These groups are listed below: Driptrough, water supply, pump, t-profile, and pads.

1. Top-profile	The t-profile (distribution pipe) is constructed of 2 in. (6,05cm) PVC pipe with holes drilled in line. These holes are drilled a certain distance apart depending on the size of pad used. When water is pumped to the distribution pipe, water shoots out of the holes onto the deflector, and then drops into the pads.
2. Pads	Constructed of cellulose fibers with a large specific surface. When water flows down the system, and air is drawn through the pads, the air evaporates some of the water, becoming much cooler. When the water reaches the bottom of the pads, it drips back into the driptrough..
3. Water supply	Water supply supplies make up water to the system.
4. Driptrough	The driptrough serves a dual purpose. It holds the water supply for the pump, and collects the water returning from the pads.
5. Pump	The pump circulates the returning water from the pads and mixes it with a part fresh water and carries it back to the distribution pipe.

1.3 Water Supply from End / Center

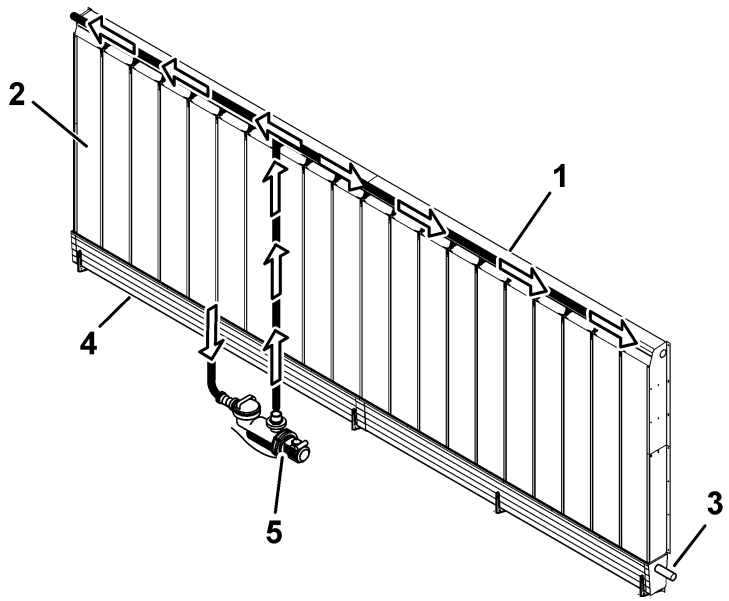
The water supply of the Rainmaker® system can be installed in 2 different variations.

End mount water supply. Suggested length to 12m (39ft).



1. Top-profile
2. Pads
3. Water supply
4. Driptrough
5. Pump

Center mount water supply. Recommended from length of 12m (39ft).



1. Top-profile
2. Pads
3. Water supply
4. Driptrough
5. Pump

1.4 Major Components and Diagram Profile

(Water supply from end or center)

D= Height of Pads:
1200mm (4ft)
1500mm (5ft)
1800mm (6ft)
2000mm (6.56ft)

A= Wall opening
A= D - 115mm (4.5in)

B= Top-profile, 215mm (8.5in)

C= Wall

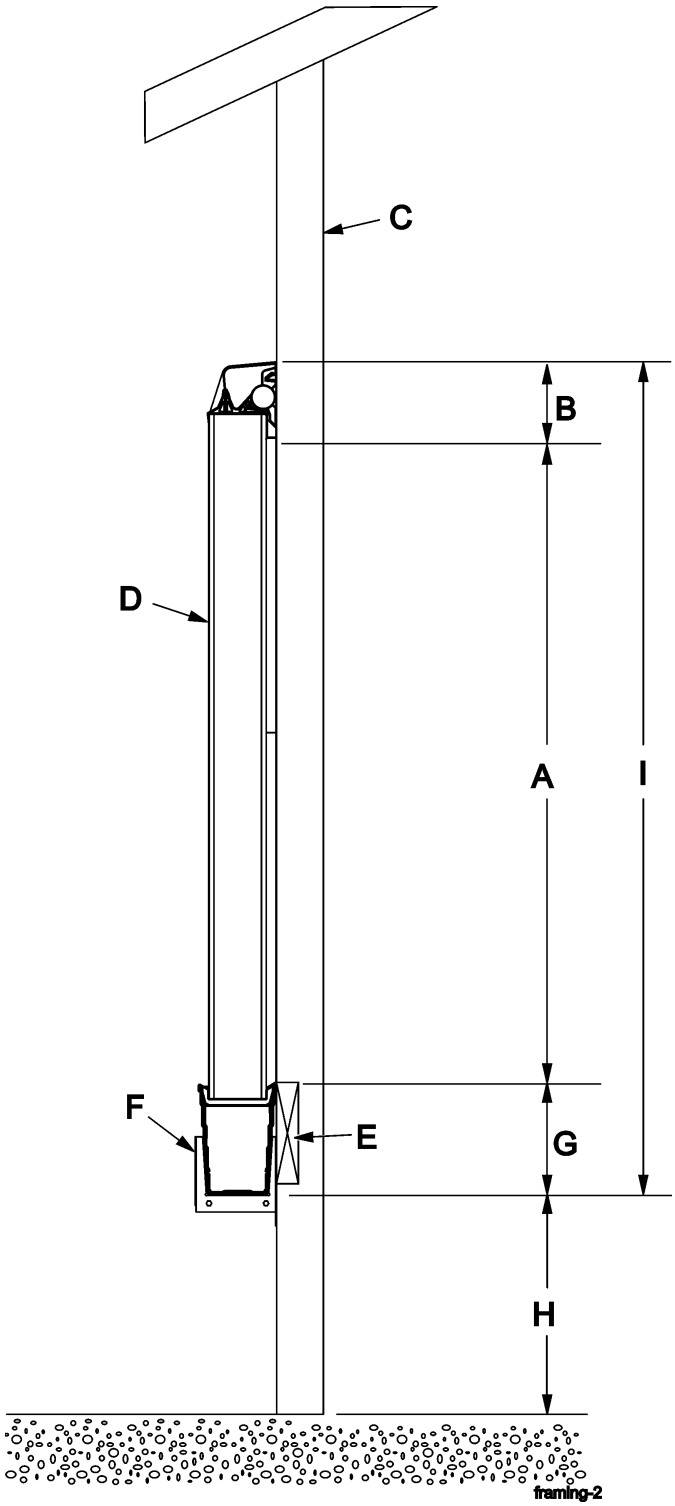
E= Substructure, wood or steel (optional)

F= Bracket for driptrough

G= Driptrough (295mm)

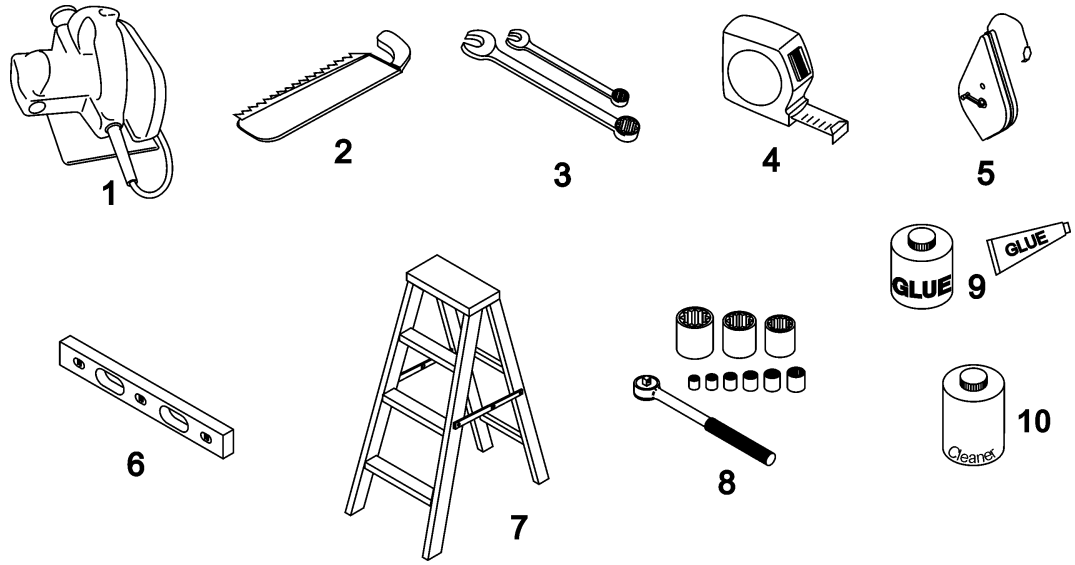
H= minimum 250mm (9.85in)
Clearance below driptrough for pump.

I= Full height of frame system
D + 395mm (15.75in)



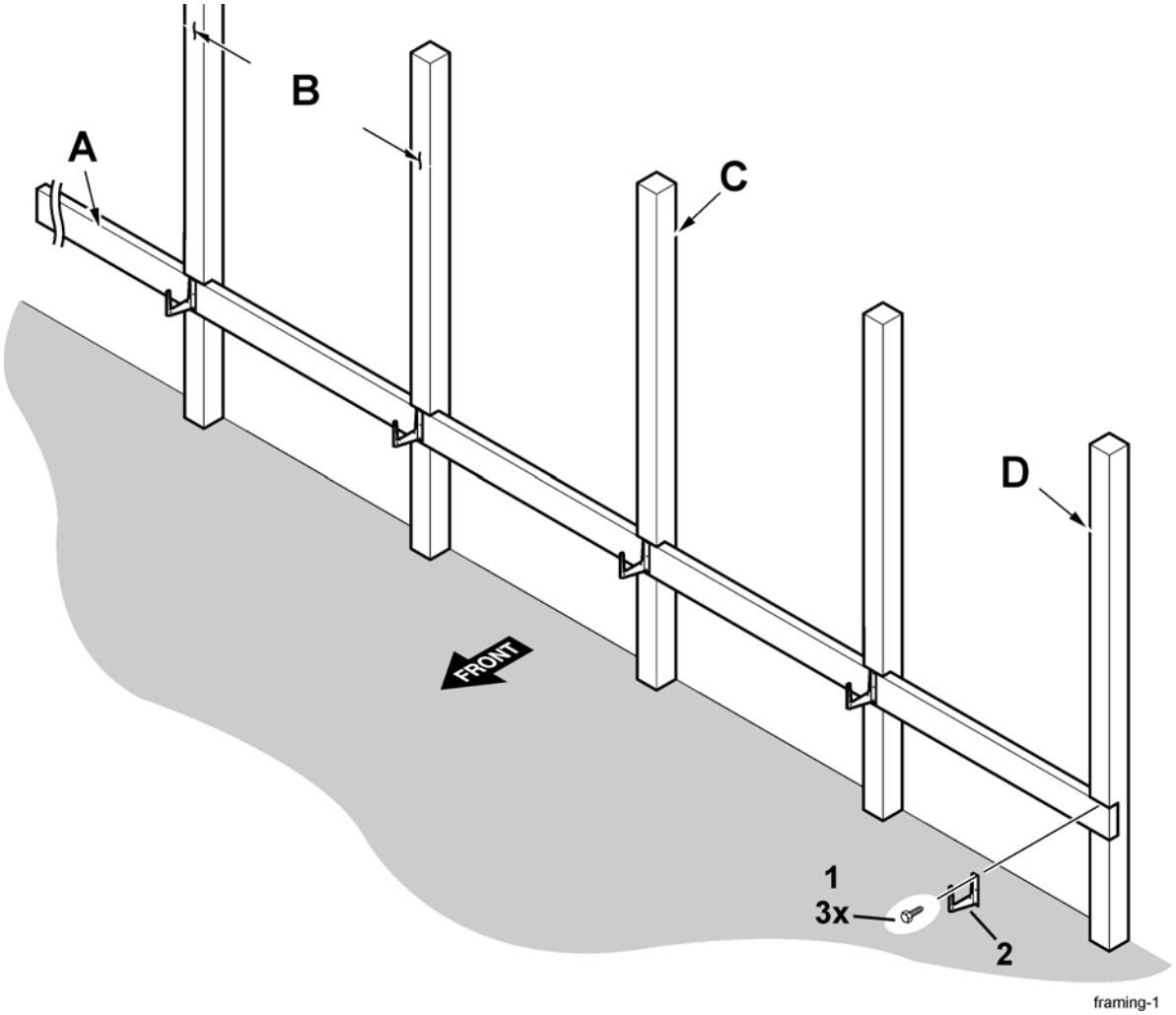
2 Assembly Rainmaker®

2.1 Required tools



1. Circular saw
2. Hacksaw
3. Wrenches
4. Tape measure
5. Chalk line
6. 24" level
7. Ladder
8. Socket set
9. PVC glue
10. PVC cleanser

2.2 Framing (optional substructure) when no stable, straight running wall is provided



A= Substructure (i.e. impregnated wood 5cm x 15cm (2in x 6in))

B= Post 1m (3.3ft) distance (center to center)

C= Post (impregnated wood)

D= Last post of frame

OPTIONAL: Substructure

If the building has a stable, straight (horizontal and vertical) wall (i.e. constructed of concrete or brickwork) no substructure is needed.

Framing

1. Refer to first chapter for the framing dimensions that best match your installation.
2. Make the hole in the wall 115mm (4.5in) smaller than the pads are high.
3. If a substructure is needed only use treated wood or similar material if the construction of the building is based on steel.

2.3 Driptrough support bracket

A= Level

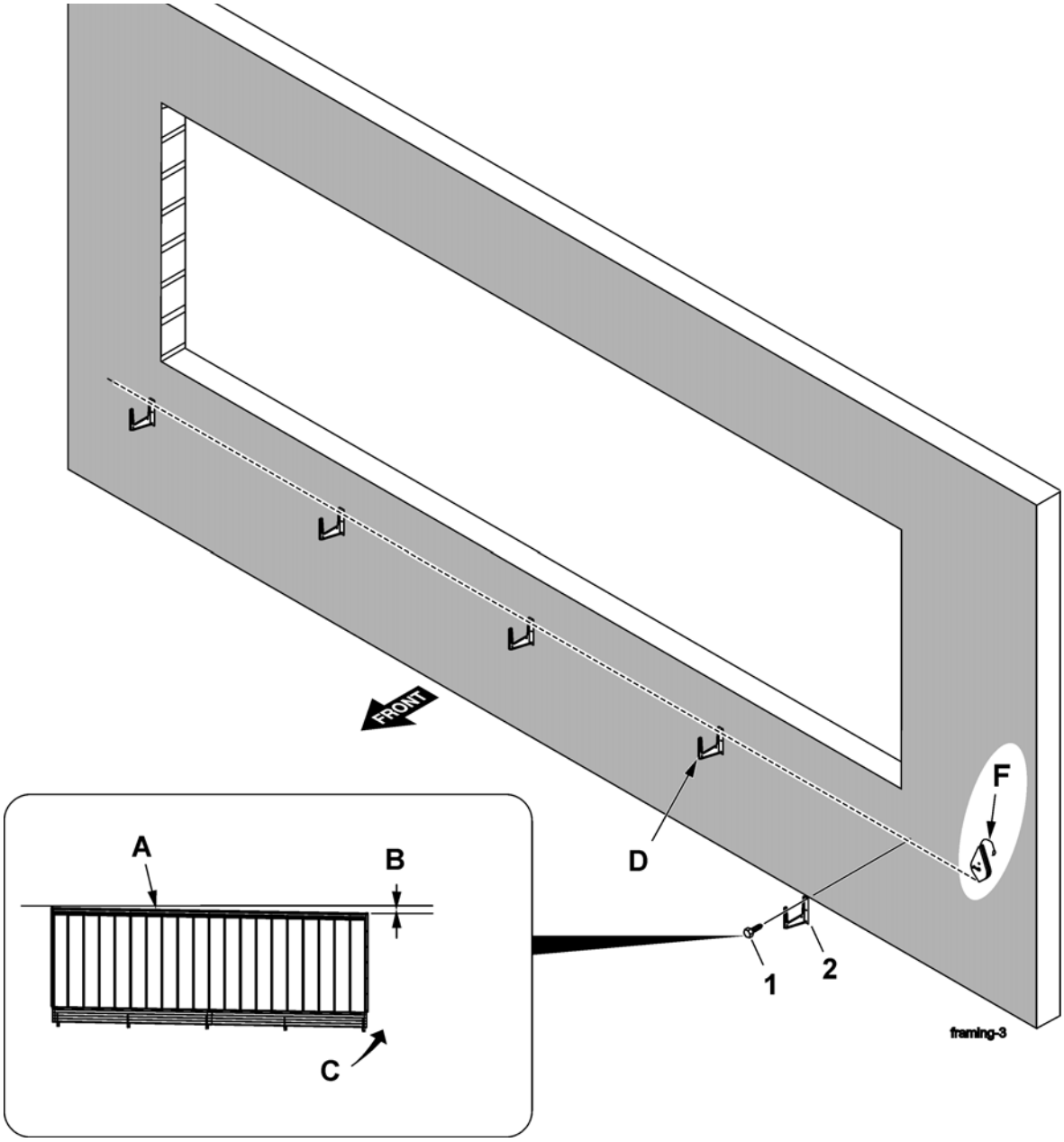
B= Install with 2cm (1in) drop end to end if end feed is used.

C= Pump location (end feed)

D= Bracket for driptrough

F= Chalk line

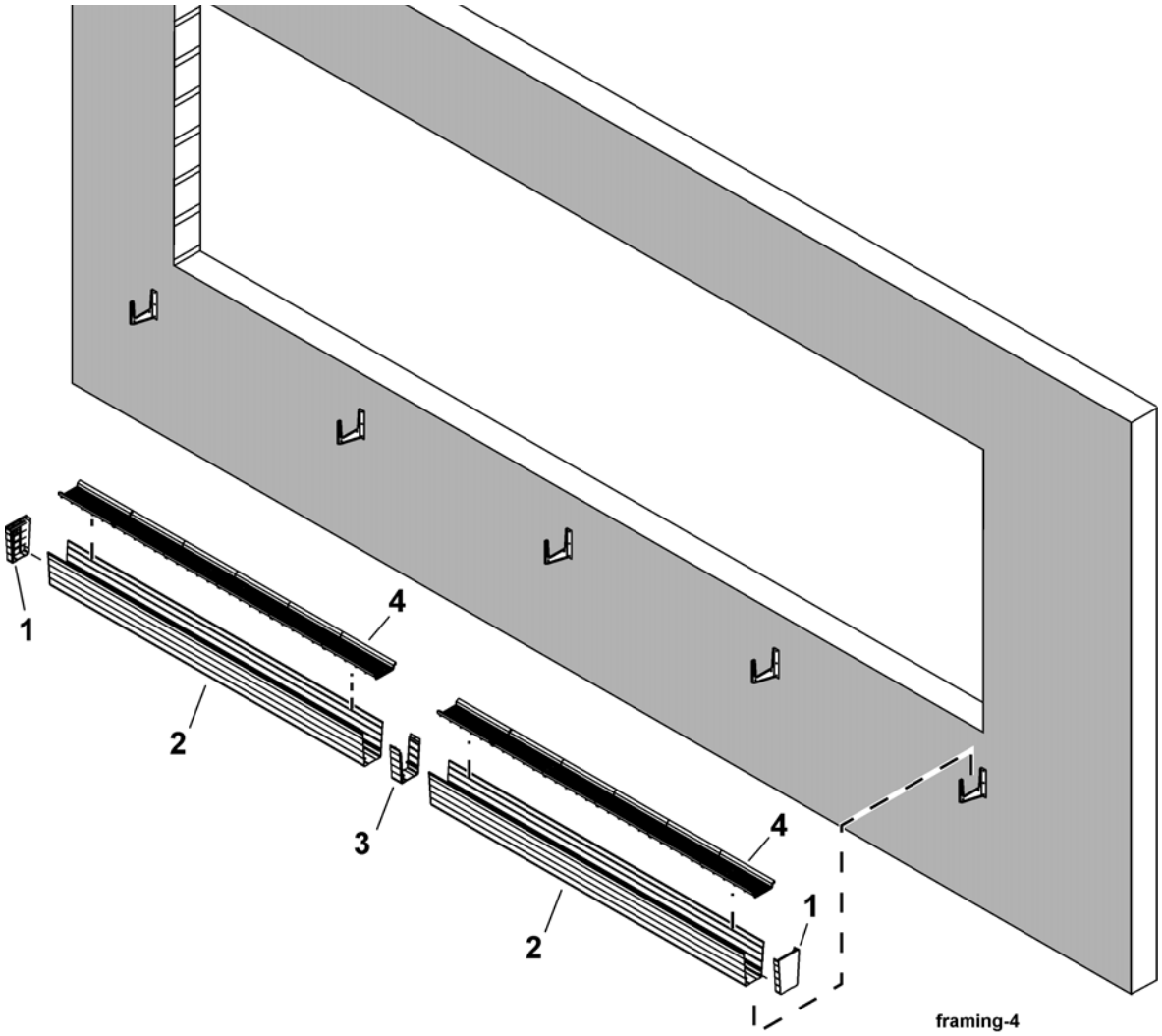
Pos.	Code No.	Description
1	99-20-1479	Hexagon wood screw 6x 50 DIN 571-A2 SST
2	60-05-1113	Bracket 3,00mm SST for driptrough Rainmaker



1. Install the driptrough support brackets to level (horizontal). If end feed is used, install with 1 in. of drop toward the pump to ensure proper water supply. See drawing above. Determine the height at which the driptrough should be mounted above the ground. Make a mark on each to indicate the proper height.
2. Make a chalk line between all of the marks.
3. Secure support brackets to the posts with 3 6x50mm SST screws.

2.4 Installing the driptrough

Pos.	Code No.	Description
1	60-05-1116	Endpiece for driptrough PVC
2	62-00-3505	Driptrough 3000 PVC
3	60-05-1112	Coupler for driptrough PVC
4	60-05-3507	Cover for driptrough 100/500 PVC Rainmaker
4	60-05-3508	Cover for driptrough 150/500 PVC Rainmaker

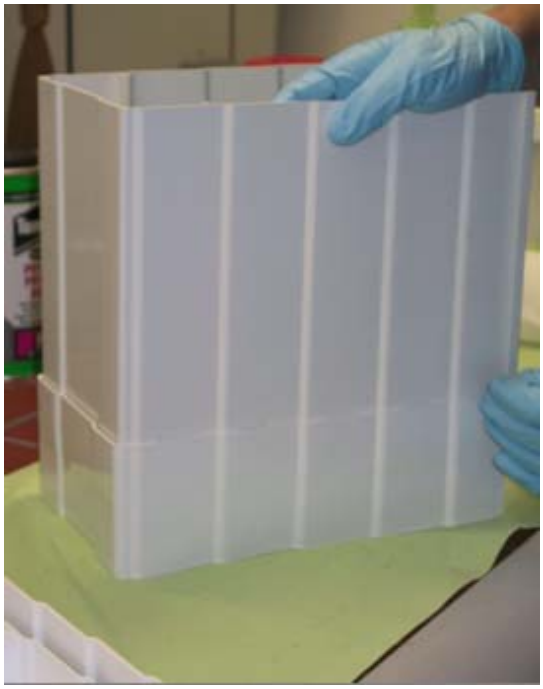


1. Glue sections of the driptrough together to form the entire length of the system. Make sure to thoroughly glue each section (see page 12).
2. Place the finished driptrough in the brackets.
3. Insert covers onto driptrough.

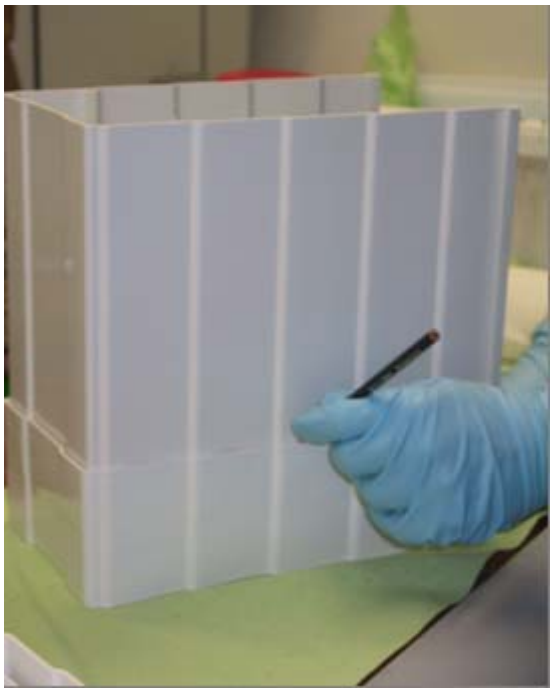
Note: Leave center driptrough covers and end driptrough covers open to facilitate installation of the pump connection and float valve connection. Refer to glueing instructions.

2.5 Correct glueing of the driptrough

The components

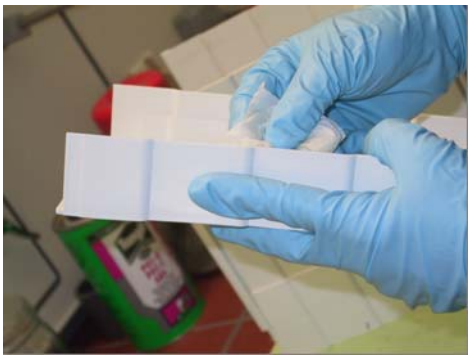


Check fitment



Mark insert depth for the components.

Final cleaning with Tangit-cleaner is done using papertowels (removal of lubricant and partial dissolution of the surfaces).

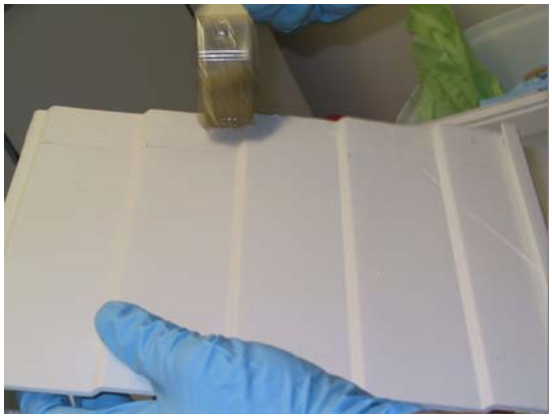


All surfaces!

Stir Tangit PVC-U well before use. It should flow slowly off a stick hold at an angle, forming a trail.

Fill the groove with Tangit PVC-U using it as a sealant.

Also glue the surfaces of the coupler with at least 1 1/2in of glue.



IMPORTANT! Assembly using **two** persons.

Put the Tangit PVC-U on both sides of the water gutter.

Only glue components together with 2 persons!

Insert water guter into the joints to stop or full depth, respectively, without twisting/ tilting and hold together for several second, until adhesive begins to dry.

Remove leftover adhesive with paper-towel or tissues.

During the first 10 min after glueing the pipes must not be moved. Check for leaks.

Done!

2.6 Installing the float valve

Important: (For the End Feed Installation)

Install the float valve at the opposite end from the water pump.

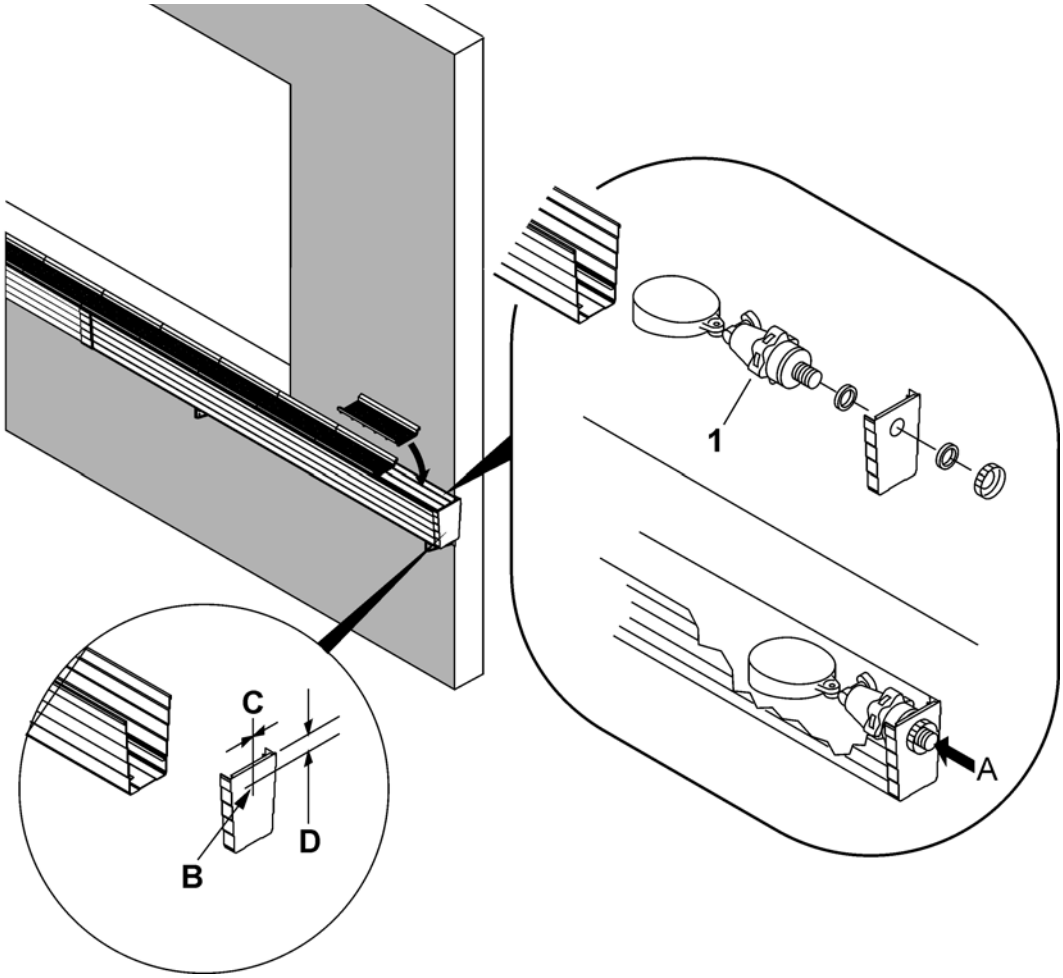
1= Float valve

A= Water supply

B= Drill hole diameter (26mm)

C= Center

D= Gap between top edge and center of drillhole is 7cm (2.75in)



Note

Water supply components have to be supplied by customer.

Pos.	Code No.	Description
1	60-05-1121	Float valve

1. Cut or drill a hole with 26mm (1in.) diameter in the center of an endpiece with the distance from top edge being 7cm (2.75in).
2. Mount quick release connect through the hole placing a gasket on each side.
3. Attach valve with 1/4 in. twist.
4. Install driptrough cover.

2.7 Installing the upper wall brackets

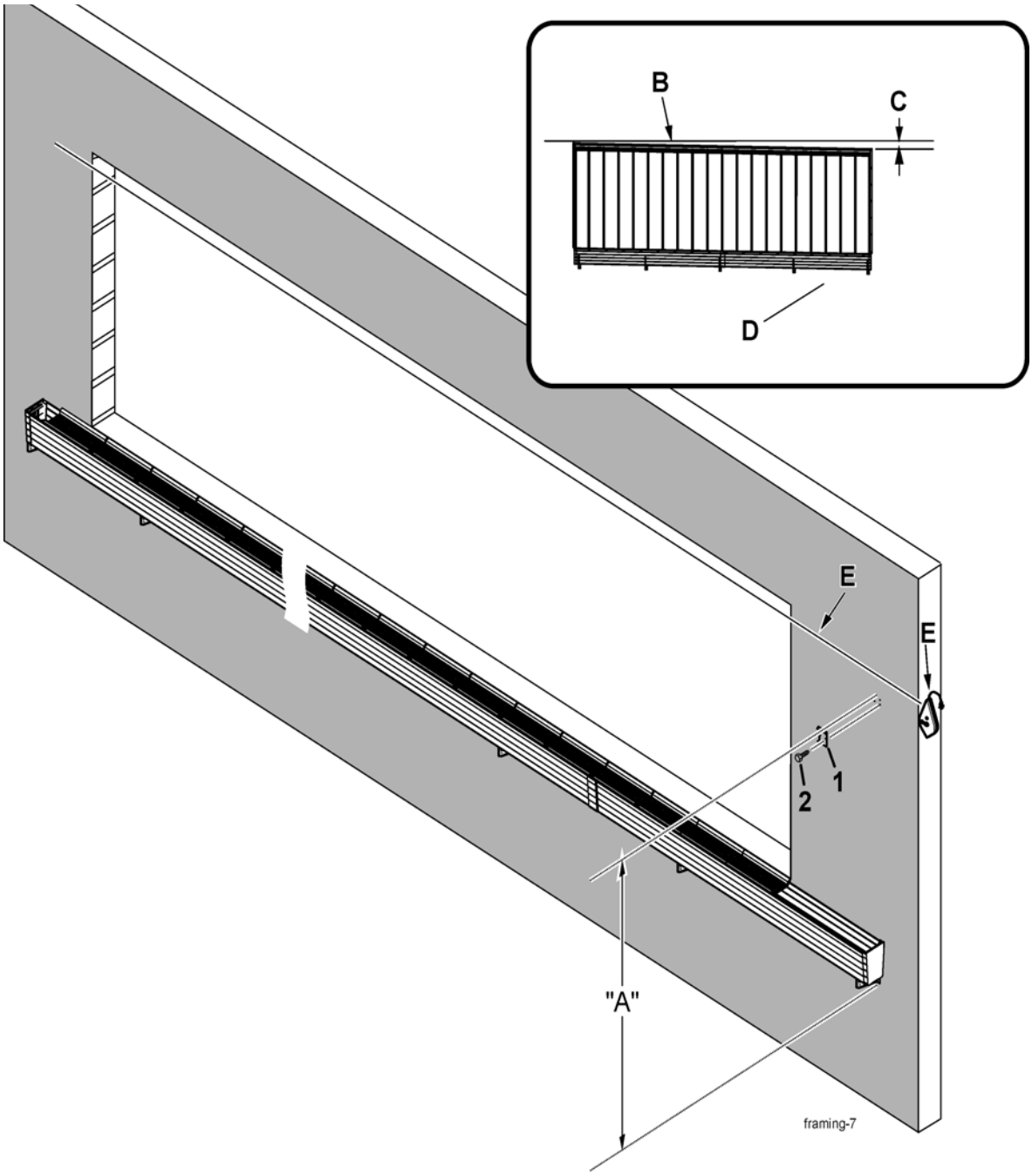
A= Height of pads:
1200mm (4ft)
1500mm (5ft)
1800mm (6ft)
2000mm (6.56ft)
(Standard heights)

B= Level / Top of pad

C= Install with 2cm (ca. 1in) drop from end to end, if water supply was chosen with end feed.

D= Pump location

E= Chalk line



Pos.	Code No.	Description
1	60-05-1107	Bracket for Top-profile
2	99-20-1478	Hexagon wood screw 6x 40 DIN 571-A2 SST

1. Put a pad on each side of the system into the driptrough. From the top edge of the pad substract 3cm (1in) and mark these points. That is the lower edge for the brackets holding the Top-profile.

   Note: Systems using end feed water supply please note the needed drop.

2. Pull a chalk line between the marks or mark each bracket as described in point 1. The distance between the brackets should be no higher than 1m (3.3ft).
3. **Secure the brackets with each 4 SST screws 6x40mm.**

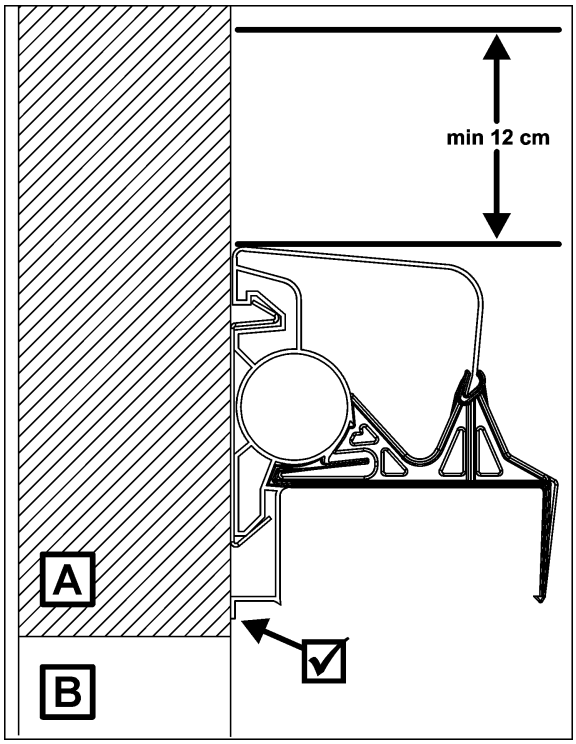
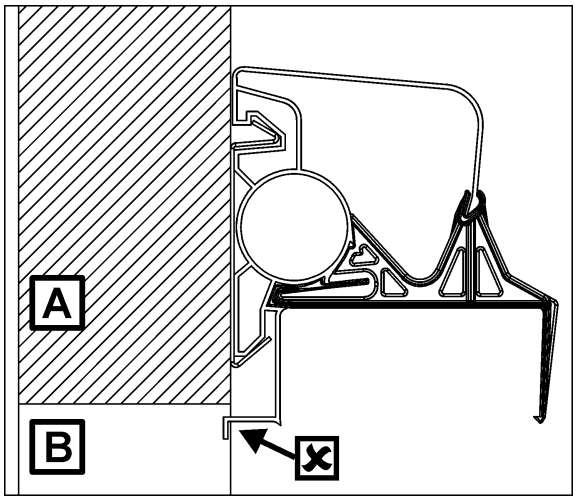
2.8 Installation of Top-profile / deflector assembly

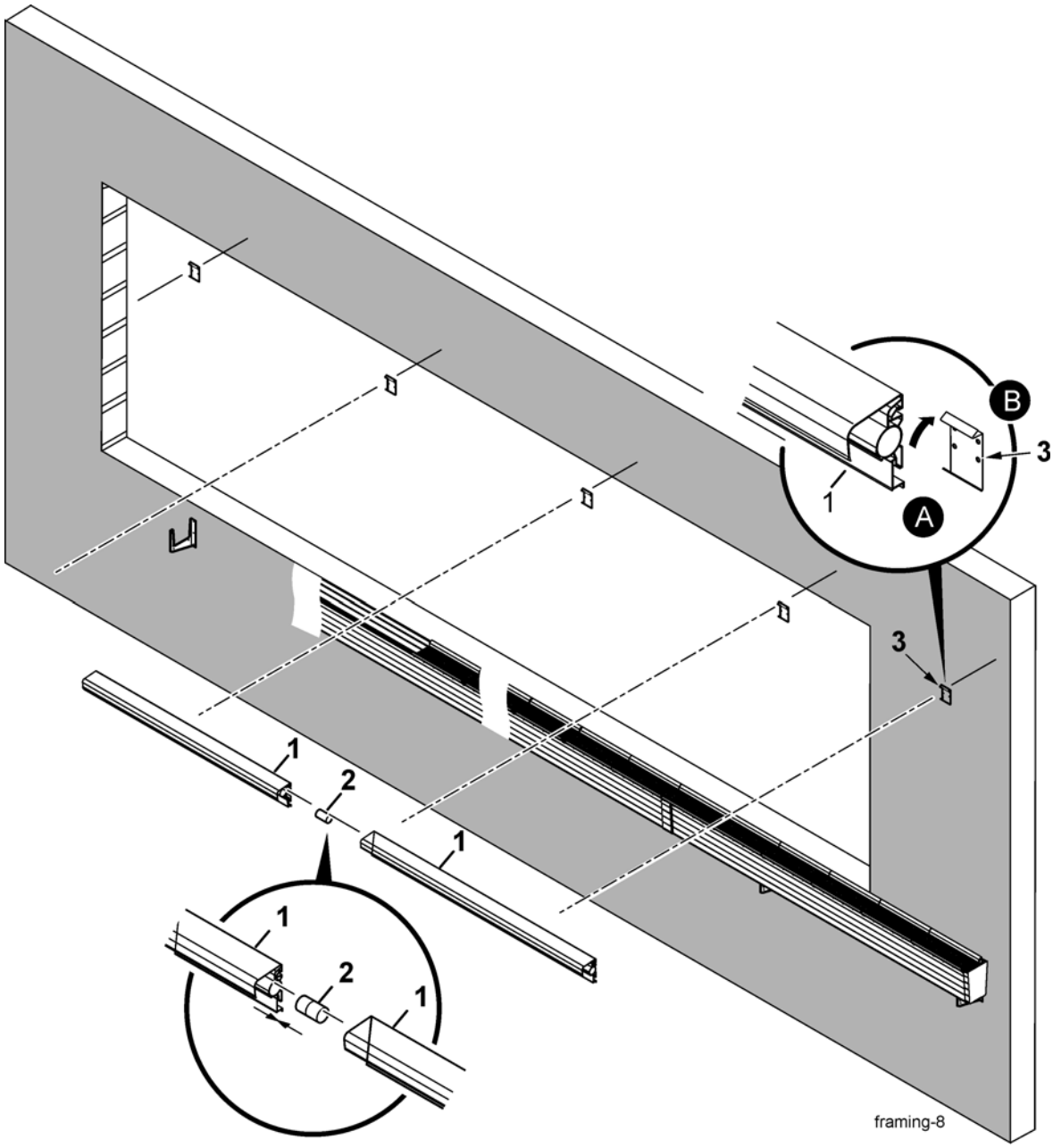
Important information:

When assembling, ensure that the bottom leg (support) of the Top-profile lies against the wall (A).

If this is not the case and the leg (support) of the Top-profile lies inside the wall opening (B), water may run behind the pad and leakage occurs.

In addition there must be at least 12 cm clearance above the Top-profile as it is otherwise not possible to fold the deflector upward for maintenance purposes.

correct	wrong
	



A= Tilt Top-profile at an angle and hook onto bracket bottom.

B= Push the Top-profile towards the brackets, so they can snap on.

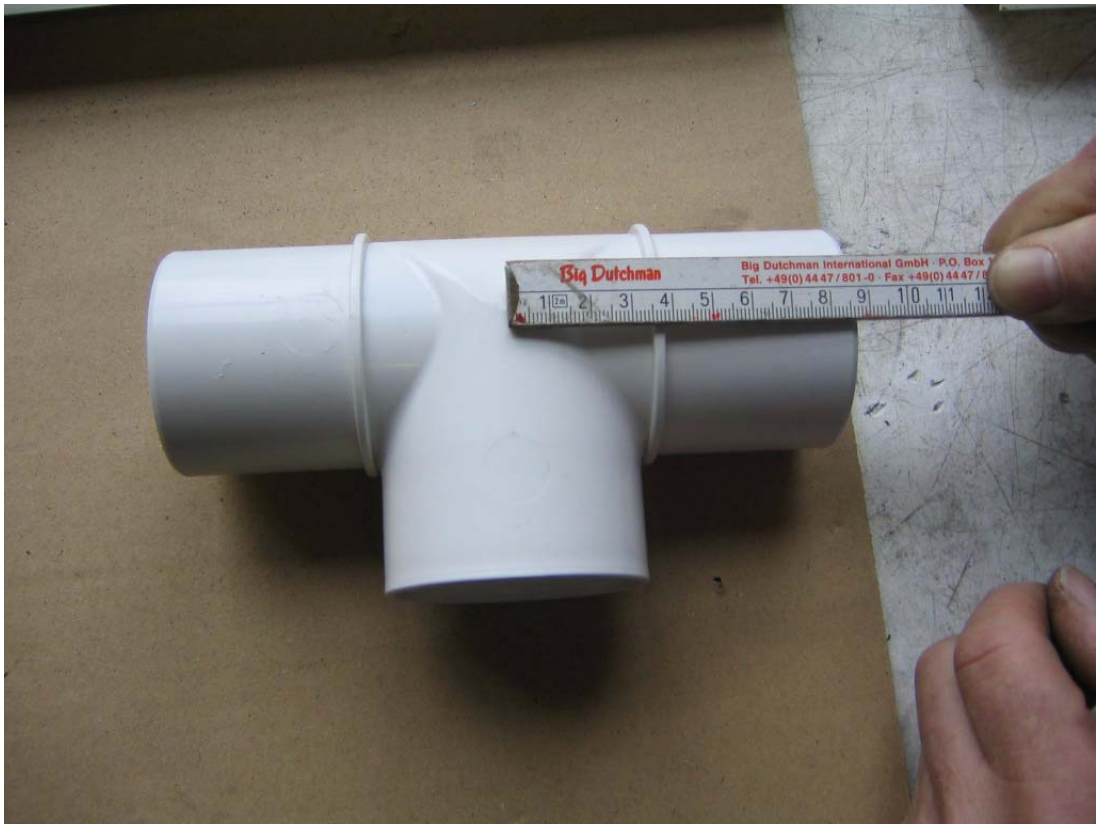
Pos.	Code No.	Description
1	62-00-3500	Top-profile
2	62-00-3503	Coupler Top-profile PVC
3	60-05-1107	Bracket 2,00mm for top-profile

1. Glue sections of the Top-profile together with the included couplers. Clean the glued sections thoroughly with PVC cleanser. Be careful when glueing parts together and use enough glue to avoid leakage.

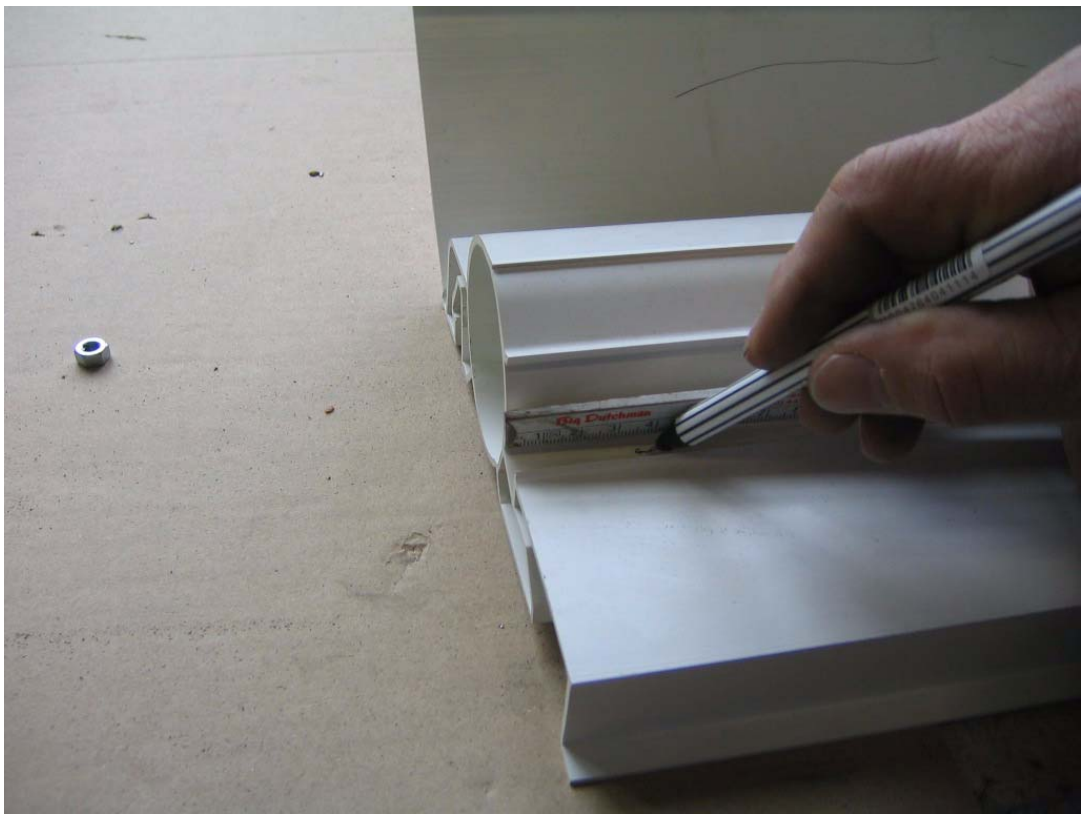
2. Align sections together so that back edges are flush.
3. For center feed systems, the provided "T"-piece must be inserted between notched (see instructions for T-piece).
4. With entire length assembled, snap Top-profile onto brackets as shown.

2.8.1 Instructions for T-piece

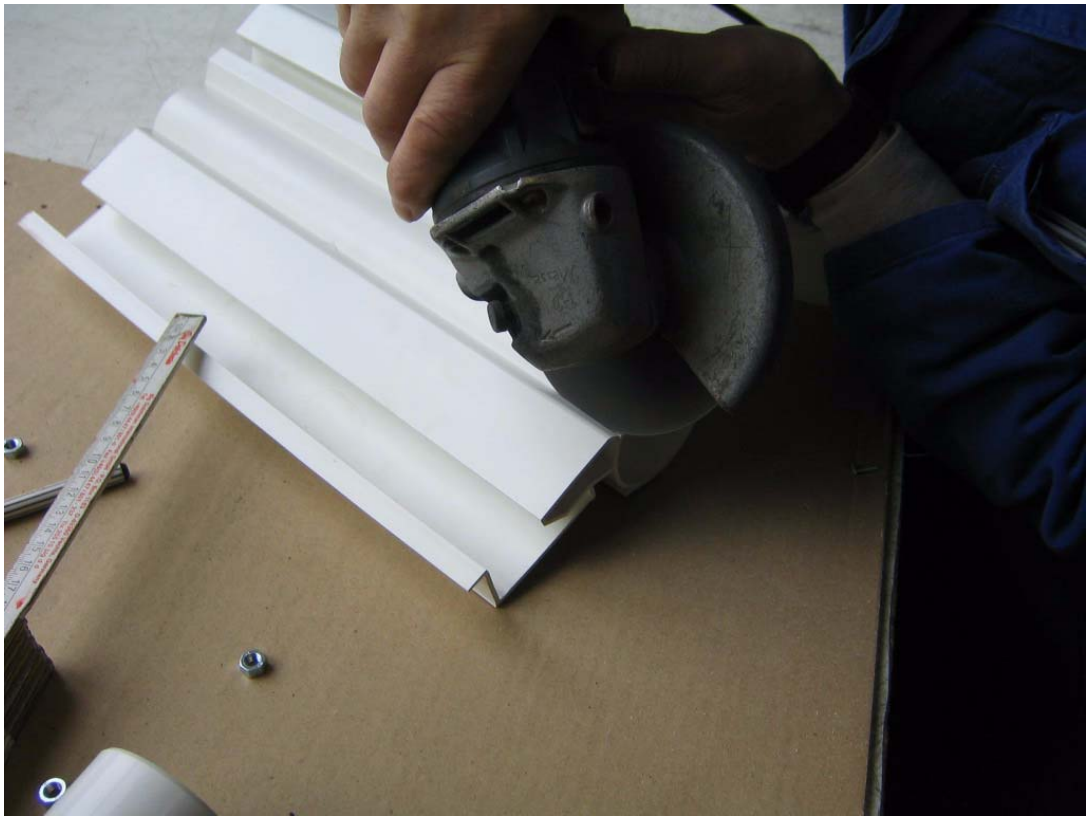
Cut out 4cm (1.575in) from the integrated piping of 2 Top-profiles.



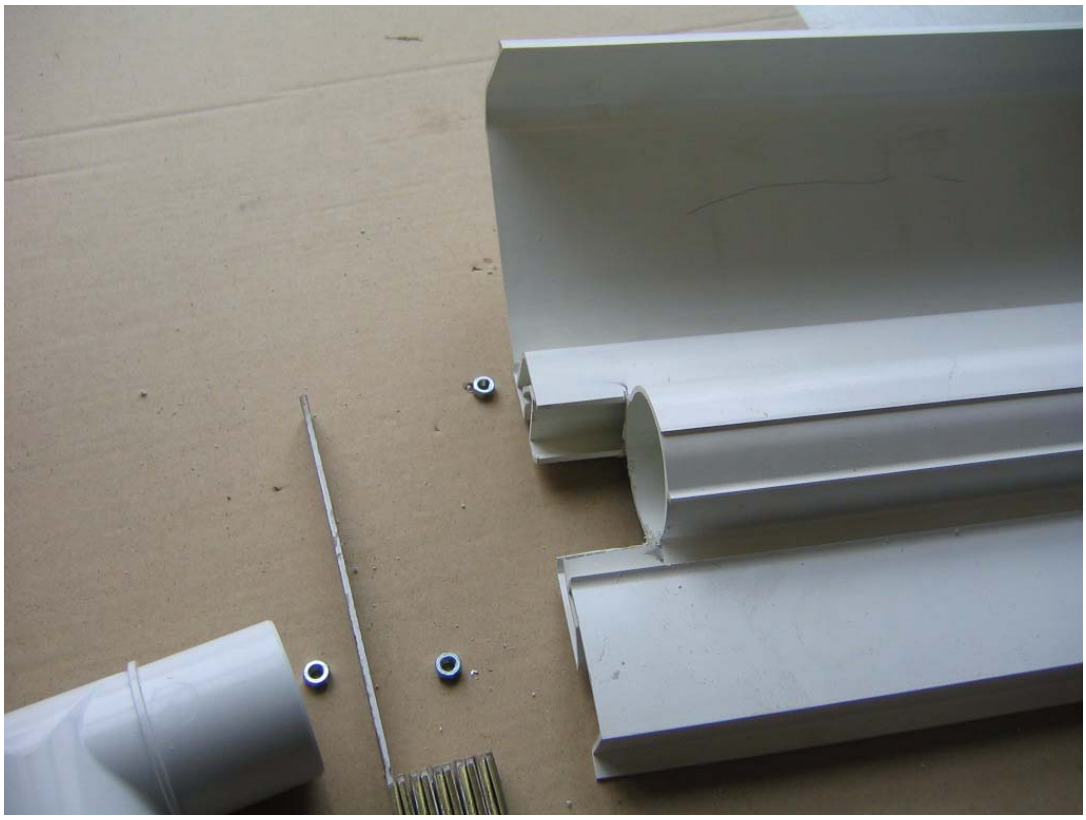
Back of Top-profile.

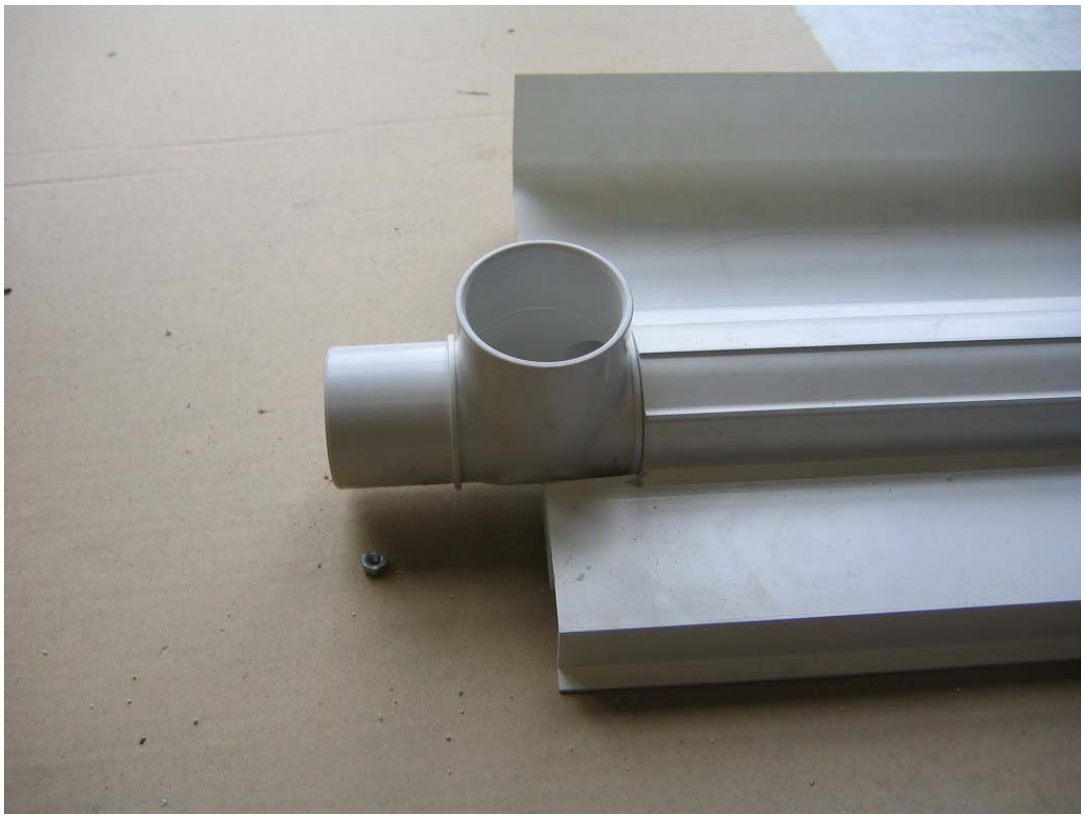


Using an angle grinder or saw cut out the integrated piping.



Cut out the corners by hand so that you do not cut into the Top-profile.





Cut out deflector.

Done!

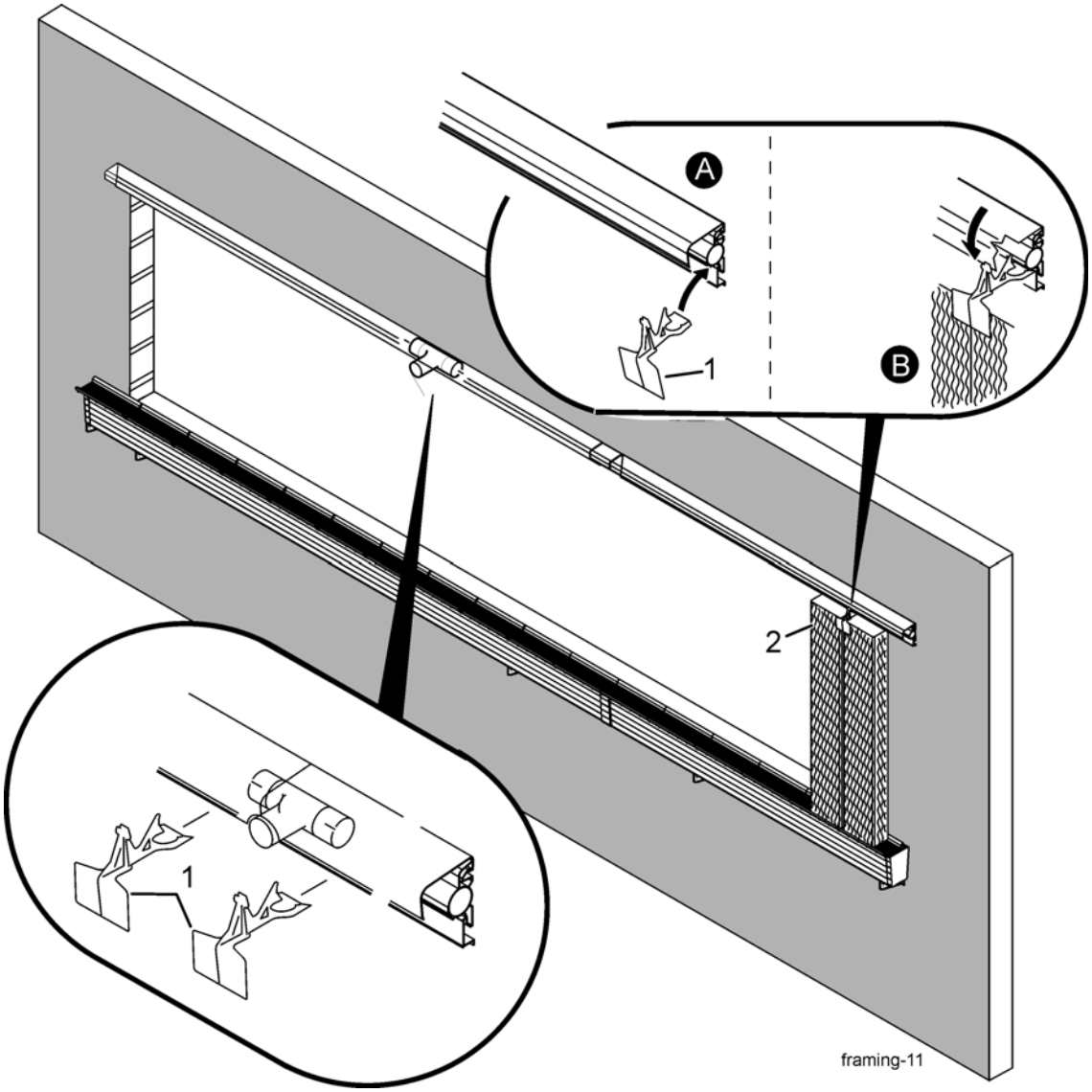
Please fill the gaps on the Top-profile with silicone.

2.9 Installing the cooling pads & retainers

Let the pad retainers snap into the guide rail. After that snap the deflector into the pad retainers.

A= Top-profile

B= Position pad retainers always between two pads.



Note: For center feed systems

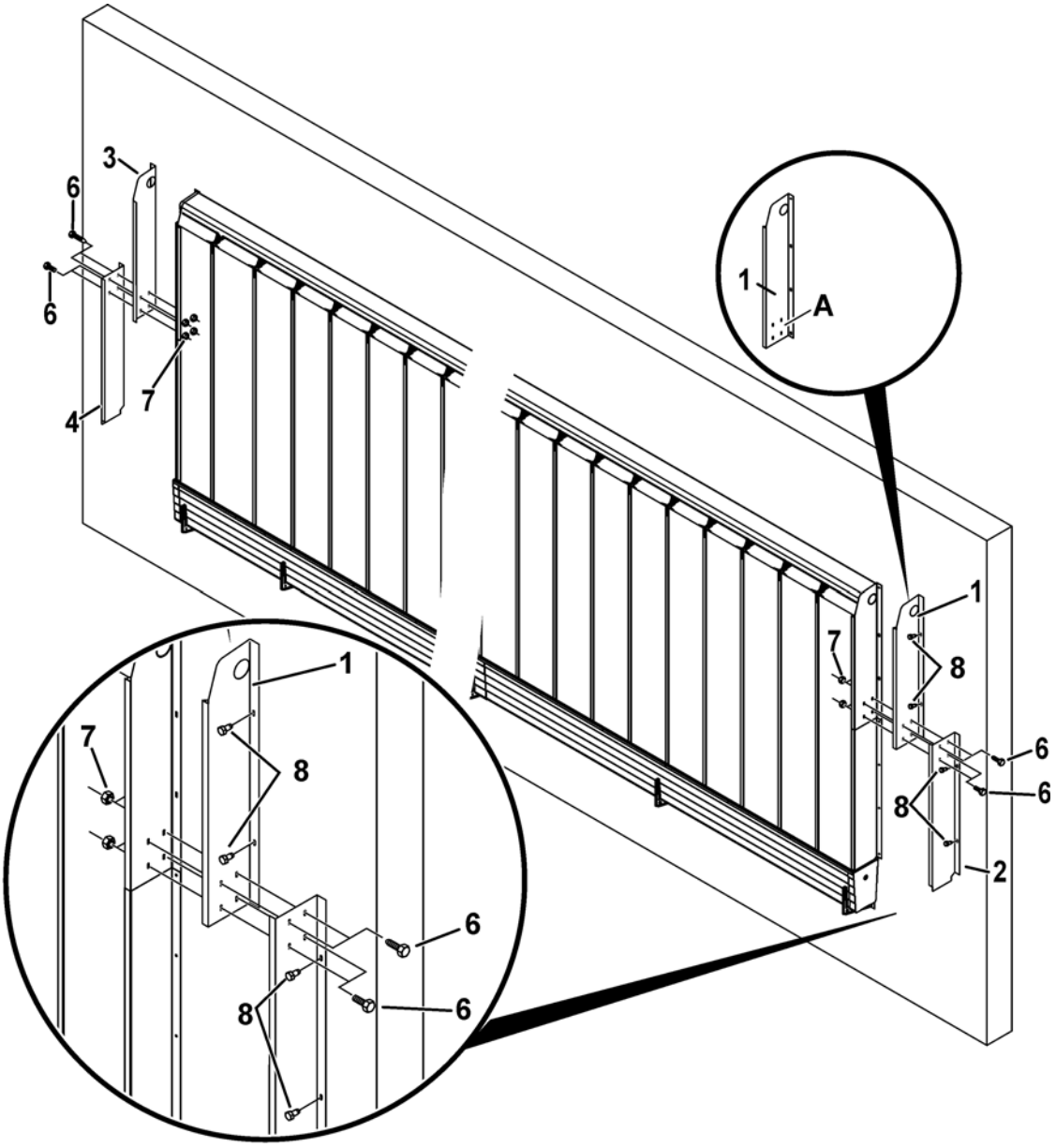
For center feed, place a Pad Retainer at each side of the T-piece.

Pos.	Code No.	Description
1a	60-05-1108	Retainer PVC for Pad 150/6"

Pos.	Code No.	Description
1b	62-00-3514	Retainer PVC for Pad 100/6"
2		Pad

2.10 Installing the end panels

A= Holes are for 2m high pads.



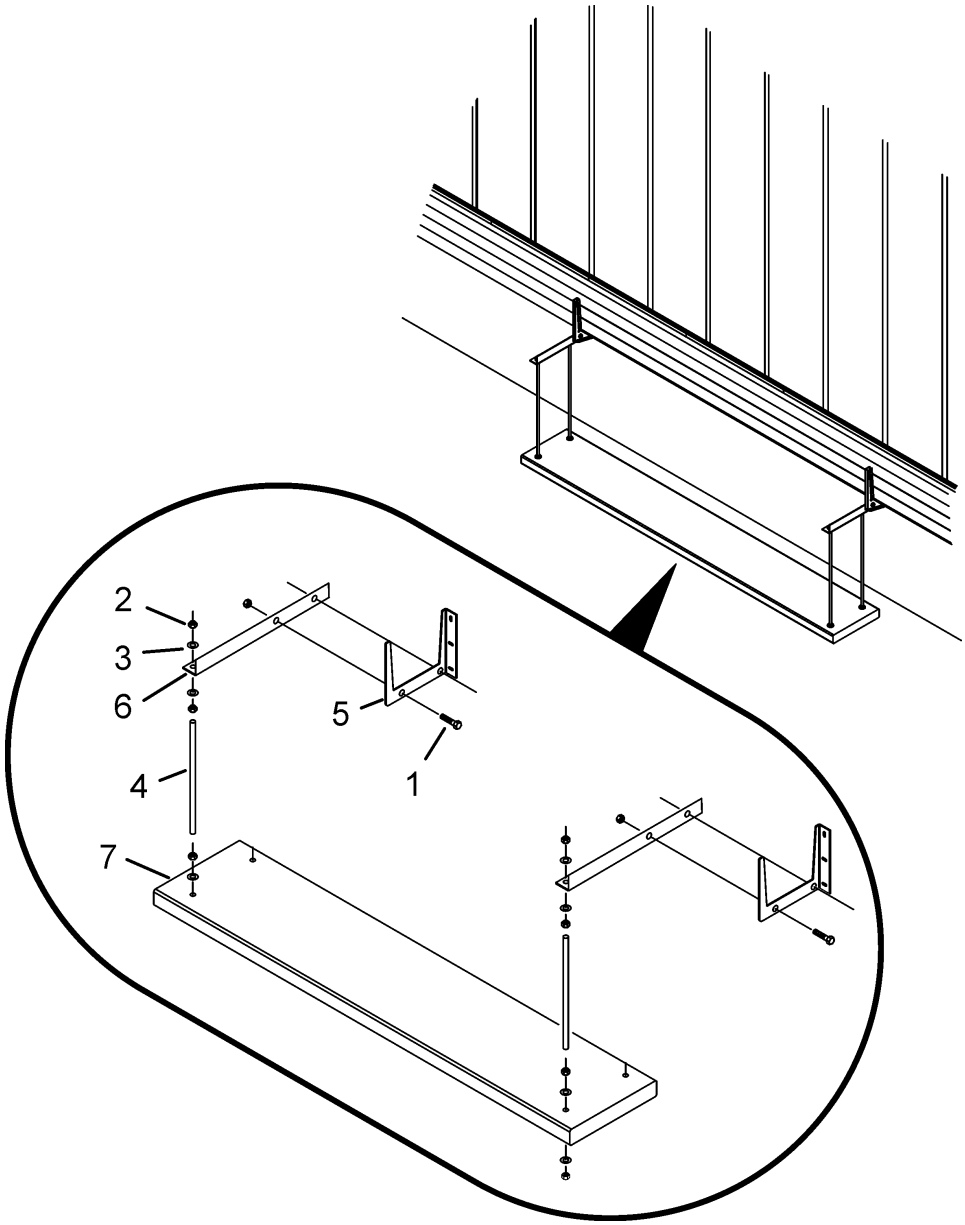
Pos.	Code No.	Description
1	65-05-1142	End panel, right, top
2	65-05-1143	End panel, right, bottom
3	65-05-1140	End panel, left, top
4	65-05-1141	End panel, left, bottom
5	99-20-1602	Washer 6,4 SST
6	99-20-1470	Hexagon head screw M 6x 12 SST DIN 933
7	99-20-1102	Hexagon nut M 6 SST DIN 934
8	99-20-1478	Hexagon wood screw 6x 40 DIN 571-A2 SST

1. Assemble the left hand bottom with the left hand top by loosely attaching the hexagon head screws M6x12 with the M6 nuts through the holes provided. Repeat for right hand.

   Note: The existing holes are for the 2m pads (6.56ft). If other pad heights are used, move the upper end panel down until the correct position is found. Then make marks on the upper end panel to drill the new 6mm holes.

2.11 Suggestion for mounting of pump substructure, if Rainmaker®-system cannot be mounted near ground (optional)

Pos.	Description
1	Hexagon Bolt
2	Nut
3	Washer
4	Threaded rod
5	Bracket for driptrough
6	Angle bracket
7	Baseplate



1. Screw the angle brackets (6) onto the 2 brackets for the driptrough (5).

2. Mount the threaded rod (4) into the angle brackets (6) as shown above.
3. Cut the baseplate (7) so it has the right size (note distance of the brackets for the reservoir).
4. Drill 4 holes into the baseplate for the pump, to be able to mount the threaded rods.
5. Install the baseplate for the pump.
6. Choose the desired height for the baseplate. NOTE: The pump has to be mounted below the water level.

2.12 Installation of pump connection

Center feed (position may not necessarily be exaclty center. Note position of the T-connection)

1. Position the bulkhead fitting (14) a little bit off to the T-piece. See drawing on following page.
2. Cut a hole with 45mm (1.77in) in diameter at the bottom of the driptrough to install the bulkhead fitting.

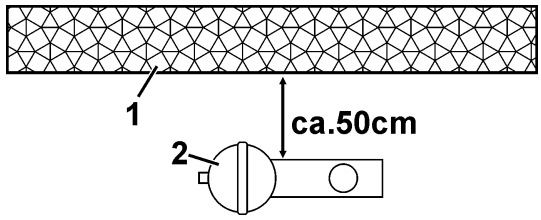
End feed

1. Position the bulkhead fitting on the opposite end of the water supply. The bulkhead fitting can be mounted below (center) the driptrough or can be placed into the end panel. If the bulkhead fitting is fitted into the end panel, please drill the hole as low as possible.
2. Cut a 45mm (1.77in) hole (center) for the fitting.
3. Install the bulkhead fitting and make sure that the gaskets are placed correctly.
4. Mount the water supply (plumbing) as shown.

2.13 Mounting the drain off (driptrough)

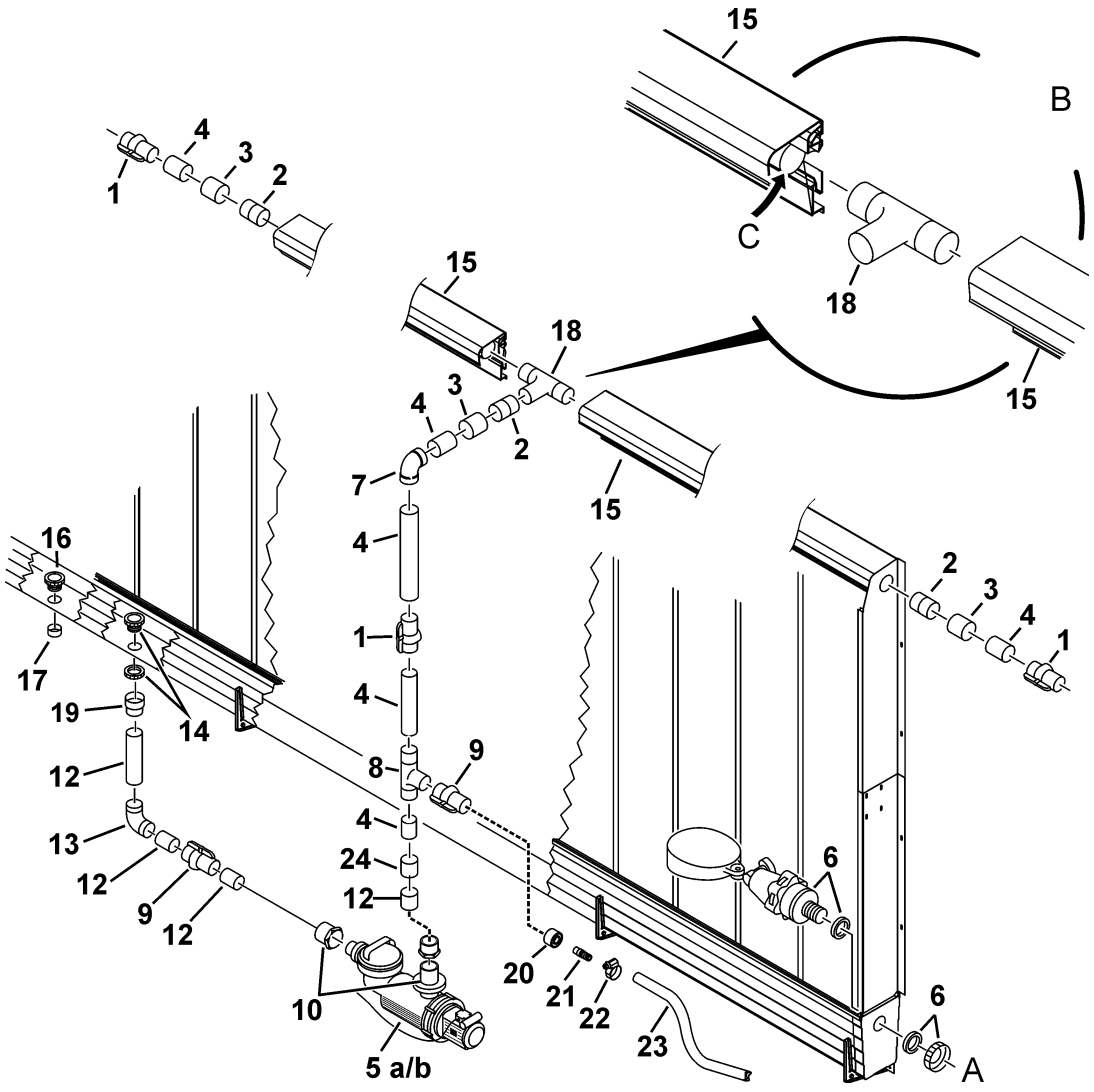
1. **Drainage (16 / 17): The drain off should be positioned at the opposite end of the float valve.**
2. Cut a 40mm (1.6in) hole centerly into the driptrough for the drain off (16 / 17).
3. Install the drain off for the driptrough as shown in the drawing below (16 / 17).

2.14 Installing the plumbing (center feed)

Important:	**Top view:**
The pump (2) has to be installed at a distance of approximately 50 cm from the pads (1). **The tubes have to be cut accordingly!**	
Protection against splash water: the pump has to be covered with suitable materials. (Attention: do not wrap the pump completely.)	

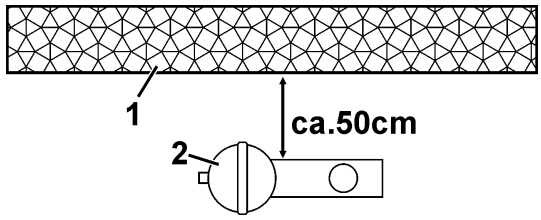
A= Water supply

B= Important: For center feed systems => Pre-cutout section in the Top-profile for the T-piece. See chapter 2.8.1



Pos.	Code No.	Description
1	99-40-3987	Ball valve 63mm PVC NP16
2	62-00-3503	Coupler for Top-profile PVC Rainmaker
3	99-40-4043	Sleeve 63mmx2"
4	20-50-1066	Pipe 63mmx3,00 PVC
5a	62-00-3522	Centrifugal pump # 810-1 upto 12m padlength CE-IP55/conn. 50
5b	62-00-3523	Centrifugal pump # 819-1 upto 30m padlength CE-IP55/conn. 50
6	60-05-1121	Float Valve
7	20-50-1052	Elbow 63 - 90deg PVC NP16
8	99-40-3799	T-piece 63x50Ax63 PVC
9	99-40-3986	Ball valve 50mm PVC NP16
10		Screw socket inside 50mm / outside 2inch (60mm)
12	99-40-3730	Pipe 50x2,50 PVC
13	99-40-3739	Elbow 50 - 90deg PVC NP16
14	99-40-4042	Table duct 1 3/4"m x 40/50 PVC
15	62-00-3500	Top-profile 100/150x3000 PVC
16	99-40-4093	Table duct 1 1/4"m x 32 PVC with clamping nut
17	99-40-4094	Cap 1 1/4" PVC
18	60-05-1162	T-piece for Top-profile PVC
19	99-40-3733	Socket 50mm PVC NP16
20	99-40-3737	Reducing bush 50od x 20id PVC
21	99-40-3829	Hose nozzle 22x20 PVC
22	30-00-3709	Hose band clip 3/4" 20- 32
23	30-00-3051	Hose high pressure 3/4"
24	99-40-3748	Reducing socket 63 x 50 PVC

2.15 Installing the plumbing with supply unit (center feed)

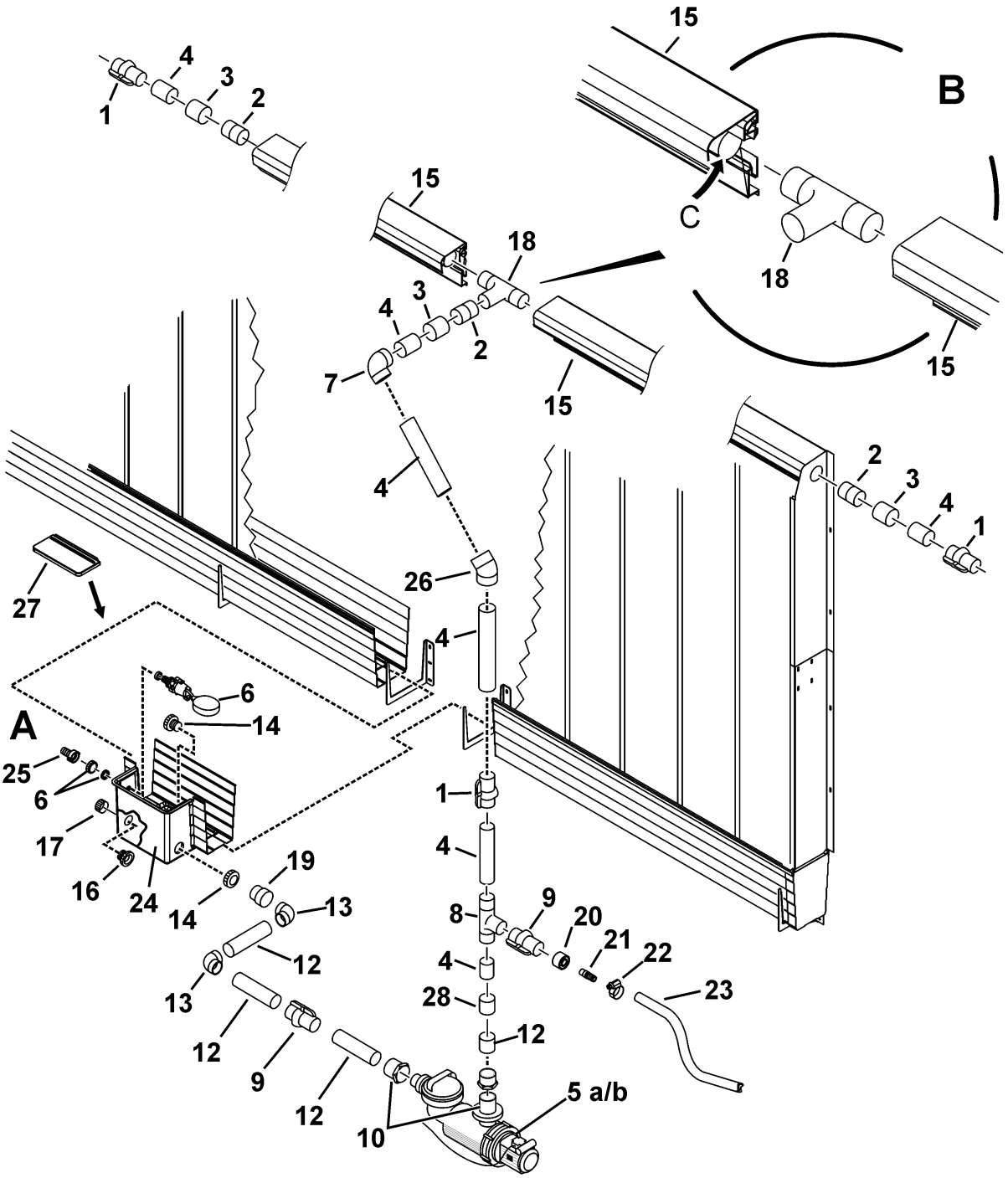
Important:	**Top view:**
The pump (2) has to be installed at a distance of approximately 50 cm from the pads (1). **The tubes have to be cut accordingly!**	
Protection against splash water: the pump has to be covered with suitable materials. (Attention: do not wrap the pump completely.)	

Pos.	Code No.	Description
1	99-40-3987	Ball valve 63mm PVC NP16
2	62-00-3503	Coupler for Top-profile PVC Rainmaker
3	99-40-4043	Sleeve 63mmx2"
4	20-50-1066	Pipe 63mmx3,00 PVC
5a	62-00-3522	Centrifugal pump # 810-1 upto 12m padlength CE-IP55/ conn. 50
5b	62-00-3523	Centrifugal pump # 819-1 upto 30m padlength CE-IP55/ conn. 50
6	60-05-1121	Float Valve
7	20-50-1052	Elbow 63 - 90deg PVC NP16
8	99-40-3799	T-piece 63x50Ax63 PVC
9	99-40-3986	Ball valve 50mm PVC NP16
10		Screw socket inside 50mm / outside 2inch (60mm)
12	99-40-3730	Pipe 50x2,50 PVC
13	99-40-3739	Elbow 50 - 90deg PVC NP16
14	99-40-4042	Table duct 1 3/4"m x 40/50 PVC
15	62-00-3500	Top-profile 100/150x3000 PVC
16	99-40-4093	Table duct 1 1/4"m x 32 PVC with clamping nut
17	99-40-4094	Cap 1 1/4" PVC
18	60-05-1162	T-piece for Top-profile PVC
19	99-40-3733	Socket 50mm PVC NP16
20	99-40-3737	Reducing bush 50od x 20id PVC
21	99-40-3829	Hose nozzle 22x20 PVC
22	30-00-3709	Hose band clip 3/4" 20- 32
23	30-00-3051	Hose high pressure 3/4"
24	62-00-3526	Supply unit RM 500mm PVC
25	30-00-3070	Hose nozzle orange 3/4"fm cpl w/swivel nut and gasket
26	20-50-3714	Elbow 63 - 45deg PVC NP16

Pos.	Code No.	Description
27		Lid for supply unit
28	99-40-3748	Reducing socket 63 x 50 PVC

A= Water supply

B= Important: For center feed systems => Pre-cutout section in the Top-profile for the T-piece. See chapter 2.8.1

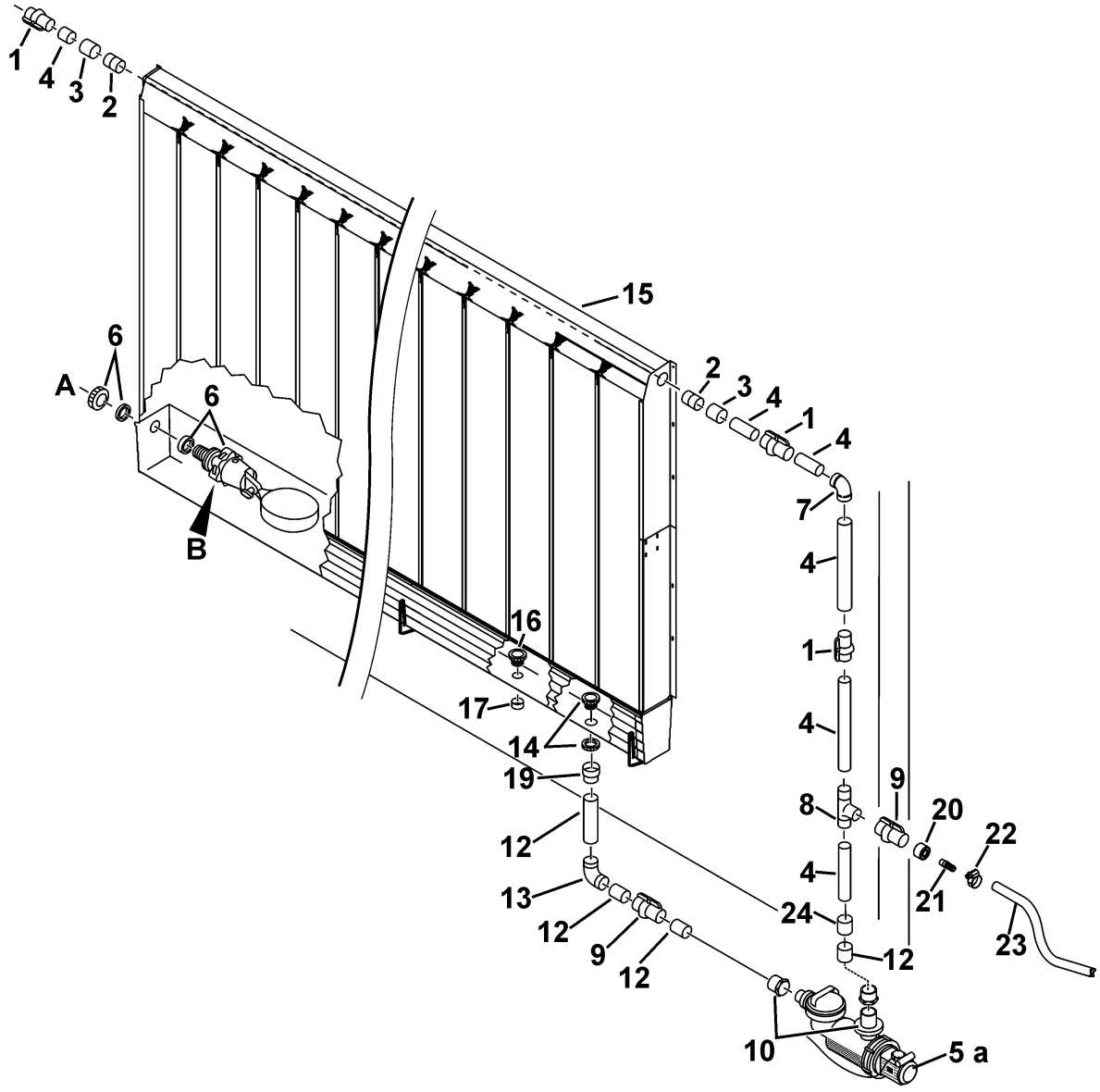


After the assembly the supply unit is closed with the corresponding lid.

2.16 Installing the plumbing (end feed)

A= Fresh water supply

B= Important: For the end feed installation. Install the float valve (6) at the opposite end of the water pump.

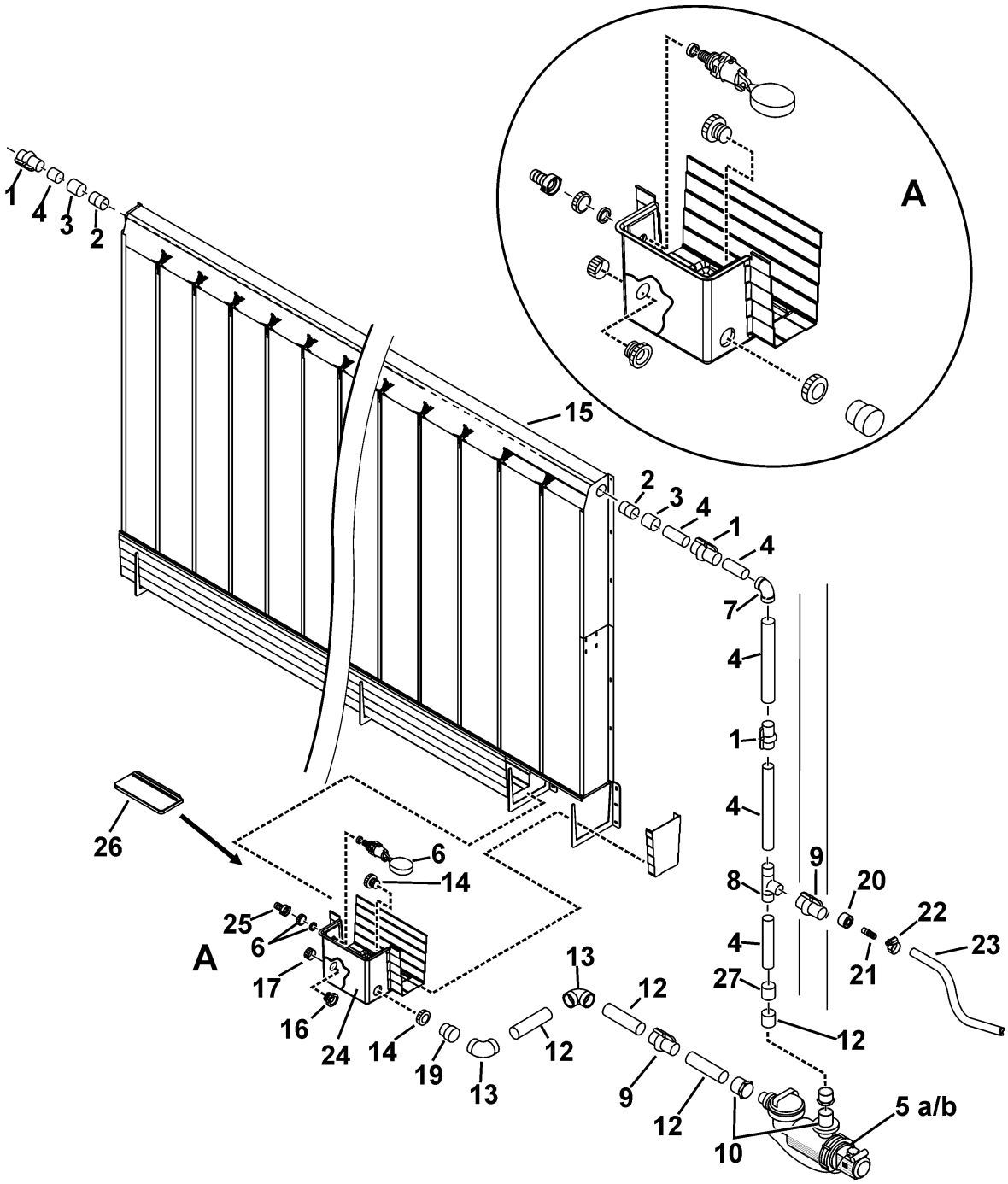


Pos.	Code No.	Description
1	99-40-3987	Ball valve 63mm PVC NP16
2	62-00-3503	Coupler for Top-profile PVC Rainmaker

Pos.	Code No.	Description
3	99-40-4043	Sleeve 63mmx2"
4	20-50-1066	Pipe 63mmx3,00 PVC
5a	62-00-3522	Centrifugal pump # 810-1 upto 12m padlength CE-IP55/conn. 50
6	60-05-1121	Float Valve
7	20-50-1052	Elbow 63 - 90deg PVC NP16
8	99-40-3799	T-piece 63x50Ax63 PVC
9	99-40-3986	Ball valve 50mm PVC NP16
10		Screw socket inside 50mm / outside 2inch (60mm)
12	99-40-3730	Pipe 50x2,50 PVC
13	99-40-3739	Elbow 50 - 90deg PVC NP16
14	99-40-4042	Table duct 1 3/4"m x 40/50 PVC
15	62-00-3500	Top-profile 100/150x3000 PVC
16	99-40-4093	Table duct 1 1/4"m x 32 PVC with clamping nut
17	99-40-4094	Cap 1 1/4" PVC
19	99-40-3733	Socket 50mm PVC NP16
1	99-40-3987	Ball valve 63mm PVC NP16
20	99-40-3737	Reducing bush 50od x 20id PVC
21	99-40-3829	Hose nozzle 22x20 PVC
22	30-00-3709	Hose band clip 3/4" 20- 32
23	30-00-3051	Hose high pressure 3/4"
24	99-40-3748	Reducing socket 63 x 50 PVC

2.17 Installing the plumbing with supply unit (end feed)

A= Fresh water supply



After the assembly the supply unit is closed with the corresponding lid.

Pos.	Code No.	Description
1	99-40-3987	Ball valve 63mm PVC NP16
2	62-00-3503	Coupler for Top-profile PVC Rainmaker
3	99-40-4043	Sleeve 63mmx2"

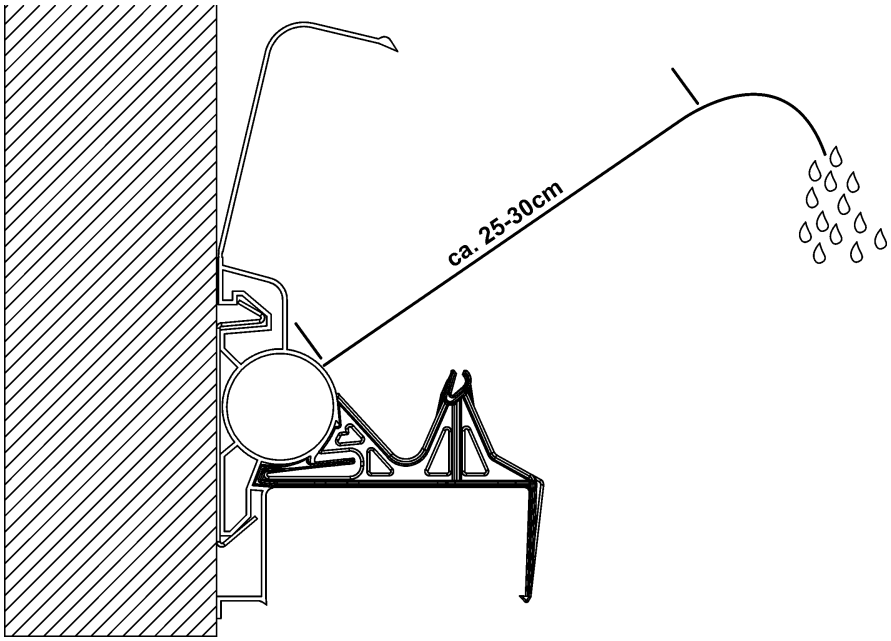
Pos.	Code No.	Description
4	20-50-1066	Pipe 63mmx3,00 PVC
5a	62-00-3522	Centrifugal pump # 810-1 upto 12m padlength CE-IP55/conn. 50
6	60-05-1121	Float Valve
7	20-50-1052	Elbow 63 - 90deg PVC NP16
8	99-40-3799	T-piece 63x50Ax63 PVC
9	99-40-3986	Ball valve 50mm PVC NP16
10		Screw socket inside 50mm / outside 2inch (60mm)
12	99-40-3730	Pipe 50x2,50 PVC
13	99-40-3739	Elbow 50 - 90deg PVC NP16
14	99-40-4042	Table duct 1 3/4"m x 40/50 PVC
15	62-00-3500	Top-profile 100/150x3000 PVC
16	99-40-4093	Table duct 1 1/4"m x 32 PVC with clamping nut
17	99-40-4094	Cap 1 1/4" PVC
19	99-40-3733	Socket 50mm PVC NP16
1	99-40-3987	Ball valve 63mm PVC NP16
20	99-40-3737	Reducing bush 50od x 20id PVC
21	99-40-3829	Hose nozzle 22x20 PVC
22	30-00-3709	Hose band clip 3/4" 20- 32
23	30-00-3051	Hose high pressure 3/4"
24	62-00-3526	Supply unit RM 500mm PVC
25	30-00-3070	Hose nozzle orange 3/4"fm cpl w/swivel nut and gasket
26		Lid for supply unit
27	99-40-3748	Reducing socket 63 x 50 PVC

3 Operation

3.1 Initial Start-up

When the pads are new, their slick surfaces will prevent the fast soaking that will happen with older pads. For this reason, when the pads are used for the first time, it is important to allow the pump to run for one or two days continuously. This will "soak-in" the pads, and allow faster start-up later. These one or two days are called the "break-in" period. At the end of the "break-in" period, inspect pads carefully, any dry streaks will indicate an inconsistent water distribution. If you find these dry streaks, you will need to clean the spray line. To clean the spray line, follow the procedure outlined on the next page.

3.1.1 Correct water pressure of the system



The **correct water pressure** has been achieved when the water jet sprays approx. 25-30cm out of the holes (deflector folded up)

The water pressure can be adjusted at the ball valve in the supply pipe.

3.2 Normal operation

Under normal conditions, the pump should run constantly when air is being drawn through the pads. While the system is in operation you should look for sediments on the pads, which are caused by impurities in the water.

If sediments are located increase the bleed off rate.

3.3 Extending pad life

As you use the Rainmaker®, you will notice the need for good preventative maintenance. Algae growth, scale (hard crusty deposits), and dirt accumulation are typical problems associated with poor maintenance. Maintaining the Rainmaker® is very simple. It takes a small amount of time and effort. If you follow the guidelines below, your pads will last much longer, and be much more effective.

3.4 Algae treatment

If algae develops on pipes, it may be necessary to add a water treatment compound to control algae growth. Consult your local agricultural distributor for a recommended water treatment chemical.

3.5 Limit on-off cycling

Many users have initially seen greater cooling effects from evaporative cooling systems when they run the system on a ten minute timer. Although this cooling may have a great short term effect, the pad life is greatly shortened. For this reason, you must choose for yourself which is more important. When the system is started and stopped every ten minutes, the pads are wetted and dried out six times per hour (Up to 144 times per day!). Each time the pads dry, the minerals in the water remain on the pad, and limit the cooling effectiveness.

3.6 Why drain (bleed-off) water from the system

Water always contains dissolved minerals. When the pad-cooling system is operating, the water evaporates and the mineral content in the recirculated water increases. To accommodate the water loss fresh water is automatically introduced into the system by the float valve. To prevent too high of a mineral content and sediments on the pads you have to drain some of the recirculating water. The constant water drainage is called bleed off. The amount of water being drained depends on the amount of evaporated water and the mineral content of the water. As rule of thumb you can say that 10% of the water flow at good to moderate water quality.

If the water has a very high mineral content the bleed off rate should be the same as the evaporation rate.

3.7 Water distribution

Maintaining even water distribution to the pads is the most important way of extending pad life. If an area of a pad does not receive enough water, it will clog or soften. If at any time you see dry spots or streaks, investigate to see why. Most problems associated with water distribution may be fixed with a good cleaning of the spray line. Follow procedures outlined below for cleaning the Rainmaker® System.

For best results clean the system on a regular basis.

3.8 Cleaning your Rainmaker® System

1. Shut off pump and clean strainer.
2. If possible, turn off fans. (If this is not possible, run fans at minimum levels).
3. Gently hose off pads. Clean algae from pads and pipes.
4. Flush reservoir.
5. Flush spray line:

   (A) Open ball valve at end of spray line (when end feed is used) or open both ball valves (when center feed is used).

   (B) Turn on pump.

   (C) Clean for several minutes.
6. Using a long stick clean the spray line with a brush or attach the brush to a rope and pull it through the spray line. Brush off the dirt on the spray line.
7. After flushing spray line: Turn off pump. Close Ball Valve at the end of spray line.
8. Refill reservoir to full level.
9. Resume normal operation.

3.9 Winterize your Rainmaker®

1. Turn off pump.
2. Remove strainer cover. In very cold regions remove the pump completely.
3. Remove the drain off cap from the screen basket (pump).
4. Empty out the reservoir.