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Tablet Feeder Model 1000 or 1001

Instruction Manual

Installation • Operation • Maintenance

Tablet Feeder Model 1000 or 1001

Instruction Manual

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INSTALLATION

The Tablet Feeder, Model 1000 or 1001 is a complete one piece system designed for disinfecting the total flow of treated wastewater from any sewage treatment plant with a daily capacity of up to about 50,000 gallons. Two units in parallel will handle plants with capacities as high as 100,000 gallons per day.

Two models are available . . . the convenient Model 1000 with a 6 inch pipe inlet or the versatile Model 1001 with a solid inlet end for easy field adaptation to the outlets of existing plants.

The Tablet Feeder System consists of a compact, adjustable feeder (See Fig. 1) which dispenses a predetermined quantity of SANURIL® . . . a disinfecting agent in tablet form which provides a stable source of chlorine for disinfecting the wastewater. (See Fig. 2.)

Figure 1 - Model 1000 Tablet Feeder

Figure 2 - SANURIL Tablets

Model 1000

The Model 1000 or 1001 is one of simple design with no moving parts. It is manufactured of low linear, medium density, UV stabilized polyethylene for durability and resistance to corrosion. Each feeder is equipped with four removable PVC feed tubes in which the charge of SANURIL tablets is contained. (See Fig. 3) The tubes are inserted down through the removable top cover of the feeder into the stream of wastewater. The lower end of each tube is slotted to permit free flow of water through the tubes to assure good contact between the water and SANURIL tablets.

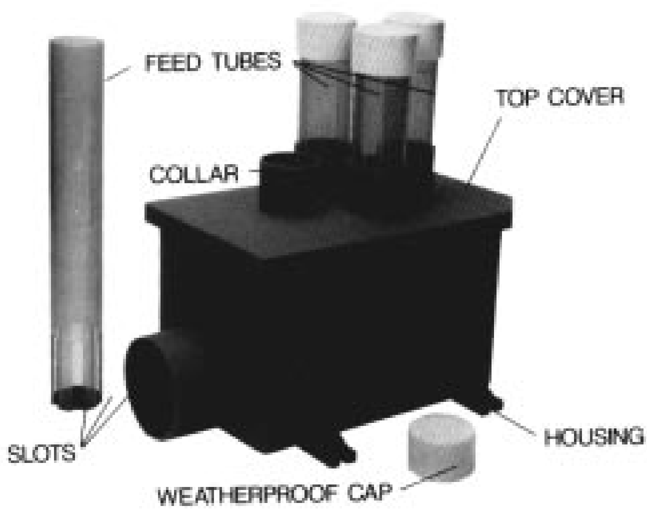


Figure 3 - Model 1000
Feed Tube Removed

The Model 1000 or 1001 is furnished with a selection of weir plates, with weirs ranging in size from 1 to 3 inches in width, for insertion at the outlet end to control the internal water level, depending upon plant capacity and the residual chlorine required. (See Fig. 4) The feed tubes have been precisely located in a diamond shaped pattern, a baffle is installed at the inlet end and the outlet end is contoured for proper water velocity and flow direction.

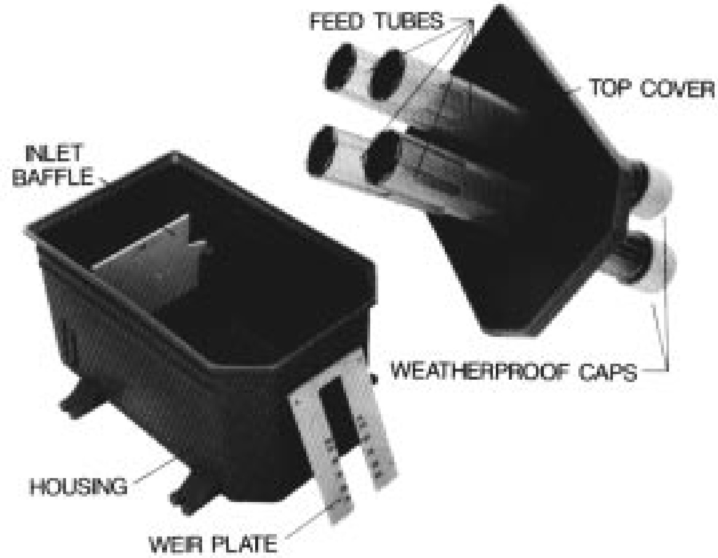


Figure 4
Cover Removed Showing Weir Plate and Baffle

The entire Model 1000 or 1001 assembly is compact and easy to handle, measuring 26 inches long, 18 inches wide and 16 inches deep. The feed tubes are 24 inches long with an outside diameter of $3\frac{1}{2}$ inches. Each tube holds 29 SANURIL tablets which measure $2\frac{5}{8}$ inches in diameter and are $\frac{13}{16}$ of an inch in thickness. Engineering drawings of Model 1000 or 1001 are shown in Appendix B.

Installing the Model 1000

The Model 1000 or 1001 is designed for installation in any sewage treatment plant having sufficient space to permit proper mounting. The unit can be located in or preceding the chlorine contact tank as close as possible to the inlet so that the entire plant flow of wastewater can be channeled through the unit before it enters the chlorine contact tank. (See Fig. 5.)

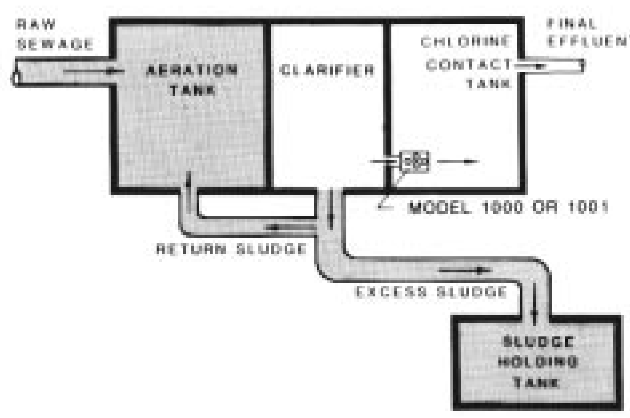


Figure 5 - Location of Model 1000 or 1001

Instructions for Installation of Tablet Feeder, Model 1000 or 1001

Model 1000

The Model 1000 Feeder is designed with a six (6) inch I.D. inlet for use with sewage treatment plants, lagoons, etc. having a standard six inch discharge line. For applications where the plant discharge line is larger or smaller, use the proper reducer or expansion coupling, or the Model 1001. The feeder is connected directly to the discharge by butt fitting and use of a flexible coupling. The coupling normally consists of a neoprene sleeve, a stainless steel shield and clamps. It can be obtained from a local plumbing supply house.

For installation in or above the chlorine contact tank, a support must be constructed on which to mount the unit. This support is best made from angle iron and protected against corrosion with an appropriate coating. The Model 1000 must be mounted so that there is a minimum of two (2) inches of free fall of the water from the feeder weir to the water level in the detention tank.

For in-line installations where the unit is installed between the clarifier and detention tank, it is necessary to provide a drop-box to : 1) permit free fall from the feeder weir; and 2) provide an attachment for connecting to the extension of the discharge line. The drop-box should be constructed of steel or plastic and sized to fit the feeder housing and the particular installation with regard to elevation. Drawings of a suitable drop-box are available upon request. The unit must be solidly supported underneath to prevent strain on the couplings.

Model 1001

The Model 1001 is designed with a solid inlet side that may be cut to fit any size discharge line up to 10 in diameter. The hole in the feeder is cut with a sabre saw with a blade that can be used on the polyethylene composition. A gasket of plastic or fiber at least 1/4 thick must be cut to fit snugly on the outside diameter of the discharge line and large enough to be bolted to the outside of the feeder.

Optionally, a suitable grout may be used to connect the unit to the discharge line.

For in-tank installations, a support is necessary for mounting the unit. See the Model 1000 discussion. Where possible for in-tank installations, the gasket may be made thick enough to be bolted to the inside tank wall between it and the feeder housing.

For in-line installations, a drop-box such as described for the Model 1000 is used. The Model 1001 and drop-box must be solidly supported underneath to relieve the strain on the couplings.

<u>WHEN MOUNTING THE FEEDER, BE SURE THAT IT IS LEVEL. THE UNIT SHOULD COMPLETELY DRAIN AT NO FLOW CONDITIONS.</u> Refer to Appendix A for examples of typical installations.

OPERATION

Figure 6 - Cut-Away View Model 1000

Operating Principles

The Model 1000 or 1001 will operate automatically without personal attention for as long as sixty days, depending upon plant flow and the required chlorine residual. After the initial adjustment. operation is simple, automatic and continuous. (See Fig. 6.)

The entire plant flow of treated wastewater passes into the unit through the inlet adapter, or pipe. As the stream of water flows past the feed tubes containing the SANURIL tablets, active chlorine is released into the wastewater by the dissolving action of the water stream in contact with the tablets.

At the outlet end, a weir (selected to match plant capacity) controls the height of the water level in the feeder which actually controls the chlorine concentration in the water, regardless of surges in wastewater flow entering the feeder.

As the incoming water flow rate increases, the water level in the unit rises, immersing a greater number of SANURIL tablets. When the incoming flow rate decreases, the water level in the unit drops, exposing fewer tablets to the water. Since the amount of SANURIL dissolved depends upon the number of tablets immersed in the water, the initial chlorine concentration remains constant, regardless of the water level in the feeder.

From the feeder, the chlorinated wastewater flows into the chlorine tank where it is held for a sufficient time to permit effective bacteria killing action.

Although each model 1000 or 1001 is furnished complete with four feed tubes and a selection of weirs, the actual number of tubes to be filled with SANURIL tablets and the weir to be used are determined by the average daily flow rate through the plant and required residual chlorine content.

Sizing a SANURIL Installation

Before the Model 1000 or Model 1001 is put into operation, the system must be sized and "set" to provide the required dosage of SANURIL. This is accomplished by determining the amount of SANURIL required to deliver the desired levels of chlorine, selecting the appropriate number of feed tubes to use and selecting the proper weir size opening. Initial sizing of the Model 1000 or Model 1001 is simple and easy; just follow the steps outlined below:

1. **Determine the Plant Flow Rate -** The average daily plant flow rate can be determined in a number of ways. It may be obtained from lift station pump starts, flow rate meters, integrator flow counters or other devices which indicate the amount of sewage flowing through the plant in a 24-hour period. As a reminder, the Model 1000 or the Model 1001 Tablet Feeder is designed to handle up to 50,000 gpd. Higher flow rates can be handled with multiple units installed in parallel. If multiple feeders are required and the flow split is not equal through each feeder, the sizing should be done separately on each feeder using the appropriate flow rate. If the flow is split equally, sizing should be done on one (1) feeder and the final results should be multiplied by the number of feeders being used.

2. **Determine the Chlorine Dosage Required** - The required level of chlorination is determined by the total amount of chlorine to satisfy the chlorine demand of the system added to the amount of residual chlorine desired after a predetermined contact or detention time. If the chlorine demand is not readily known, an estimation can be made by using the general guidelines for chlorination requirements as published by the EPA. An abbreviated summary of these guidelines can be found in Figure 7.

   For example, if you have an extended aeration treatment plant (activated sludge) and do not know what the chlorine demand is, refer to Figure 7. The typical dosage for activated sludge is between 2 to 8 mg/l chlorine. For sizing purposes, take a value somewhere near the mid-point of this range (5 mg/l). Once the system has been sized and set, allow the system to operate for one (1) hour to 1 1/2 hours before sampling the effluent. If the levels are not exactly what is desired, adjust the unit as described in the Trouble Shooting Section.

CHLORINATION TREATMENT FOR:	TYPICAL DOSAGE: PPM
SEWAGE	
FRESH RAW	6 - 12
SEPTIC RAW	12 - 25
TRICKLING FILTER	3 - 10
ACTIVATED SLUDGE	2 - 8
SAND FILTER	1 - 5
SLIME	1 - 10
DISINFECTION	25 - 50
SULFUR BACTERIA	1 - 10
SWIMMING POOL	1 - 10
TASTE	1 - 10
WATER	
COOLING	1 - 10
CHILLING	5 - 25
WASHDOWN	25 - 50
WELL	1 - 5
SURFACE	1 - 10

Figure 7 - General Guidelines
Chlorine Dosage Requirements

3. **Determine the Amount of SANURIL Required To Provide The Desired Chlorine Residual -** The quantity of SANURIL necessary to meet the desired chlorine dosage established in Step 2 can be determined by following the calculations provided in the SANURIL SIZING WORKSHEET shown in Figure 8 (Equations 1-3). *You are encouraged to use this worksheet by filling in all the necessary information to size your installation. If additional worksheets are needed, please contact the Customer Service Department.*

   Enter the amount of chlorine required in 1 (a) and multiply by 0.0000083 to give the desired amount in lbs. of Cl_2/ gal. The 0.0000083 factor includes all the conversions to change the units from mg/l to lbs/day. In Equation 2, the value from 1 (b) is then divided by 70% to convert the value from lbs. Cl_2/gal to lbs. SANURIL/gal. The SANURIL tablets contain a minimum of 70% available chlorine. In Equation 3, multiply the value from 2 (c) by the flow rate of the plant (3d). This will give you the lbs. SANURIL/day (3e) required to deliver the amount of chlorine desired.

   EXAMPLE: A system with a flow rate of 10,000 gpd needs to deliver 5 mg/l of chlorine; 5 mg/l (1a) X 0.0000083 = 0.0000415 lbs. Cl_2/gal. (1b); 0.0000415 divided by 0.70 (70%) = 0.0000593 lbs. SANURIL/gal. (2c) ; 0.0000593 X 10,000 gpd (3d) = 0.59 lbs. SANURIL/day (3e).

1. ______________ mg/l Cl_2 X 0.0000083 = ______________ lbs. Cl_2/gal
(a) (b)

2. divided by 0.7 = ______________ lbs. SANURIL/gal
(c)

3. X ______________ gpd = ______________ lbs. SANURIL/day
(d) (e)

NOTE: Using the lbs. of SANURIL / day (Equation 3 above), refer to Figure 9. This will give you the initial settings for the feeder with respect to how many feed tubes and the weir size required in order to deliver the desired amount of chlorine.

Please record this information below, as it will be used to determine the days before refill.

______________ number of feed tubes ______________ weir size required

4. divided by 0.31 lbs / tablet = ______________ lbs. SANURIL tablets / day
(f)

DAYS BEFORE REFILL:

5. divided by x ______________ feed tubes = ______________ tablets / tube per day
(g) (h)

6. 24 divided by ______________ = ______________ days before refill
(h) (i)

NOTE:
The sizing information above is theoretical and is meant to serve as a guideline for the initial feeder settings. Actual use may differ somewhat and adjustments may be required.

Figure 8 - SANURIL SIZING WORKSHEET

4. Adjust the Feeder For The Dosage of SANURIL Required - Once the lbs. SANURIL / day has been calculated, the feeder must be "set" to provide this amount of chlorine. In order to determine the initial settings of the tablet feeder, refer to the graphs in Figure 9. To use these graphs, you will first need to find the total lbs of SANURIL / day determined in Step 3 (e) on the horizontal line entitled "TOTAL POUNDS OF SANURIL CONSUMED PER DAY" in each graph. Second, find the flow rate used in the worksheet (3d) on the vertical line entitled "Flow, gpd x 10^3" on each graph. The point where both lines intersect will give the number of feed tubes to use and the weir size opening to select. The graph which shows this intersection closest to one of the numbered diagonal lines will be the best choice to provide the amount of chlorine desired.

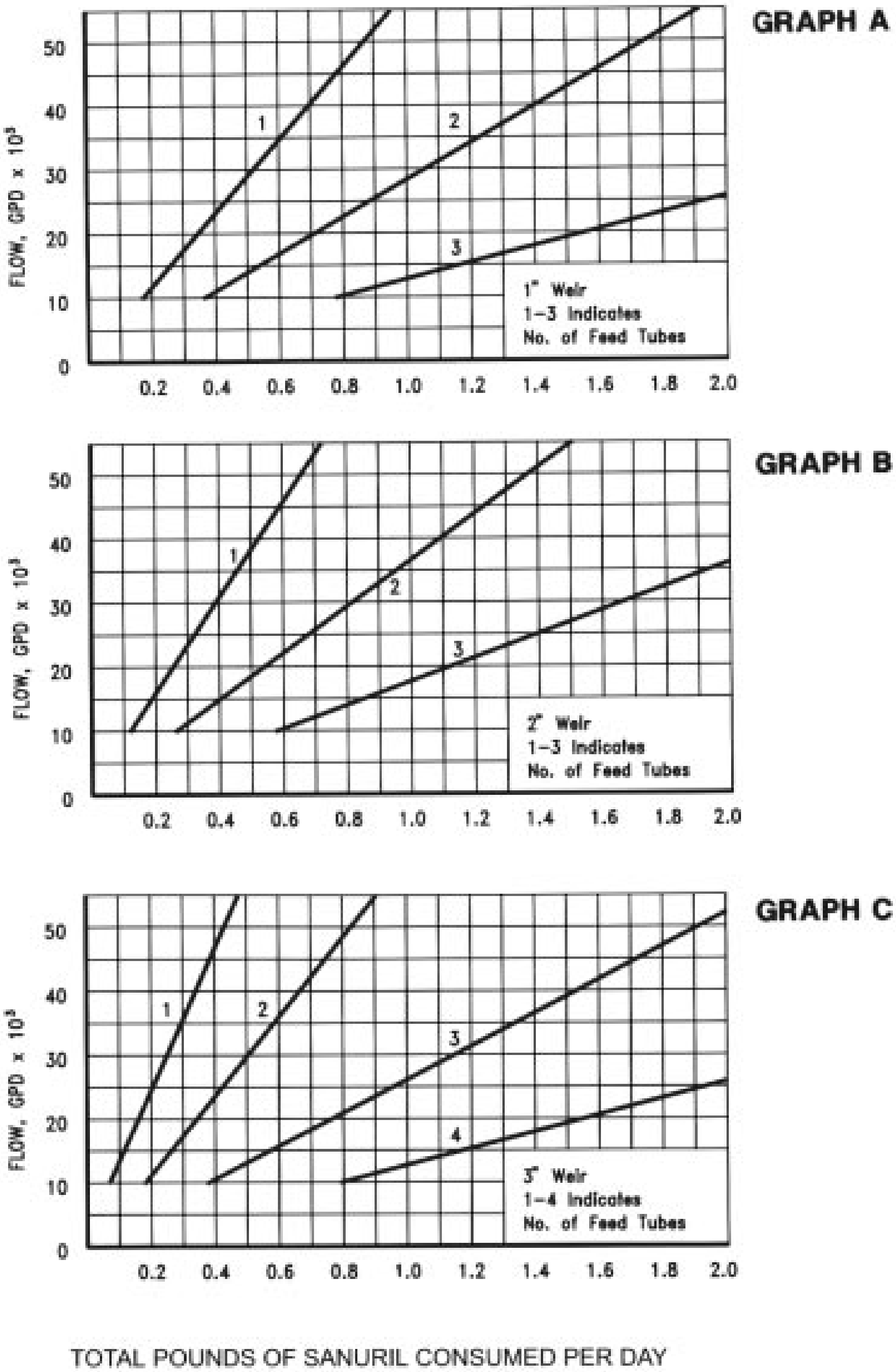


Figure 9 - SANURIL Consumption Versus Plant Flow Using Various Numbers of Feed Tubes and Weir Sizes.

Example (Refer to Fig. 9 a) : Find 0.59 lbs. SANURIL / day on the horizontal line of all three graphs. Next, find the 10,000 gpd on the flow rate line and mark where each line intersects with respect to the diagonal lines of each graph. The point of intersection in Graph B comes the closest to a diagonal line (#3) than in the other two graphs. Therefore, to deliver 0.59 lbs. of SANURIL/day at a flow rate of 10,000 gpd will require 3 feed tubes and the 2" weir opening.

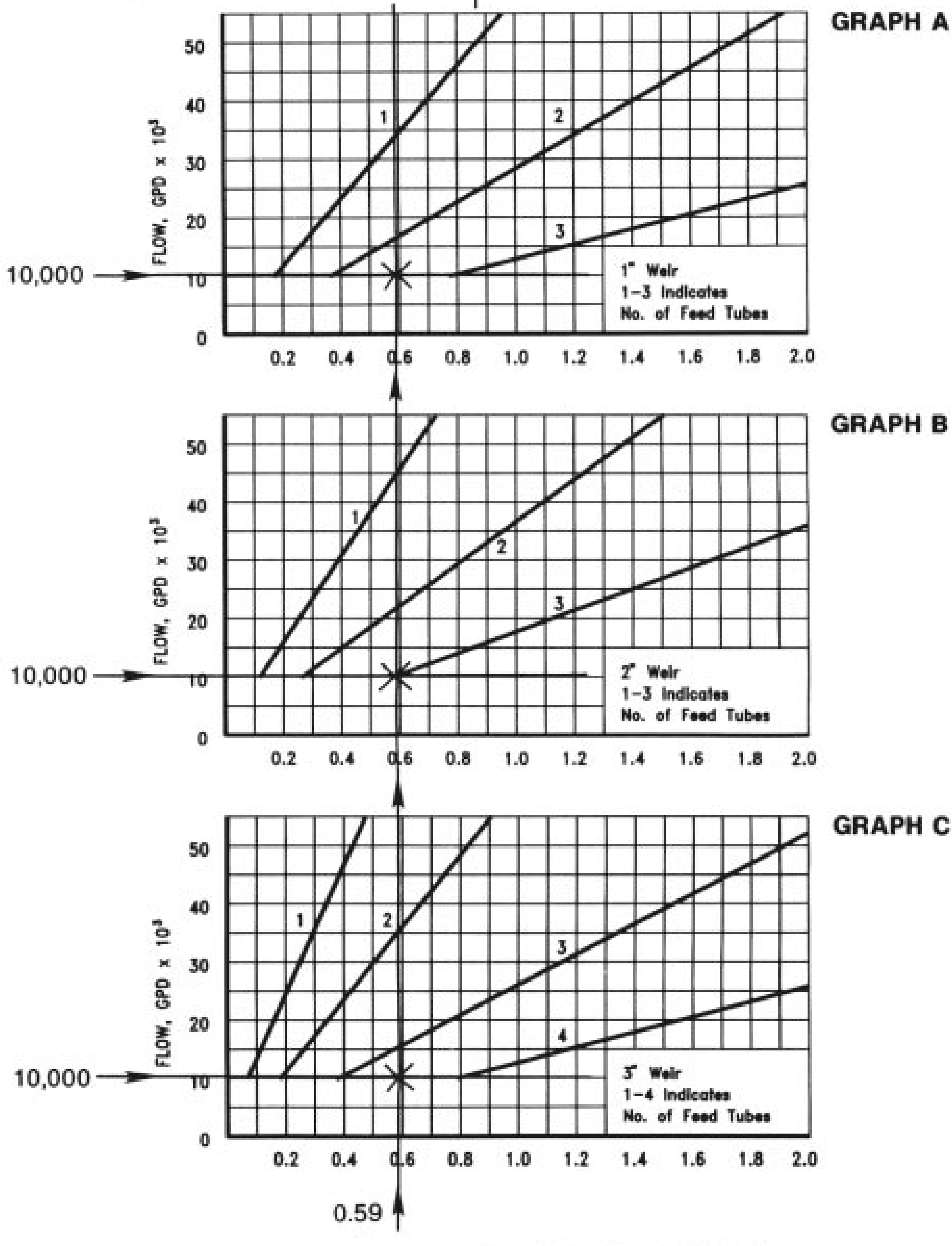


Figure 9 a - Example for 0.59 lbs. SANURIL / day @ 10,000 gpd Flow.

In some cases, there may be more than one option for the number of feed tubes and weir size to use. When this happens, keep in mind that selecting the smallest possible weir size will provide the best control of chlorine residual. However, this will also shorten the continuous operating periods between refills. If longer intervals are desired, select a larger weir and more feed tubes.

5. **Determine the Days before Refill -** The days before refill can also be calculated by completing Equations 4-6 of the SANURIL SIZING WORKSHEET. In order to determine the number of days before refill, the lbs. of SANURIL/day must be converted to the number of tablets/day. This is done in Equation 4 (f). The conversion factor of 0.31 is used, because this is the average weight of each tablet. Using this value, divide by the number of feed tubes determined in Section 4 (5g). This will indicate the number of tablets being used in each tube / day (5h).

   Even though the feed tube holds twenty-nine (29) tablets when filled to the top, it is recommended to refill the tubes when there is a minimum of five (5) tablets remaining in the tubes. Therefore, in determining the days before refill, the number of tablets used is twenty-four (24). By dividing the number of tablets in the tube by the number of tablets being dissolved per tube, we can determine the number of days before refill (6i).

   Example: 0.59 lbs of SANURIL / day (3e) divided by 0.31 lbs. SANURIL/ tablet = 1.9 tablets of SANURIL / day (4f). 1.9 tablets of SANURIL / day divided by 3 feed tubes (5g) = 0.63 tablets per tube/day (5h). 24 tablets/tube divided by 0.63 tablets used/tube/day = 38 days before refill (6i).

The procedure for sizing the Model 1000 or 1001 as described above are considered to be the long version for determining the number of SANURIL tablets required. **It is necessary to go through all the steps in order to calculate the intermediate values needed to select the proper number of feed tubes and weir size opening.** In Table 1, the number of SANURIL tablets required to deliver a desired amount of chlorine at a given flow rate has been provided.
This table follows the simplified equation as described below:

mg/l Cl_2 required x flow rate, gpd x 0.000038 = number of SANURIL tablets / day.

For example, using the same values used before; we need to deliver 5 mg/l Cl_2 at a flow rate of 10,000 gpd. Following the simplified equation we have:

5 mg/lCl_2 required x 10,000 gpd x 0.000038 = 1.9 SANURIL tablets / day.

TABLE 1
NUMBER OF SANURIL TABLETS PER DAY*
Based on Chlorine Required

	Chlorine Required, mg / l (ppm) Chlorine Demand + Chlorine Residual								
Flow Rate, gpd	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
2,500	0.19	0.29	0.38	0.48	0.57	0.67	0.76	0.86	0.95
5,000	0.38	0.57	0.76	0.95	1.14	1.33	1.52	1.71	1.90
10,000	0.76	1.14	1.52	1.90	2.28	2.66	3.04	3.42	3.80
15,000	1.14	1.71	2.28	2.85	3.42	3.99	4.56	5.13	5.70
20,000	1.52	2.28	3.04	3.80	4.56	5.32	6.08	6.84	7.60
25,000	1.90	2.85	3.80	4.75	5.70	6.65	7.60	8.55	9.50
30,000	2.28	3.42	4.56	5.70	6.84	7.98	9.12	10.26	11.40
35,000	2.66	3.99	5.32	6.65	7.98	9.31	10.64	11.97	13.30
40,000	3.04	4.56	6.08	7.60	9.12	10.64	12.16	13.68	15.20
45,000	3.42	5.13	6.84	8.55	10.26	11.97	13.68	15.39	17.10
50,000	3.80	5.70	7.60	9.50	11.40	13.30	15.20	17.10	19.00

By using Table 1, you will be able to determine the amount of SANURIL tablets required for a designated time frame, i.e. one (1) year. In order to calculate the number of containers required for a yearly operation, the following steps should be followed: 1) determine the number of SANURIL tablets required for one year by multiplying the number of SANURIL tablets/day by 365 days/year and 2) divide the number of tablets required per year by the number of tablets per each container size as outlined below:

Container Size	Number of Tablets/ Each
25 - lb. Pail	81 Tablets
45 - lb. Pail	145 Tablets
100 - lb Drum	323 Tablets

Example: 1.9 SANURIL tablets/day x 365 days/year = 693.5 SANURIL tablets / year. The chemical requirements for the year will be either 5 x 45 - lb pails (693.5/145) or 2 x 100 - lb. drums (693.5/323).

NOTE: IF YOU ARE USING THE AQUAWARD® TABLETS FOR WASTEWATER DISINFECTION, THE SAME SIZING SHEET CAN BE USED. ALTHOUGH SANURIL CONTAINS HIGHER CHLORINE CONTENT THAN THE AQUAWARD TABLETS, THE SIZING CALCULATIONS ARE BASED ON THE MINIMUM CHLORINE OF BOTH THE SANURIL AND AQUAWARD TABLETS, I.E. 70%.

Installation of the Weir Plate

When the proper weir size has been determined, the weir plate is installed by bolting it to the outside face of the outlet. PVC bolts and nuts have been provided for this use. All the water must pass through the weir for effective operation. The plate may be caulked if necessary to prevent leakage around the sides.

All recent Model 1000 or 1001 Feeders come equipped with calibrated weir plates that show the instantaneous flow rates. A weir calibration curve and photo of these weirs are shown in Appendix C.

Charging the Feed Tubes

After you have determined the correct number of feed tubes to be used, fill the active tube, or tubes, with SANURIL tablets as shown in Figure 10. These tablets are designed and formulated especially for use in the EIC Tablet Feeders.

Each tube holds 29 tablets weighing approximately 8½ pounds. When sliding the tablets into the tube, they must be flat in the stack to assure a constant feed rate and avoid the possibility of jamming in the contact zone at the bottom of the tube.

After all active tubes have been charged, be sure the caps are securely in place to prevent the entrance of rain or snow which could cause the SANURIL tablets to dissolve prematurely.

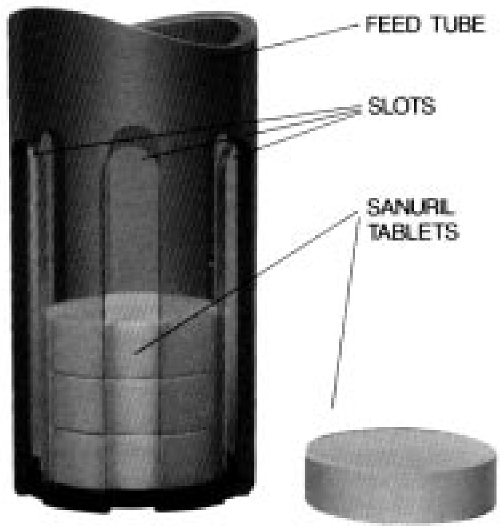


Figure 10 - Charging SANURIL Tablets

Placing Feed Tubes in the Model 1000 or 1001

After the active tubes have been charged, insert the tubes into the unit through the collars in the top cover. Tubes charged with tablets must be inserted with the slotted end down, while the inactive tubes should be installed with their slotted ends up for proper flow distribution and the same hydrodynamic action provided by the active tubes filled with tablets. Both active and inactive tubes must be pushed down against the bottom of the feeder.

When inserting the tubes, the correct location of both active and inactive tubes is important. The collars for holding the four tubes are arranged in a diamond shaped pattern with respect to water flow as shown in Figure 11.

When only **one** feed tube is active (charged with SANURIL tablets), it should be placed in the No. 1 position with the other three tubes inverted (slotted ends up).

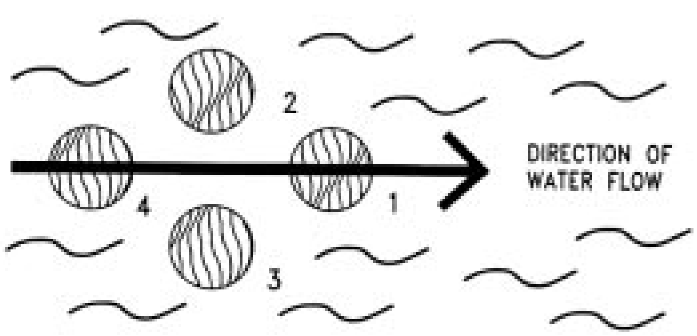


Figure 11 - Feed Tube Arrangement

When two feed tubes are active, they must be located in positions 2 and 3. The remaining two tubes are inverted and placed in positions 1 and 4.

When **three** feed tubes are used, they are placed in positions 1, 2, and 3 with the remaining tube inverted into position 4.

When all **four** tubes are active, they are all charged with tablets and inserted in positions 1 through 4 with slotted ends down.

Feed Tube Spacers

You will note that each feeder is equipped with four (4) spacer disks. The spacers are constructed of grey PVC, having compatible dimensions to the tablets. The center holes will allow drainage of any trapped water. Their intended use is to serve as an "automatic" means to reduce the amount of chlorine being delivered. This is done by lifting (spacing) the active stack of tablets, in ½" or ¼" increments, off the floor of the feeder-limiting the contact area between the incoming stream and the tablets.

Prior to charging the feed tubes with tablets, the desired number of spacers should be placed in the tube. Care should be taken that the height of the total number of spacers used does not exceed the water level within the feeder housing. This will prevent contact of the stream with the active tablets.

Laboratory data showed that one spacer reduced the initial levels of chlorine by approximately 38% and two spacers provided 67% reduction in the initial concentration.

On-Stream Operation

When the proper weir plate is in place and the feed tubes are charged and correctly positioned, the system is ready for operation.

Admit the entire plant flow of treated wastewater through the feeder . . . operation is continuous and automatic.

After the system has been in operation for approximately one hour, samples should be taken from the effluent end of the chlorine contact tank for chlorine residual analysis. Although the chlorine residual may be determined by a variety of test methods, the preferred and recommended method is the starch-iodide procedures described in the most recent approved edition of STANDARD METHODS FOR WATER AND WASTEWATER.
Take several samples for chlorine analysis between the first and second hours of operation. This will allow time for the chlorine residual to reach a state of equilibrium in the detention tank. When two or three chlorine residuals determined 15 minutes apart are consistent with each other, the system may be considered stable. Occasional samples taken in the same way may be used to check the chlorine delivery at any time.

If the results of the chlorine residual testing, or any other test, indicate that the unit is not providing sufficient chlorine, the necessary adjustments may be made by changing the weir size or feed tubes. (See TROUBLE SHOOTING.)

If desired, bacteriological analysis for *Escherichia Coli* may be performed on the effluent from the detention tank. Optional analysis that may be run on the effluent are B.O.D., C.O.D., pH, suspended solids, nitrite, ammonia and dissolved oxygen. Tests for all these are described in STANDARD METHODS mentioned previously.

MAINTENANCE

The Model 1000 or 1001 requires very little maintenance. Refilling of the feed tubes and an occasional on-stream cleaning of the feeder are the only maintenance procedures required.

Refilling the tubes is done on a schedule based on plant flow and weir size as shown in Figure 9. The refill intervals are at the option of the operator as outlined under PREPARATION FOR OPERATION. The tubes should always be filled to the top. This assures the longest possible periods of unattended operation.

Occasional cleaning of the feeder to remove accumulated residues may be required. This will depend on the quality of the influent passing though the unit. Usually, once every six to twelve weeks is sufficient. Solids accumulated around the feed tubes are removed by pulling the tubes a few inches off the bottom of the feeder and raising the weir plate to permit the water to rush out the exit end of the dissolver. This action, if repeated a few times, will flush out most solids. Fibrous materials may adhere occasionally to the bottom of the feed tubes. Removal of these with a rod or gloved hand, combined with the shearing force of channeled water in the feeder is sufficient to remove these materials.

Once a year the feed tubes may require removal of internal scale buildup by simply scraping the inside surfaces of the tubes.

TROUBLE SHOOTING

Incorrect amounts of chlorine delivered may be due to several causes. Some of the potential problems and their remedies are outlined below.

Insufficient Chlorine - If the chlorine is consistently too low in the chlorine contact tank, use an additional feed tube or a smaller size weir. Samples taken at the effluent end of the unit can be used to determine whether sufficient chlorine is being delivered into the chlorine contact tank.

If the feed tubes do not reach the bottom of the unit, insufficient chlorine will be released into the wastewater. Check the feed tubes for contact with the bottom.

If improperly loaded, the tablets can jam, causing the stack to remain suspended above the water level. This causes low dosage levels. Check to be sure that all the tablets are flat in the stack. Should there be a tablet jam, a hard rap on the tube will loosen the bound tablets.

A gross hydraulic overload will cause a lower than desired chlorine residual. The Model 1000 or 1001 has been designed to accommodate 100 to 200% over average flow. This may be exceeded temporarily by abnormal conditions such as heavy rains etc., and nothing should be changed if this is the case. However, if the overload into the plant becomes permanent due to the influent from additional sanitary installations from homes, businesses or other sources, the additional flow must be compensated by using a larger weir and/or more feed tubes to maintain the desired chlorine level. The necessary changes can be determined by recalculating the daily flow and using the tables and graphs to find the new required weir size and tube complement.

Overchlorination - Overchlorination is due to excessive consumption of disinfectant. The chlorine residual may be reduced by removing one or more feed tubes, adding spacers, and/or using a larger weir.

Plugging - If the flow through the weir is restricted, the water level will rise and cause back-up in the unit. The most common obstacles are leaves and sticks or sewage solids. Remove these immediately whenever found.

Under most conditions of flow, there is sufficient shearing action by the water to keep the slots in the feed tubes from becoming obstructed. If the slots become obstructed, they may be cleared as described under MAINTENANCE or by removing the feed tubes from the unit feeder and clearing the obstructing materials by hand.

HANDLING AND STORAGE

SANURIL is an oxidizing agent. It should be stored in a cool, dry area away from oxidizable material such as rags, paper, kerosene or other combustible materials. Do not inhale container vapors. After use, reseal container to protect remaining material. In case of fire, apply liberal quantities of water.

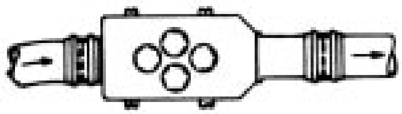
OTHER APPLICATIONS

In addition to wastewater chlorination, the Model 1000 or 1001 Tablet Feeder can also be used for dechlorination, and the chlorination of drinking water. For dechlorination, the Model 1000 or 1001 is used in conjunction with the D-CHLOR™ tablets. These tablets are a sodium sulfite based formulation also having compatible dimensions for use in the Model 1000 or 1001 Tablet Feeder. For drinking water chlorination, the Model 1000 or 1001 is used in conjunction with the AQUAWARD® chlorinating tablets. The AQUAWARD® tablets are a calcium hypochlorite based formulation also having dimensions compatible for use in the Model 1000 or 1001 Tablet Feeder. This system is ideal for open channel flow operation and/or remote installations where other methods of disinfection are not practical or economical.

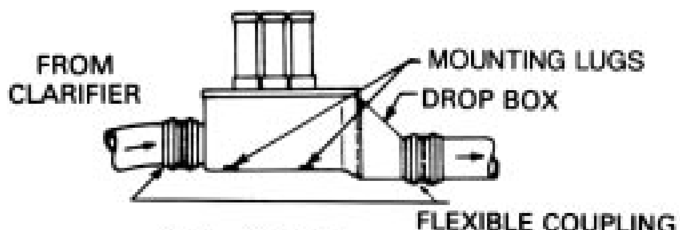
For additional information and literature on the D-CHLOR and AQUAWARD® Systems please contact the Customer Service Department.

APPENDIX A
TYPICAL INSTALLATIONS

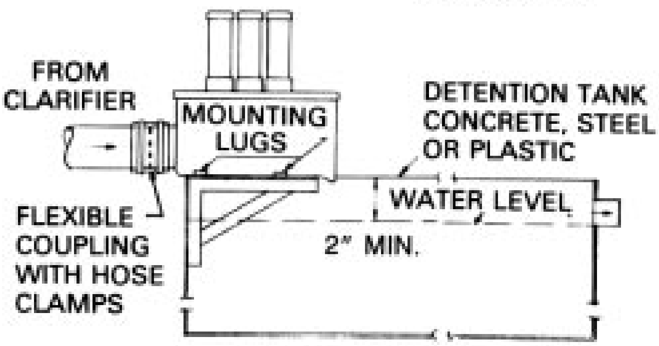
MODEL 1000



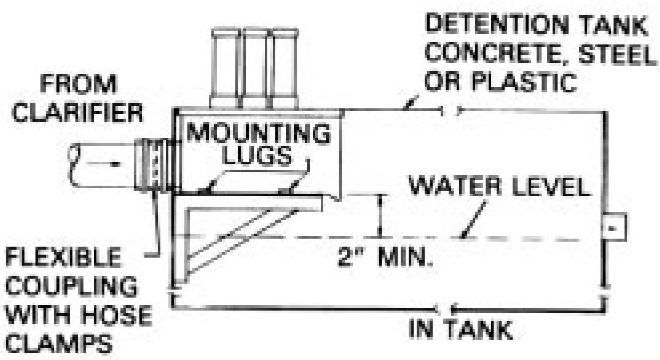
TOP



SIDE , IN-LINE

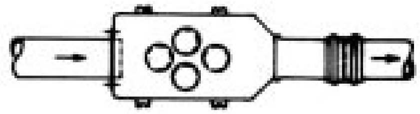


ABOVE TANK

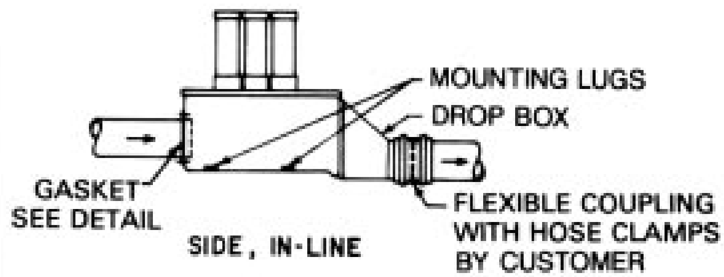


IN TANK

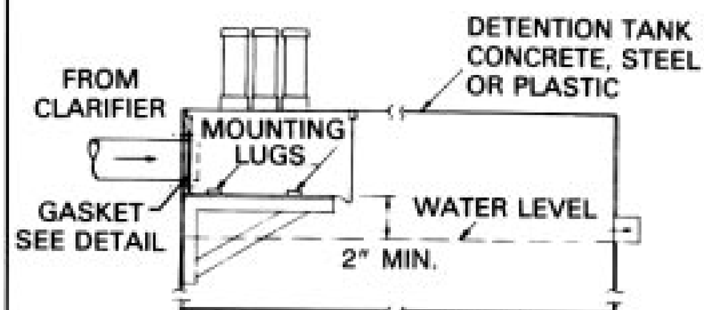
MODEL 1001



TOP



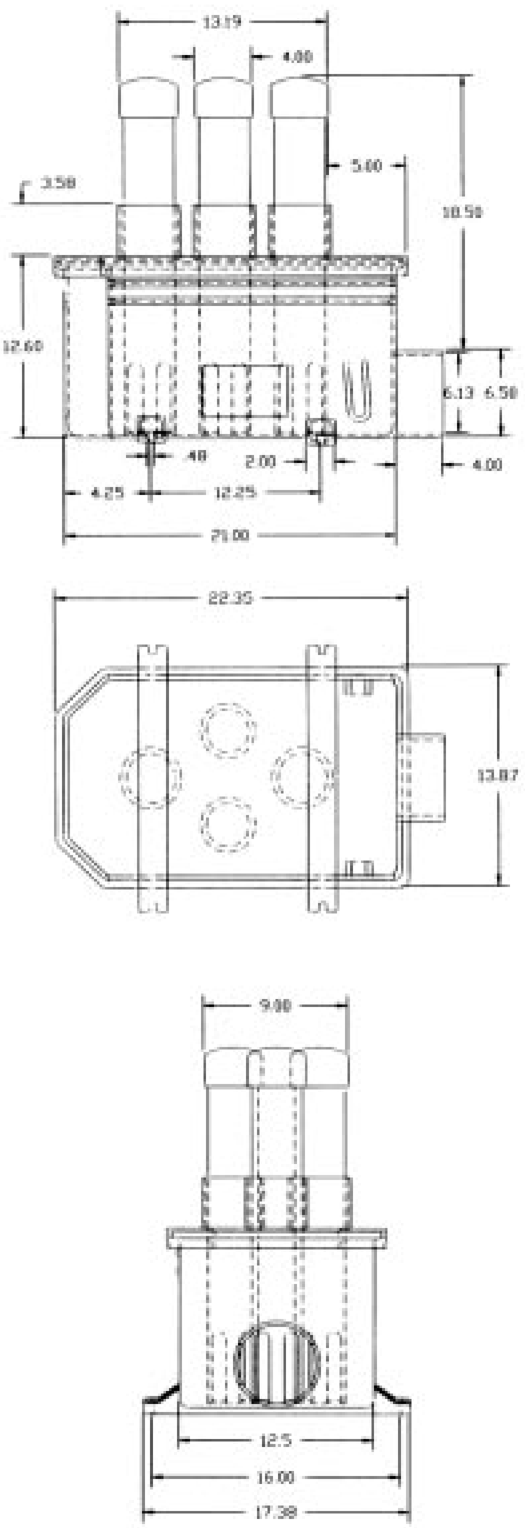
SIDE , IN-LINE



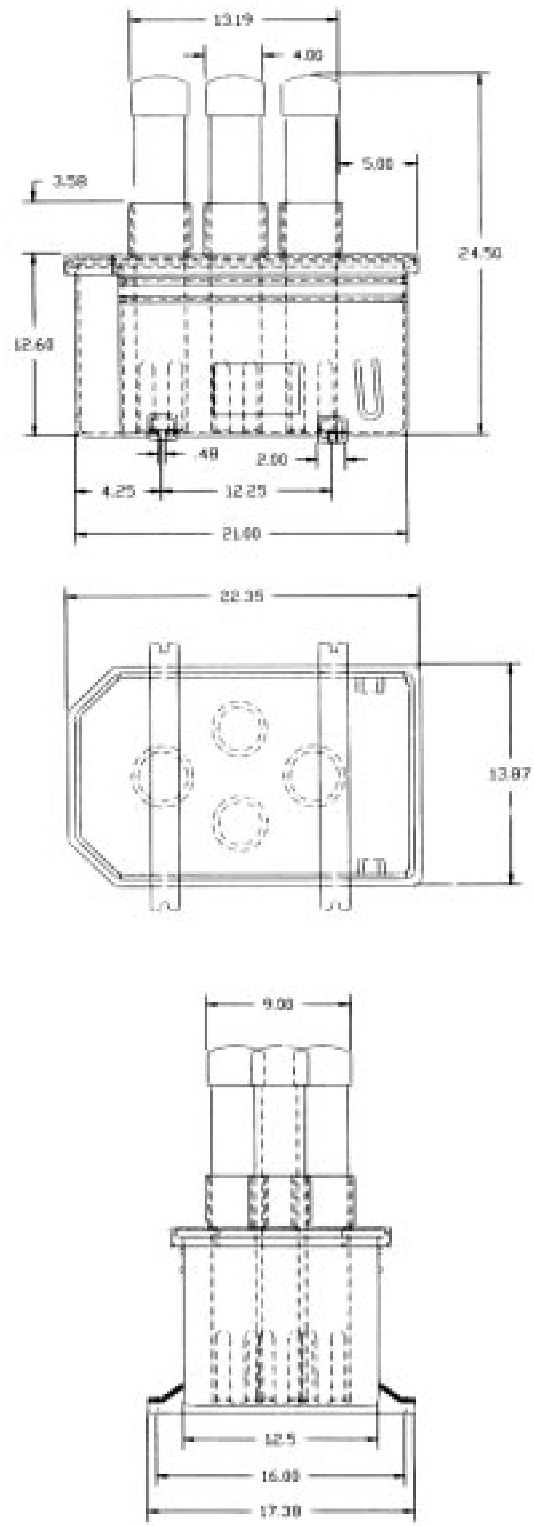
IN TANK

APPENDIX B

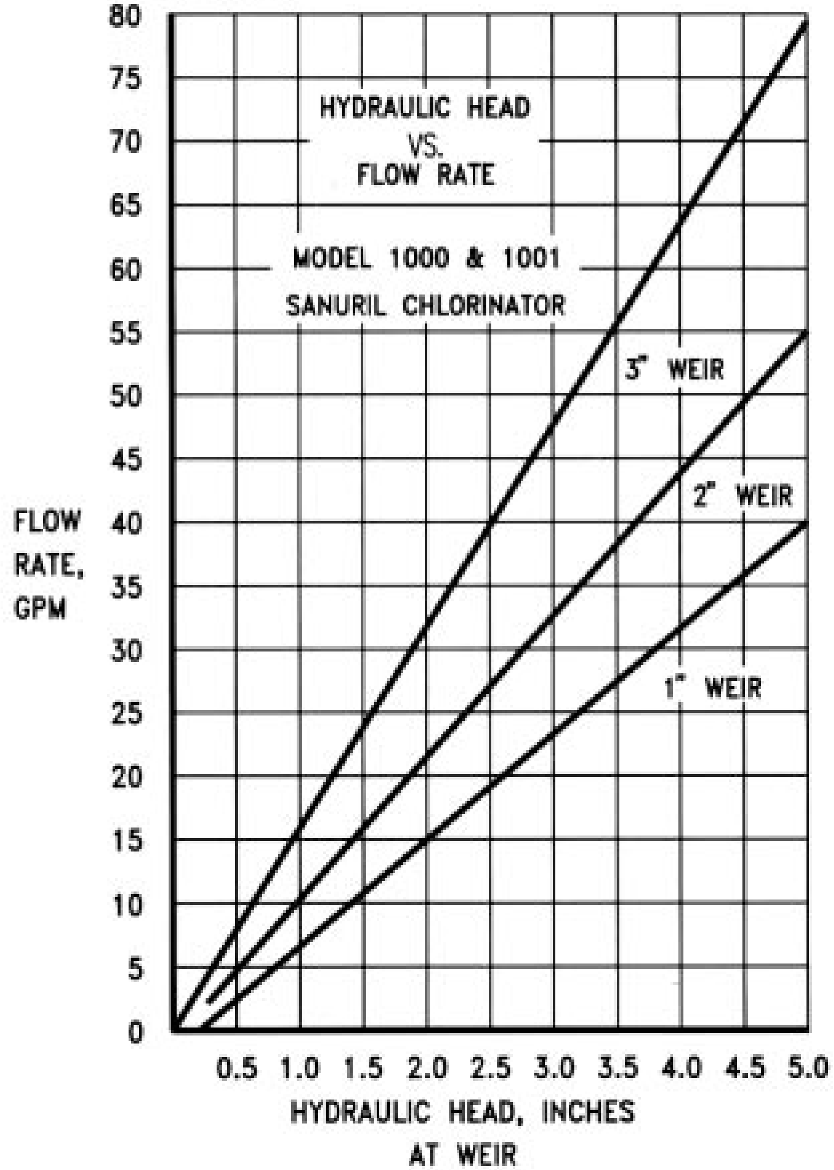
MODEL 1000



MODEL 1001



APPENDIX C


HYDRAULIC HEAD
VS.
FLOW RATE
MODEL 1000 & 1001
SANURIL CHLORINATOR
3" WEIR
2" WEIR
1" WEIR
FLOW RATE, GPM
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0
HYDRAULIC HEAD, INCHES AT WEIR

SEVERN
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