EPAN Chamber

Complete Installation
& Operating Instructions

Cat. #s: EP-4
EP-7

Stage 3 of 3 Stages

Silver Sentinel
EPA COMPLIANCE SYSTEM

The patented EPAN Chamber uniquely restructures only existing processor's effluents through new innovative remixing and treatment procedures to meet or exceed current EPA Compliance discharge standards.

SILVERPROFIT.COM

EPAN Chamber Installation Instructions

Carefully read all instructions before installing your EPAN Chamber.

IMPORTANT NOTICE: EPAN Chamber is not a plumbing fixture. It is not to be hard plumbed into the sewer system. It is a recovery and recycling device, an integral part of the film processing machine. This is a proprietary product. Protected by U.S. and foreign patent laws. It is unlawful to copy or duplicate this device in any manner, for private use or resale. Violators may be held liable for damages, legal fees and court costs necessary to consummate prosecution.

AS WITH ALL CHEMICALS - DO NOT BREATHE VAPORS!

1. If you are installing the EPAN Chamber to reduce your drain clogging problem, then before installation, it may be advisable to have your drain professionally cleaned out and then treat it with "Fotex" processor drain cleaner monthly to remove remaining deposits. Fotex is available from your EPAN dealer.

2. Place the EPAN CHAMBER with the outlet positioned near the darkroom drain. Connect the 1.25" tubing to the EPAN's overflow weir outlet and run it into the nearest floor drain. Do not insert tubing in drain more than a few inches. Do not place end of discharge tubing below liquid in drain. Use the elbow provided if necessary utilizing the shortest route possible. Secure all fittings with hose clamps.
   ****Make sure EPAN outlet and tubing are higher than drain opening.****

3. Developer overflows must be isolated and introduced to the EPAN developer input properly. For example, on certain processor models such as Kodak's M6AN, it is necessary to insert a rubber foam pad or short piece of flattened vinyl tubing, into the wash water jacket weir around the developer tank to prevent unnecessary water from entering the developer overflow and DuPont QC1 processors require developer overflow tube modifications. The auxiliary developer overflow tube, within the developer tank, is actually 0.25" higher than the main overflow tube leading to the wash water discharge manifold. This auxiliary overflow tube must be below the main overflow tube level to properly supply developer to the EPAN Chamber. If not modified, the developer will be introduced to the EPAN Chamber through the internal flushing weir, by the wash water input port. This will cause the EPAN's functional chemical precipitation reactions to occur within the 1.25" output tube to drain. This tube will then become plugged with the reactive sludge which normally remains within the EPAN Chamber itself. Wash water overflow from the processor must be within EPAN's wash water inlet flow capacity (approximately 3 gallons per minute or less).

4. Connect isolated developer overflow from the processor to the 0.5" port labeled "DEV INLET" on the EPAN Chamber. Secure all fittings with hose clamps.

5. Connect the outlet line of your silver recovery system discharge to the 0.5" port labeled "FIX INLET" on the EPAN Chamber. An adaptor sleeve is provided for previous 0.75" tubing installation. Secure all fittings with hose clamps.

6. Connect wash water overflow hose from processor to 1" (upper) port labeled "WASH WATER INLET" on the EPAN Chamber. This connection will aid in the automatic flushing of the EPAN's overflow discharge weir, however, additional algae accumulations may affect benefits in some areas. Processor wash water connection will further reduce total effluent discharge concentrations. For installation convenience and multi-processor installations, two 1" outer diameter water inlets are provided. For single processor installations, it will be necessary to plug the second inlet using the rubber cap provided. One sleeve is provided to accommodate previous 1.25" inner diameter tubing installations. Secure all fittings with hose clamps.

7. A unique sampling port is provided to facilitate a precise, consistent, clean, foolproof method for obtaining a true representative sample of actual total processor discharge effluent. To take a sample, process films as usual and during the film processing cycle, remove the rubber cap from the sampling port. After placing an 8 oz. or larger container below the port, gently raise or pinch close the 1.25" inner diameter drain tubing while processing films until liquid adequately flows from the sampling port. Lower the 1.25" tubing to stop flow from sampling port. Reinstall the rubber cap when finished.

IMPORTANT: **DO NOT** move, shake or tilt **EPAN Chamber** to obtain sample. This will cause unusual sediment to enter the Sample Container and cause a false test result.

8. The sampling port may also be utilized for a Secondary Safety Overflow to drain by connecting a .75" inner diameter tubing to drain. To take samples with this utilization, simply temporarily disconnect tubing from sample outlet.

9. Due to the EPAN's ability to retain minute amounts of metallic silver and other metals, **the EPAN Chamber is required to be recycled for disposal when container becomes filled with sediment deposits**. The two visual indicators and/or inspection port provided are utilized for this determination.

10. To recycle your **EPAN Chamber**, drain liquid from unit, fill with cat litter or sawdust to absorb remaining loose liquids, and cap all inlets and outlets with caps provided.

Disposal Charge ..... $50.00 per unit
(Payment or prepaid Certificate Label MUST be enclosed with unit)

Shipping Address ..... **USI Silver Refining Service**
825 Schoenhaar Drive
West Bend, WI 53090-2633

Shipping Instructions:
Please **drain and dry units completely**. If units are not drained and any liquid is present, they could be considered hazardous waste. You may ship items for refining using the carrier of your choice. Please include a packing slip with the shipment containing the following information: Company Name, address, contact person with phone number, and the type of units being sent with their serial numbers.

EPAN Chamber Maintenance Instructions

The EPAN Chamber is designed to remove and chemically alter iron and chemical deposits from film processors effluent, especially ones equipped with metallic replacement silver recovery devices.

Analytical laboratory tests for iron content of solution passing through an EPAN Chamber, will typically indicate a 99.9% REDUCTION of iron and other chemical deposits. EPAN discharge solution is also effectively neutralized to the 7 - 8 pH range. Chemical discharges such as silver and iron is also greatly decreased, as are BOD_5, COD and TDS.

Visible signs of rust colored soft sediment in the EPAN 1.25" clear discharge hose and 1.25" internal discharge weir (under inspection port in lid), are a normal part of the EPAN's operation. In fact this is visible evidence of how well the EPAN Chamber is working!

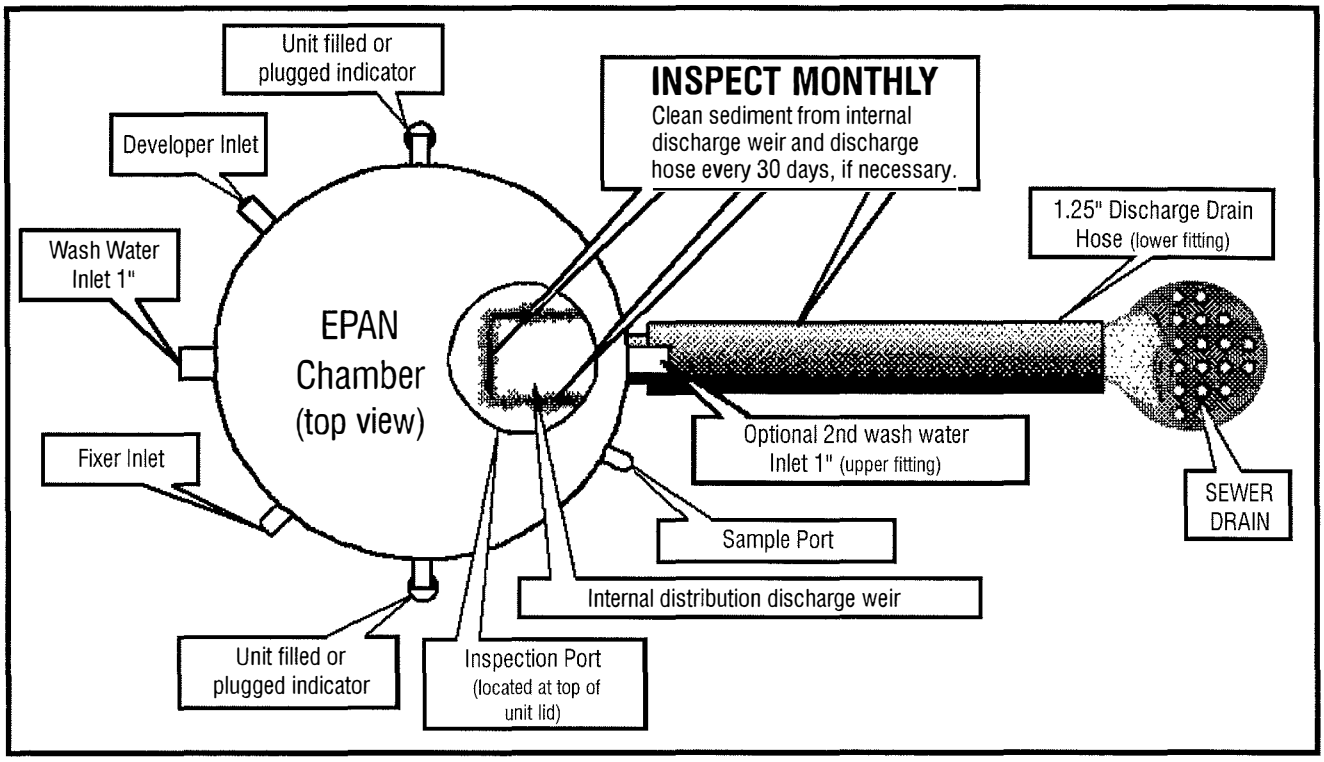
This reaction is similar to the one which would otherwise plug your drain pipes. This sediment should be cleared monthly or as conditions warrant by brushing with an EPAN Cleaning Brush (Cat. # EP-CB), the 1.25" discharge weir, discharge hose, and fittings to extend useful life of EPAN Chambers. This sediment is harmlessly flushed through your drains. Without utilizing an EPAN Chamber, the amount of deposits would be from 7 to 10 times greater and would be firmly adhered to your drain pipes, since it would not have been chemically altered. These soft deposits are easily flushed through your drain pipes without adhesion to them.

A cream or green colored deposit indicates water lime or algae problems which must be addressed separately with Bio-cides, for example. It may be necessary to periodically dislodge deposits at all hose fittings, utilizing a bottle brush for example, especially if EPAN flow limitations are exceeded. If using the space saver 3.5 gallon model (EP-4), switching to the 6.5 gallon model (EP-7) would then be beneficial.

Typically EPAN Model EP-4 will last for approximately 2500 gallons (9,462.5 *l*) of combined FIXER and DEVELOPER used, Model EP-7 will last for approximately 5000 gallons (18,925.0 *l*) of combined FIXER and DEVELOPER used. The useful life of the EPAN Chamber may be judged by the amount and density of the sludge collected within it. A probe inserted into the inspection port (avoiding the internal distribution discharge weir) may be useful for this purpose.

Periodic drain treatment with FOTEX Brand Drain Cleaner (available from your EPAN dealer) is recommended to assure optimum drain system performance.

As with all chemicals, **DO NOT BREATHE VAPORS**.



SPECIFICATIONS	EP-4	EP-7
Size	3.5 gals (13.2 *l*)	6.5 gals (24.6 *l*)
Max Application Range	36 gals (136.3 *l*)of Fixer/day	36 gals (136.3 *l*)of Fixer/day
Approx. Replacement Interval	12 Mo. or 1,500 gals (5,677.5 *l*)	18 Mo. or 3,000 gals. (11,355 *l*)
Developer Inlet Height	7.875" (20.0 cm)	13.75" (34.9 cm)
Fixer Inlet Height	7.875" (20.0 cm)	13.75" (34.9 cm)
Wash Water Inlet Height	7.125" (18.1 cm)	12.375" (31.4 cm)
Site Tube Height	6.50" (16.5 cm)	12.50" (31.8 cm)
Sample Port Outlet Height	5.50" (14.0 cm)	11.50" (29.2 cm)
Drain Outlet Height	4.00" (10.2 cm)	9.75" (24.8 cm)

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