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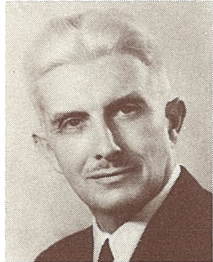
No. 4

GROUNDWATER CONTAMINATION

FREDERICK KRAISSL, JR., Ph.D., P.E.
Chairman & Chief Executive Officer

One of the most frightening articles to cross my desk was one relating to this subject by Dr. David E. Burmaster and Dr. Robert H. Harris.

Many people with general knowledge about water do not understand what is meant by ground water.



CONSULTING
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It is supposed to be the purest water on earth. All fresh water natural supplies can usually be studied under two categories, surface water and ground water. Surface water generally includes streams, lakes and rivers. Ground water is a deep water supply and is usually reached by wells. Underlying large areas are frequently aquifers. These are immense sources of water. We are supposed to have one under the New Jersey Pine Barrens and smaller ones elsewhere. They vary from reservoirs held in porous rock to underground streams.

I have three wells on my property in Florida. Usually a choice must be made when water is reached. I was told by the Well driller that if the decision is made to continue drilling that one cannot go backwards, as he put it the seal is broken. I had to make this decision on the last well drilled. We first reached water in adequate quantity but the odor was obnoxious so we kept on drilling. We next reached water but an inadequate flow. We finally reached a satisfactory source, both in quality and quantity. It's a gamble all the way but you have the feeling that you always have this source of pure water. Not anymore. The contamination of aquifers has made this impossible.

What to do about it. First we must cease contamination of ground water. Secondly, we must establish the legal standards of contamination as proposed by this article. This should be possible as we did for air pollution with the

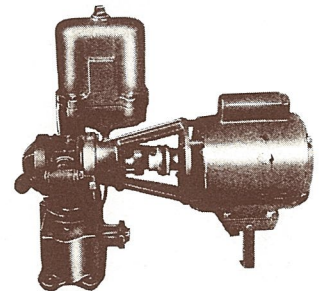
New Jersey State Industrial Safety Committee when I was consultant to the New Jersey Department of Labor and Industry. A number of people do not have sufficient confidence in Industry but I am a firm believer that when it knows the problem, Industry will do a more dedicated job and throw its weight behind the solution. It certainly did for air pollution within the plant. In the first place, it permitted its experts to serve the state without expense who were expected to devote their expertise. Frequently the proposal of the maximum allowable concentrations were adjusted downwards by a specialist who remarked "We found that the present acceptable concentrations were too high and this is what we are using". Naturally, we used this data and with this kind of assistance we were satisfied we were proceeding in the right direction.

Lastly and thirdly we must clean up the mess that others have made. The first tendency is to feel that the organizations responsible should do the job. Certainly, if they still exist they should participate in the clean up. There is precedent for this in oil spills but many serious contaminations are of such ancient vintage that it may be difficult to find the culprit. Contamination of ground water travels slowly but inexorably. The contaminant is known as a plume. It should be possible to isolate it and perhaps stabilize it. It will take our best brains to deal with the matter and should be done without antagonism. In many cases it is probable that the disposal considered a reasonable solution to a difficult situation, like dumping refuse down an old mine without taking into consideration possible ground water contamination. It should not be a political football where previous administrations are blamed for what transpired. It should be dealt with for what it is, a serious health problem **that must be cleaned up.**

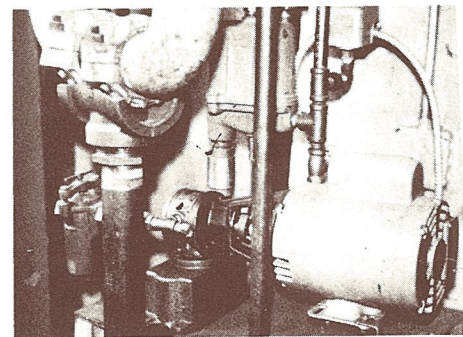
It has been said that human beings are the only creatures that foul their own nests. Lets admit the fact that this one has caught up with us and concentrate on finding a solution which will

not be inexpensive. Many bond issues put burdens on the shoulders of our progeny with questionable justification. Here is one where our progeny will benefit and we may minimize costs by enlisting the best brains available. I believe it should be initiated on a state basis as the geology of each state will be different and each state will know most about its own geology and probably come up with a plan to stop the movement of the contaminating plume or plumes. Once immobilization has been effected a decision can be made of what to do with the contaminant.

A KRAISSL AIR PUMP IS NOW POWERING OUR SPRINKLER SYSTEM



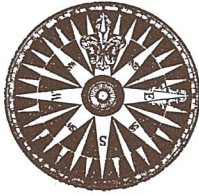
Our proposal along this line is now a reality. The photograph shows one of our class 25-5F pumps on line in connection with our automatic sprinkler system and has been functioning for a number of months.



For those who are not familiar with automatic sprinkler systems, there is usually required a dry section where freezing can be encountered. This is the application for the air pump. There is a so-called dry valve, that is pressurized by the air pump and this holds back water from the dry section.

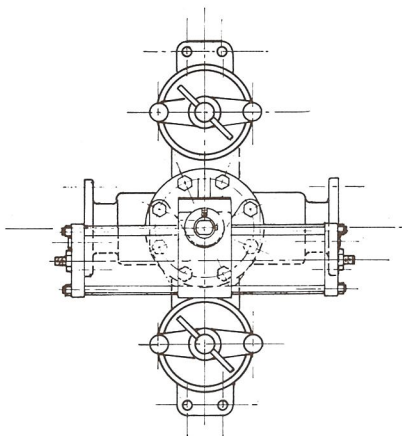


INDUSTRIAL AND MARINE FIELD



KRAISSL ACTUATOR CONTROLLED DUPLEX SEPARATORS

TOP VIEW



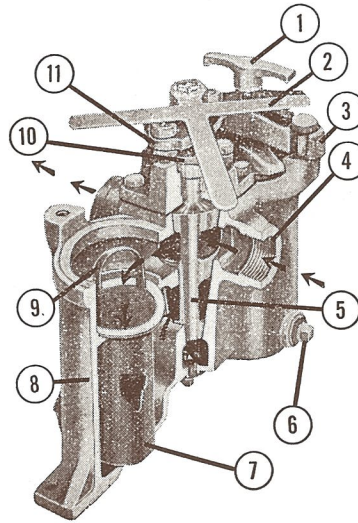
As most of our customers know, we have spent considerable time, effort and advertising funds to establish the word separator to include barrier separators which place a barrier between incoming and exit fluids with the purpose of separating undesirable impurities by means of the barrier from the exit fluid which may be either a liquid or a gas.

If the barrier is of fine separating material, we define the unit as a filter, if of coarse separating media, we term it a strainer. For the purposes of manufacturing nomenclature, we use perforated metal as the limit of strainer elements. Up to the present we are able to supply strainer baskets from perforated metal down to 1/64" in brass and 1/32" perforation in stainless steel and monel. Where finer separation is required, we supply fine mesh screen supported by a perforated metal backing to provide a reinforcement. All of our duplex separators are furnished with our double element baskets as standard which provide between 30 to 50% more separating area depending upon size so that the intervals between cleaning operations is extended by this amount, greatly reducing maintenance costs.

However, there comes a time when separator elements need cleaning and

this is the function and justification of the duplex unit. With the simple movement of the control lever, the flow can be directed into the standby duplicate side body with separator element in readiness for functioning.

COMPONENTS OF MANUALLY
OPERATED DUPLEX SEPARATOR



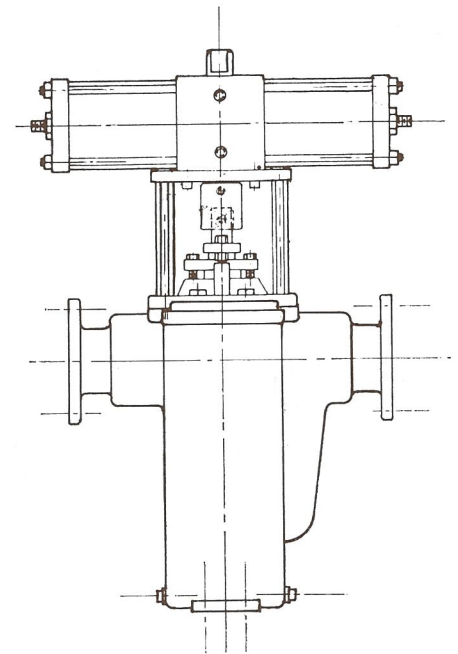
FEATURES

1. Hand screw requires no special tools.
2. Handle shields side in use.
3. Accessible closure for easy basket cleaning.
4. Continuous separation is provided without flow interruption even during changeover.
5. Tapered, anti-wedging valve plug.
6. Drain connections on each basket chamber.
7. Interchangeable low cost baskets.
8. Assembled bodies tested under pressure in accordance with Underwriters' specifications.
9. Spring handle holds basket on seat.
10. Independent stuffing box gland.
11. Adjustable locking flange establishes valve clearance.

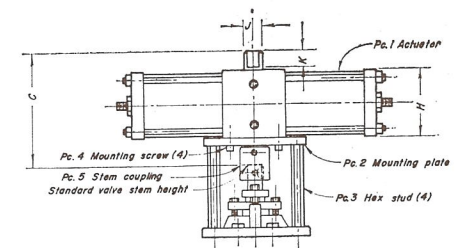
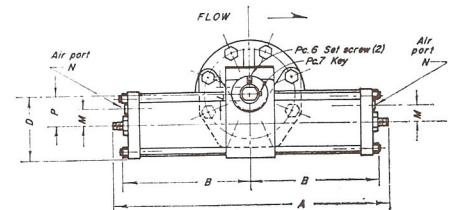
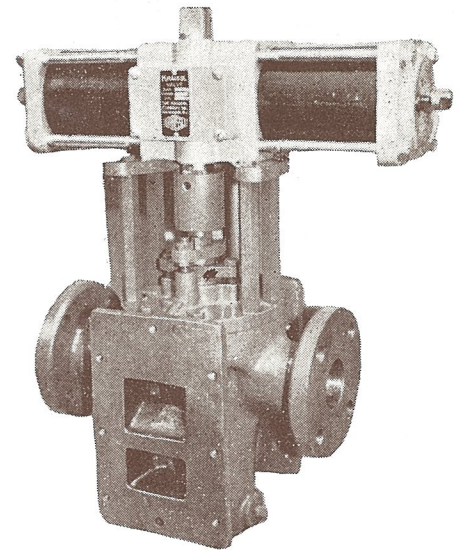
Up to the present, it was necessary to manually shift this control lever. In line with modernized trends toward automation, we have made provision for compressed air controlled actuators as indicated in the assembly drawing and the inset showing an enlarged view of the actuator mounted on the valve center section.

These actuators can be controlled by increased pressure drop which is another name for the build up of resistance to flow through the separator elements. An arbitrary standard can be selected for a pressure drop at which the lever will shift from the side in operation to the standby unit. At the same time a light can light or a bell ring so that the maintenance operator will know that it is time to clean the element from which the flow has been shifted.

SIDE VIEW MOUNTED ON
CLASS 72 INTEGRAL DUPLEX



MOUNTED ON CENTER SECTION
OF CLASS 72A THREE PIECE
DUPLEX SEPARATOR



Normally the plant compressed air system can be utilized but if a special instrument system is needed perhaps one of our rotary units will meet the requirements.

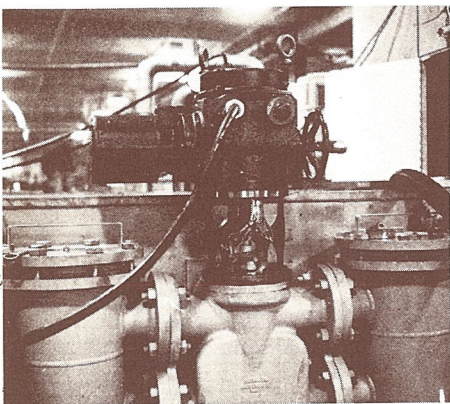
ELECTRIC VALVE AND STRAINER ACTUATION

We have had calls for actuators for our duplex three-way transfer valves and strainers where customers want to control these units remotely or automatically. Until recently, the only actuators adapted to use with our equipment were pneumatically actuated and these continue to be available either with or without a control package. However, there may be times when complete electrical actuation may be desirable or preferred.

Our drawing B3647 shows the Limatorque PB-2A actuator mounted on a Kraissl valve cover assembly in place of the standard manually operated valve handle. We can supply an adaptor plate with spacer studs that replace standard valve cover cap screws and permit standard, manually operated, valves to be easily adapted to electric actuator operation. There is no need to change standard valve stems or other valve cover super structure parts.

Electric operation can be provided for both one phase and three phase operation in various enclosures from weatherproof to explosion proof. Manual override is standard by means of a square nut drive on the side of the actuator. An optional hand wheel is also available. Automatic operation in conjunction with a pressure differential switch can provide automatic switching from one filter assembly or basket to the clean side when a preset pressure differential builds up as the unit in use becomes dirty. Remote indicators can be utilized to alert operators to come and clean the dirty element.

Remote manual operation can also be facilitated with an actuator. Sometimes the valve or strainer must be located in a position that requires operation at a distance. An actuator may be the preferred solution instead of an extended shaft or cumbersome mechanical linkage. This will let you know that we are continuously providing versatility of our products.

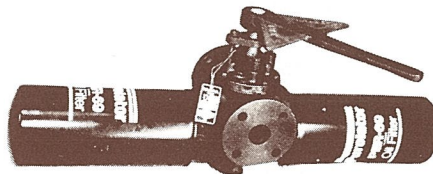


THE CLASS 72-37ACF VALVE FILTER ASSEMBLY

U.S. PATENT NO. 3,567,181

Repetition has been accepted as a desirable form of emphasis. In our July 1982 Issue we notified those interested of the availability of our valve that accommodates industrial type canisters so that one side can be serviced while the other is in operation.

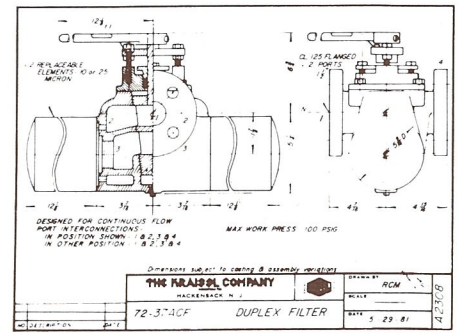
It seems to us that this announcement can accept more emphasis by repetition. There are changes in departmental procedures even over a three months period and new names appear on our mailing list. Perhaps the individual that might be interested was not contacted, and just maybe he or she was on vacation and did not see the announcement.



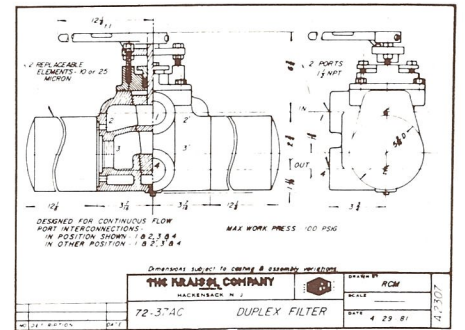
We have long felt that there was a need for a combination valve filter assembly that would make use of a Kraissl Class 72 Valve with provision for assembling a pair of standard commercial filter units not too different from the type of oil filters that we authorize service stations to install on our automobiles at periodic times after oil changes, only much larger.

Hopefully, this will be done when the period of recommended service has been reached so there will always be a fresh unit ready to function if urgently needed.

It will be noted that we are offering an assembly with 1½" ports. This is considered an intermediate size that may meet a large number of requirements but we can foresee that other sizes will be needed. We expect to work closely with the canister manufacturers to develop some guide lines for service intervals. Obviously, a very dirty liquid will impose a shorter life in service than one that is relatively clean. These first assemblies will be offered for oil but again, we will be guided by the canister manufacturers. The fact that we wish to emphasize is that, as always, we will be working for our customers to satisfy your needs. Your comments and suggestions are vital considerations and are earnestly solicited. Our motivation is to supply a less expensive means of obtaining a satisfactory oil supply for applicable services.



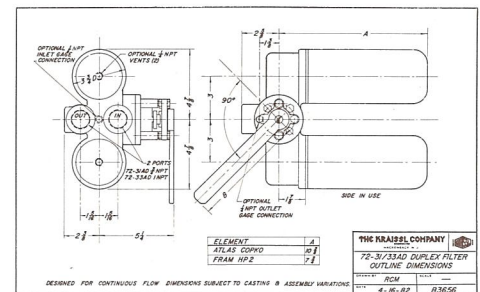
We now show these as complete units with canisters but not limited to it as long as the alternate is interchangeable. It will be also noted that these are available with threaded connections as shown in the second drawing.



We also show in the third drawing a unit that accommodates vertical canisters of the two models identified but will do the same with interchangeable canisters.

We have carefully refrained from stipulating the number of hours service as this may be changed by the manufacturers of the filter canisters and will be a function of the amount of extraneous matter that must be removed. We will take no responsibility for the degree of filtration supplied, leaving this entirely to the filter manufacturers permitting the canisters to be employed by the procedure recommended by the manufacturer who has been supplying them as single units.

Our contribution is that we are making available a means for duplexing them.



This should supply a convenient duplex assembly, so the one in service is functioning while the alternate is being replaced.

SALES REPRESENTATION

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We have reserved the areas of Connecticut, Metropolitan New York, including the Hudson Valley, Long Island, New Jersey and Eastern Pennsylvania less Philadelphia District for coverage by Kraissl Company personnel.

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Cape Elizabeth, Maine 04107

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Jobe & Co., Inc.
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Baltimore, Md. 21213
Daily Associates
8 E. Mt. Vernon Ave.
Haddonfield, N. J. 08033
Fluid Conditioning Equip. Co.
28 Van Tassel Lane
Ballston Spa, N. Y. 12020
R. C. White, Div. Weldment Corp.
P.O. Box 267
Bethel Park, Pa. 15102

Southeast Region

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Richmond, Va. 23201
Dillon Supply Company—Main Office
Box 1111, S. West Street
Raleigh, N. C. 27602
Dillon Supply Company
Durham, No. Carolina 27702
Dillon Supply Company
Rocky Mt., No. Carolina 27801
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Baton Rouge, La. 70809

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Houston, Texas 77057

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Seattle, Washington 98134

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Mountain View, Cal. 94043
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Salt Lake City, Utah 84110
Killam Gas Burner Co.
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Denver, Colorado 80223

Southwest Region

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Los Angeles, California 90025
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Phoenix, Arizona 85016
Phil-Lin Associates, Inc.
13344 Camino Del Norte
Albuquerque, New Mexico 87123

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Kirk Equipment, Ltd.
1885 Wilson Ave., Suite 206
Weston, Toronto, Ontario, Canada M3H 1T9

Canada—British Columbia Province

Les Hall Filter Service Ltd.
346 E. Esplanade
North Vancouver, B.C. V7L 1A4

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