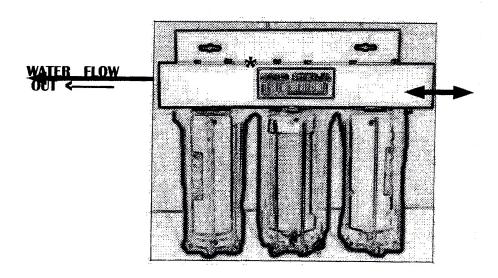
# KOLD STER-IL® SCHEMATIC

\* EXTERNAL PRESSURE RELIEF VALVE FOR MEDIA REPLACEMENT



## 3rd 2nd 1st

(1st) Molecular Absorption 12/Pk (1µS/cmH²O) (2nd) 0.20µm Filter Bag Fin-L-Filter®

(3rd) 0.50µm Carbon Core + Molecular Sieve

Max.Pressure 125 psig. Max. Temp. 125°F Flow Rate 3.8Gpm

## KOLD STER-IL® FILTRATION SYSTEM

The following data was extracted, by Poly-Bio-Marine, Inc. ® from tests conducted by UMDNJ (New Jersey College of Medicine & Dentistry) Department of Pharmacology & Toxicology. All tests were conducted under the direct control of the Director of the Toxicology dept., Mohamed S. Abdel-Rahman, Ph.D., B.C.F.E. The tests were conducted over a one year period in compliance with both EPA and ASTM analysis methods. As a further point of information, all tests were performed on equipment factory recalibrated (prior to the onset of testing), by an operator / instructor under C.A.P. regulations (College of American Pathology). These tests were conducted for Poly-Bio-Marine, Inc. ® on both the Kold Ster-il ® System and the filtration media. The purpose is to obtain: 1) NSF, International Certification of both the system and media. 2) U.S.D.A. direct food contact rating. 3) F.D.A. Rating as a direct food additive. For direct food and food processing water contact. The actual test documentation is available from Poly-Bio-Marine, Inc. ® for a \$25.00 fee, Dr. Mohamed S. Abdel-Rahman summarized the test results for Poly-Bio-Marine. Inc.® Now these summarized results are available to those who purchase the Kold Ster-il ® Filtration System. All tests were conducted using 3/4" npt. pipe, flowing potable water under 40 psig., producing 3.8 gallons per minute flow rate. Every other manufacturer of home water systems use much lower flow rates i.e. 0.60 gallons per minute. The reason:van der Wal forces limitations. This translates as follows: 3.0-5.0 gallons per minute flow rate through 1 cubic foot of filtration media (7.5 gallons of volume of filtration media). Therefore, the other manufacturer's systems use carbon, ion-exchange resins, molecular sieve media, KDF or mixtures of various media which are limited in flow performance to 0.20 - 0.60 gallon per minute when placed in a ten or twenty inch cartridge. For a complete list of additional items sorbed or barrier restricted by the Kold Ster-il (r) system, please contact: Poly-Bio-Marine, Inc. ® It is expected and understood that the purchaser/user will follow the manufacturer's instructions regarding timely replacement of the filter media. All plastic hardware

components, including internal (U.S.Patent) retainer assemblies, are FDA approved materials. All components including filter media are manufactured in the United States of America. The Kold Ster-il ® System, and all included filter media (3 types) pass NSF, International Standard 63 Extraction Requirements.

The Kold Ster-il ® Filtration System will sorb or barrier restrict the following solutes or particulates from freshwater:

Lead : 62.45% of 116.85 ng/ml flow rate 3.8 gpm @ 40 psig.

(P b) EPA Method 7421

Plus: 96% of the remaining lead. Flow rate 0.60 gpm.

NSF Standard 53b (heavy metals testing).

Cadmium: 63.27% of 79.44 ng/ml flow rate 3.8 gpm @ 40 psig.

(Cd) EPA Method 7131

Plus: 91% of the remaining cadmium. Flow rate 0.60 gpm.

### KOLD STER-IL® FILTRATION SYSTEMS

Mercury:

63.74% of 122.86ng/ml flow rate 3.8 gpm @ 40 psig.

(Hg)

EPA Method 7471.

Plus 93% of the remaining Mercury. Flow rate 0.60 gpm.

NSF Standard 53b (heavy metals testing)

V.O.C's: THM's 74% of 347 ng/ml(level:90 ng/ml) EPA Permits 100ng/ml. Method: Microextraction into pentane prior to GC/ECD. Reference: Journal of Applied Toxicology, Vol.2,No.3,1982.

Plus 82% Removal under NSF Standard 53b (chloroform

surrogate testing).

Additional :

Heavy Metals Presently Standards are not established by NSF, International for chemical filtration media. EPA Standards have not been

lowered below part-per-million (mg/L) level.

Copper

\*47% of 718 ng/ml (20 seconds) flow rate 3.8 gpm @ 40 psig.

(Cu)

EPA Method 7210.

NSF Standard -not presently established.

Iron

21.5% of 272.14 ng/ml (34 seconds) flow rate 3.8 gpm.@ 40 psig.

(Fe)

. EPA Method 7359

NSF Standard - not presently established.

Zinc

\*17.14% of 242.10 ng/ml (34 seconds) flow rate 3.8 gpm @ 40 psig.

(Zn)

EPA Method 7950.

NSF Standard - not presently established.

\* NOTE

If Copper & Zinc occur together in water, the synergistic effect enhances filtration as follows: Copper 61.8% of 211.73ng/ml. Zinc 84.7% of 140 ng/ml. Flow rate 3.8 gpm @ 40 psig.

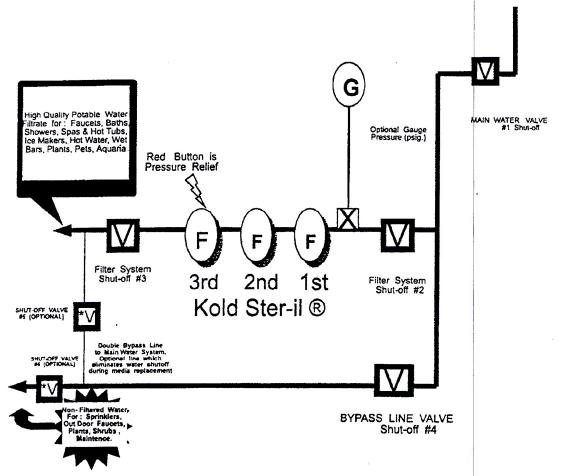
Giardia

Cryptosporidium

99.9% retention of live Cryptosporidium Parvum Cysts.
Tested according to U.S. EPA Guide Standard & Protocol for testing Microbiological Purifiers.

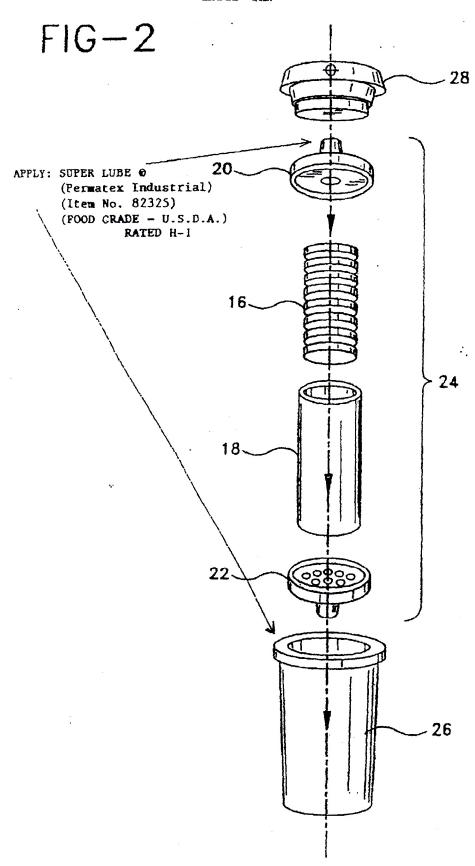
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## KOLD STER-IL® U.S. PATENT HYDRAULIC / INSTALLATION DIAGRAM



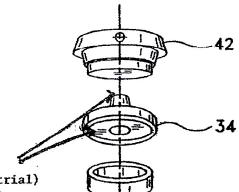
#### **INSTALLATION NOTES:**

- #1) The Kold Ster-il ® Filtration System can be connected to either municipal water or well supplied water system.
- #2) Before replacing filter media turn off shut-off valves #2 & #3, then press the air bleed button on top of canister #3. Use the included plastic wrench to loosen and remove canisters. Place a pail under each canister to catch water. Always clean and regrease, with a teflon based food contact rated grease, all "O" rings during a filter media replacement.
- #3) Cleaning or exposing the clear canister to solvents, strong acids or bases will result in permanent damage, volding any warranty, producing : stress cracks, lines, crazying exterior clarity or finish texture and leakage.
- Maximum usable flow rate 3.78 Gpm. 5) Maximum water line pressure 125 psig. Cold Water Only.
   Change Filter media at or before 5,000 gallons of volume. 7) Remove filter media from system during extended shutdowns. 8) Immune Suppress Individuals should not contact used media.
- 9) The Kold Ster-il ® filter system and media is covered by multiple U.S. Patents no Patent Rights are given nor inferred through the sale of the system or media. 10) The usage of other manufacturer's media in place of Poly-Bio-Marine,Inc. ® 's is against federal laws and dangerous as these filter media fail at 3.78 gpm.



MODEL PSM

FIG-3



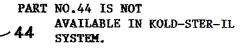
APPLY: SUPER LUBE 0

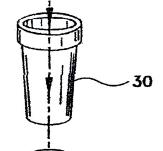
(Permatex Industrial)

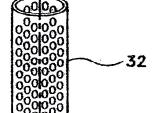
(Item No. 82325)

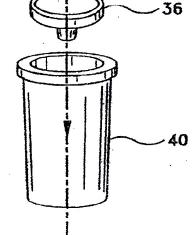
(FOOD GRADE - U.S.D.A.)

RATED H-1



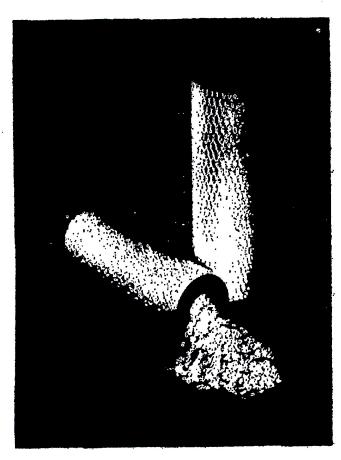






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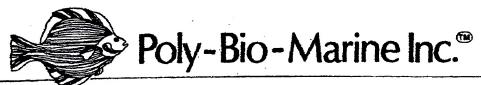
The GB-0.5 "Dual Media" Cartridge is designed for multi-purpose filtration of liquids, it contains a powdered activated carbon (PAC) briquette, which is more effective at reducing levels of VOC's and certain pesticides than granular activated carbon. In addition, the carbon briquette reduces levels of chlorine, sediment down to 0.5 micron, and Glardia and Chyptosporidium cystst.

The cartridge also contains a specially designed resin which reduces certain heavy metals such as lead, meroury, and cadmium. The design ensures that the water passes through three steps of filtration. In the first step, the polypropylene prefilter reduces coarse sediment particles. In the second, the PAC briquette adsorbs chlorine, certain organic contaminants, and adsorbable metals, as well as filtering particles down to 0.5 micron in size. A directional flow tube guides the water through the entire length of the resin bed, ensuring maximum contact. In the third and final step, the resin greatly reduces lead and certain other heavy metals that may be present in the water.

#### PERCENT HEAVY METAL REDUCTION Tested through 1000 Gallons (3765 Liters)

| Lead    | ≥ <b>96</b> % |  |
|---------|---------------|--|
| Cedmium |               |  |
| Mercury |               |  |

|   | *1  | PERFOR | MANCE | CHART | (GALLO | NS)  |              | -  |  |  |  |
|---|-----|--------|-------|-------|--------|------|--------------|--|--|--|--|
| Chlorine Taste/Odor¹  |     |        |       |       |        |      |              |  |  |  |  |
| VOC'e/THM's2  |     |        |       |       |        |      |              |  |  |  |  |
| Lead, Mercury, and<br>Cadmium <sup>3</sup>  |     |        |       |       |        |      |              |  |  |  |  |
| EDB, DBCP, and<br>Atrazine <sup>4</sup>   |     |        |       |       |        |      | <del>,</del> | Name of Street or Street, or other Desires, or o |  |  |  |
| Austine   | 100 | 250    | 600   | 750   | 1000   | 1250 | 1500         | 3000   |  |  |  |
| 1 - Exceeds NSF Standard No. 42 for chlorine/taste & oder reduction, Appendix B (June 1966 Ed.) 2 - ≥83 - 99% reduction; tested according to NSF Standard 53, chloreform surrogate test, Appendix B (May 1990 Ed.) 3 - ≥91 - 96% reduction; tested according to NSF Standard 53, metal reduction tast, Appendix B (May 1990 Ed.) 4 - ≥97 - 99% reduction; tested according to NSF standard 53, Appendix B (May 1990 Ed.)  1 - Glardia and Cryptospondium syst claim based on actual tests showing greater than 99.9% reduction of tive Cryptospondium syst claim based on actual tests showing greater than 99.9% reduction of tive Cryptospondium on the system of the control of the Cryptospondium of the Standard and Protocol for Testing Microbiological Purifiers*  (April 1987).  **MOTE: All of the above tests conducted at 0.6 gallons per minute. |     |        |       |       |        |      |              |  |  |  |  |



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#### NOTICE

#### KOLD STER-IL RYIN-L-FILTER SYSTEM

POLY-BIO-MARINE, INC. BELIEVES THE INFORMATION, INSTALLATION, AND OPERATING RECUMMENDATIONS FURNISHED BY POLY-BIO-MARINE, INC. WITH REFERENCE TO THE PROPER INSTALLATION AND USE OF ITS PRODUCTS IS ACCURATE AND RELIABLE AS OF APRIL 1. 1997.

POLY-BIO-MARINE, INC. ASSUMES NO OBLIGATION OR LIABILITY FOR SUCH ASSISTANCE AND DO NOT GUARANTEE RESULTS FROM USE OF SUCH PRODUCTS OTHER THAN AS ADVERTISED BY THIS CORPORATION.

NO WARRANTY, EXPRESS OR IMPLIED, IS GIVEN NOR IS FREEDOM FROM ANY PATENT OWNED BY POLY-BIO-MARINE, INC. TO BE INFERRED.

THE FOLLOWING OPERATING SPECIFICATIONS ARE TO BE STRICTLY ADHERED TO BY PURCHASER IN THE INSTALLATION AND OPERATION OF POLY-BIO-MARINE'S KOLD STER-IL  $^R$  FILTER SYSTEM.

- 1- USE ONLY WITH FRESHWATER, SALINE SOLUTIONS, OR POTABLE WATER. (contact Poly-Bio-Marine, Inc. for other applications)
- 2- MAXIMUM LIQUID TEMPERATURE \_\_\_\_\_\_ 125 Fahrenheit.
- 4- MAXIMIN FLOW RATE 3.7 GAL/MIN
- 5- CANISTER ( SANS ) HOUSING CAN NOT BE EXPOSED TO SOLVENTS AND THE LIKE AS SUCH LIQUIDS CAN CAUSE CRACKS AND FAILURE OF THE INDIVIDUAL UNITS AND THE SYSTEM.
- 6- DRILLING, TAPPING, OR OTHER MACHINING OR DEGRADATION OF THE CANISTER BODY OR HEAD VOIDS ALL WARRANTEES.
- 7- INSTALLATION OF THE SYSTEM AND ITS COMPONENTS IN A HOUSEHOLD, OFFICE, OR MANUFACTURING, HEALTH CARE OR OTHER FACILITIES USING A CENTRALIZED WATER SUPPLY MUST BE MADE BY A CERTIFIED PLUMBER AND COMPLY WITH THE LAWS OF THAT STATE.
- 8- SYSTEM WATER PRESSURE MUST BE BLED-OFF BY OPENING THE BLEED OFF VALVE PRIOR TO OPENING A CANISTER FOR CLEANING AND/OR FILTER MEDIA REPLACEMENT.
- 9- FILTER MEDIA IS NON-RECENERABLE AND SHOULD BE REPLACED WHEN SYSTEM WATER PRESSURE DRAMATICALLY INCREASES AND TEST EQUIPMENT INDICATES CONTAMINATION OF THE SYSTEM MAY BE EVIDENT. THE LATTER ARE CONDITIONS BEYOND THE CONTROL OF POLY-BIO-MARINE, INC. AND FAILURE TO REPLACE SATURATED FILTER MEDIA WITH FILTER MEDIA MANUFACTURED BY POLY-BIO-MARINE, INC. VOIDS ALL WARRANTEES COVERING MATERIALS AND WORKMANSHIP.

#### Important New Product Pressure Test Procedure Using Ultra Pure Water.

#### Effective 01/01/07

All Kold Ster-il ® Systems are now pressure tested wet @ 50 psig. using ultra pure water. This test confirms the integrity of the plastic housings, o rings, all internal parts and all Npt. Fittings.

The system is disconnected from the water pressure pump and is connected to a sterile, oil-free compressed air line which forces the water out the discharge connection. This air pressure flush removes 99% of the ultra pure water. Residual water will remain in the system due to the hydrated filter media draining. All filter media remain clean and new in appearance after the test.

If any customer is concerned about excess water remaining check the water's pH level and Conductivity. Our ultra pure test water always has a conductivity well below 20 microSiemens/cm<sup>2</sup> and a 7.0 pH level. In addition, filter media must appear: 1st & 2nd. pure white, 3rd. light grey.

All raw materials, polymers, fibers, plastics and fittings are USA manufactured products. All filter media are USA manufactured products. All filter media meet US FDA 21 CFR173.25 potable water. © Poly-Bio-Marine,Inc. 2007