INFILTRATOR
water technologies

Louisiana

Design and Installation Manual for Arc Chambers in Louisiana



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The purpose of this product information sheet is to provide specific design and installation information pertinent for the use of Infiltrator Arc chambers in Louisiana. Infiltrator products must be used in conjunction with the standards described in this manual.

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

Louisiana

ARC CHAMBERS

The Arc septic leaching chambers are sturdy, lightweight plastic units that combine maximized infiltrative surface area and storage capacity with an improved structural design to handle most any conventional leachfield system challenge without sacrificing performance.

Arc 24 Nominal Chamber Dimensions

Size:	22.5”W x 67”L x 12”H
Storage Capacity:	37.5 gal
Invert Elevation:	6.25”

ARC 24 CHAMBER BY INFILTRATOR



Sizing of Arc 24 Chamber Systems for Residential Use

ARC 24 CHAMBER SIZING IN NATURAL SOILS

Area of Drainfield Per Bedroom (per linear ft.)	Perc Rate	1 Bedroom		2 Bedrooms		3 Bedrooms		4 Bedrooms		5 Bedrooms		Ea. Add'l Bedroom	
		No. of Chambers	Linear Feet	No. of Chambers	Linear Feet	No. of Chambers	Linear Feet	No. of Chambers	Linear Feet	No. of Chambers	Linear Feet	No. of Chambers	Linear Feet
72	>12"	10	50	19	95	28	140	38	190	47	235	10	50
83	>12"	11	55	22	110	33	165	44	220	54	270	11	55
87	>11"	12	60	23	115	34	170	46	230	57	285	12	60
91	>10"	12	60	24	120	36	180	48	240	60	300	12	60
96	>9"	13	65	25	125	38	190	50	250	63	315	13	65
100	>8"	13	65	26	130	39	195	52	260	65	325	13	65
104	>7"	14	70	27	135	41	205	54	270	68	340	14	70
110	>6"	15	75	29	145	43	215	58	280	72	360	15	75
117	>5"	16	80	31	155	46	230	61	305	76	380	16	80
127	>4"	17	85	33	165	50	250	66	330	83	415	17	85
142	>3"	19	95	37	185	56	280	74	370	93	465	19	95

Less than 3" not acceptable for absorption field.

NOTE: It is at the contractors' discretion to cover the chambers with a very fine filter fabric (0.040 MIL) (ASTM D 4571) prior to backfilling the system when working in fine and very fine sands (loamy sand and sandy loam soils with low moisture content). A thicker filter fabric over the chambers may develop a biomat in the cloth, which may prevent the exfiltration of effluent from the chambers into the soil. Infiltrator filter fabric may be purchased from any Infiltrator Water Technologies distributor. ANY OTHER FILTER FABRIC USED WILL VOID THE WARRANTY.

NOTE: In gopher-prone areas it is recommend that the installer places wire mesh (chicken wire) on the bottom of each trench before installing any Infiltrator chambers.

Effluent Reduction System

ARC 24 CHAMBER SIZING
AFTER A MECHANICAL PLANT FOR AN EFFLUENT REDUCTION SYSTEM

Area of Gravel Per 50 Feet (per linear ft.)	Number of Chambers*	Linear Feet
50	7	35
100	13	65
150	20	100
200	26	130

*Minimum length of chambers is 50 feet.

EXAMPLE: INSTALLATION OF 100 LINEAR FEET

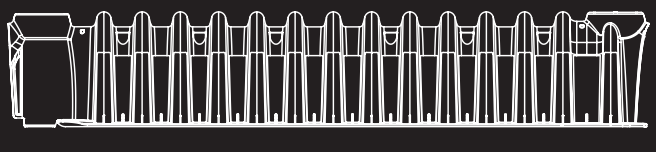
The Arc 24 chamber rating is 7.69 (4 ÷ .65 = 7.69 with a 30% reduction compared to a gravel and pipe system) 100 ÷ 7.69 = 13 chambers	**Product Required** 13 - Arc 24 Chambers 2 - Arc 24 Endcaps

Arc 18 and Arc 24 Chambers are an economical, easy-to-install alternative to conventional on-site leachfield systems. In a conventional on-site leachfield system, 4-inch pipe and gravel
are used to fill in the excavation.

Arc chambers eliminate the need for gravel, thereby reducing many of the problems inherent in gravel systems, including compaction, loss of storage, and fines. The open bottom design of the Arc chamber maximizes infiltrative surface area, while its structural design ensures long-term trench integrity. As allowed by state or local code, chamber system designs commonly result in sizing credits that reduce the leachfield area required within the field footprint. This affords a decrease in machine time, trucking costs, and labor to the installer and

Installation Instructions

Arc 18 and Arc 24 Chamber



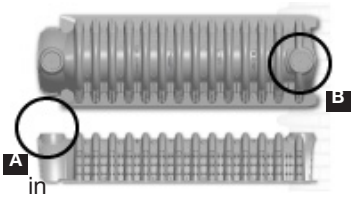
Trench Installation Guidelines

1. Excavate trench to proper width and depth as described in the design and as required by state and local code. Excavation and proper elevation should be set according to a permit formulated from a soil evaluation by the local Health Department, soil scientist, or engineer. For any traffic condition up to an H-10 (16,000 lbs/axle) maximum load limit, the minimum cover over the crown of the chamber shall be 12 inches. For trench installations, a minimum 18-inch wide trench is required for the Arc 18 and a minimum 24-inch wide trench is required for the Arc 24. Adjacent trenches require a minimum of 2-foot separation between lines. (NOTE: Please check with your State or Local codes for minimum separation between trench lines.)

2. Smooth irregularities in the excavation and trench bottom, then clear any large rocks or debris from the bottom of the trench. Scarify the soil if smearing is present. The drainfield trench bottom or absorption bed should be prepared level. Any allowed slope or fall should be determined and based on your state or local codes.

Chamber Assembly

3a. Install the first chamber onto the prepared drainfield. Place dome end first. Each chamber end is marked either Dome (B) or Post (A) on the round observation/vent knockout ports.



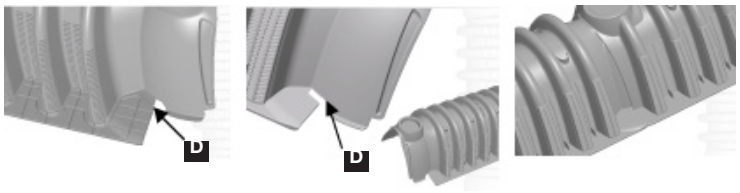
3b. Assemble the Arc chambers in the trench excavation by laying the chamber dome over the post. Raise the post end of the incoming chamber and slightly pull the chamber back until the dome stops at the underlying post.

3c. As the incoming chamber is laid flat in the trench, position the lower base flanges of
the incoming chamber under the raised base flanges (C) of the previously-installed chamber. The trench area in front of the raised base flange should be free of rocks, soil clumps or other obstructions to ensure proper base flange engagement.



d. Arc 18 and Arc 24 chambers are designed with an articulating joint that allows for a free-range horizontal rotation of 20 degrees, with a maximum of 10 degrees in either direction. Do not over-rotate the joint beyond 10 degrees.





e. Each chamber is equipped with a swivel lockout feature (D) located at the base flange of the post end. While the swivel lockout is left in place, the chambers are designed to align in a straight pattern. With the swivel lockout removed, the chamber is free to rotate. The swivel lockout may be removed by cutting along the two sides of the perforation of the lockout and then either moving or removing the remaining piece of plastic from its original position.

f. As each chamber is placed in the trench, adjust the trench direction accordingly by removing the appropriate swivel lockout. The incoming chamber base flange will now ride in the removed lockout gap, allowing up to ten degrees of rotation per five-foot chamber.



4. Prior to installing endcaps, remove the appropriate knockouts for pipe connections by placing the endcap face down on a hard surface and cutting with a hole saw or utility knife. Trim any burs or excess material with a utility knife. Where a hole saw is used to create a pipe opening, centering dimples are placed in the middle of each knockout for the hole saw pilot bit. The knockout will accept a 4" SDR 35 or a 4" Schedule 40 pipe. 3" options are denoted by the inner ring knockout. Inlet pipe must not exceed 2 inches in length beyond the endcap. Inlet pipe extending beyond 2 inches will interfere with the chamber and hinder endcap assembly. Upper knockout shall be used for inlet piping. Lower knockouts are provided for return lines or continuous circuit piping in bed or mound systems. Receiving pockets for 6"x8" splash plates are incorporated into every endcap.







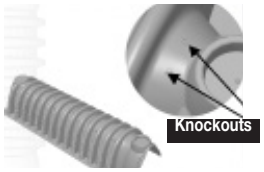
5. Place lip of endcap over the end of the chamber unit and snap into place. Secure in place with backfill. The universal endcap is designed to fit both ends of the Arc 18 and Arc 24 chamber. The endcap shall be placed so that the Arc logo faces outward.

6. Where required by local code, a splash plate shall be place under the inlet end of the chamber. Each endcap is equipped with splash plate receiving pockets. Place the splash plate into the positioning fins prior to endcap assembly.

7. Where required, connect serial or manifold lines of the chambers in the same manner as described in steps 4 and 5 above.



8. The post end has small knockouts located on the roof of each chamber. When removed, these knockouts allow for the use of zip ties or straps to hang pressure-dosing pipe. Where pressure-dosing pipe is used, endcaps should be prepared with a hole saw to adequately accommodate the outside diameter of the PVC dosing pipe.



9. An easy-knockout inspection port is provided in each Arc 18 and 24 chamber. Once the knockout is removed, the resulting opening will accept 4-inch SDR 35 (4.215" O.D.) or 4-inch Schedule 40 (4.5" O.D.) pipe. The Schedule 40 pipe may require moderate coaxing with a rubber mallet.



10. Fill sidewall area to top of chambers with native soil (or select fill where required). Fill shall be compacted to the minimum requirements necessary for the soil type used. "Walking in" the soil is one acceptable means for achieving the compaction level along the sides of the chamber.



11. Complete the backfill of the system with native soil or select fill to the depth specified in the system design and as required by state and local codes. Avoid large rocks and debris in backfill material, as they may eventually impinge on the chamber. As common practice, avoid driving any equipment over the Arc chambers prior to final backfill. Where vehicular loading will be anticipated, all Arc 18 and Arc 24 chambers are approved for H-10 (16,000 lbs/axle) loading when installed with a minimum of 12 inches to a maximum of 8 feet of cover after consolidation*.



12. When preparing the final grade, grading shall be such that stormwater is diverted away from the drainfield. System final grade should be crested or sloped, never left flat or concave. Channel storm and downspout water away from the drainfield. Final grading should be slightly to moderately limited soil to help maintain an aerobic state in the drainfield. Venting is not required. However, venting is recommended to promote oxygen to easily access to the drainfield, and may be required by code.

* **NOTE:** Cover height and live loading limits are impacted by both soil type and compaction requirements. Arc by Infiltrator should be contacted when poor soils are encountered or, if unknown, when fill heights exceed 2 feet.

Bed Installation Guidelines

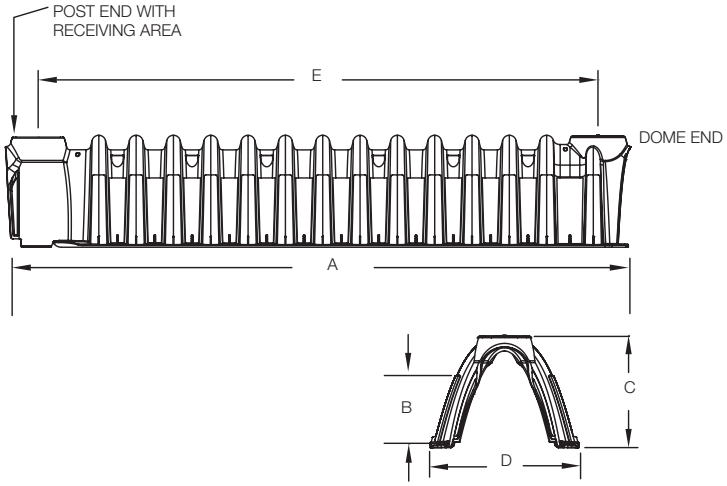


1. Excavate bed to proper width and depth as described in the design and as required by state and local code. For any traffic condition up to an H-10 (16,000 lbs/axle) maximum load limit, the minimum cover over the crown (top of chamber) of the chamber shall be 12 inches. The total minimum bed depth, when measured to the bottom of the chamber, shall be 24 inches to the bottom of the trench bed for the Arc 18 and Arc 24 chambers for non-traffic applications. For bed type installations, a minimum separation of 4 to 6 inches is required between chamber rows.



2. Smooth irregularities in the excavation and clear any large rocks or debris from the bottom of the bed. Slope of the bed shall be determined based on state or local code.

3. For chamber assembly, see steps 3 through 10 in the Trench Installation Guidelines above.



	Arc 18	Arc 24
Length (**A**)	67"	67"
Repeat Length (**E**)	60"	60"
Sidewall Height (**B**)	6.03"	7.5"
Overall Height (**C**)	12"	12"
Overall Width (**D**)	16"	22.5"
Weight	11 lbs	13 lbs
Capacity	3.42 cu ft (25.62 gal)	5.02 cu ft (37.55 gal)

ARC BY INFILTRATOR WARRANTY

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.

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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

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.
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