Arc by Infiltrator

DESIGN & INSTALLATION MANUAL – MINNESOTA



Infiltrator™ Water Technologies
Part of ADS

APRIL 2019

INTRODUCTION

This manual provides general design and installation information for use of plastic leaching chambers in the state of in Minnesota. The configurations presented in this document are common designs and are provided for illustrative purposes. They are not intended to restrict the use of other configurations, which may be utilized provided the design conforms with Minnesota Pollution Control Agency Individual Subsurface Sewage Treatment System Chapter 7080. Each revised version of this manual supersedes the previous version. The use of Infiltrator chambers in this manual at regulation sizing is authorized per product approval by the Minnesota Department of Health and allowed under Chapter 7080.

All chamber configurations and installations must comply with applicable state and local rules.

CAD details in DWG format may be found on the Infiltrator Water Technologies website at www.infiltratorwater.com.

For more detailed design and installation information, please contact Infiltrator Water Technologies at 1-800-221-4436

Arc Chambers in Minnesota	
INTRODUCTION	3
PRODUCTS SPECIFICATIONS	4-17
Arc 18 System	4-5
Arc 24 System	6-7
Arc 36 System	8-9
Arc 36HC System	10-11
Arc 36LP System	12-13
11" Standard BioDiffuser System	14-15
16" High Capacity BioDiffuser System	16-17
INSTALLATION INSTRUCTIONS	18-20
TYPICAL INSTALLATIONS	21-22
Trench System	21
Seepage Bed System	21
At-Grade System	22
Mound System	22
CHAMBER SIZING	22-25
WARRANTY	27

PRODUCT SPECIFICATIONS

Arc 18 Chamber			
Application:	18 or 24” wide trench, curved, straight or side by side in beds		
Size:	16”W x 67”L x 11”H (406 mm x 1702 mm x 279 mm)		
Effective Length:	60” (1524 mm)	**Invert Height:**	6” (152 mm)

Arc 18



Arc 24 Chamber			
Application:	24” wide trench, curved, straight or side by side in beds		
Size:	22”W x 67”L x 12”H (559 mm x 1702 mm x 305 mm)		
Effective Length:	60” (1524 mm)		
Side Port Coupler: five molded-in high and low inlets for mid-trench piping flexibility.			
Size:	22”W x 9”L x 12”H (559 mm x 229 mm x 305 mm)		
Additional Length per Pair of Endcaps:	12” (305 mm)	**Invert Height:**	6.25” (159 mm)

Arc 24



Arc 24
Side Port Coupler



Arc 36 Chamber			
Application:	36” wide trench, curved, straight or side by side in beds		
Size:	34”W x 63”L x 13”H (864 mm x 1600 mm x 330 mm)		
Effective Length:	60” (1524 mm)		
Side Port Coupler: five molded-in high and low inlets for mid-trench piping flexibility.			
Size:	34”W x 17”L x 13”H (864 mm x 432 mm x 330 mm)		
Additional Length per Pair of Endcaps:	14” (356 mm)	**Invert Height:**	7.25” (184 mm)

Arc 36



Arc 36
Side Port Coupler



Arc 36 High Capacity Chamber			
Application:	36” wide trench, curved, straight or side by side in beds		
Size:	34”W x 63”L x 16”H (864 mm x 1600 mm x 406 mm)		
Effective Length:	60” (1524 mm)		
Side Port Coupler: five molded-in high and low inlets for mid-trench piping flexibility.			
Size:	34”W x 17”L x 16”H (864 mm x 432 mm x 406 mm)		
Additional Length per Pair of Endcaps:	14” (356 mm)	**Invert Height:**	10.5” (267 mm)

Arc 36HC



Arc 36 HC
Side Port Coupler



Arc 36 LP Chamber	
Application:	36” wide trench, curved, straight or side by side in beds
Size:	34”W x 64”L x 8”H (864 mm x 1626 mm x 203 mm)
Effective Length:	60” (1524 mm)
Invert Height:	3.8” (197 mm)

Arc 36 LP



Other Approved Chambers

BioDiffuser – 11” Standard

BioDiffuser – 16” High Capacity

Before beginning installation, please note the following engineered features of the Arc 18 model chambers and endcaps.

Arc 18 System

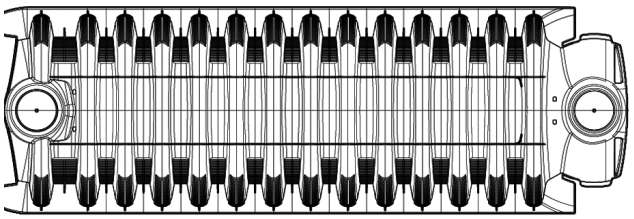
- Each chamber end is either marked “Dome” or “Post” on the round observation/vent knockout ports. These indicate direction of assembly, dome over post.

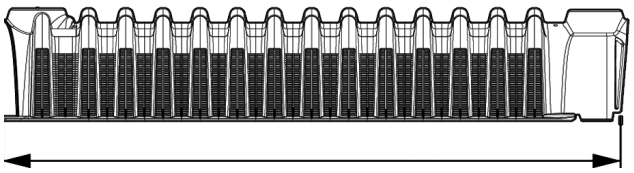


Arc 18 Chamber	
Length	67"
Repeat Length	60"
Overall Width	16"
Ave. Open Bottom Width	1.12'
Overall Height	12"

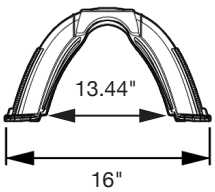
Calculations and dimensions are nominal

Arc 18 Chamber — Top, Side, and End Views (not to scale)

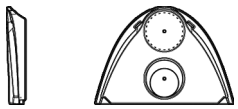




60" Effective Length

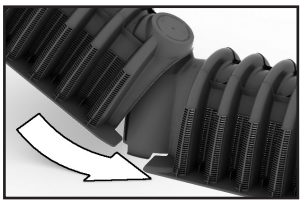


Arc 18 Endcap — Side, and End Views (not to scale)

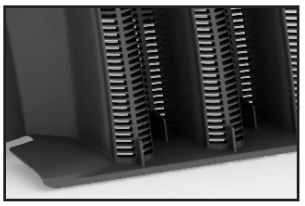


Arc 18 Features

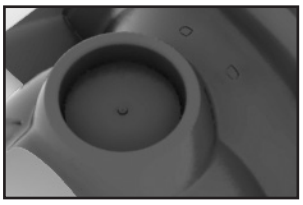
- Base flanges on the chambers ends over lock during final engagement to form a very strong joint.
- The Arc 18 chamber feet are designed with an extra large surface area to provide support particularly in sandy soils.
- Sidewall louvers are designed to allow effluent to exit the chamber sidewalls in high flow situations, while preventing soils from migrating into the chamber void.
- Observation/venting knockout ports provide for inspection of system performance as well as a convenient location for drain field ventilation pipes.
- Each chamber end has small knockouts on the roof positioned in the “Post” end joint. When removed, these knockouts are for the use of zip ties to support piping in dosing systems.



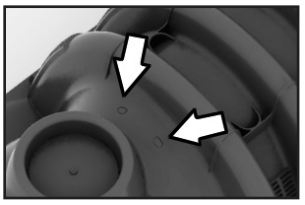
• Overlocking Ends



• Louvers and Feet



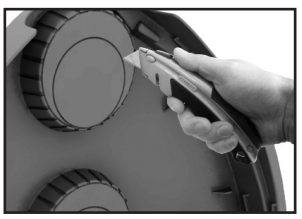
• Observation Port



• Zip Tie Knockouts

Arc 18 Endcap

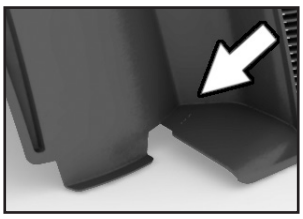
- Upper and lower knockouts accommodate both Schedule 40 and SDR 35 piping. Dimples are also offered for the positioning of hole saw pilot drills.
- Endcaps are designed to attach the chamber’s dome or post end.

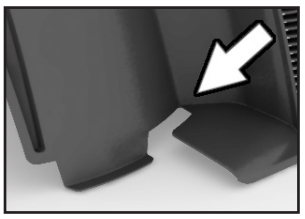




Arc 18 Swivel Feature

- Each chamber’s post end has swivel lockout tabs at either base flange. When removed, the incoming chamber will turn up to ten degrees in the direction of the removed lockout tab. Without removal of the swivel lockout tab, the chambers will align in a straight pattern.
- Swivel lockout tabs may be removed carefully with a utility knife.





Before beginning installation, please note the following engineered features of the Arc 24 model chambers and endcaps.

Arc 24 System

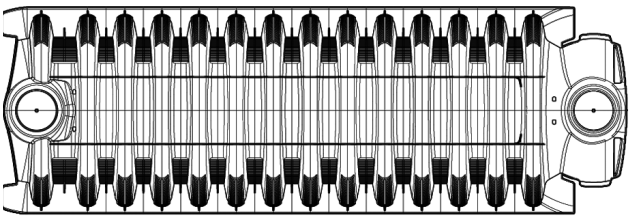
- Each chamber end is either marked “Dome" or “Post” on the round observation/vent knockout ports. These indicate direction of assembly, dome over post.

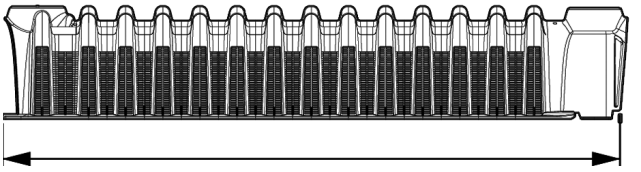


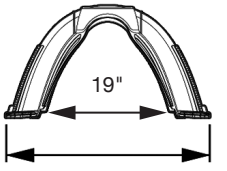
Arc 24 Chamber	
Length	67"
Repeat Length	60"
Overall Width	22"
Ave. Open Bottom Width	1.59'
Overall Height	12"

Calculations and dimensions are nominal

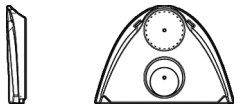
Arc 24 Chamber — Top, Side, and End Views (not to scale)







Arc 24 Endcap — Side, and End Views (not to scale)

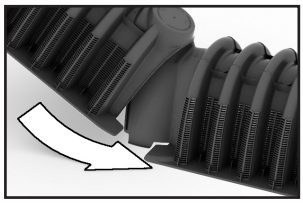


ARC 24 SYSTEM

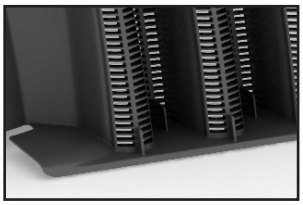
Arc 24 Features

- Base flanges on the chambers ends over lock during final engagement to form a very strong joint.
- The Arc 24 chamber feet are designed with an extra large surface area to provide support particularly in sandy soils.
- Sidewall louvers are designed to allow effluent to exit the chamber sidewalls in high flow situations, while preventing soils from migrating into the chamber void.
- Observation/venting knockout ports provide for inspection of system performance as well as a convenient location for drain field ventilation pipes.
- Each chamber end has small knockouts on the roof positioned in the “Post” end joint. When removed, these knockouts allow for the use of zip ties to support piping in low pressure dosing systems.

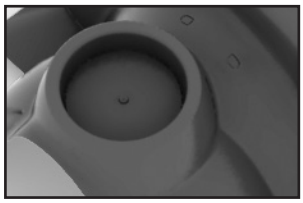




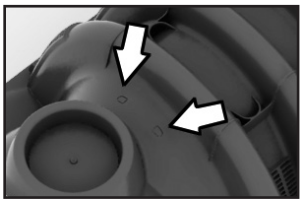
• Overlocking Ends



• Louvers and Feet



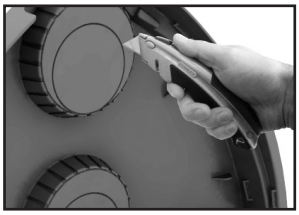
• Observation Port



• Zip Tie Knockouts

Arc 24 Endcap

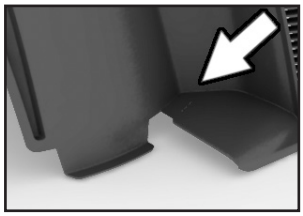
- Upper and lower knockouts expand to accommodate both Schedule 40 and SDR 35 piping in a single hole tap.
  Dimples are also offered for the positioning of 4.25" hole saw pilot drills.
- Endcaps are designed to attach the chamber’s dome or post end in the same fashion for each end with the Arc 24 logo facing outward.

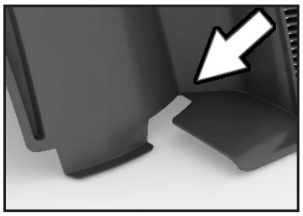




Arc 24 Swivel Feature

- Each chamber’s post end has swivel lockout tabs at either base flange. When removed, the incoming chamber will turn up to ten degrees in the direction of the removed lockout tab. Without removal of the swivel lockout tab, the chambers will align in a straight pattern.
- Swivel lockout tabs may be removed with a striking blow to the tab and then peeling off the remaining piece of plastic,





Arc 24 Side Port Coupler (SPC)

- SPC component snaps in place to allow side entry at any joint throughout the trench line. This accessory provides a variety of design and installation options.



ARC 36 SYSTEM

Before beginning installation, please note the following engineered features of the Arc 36 model chambers and endcaps.

Arc 36 System

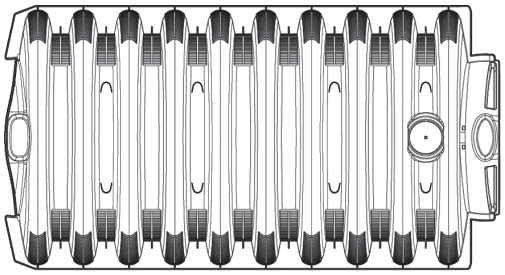
- Each chamber end is either marked “Dome” or “Post” on the round observation/vent knockout ports. These indicate direction of assembly, dome over post.

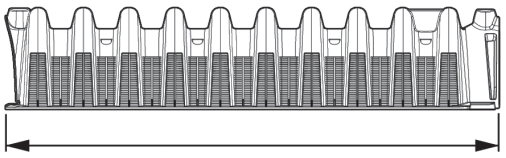


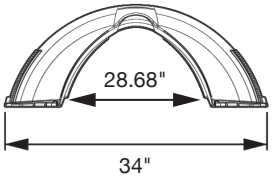
Arc 36 Chamber	
Length	63"
Repeat Length	60"
Overall Width	34"
Ave. Open Bottom Width	2.39'
Overall Height	13"

Calculations and dimensions are nominal

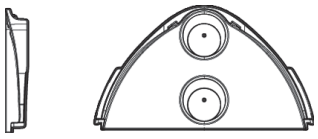
Arc 36 Chamber—Top, Side, and End Views (not to scale)



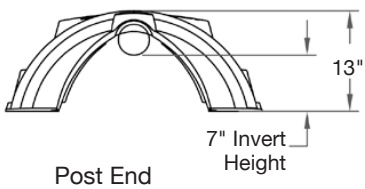




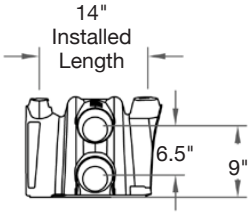
Arc 36 Endcap Side, and End Views (not to scale)



Side Port Coupler (SPC)



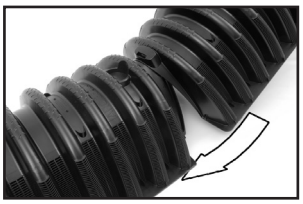
Post End



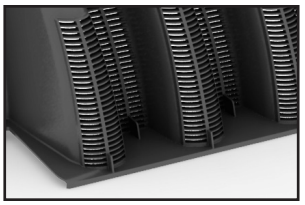
Side View

Arc 36 Features

- The post and dome creates a positive lock securing the
  chambers for final engagement. Lock and drop feature for faster installation.
- The Arc 36 chamber feet are designed with an extra large surface area to provide support, particularly in sandy soils.
- Sidewall louvers are designed to allow effluent to exit the chamber sidewalls in high flow situations, while preventing soils from migrating into the chamber void.
- Observation/venting knockout ports provide for inspection of system performance as well as a convenient location for drain field ventilation pipes.
- Each chamber end has small knockouts on the roof positioned in the “Post” end joint. When removed, these knockouts allow for the use of zip ties to support piping in dosing systems.



• Lock and Drop



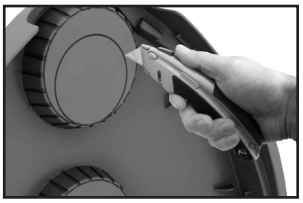
• Louvers and Feet



• Observation Port

Arc 36 Universal Endcap

- Upper and lower knockouts accommodate both Schedule 40 and SDR 35 piping. Knockouts can be removed with a knife or hole saw. Dimples are also offered for the positioning of hole saw pilot drills.
- Endcaps are designed to attach to the chamber’s dome or post end in the same fashion for each end with the Arc 36 logo facing outward.





Arc 36 Swivel Feature

- The engagement mechanism of the Arc 36 chamber is designed to allow for a pivot between joined chambers of up to 10° in either direction.



Arc 36 Side Port Coupler (SPC)

- SPC component snaps in place to allow side entry at any joint throughout the trench line. This accessory provides a variety of design and installation options.



Before beginning installation, please note the following engineered features of the Arc 36 HC model chambers and endcaps.

Arc 36 HC System

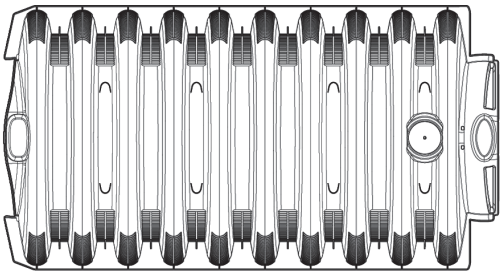
- Each chamber end is either marked “Dome” or “Post” on the round observation/vent knockout ports. These indicate direction of assembly, dome over post.

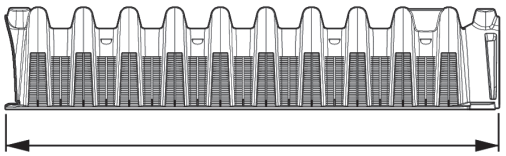


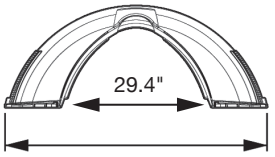
Arc 36 HC Chamber	
Length	63"
Repeat Length	60"
Overall Width	34"
Ave. Open Bottom Width	2.45'
Overall Height	16"

Calculations and dimensions are nominal

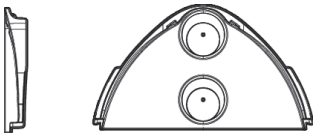
Arc 36 HC Chamber—Top, Side, and End Views (not to scale)



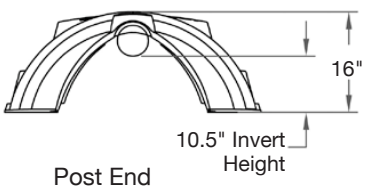




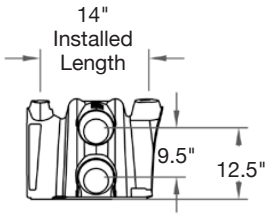
Arc 36 HC Endcap Side, and End Views (not to scale)



Side Port Coupler (SPC)



Post End

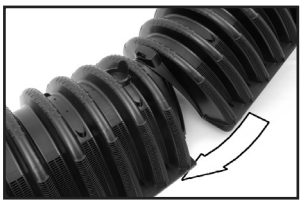


Side View

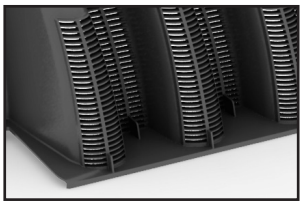
ARC 36 HC SYSTEM

Arc 36 Features

- The post and dome creates a positive lock securing the
  chambers for final engagement. Lock and drop feature for faster installation.
- The Arc 36 chamber feet are designed with an extra large surface area to provide support, particularly in sandy soils.
- Sidewall louvers are designed to allow effluent to exit the chamber sidewalls in high flow situations, while preventing soils from migrating into the chamber void.
- Observation/venting knockout ports provide for inspection of system performance as well as a convenient location for drain field ventilation pipes.
- Each chamber end has small knockouts on the roof positioned in the “Post” end joint. When removed, these knockouts allow for the use of zip ties to support piping in dosing systems.



• Lock and Drop



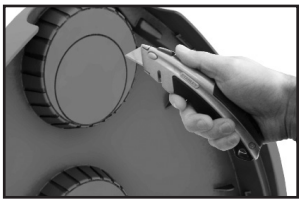
• Louvers and Feet



• Observation Port

Arc 36 Universal Endcap

- Upper and lower knockouts accommodate both Schedule 40 and SDR 35 piping. Knockouts can be removed with a knife or hole saw. Dimples are also offered for the positioning of hole saw pilot drills.
- Endcaps are designed to attach to the chamber’s dome or post end in the same fashion for each end with the Arc 36 logo facing outward.





Arc 36 Swivel Feature

- The engagement mechanism of the Arc 36 chamber is designed to allow for a pivot between joined chambers of up to 10° in either direction.



Arc 36 Side Port Coupler (SPC)

- SPC component snaps in place to allow side entry at any joint throughout the trench line. This accessory provides a variety of design and installation options.



Before beginning installation, please note the following engineered features of the Arc 36 LP model chambers and endcaps.

Arc 36 LP System

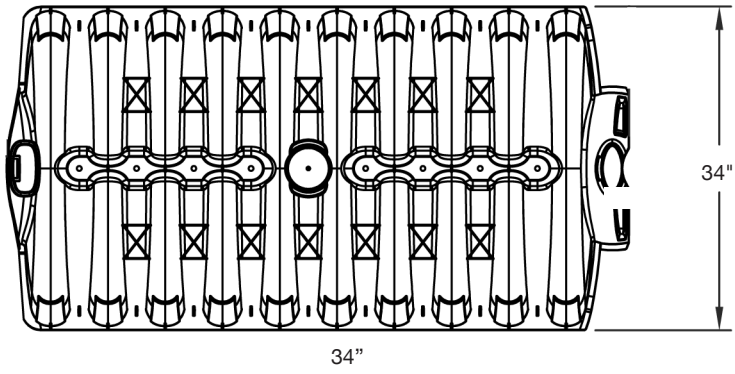
- Each chamber end is either marked “Dome” or “Post” on the round observation/vent knockout ports. These indicate direction of assembly, dome over post.

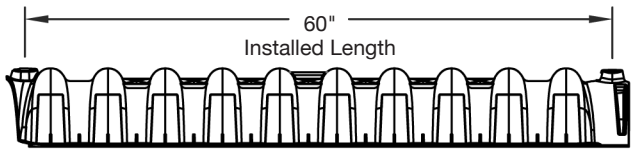


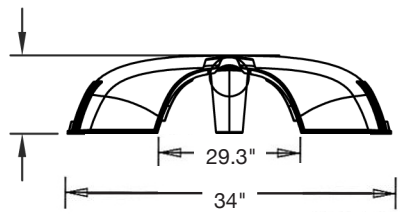
Arc 36 LP Chamber	
Length	63"
Repeat Length	60"
Overall Width	34"
Ave. Open Bottom Width	2.44'
Overall Height	8"

Calculations and dimensions are nominal

Arc 36 LP Chamber—Top, Side, and End Views (not to scale)



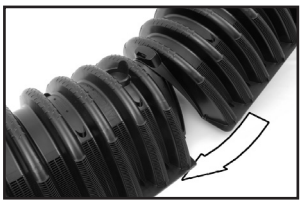




ARC 36 LP SYSTEM

Arc 36 LP Features

- The post and dome creates a positive lock securing the chambers for final engagement. Lock and drop feature for faster installation.
- The Arc 36 LP chamber feet are designed with an extra large surface area to provide support, particularly in sandy soils.
- Sidewall louvers are designed to allow effluent to exit the chamber sidewalls in high flow situations, while preventing soils from migrating into the chamber void.
- Observation/venting knockout ports provide for inspection of system performance as well as a convenient location for drain field ventilation pipes. These knockout ports also allow for introduction of inlet pipe through the roof of the Arc 36 LP chamber to achieve 8-inch invert height.



• Lock and Drop



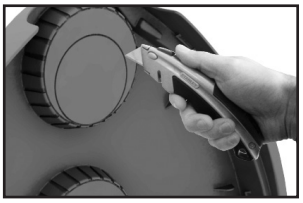
• Louvers and Feet



• Observation Port

Arc 36 LP Universal Endcap

- Upper and lower knockouts accommodate both Schedule 40 and SDR 35 piping. Dimples are provided on interior aspect of endcap to direct positioning of hole saw pilot drills for pressure distribution (small diameter) pipe. Knockouts can be removed with a knife or hole saw.
- Endcaps are designed to attach to the chamber's dome or post end in the same fashion for each end with the Arc 36 LP logo facing outward.





Arc 36 LP Swivel Feature

- The engagement mechanism of the Arc 36 LP chamber is designed to allow for a pivot between joined chambers of up to 10° in either direction.

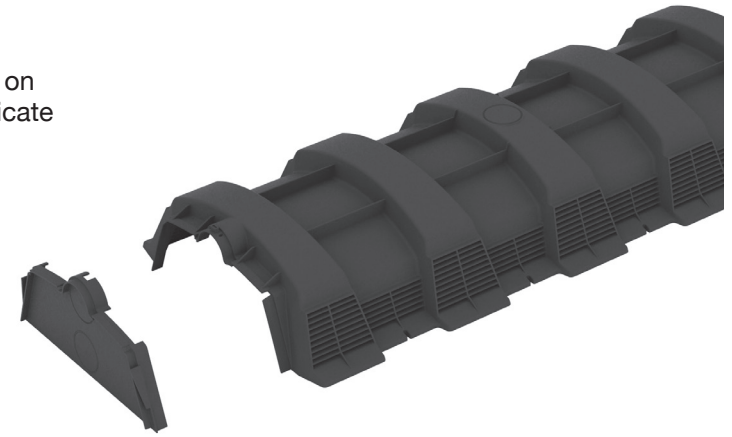


11" STANDARD SYSTEM

Before beginning installation, please note the following engineered features of the 11" Standard model chambers and endcaps.

11" Standard System

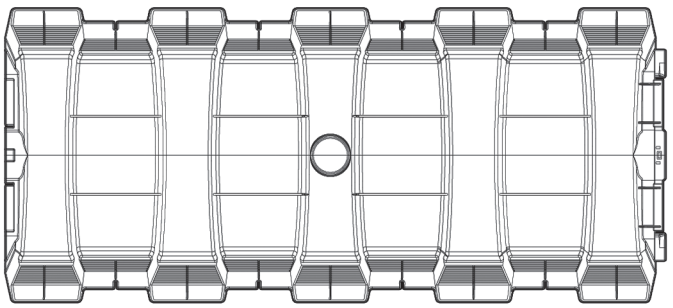
- Each chamber end is either marked “Dome” or “Post” on the round observation/vent knockout ports. These indicate direction of assembly, dome over post.

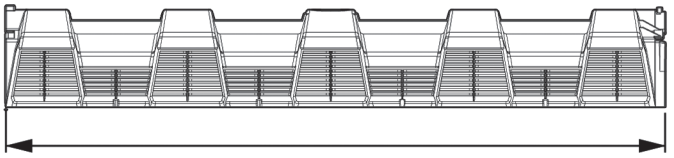


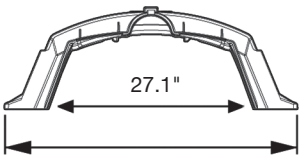
11" Standard Chamber	
Length	76"
Repeat Length	75"
Overall Width	34"
Ave. Open Bottom Width	2.26'
Overall Height	11"

Calculations and dimensions are nominal

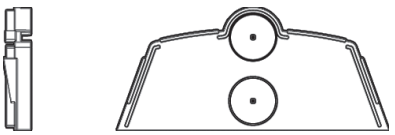
11" Standard Chamber — Top, Side, and End Views (not to scale)







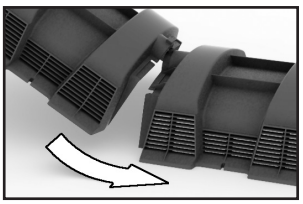
11" Standard Endcap — Side, and End Views (not to scale)



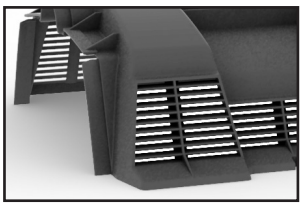
11" STANDARD SYSTEM

11" Standard Features

- The post and dome creates a positive lock securing the chambers for final engagement.
- The 11" Standard chamber feet are designed with an extra large surface area to provide support, particularly in sandy soils.
- Sidewall louvers are designed to allow effluent to exit the chamber sidewalls in high flow situations, while preventing soils from migrating into the chamber void.
- Observation/venting knockout ports provide for inspection of system performance as well as a convenient location for drain field ventilation pipes.
- Each chamber end has small knockouts on the roof positioned in the “Post” end joint. When removed, these knockouts all for the use of zip ties to support piping in dosing systems.



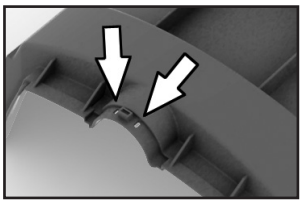
• Interlocking joint



• Louvers and Feet



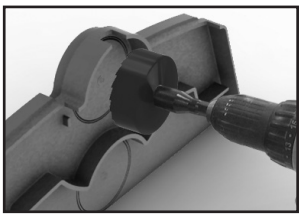
• Observation Port

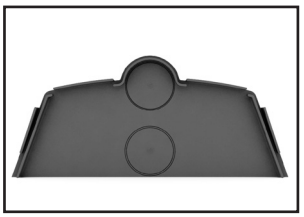


• Zip Tie Knockouts

11" Standard Universal Endcap

- Upper and lower knockouts accommodate both Schedule 40 and SDR 35 piping. Dimples are also offered for the positioning of hole saw pilot drills.
- Endcaps are designed to attach the chamber’s dome or post end.



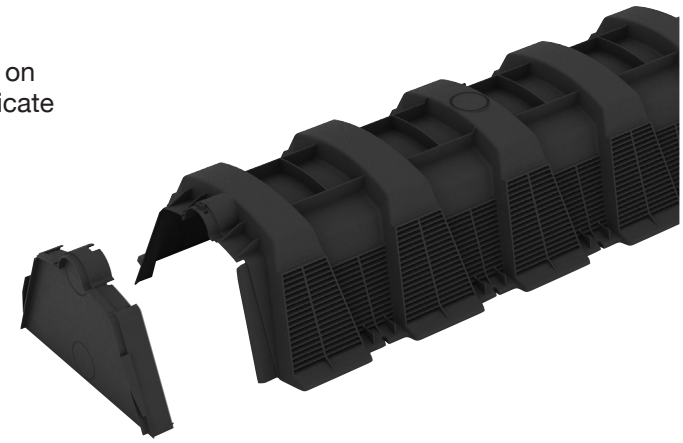


16" HIGH CAPACITY

Before beginning installation, please note the following engineered features of the 16" High Capacity model chambers and endcaps.

16" High Capacity System

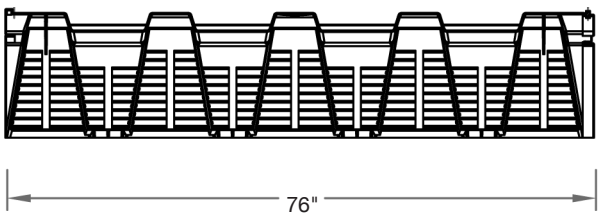
- Each chamber end is either marked “Dome” or “Post” on the round observation/vent knockout ports. These indicate direction of assembly, dome over post.

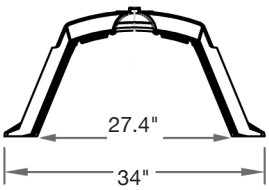


16" High Capacity	
Length	76"
Repeat Length	75"
Overall Width	34"
Ave. Open Bottom Width	2.28'
Overall Height	16"

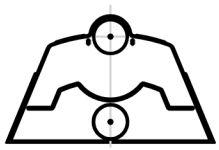
Calculations and dimensions are nominal

16" High Capacity — Side, and End Views (not to scale)



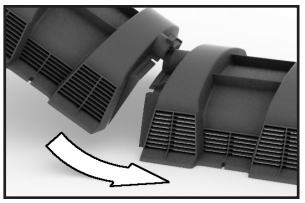


16" High Capacity Endcap — Side View (not to scale)

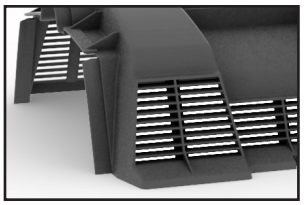


16" High Capacity Features

- The post and dome creates a positive lock securing the chambers for final engagement.
- The 16" High Capacity chamber feet are designed with an extra large surface area to provide support, particularly in sandy soils.
- Sidewall louvers are designed to allow effluent to exit the chamber sidewalls in high flow situations, while preventing soils from migrating into the chamber void.
- Observation/venting knockout ports provide for inspection of system performance as well as a convenient location for drain field ventilation pipes.
- Each chamber end has small knockouts on the roof positioned in the “Post” end joint. When removed, these knockouts all for the use of zip ties to support piping in dosing systems.



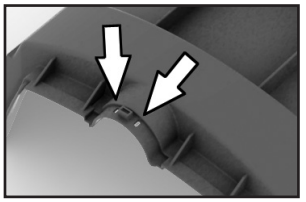
• Interlocking joint



• Louvers and Feet



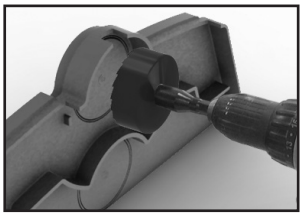
• Observation Port

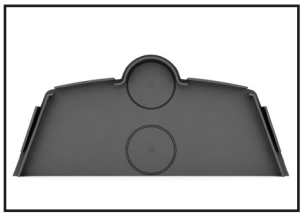


• Zip Tie Knockouts

16" High Capacity Universal Endcap

- Upper and lower knockouts accommodate both Schedule 40 and SDR 35 piping. Dimples are also offered for the positioning of hole saw pilot drills.
- Endcaps are designed to attach the chamber’s dome or post end.





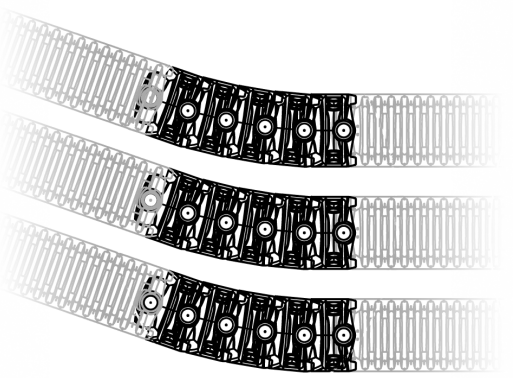
SIDE PORT COUPLER

Included in the Arc chamber line is an accessory called the Side Port Coupler (SPC). Each Arc chamber model has an accompanying SPC.



Function:

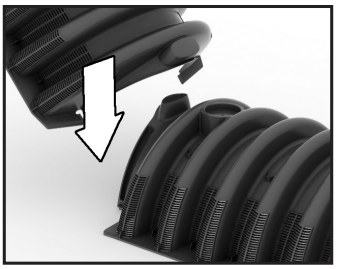
The SPC offers flexibility of pivoting when installed in series between two chambers within the chamber line to allow for increased turning capability.

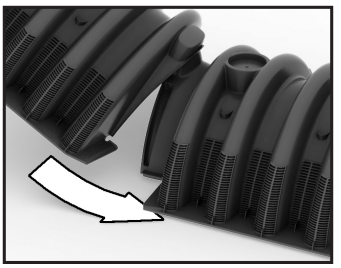


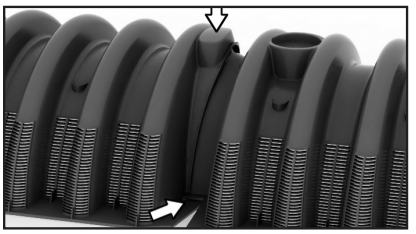
Preparation

- Excavate to proper width and depth as described in the system design or permit and as required by state and local codes.
- Smooth irregularities in the excavation and clear any large rocks or debris from the bottom surface area. Slope of the bottom area shall be determined by the system design, as well as state and local codes.

Installation







- Installation of the any Arc leaching system begins with laying the first chamber onto the prepared bottom surface area dome end first. Each additional chamber is then laid dome over post by raising the post end of the incoming chamber and slightly pulling the chamber back until the dome stops at the underlying post. As the incoming chamber is laid flat on the bottom, slide the lower base flanges under the raised base flanges of the previously installed chamber.
- As the incoming chamber is lowered down onto the excavation bottom, the two chambers fully engage in a straight-line pattern creating a very strong joint.

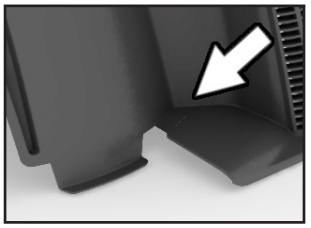
Note: *If the following chamber is simply laid onto the preceding chamber the joint will not be fully engaged.*

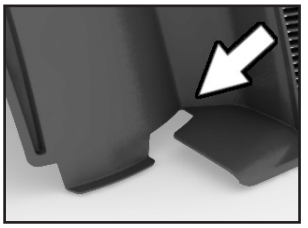
Turns

- The Arc chambers are designed with an articulating joint that allows for a turn of up to 20° of movement with maximum of 10° in either direction.
  Note: *The Arc 24 is designed with lockout tabs.*



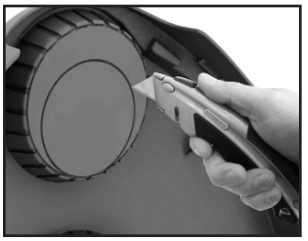
- If a turn application is desired with the Arc 24 chamber, the lockout tab should be removed before installing the incoming chamber. The lockout tab is located at the base flange of the previously–installed chamber (on its “Post” end).
- Strike or cut the lockout tab and tear the remaining tab material away from the chamber.
- If sharper turns are required, 4” pipe and fittings may be used.

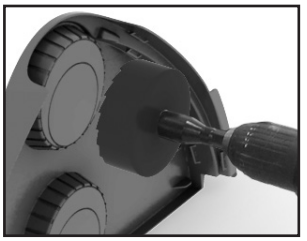




Installation of Endcaps & Pipe Connections

- Prior to installing endcaps, remove the appropriate knockout for pipe connections. Snap an endcap on each end of the drain lines with the product or company logo facing out (knockouts can be removed with a knife or a 4” hole saw).

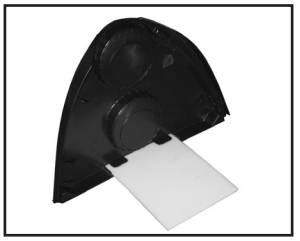




- Upper endcap 4” knockouts — always used as inlet for each line. A four-inch hole saw may be used.

Splash Plates

- Splash plates are mandatory on each inlet endcap for gravity delivery of effluent.
- Company provided splash plates are installed by simply aligning the holes on the splash plate with the corresponding dimples on the endcap and snapping into place.
- Splash plates are used separately.
- A custom “receiving area” is required on all chamber systems where effluent is provided to the system under pressure and splash plates are utilized.
- See page 14 for details.



Filter Fabric

The use of filter fabric is recommended, and may be required, in certain soil conditions. If used, drape the fabric to completely cover the louvered sidewalls of the chambers to prevent soil intrusion, while allowing water and air to pass through.

The following single or combination of conditions warrant the use of filter fabric:

- The backfill material is fine or very fine uniform sand.
- The drainfield will be left uncovered.
- The drainfield will not be protected from surface drainage (i.e. downspouts, barrel-tile roofs, paved areas, and neighboring property).

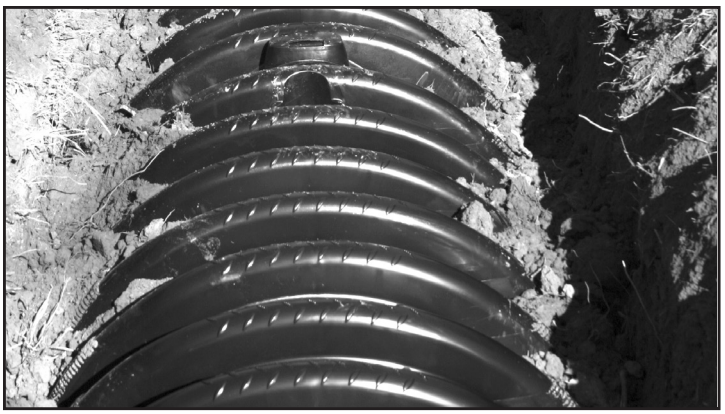
Filter fabric should meet the following specifications and can be purchased from your Infiltrator Water Technologies distributors:

- Fabric: Spun bonded, made up of nylon fibers, hydrophilic in nature
- Weight: 0.35 – 1 oz/yd^2

Ventilation

Drain field ventilation is recommended, but not required, to allow oxygen to access the drain field especially when cover soil quality is questionable.

- Knockouts are provided on the roof aspect of all Arc chambers. The dome/post feature of the Arc 24 chamber also acts as a knock-out for observation/vent ports. Here a PVC pipe may be introduced into the chamber and vented to atmosphere.
- Make certain the vent is assembled in such a fashion as to prevent rainwater from entering, effluent from exiting the chamber line.
- Several outlet products are available for this purpose.



Backfill

- Modestly compact the sidewall area backfill material by simply walking down the sides of the chambers. Sidewall compaction is important to begin the stabilization process of the soil, to support the chamber sidewalls, and help prevent fine sand migration into the chamber louvers. This procedure may be accomplished any time during the installation or covering process.



- All Arc chambers are AASHTO H-10 load rated. Where vehicular loading is anticipated during installation of the system or construction of the facility, AASHTO H-10 loading (16,000 lbs/axle) is achieved by backfilling with a minimum of 12” of properly compacted cover.
- Do not drive heavy equipment over a system comprised of non-compacted cover material without first bridging the excavation. Use lightweight or tracked equipment to push the soil onto the system to the proper height set forth by local and state codes.

Final Grade

- Make certain that storm water is diverted away from the drain field. System final grade should be crested or sloped, never left flat or concave. Channel water away from the drain field.
- Final grading subcontractors and landscapers should be alerted and instructed to proper covering procedures, cover materials, and finish contours and elevations.
- Final grade material should be slightly to moderately limited soil to help maintain an aerobic state in the drain field.
- Stabilize the drain field area with grass-type vegetation prior to heavy rains if possible.

Chamber Installations in Ground Burrowing Animal Areas

Infiltrator Water Technologies suggests (non-mandatory) the installation of wire mesh netting under the chambers when installed in areas of significant ground burrowing animal activity and when confronted with the specific conditions as follows:

1. Drainfield area shows visible signs of ground burrowing animal activity.
2. Installations not put into service for an extended period after installation.
3. Drainfield designed using serial distribution in significant ground burrowing animal activity.

Wire Mesh Netting specifications:

- ½" – 1 ½" hexagon netting and or square netting
- 18" – 24" width
- 20 gage
- Galvanized wire
- Plastic fencing may be substituted with a minimum 1/16" strand width

Manufacturers included but not limited to:

Jackson-Wire International, Inc.

Please note the following supplemental Installation Instructions:

1. Refer to manufacturer's chamber installation instructions.

2. After the excavation is prepared roll out chicken wire on the trench bottom for entire length of the trench (See Figure 1).

3. Install the chambers over the wire base (See Figure 2).

4. Complete remainder of installation per manufacturer's chamber installation instructions.



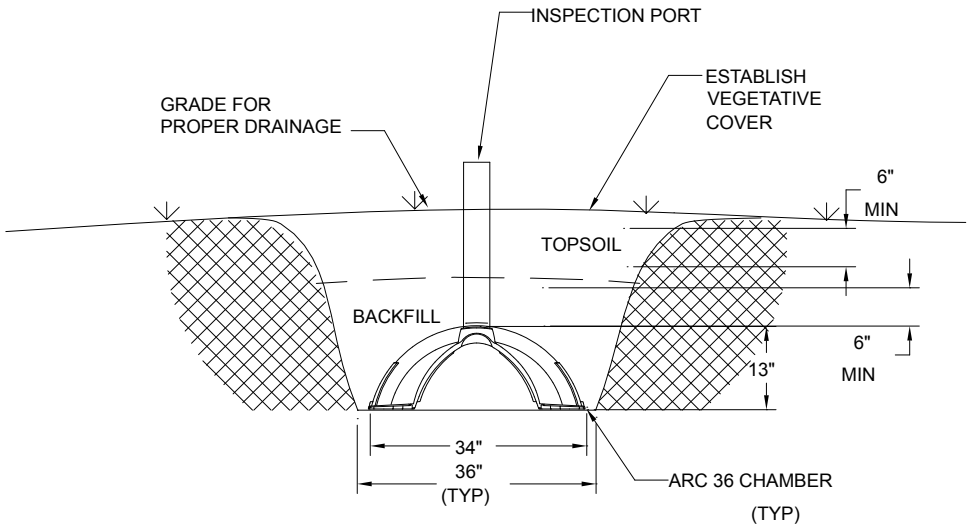
Figure 1: Roll out chicken wire on trench bottom



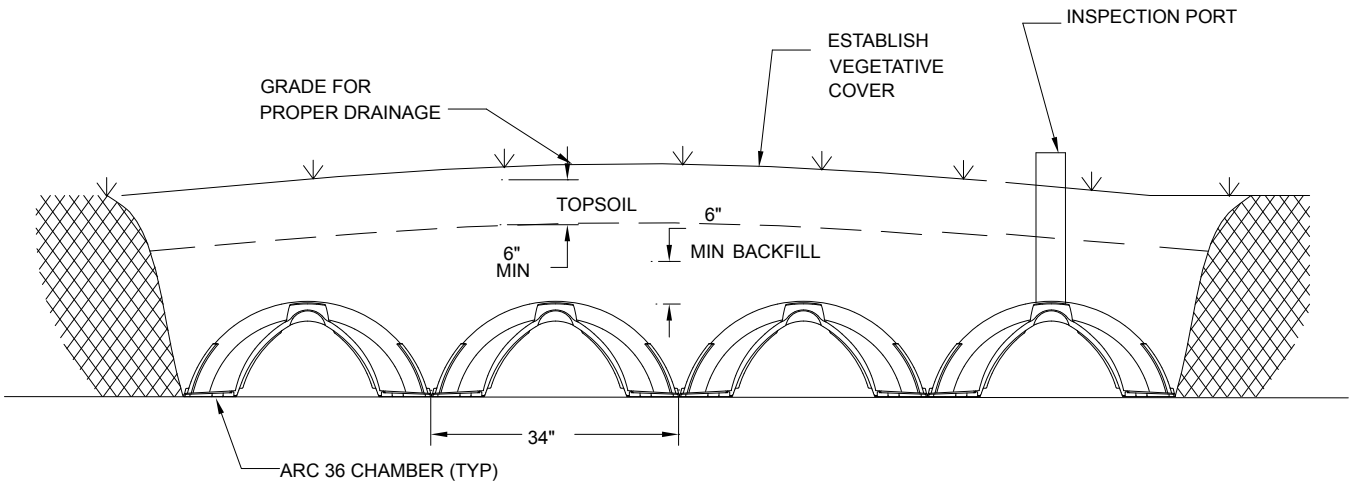
Figure 2: Install chambers over the wire base

TYPICAL INSTALLATIONS

Trench System (not to scale)

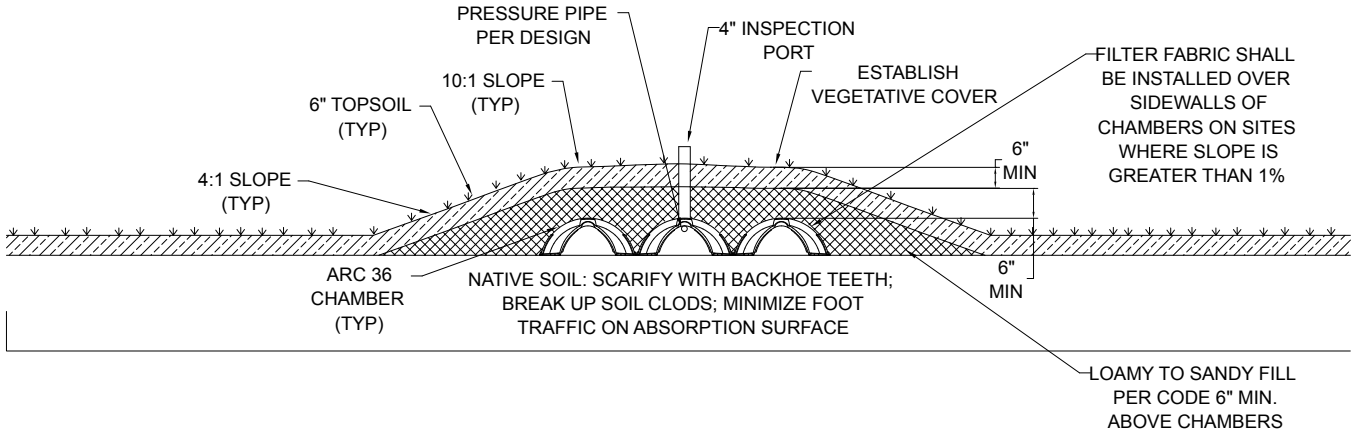


Seepage Bed System (not to scale)



TYPICAL INSTALLATIONS

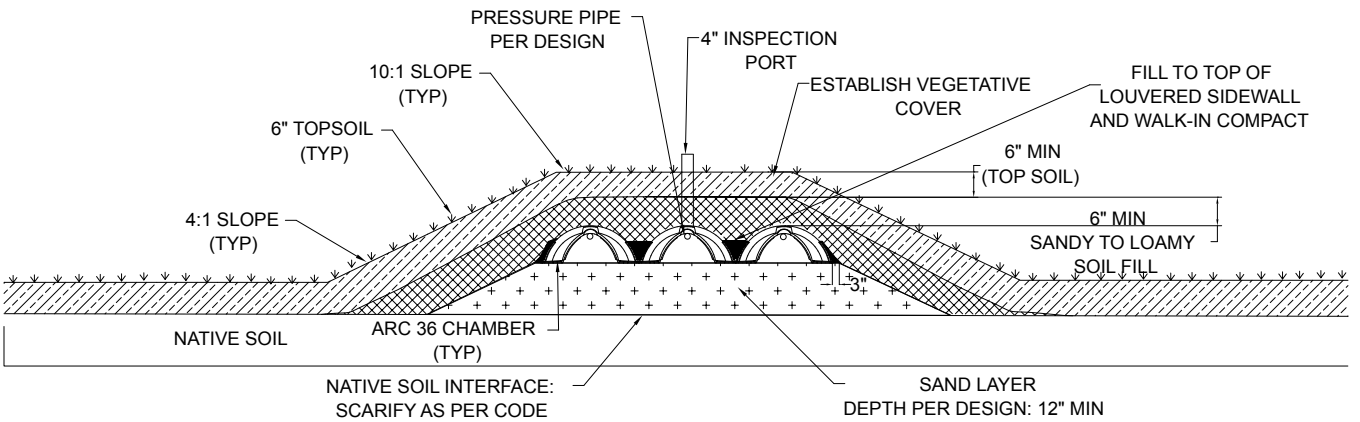
At-Grade System (not to scale)



At-Grade System with Sand Base Layer: The contact surface between the chambers and native soil may be modified with the placement of washed sand to establish an even, consistent base for chamber installation. Placement of a sand base layer categorizes the system as a Type III system, in accordance with part 7080.2300. A sand base layer shall meet the following requirements:

1. Sand may not raise the bottom elevation of the chamber system from the existing ground surface elevation or change the slope of the bottom elevation of the chamber system compared to existing ground surface grade at a site.
2. Sand shall be spread over the disturbed soil surface to fill gaps between uneven, rutted surficial features to provide an even, consistent surface for chamber placement and support.
3. Sand shall be washed and meet the requirements of part 7080.2220, subpart 3, item C.
4. Chambers shall be installed on the native soil with base sand filling gaps, and at the gradient of the native soil in accordance with part 7080.2230.
5. System size shall be based upon the native soil hydraulic loading rate.

Mound System System (not to scale)



CHAMBER SIZING

A. Trench System Applications

Registered Arc chambers carry the following manufacturer's recommended equivalencies in trench system applications (per linear foot):

Arc 18 = 18-inch wide stone and pipe trench
Arc 24 = 24-inch wide stone and pipe trench
Arc 36 = 36-inch wide stone and pipe trench
Arc 36HC = 36-inch wide stone and pipe trench
Arc 36LP = 36-inch wide stone and pipe trench
11" Standard = 36-inch wide stone and pipe trench
16" High Capacity = 36-inch wide stone and pipe trench

Table 1: Arc 18

Soil Loading Rate (gpd/sf^2)	Number of Bedrooms							
	2		3		4		5	
	Number of Chambers	Linear Feet	Number of Chambers	Linear Feet	Number of Chambers	Linear Feet	Number of Chambers	Linear Feet
1.20	34	170	52	260	68	340	84	420
0.78	52	260	78	390	104	520	130	350
0.60	68	340	100	500	134	670	168	840
0.50	80	400	120	600	160	800	200	1000
0.45	90	450	134	370	180	900	222	1110
0.24	168	840	252	1260	334	1670	418	2090

Table 2: Arc 24

Soil Loading Rate (gpd/sf^2)	Number of Bedrooms							
	2		3		4		5	
	Number of Chambers	Linear Feet	Number of Chambers	Linear Feet	Number of Chambers	Linear Feet	Number of Chambers	Linear Feet
1.20	25	125	39	195	51	255	63	315
0.78	39	195	58	290	78	390	98	490
0.60	51	255	75	375	100	500	126	630
0.50	60	300	90	450	120	600	150	750
0.45	68	340	93	465	135	675	167	835
0.24	126	630	189	945	250	1250	314	1570

Table 3: Arc 36, Arc 36HC, Arc 36LP, 11" Standard and 16" High Capacity

Soil Loading Rate (gpd/sf^2)	Number of Bedrooms							
	2		3		4		5	
	Number of Chambers	Linear Feet	Number of Chambers	Linear Feet	Number of Chambers	Linear Feet	Number of Chambers	Linear Feet
1.20	17	85	26	130	34	170	42	210
0.78	26	130	39	195	52	260	65	325
0.60	34	170	50	250	67	335	84	420
0.50	40	200	60	300	80	400	100	500
0.45	45	225	67	335	90	450	111	555
0.24	84	420	126	630	167	835	209	1045

Notes:

1. Soil loading rates are based on Section 7080.2150, Tables IX and IXa.
2. For Classification II & III Dwellings, reference Section 7080.1850, Table IV.
3. Rapidly permeable soil texture groups shall conform with Section 7080.2260, including but not limited to pressure distribution of the effluent.

CHAMBER SIZING

B. At-Grade System Applications

Registered Arc chambers carry the following manufacturer's recommended width equivalencies for at-grade system applications:

Arc 18	=	each chamber row is equal to 1.5-feet of stone and pipe width
Arc 24	=	each chamber row is equal to 2-feet of stone and pipe width
Arc 36	=	each chamber row is equal to 3-feet of stone and pipe width
Arc 36HC	=	each chamber row is equal to 3-feet of stone and pipe width
Arc 36LP	=	each chamber row is equal to 3-feet of stone and pipe width
11" Standard	=	each chamber row is equal to 3-feet of stone and pipe width
16"High Capacity	=	each chamber row is equal to 3-feet of stone and pipe width

Notes:
1. At-grade systems utilizing Arc or Bio Diffuser chambers shall be designed in full accordance with Section 7080.2230.
2. Maximum allowable at-grade system bed width is 15 feet.

C. Mound System Applications

Registered Arc chambers carry the following manufacturer's recommended width equivalencies for mound system applications:

Arc 18	=	each chamber row is equal to 1.5-feet of stone and pipe width
Arc 24	=	each chamber row is equal to 2-feet of stone and pipe width
Arc 36	=	each chamber row is equal to 3-feet of stone and pipe width
Arc 36HC	=	each chamber row is equal to 3-feet of stone and pipe width
Arc 36LP	=	each chamber row is equal to 3-feet of stone and pipe width
11" Standard	=	each chamber row is equal to 3-feet of stone and pipe width
16"High Capacity	=	each chamber row is equal to 3-feet of stone and pipe width

Notes:
1. Mound systems utilizing Arc or Bio Diffuser chambers shall be designed in full accordance with Section 7080.2220.
2. The size of the mound distribution media area shall be calculated by dividing the design flow by the sand media loading rate, which is 1.2 gallons per day per square foot. Other factors shall be considered in sizing of mound systems.
3. Maximum allowable width for mound distribution beds is 9 feet.

CHAMBER SIZING

D. Seepage Bed System Applications

Registered Arc chambers carry the following manufacturer's recommended width equivalencies for seepage bed system applications:

Arc 18	=	each chamber row is equal to 1.5-feet of stone and pipe width
Arc 24	=	each chamber row is equal to 2-feet of stone and pipe width
Arc 36	=	each chamber row is equal to 3-feet of stone and pipe width
Arc 36HC	=	each chamber row is equal to 3-feet of stone and pipe width
Arc 36LP	=	each chamber row is equal to 3-feet of stone and pipe width
11" Standard	=	each chamber row is equal to 3-feet of stone and pipe width
16"High Capacity	=	each chamber row is equal to 3-feet of stone and pipe width

Notes:
1. Seepage bed systems utilizing Arc or Bio Diffuser chambers shall be designed in full accordance with Section 7080.2210.
2. Design of seepage beds with widths up to 12 feet may utilize gravity distribution.
3. Design of seepage beds with widths greater than 12 feet shall utilize pressure distribution.

Side Port Coupler (SPC) Product Sizing

The following registered Arc chambers utilize a Side Port Coupler (SPC) attachment (see product specifications on pages 2-6). These SPC parts may be used as part of the requisite system design area for trench, at-grade, mound, and seepage bed system applications when approved by the local permitting authority. The manufacturer recommends the following equivalencies for these parts (per unit):

Arc 24 SPC	=	1.5 ft^2 per unit
Arc 36 SPC	=	3.5 ft^2 per unit
Arc 36HC SPC	=	3.5 ft^2 per unit

Notes:
The Arc 24 SPC is 12" in length when engaged. Therefore we recommend that the per-unit rating be equivalent to that of the Arc 24 chamber (per-linear foot).

The Arc 36 SPC is 14" in length when engaged. Therefore we recommend that the per-unit rating be equivalent to 1.167 times that of the per-linear foot rating of the Arc 36 chamber (3 ft^2).

The Arc 36HC SPC is 14" in length when engaged. Therefore we recommend that the per-unit rating be equivalent to 1.167 times that of the per linear foot rating of the Arc 36HC chamber (3 ft^2).

INFILTRATOR WATER TECHNOLOGIES STANDARD LIMITED WARRANTY

(a) The structural integrity of each chamber, endcap and other accessory manufactured by Infiltrator (collectively referred to as "Units"), when installed and operated in a leachfield of an onsite septic system in accordance with Infiltrator's installation instructions, is warranted to the original purchaser ("Holder") against defective materials and workmanship for one year from the date upon which a septic permit is issued for the septic system containing the Units; provided, however, that if a septic permit is not required for the septic system by applicable law, the one (1) year warranty period will begin upon the date that installation of the septic system commences. In order to exercise its warranty rights, Holder must notify Infiltrator in writing at its corporate headquarters in Old Saybrook, Connecticut within fifteen (15) days of the alleged defect. Infiltrator will supply replacement Units for those Units determined by Infiltrator to be defective and covered by this Limited Warranty. Infiltrator's liability specifically excludes the cost of removal and/or installation of the Units.

(b) THE LIMITED WARRANTY AND REMEDIES IN SUBPARAGRAPH (a) ARE EXCLUSIVE. THERE ARE NO OTHER WARRANTIES WITH RESPECT TO THE UNITS, INCLUDING NO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

(c) This Limited Warranty shall be void if any part of the chamber system (chamber, endcap or other accessory) is manufactured by anyone other than Infiltrator. The Limited Warranty does not extend to incidental, consequential, special or indirect damages. Infiltrator shall not be liable for penalties or liquidated damages, including loss of production and profits, labor and materials, overhead costs, or other losses or expenses incurred by the Holder or any third party. Specifically excluded from Limited Warranty coverage are damage to the Units due to ordinary wear and tear, alteration, accident, misuse, abuse or neglect of the Units; the Units being subjected to vehicle traffic or other conditions which are not permitted by the installation instructions; failure to maintain the minimum ground covers set forth in the installation instructions; the placement of improper materials into the system containing the Units; failure of the Units or the septic system due to improper siting or improper sizing, excessive water usage, improper grease disposal, or improper operation; or any other event not caused by Infiltrator. This Limited Warranty shall be void if the Holder fails to comply with all of the terms set forth in this Limited Warranty.

Further, in no event shall Infiltrator be responsible for any loss or damage to the Holder, the Units, or any third party resulting from installation or shipment, or from any product liability claims of Holder or any third party. For this Limited Warranty to apply, the Units must be installed in accordance with all site conditions required by state and local codes; all other applicable laws; and Infiltrator's installation instructions.

(d) No representative of Infiltrator has the authority to change this Limited Warranty in any manner whatsoever, or to extend this Limited Warranty. No warranty applies to any party other than the original Holder.

The above represents the standard Limited Warranty offered by Infiltrator. A limited number of states and counties have different warranty requirements. Any purchaser of Units should contact Infiltrator's corporate headquarters in Old Saybrook, Connecticut, prior to such purchase, to obtain a copy of the applicable warranty, and should carefully read that warranty prior to the purchase of Units.

Infiltrator™
Part of ADS

4 Business Park Road
P.O. Box 768
Old Saybrook, CT 06475
860-577-7000 • Fax 860-577-7001
1-800-221-4436
www.infiltratorwater.com • info@infiltratorwater.com

U.S. Patents: 4,759,661; 5,017,041; 5,156,488; 5,336,017; 5,401,116; 5,401,459; 5,511,903; 5,716,163; 5,588,778; 5,839,844 Canadian Patents: 1,329,959; 2,004,564 Other patents pending. Infiltrator, Equalizer, Quick4, and SideWinder are registered trademarks of Infiltrator Water Technologies. Infiltrator is a registered trademark in France. Infiltrator Water Technologies is a registered trademark in Mexico. Contour, MicroLeaching, PolyTuff, ChamberSpacer, MultiPort, PosiLock, QuickCut, QuickPlay, SnapLock and StraightLock are trademarks of Infiltrator Water Technologies.
PolyLok is a trademark of PolyLok, Inc. TUF-TITE is a registered trademark of TUF-TITE, INC. Ultra-Rib is a trademark of IPEX Inc.

© 2019 Infiltrator Water Technologies, LLC. All rights reserved. Printed in U.S.A.

ARC95 0419

Contact Infiltrator Water Technologies' Technical Services Department for assistance at 1-800-221-4436