



KRAISSL QUARTERLY

Published By

THE KRAISSL COMPANY

INCORPORATED

PUMPS-SEPARATORS-ENGINEERING EQUIPMENT

HACKENSACK, NEW JERSEY



Volume 28

January 1983

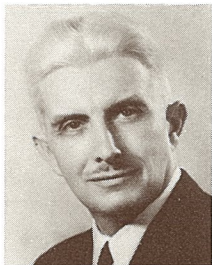
No. 1

IS PATRIOTISM OBSOLETE?

FREDERICK KRAISSL, JR., Ph.D., P.E.
Chairman

The Kraissl Company, Inc.

Patriotism is love of country according to most definitions. It originated with the individuals who were willing to place the country's interests before



CONSULTING
ENGINEER
KRAISSL ASSOCIATES

their own. It is not limited to this country although, we have had some of the most ardent patriots such as Patrick Henry and Nathan Hale express themselves in well known

statements. It is even better expressed in actions rather than words, such as enduring the terrible ordeal of Valley Forge and coming back to win a war against superior odds.

I wear my Sons of the Revolution Lapel bar with dedication for the forebears who founded the country but, I have often wondered if they have turned over in their graves for what we have done with our heritage.

Patrick Henry said "Give Me Liberty or Give Me Death." This was no luke warm statement. This was principle stated in unmistakable words. Liberty without license has been the key note of our Republic. It is based on self-reliance and self-respect that will not accept any form of individual domination. My oldest grand-daughter told me a story the other day that is hard to believe. She teaches in a section that might be called under privileged. She mentioned that the children came in ragged and poorly clothed and she was concerned about the coming winter months. I said "But we have charitable organizations to which we make donations. There must be adequate clothing to meet these needs." She said "The people are very proud.

They will not accept charity. It has to be done in such a way that they do not feel demeaned." So a spark of self respect is still there even when well wishers try to alleviate the problem.

Contrast this with individuals who will **violate** all principles in seeking advantage over others. Politicians as contrasted with statesmen who put personal benefit before the necessities of the country.

We need to re-read the Constitution of the United States, The Declaration of Independence, Historical Novels that accurately portray the fortitude of our progenitors and what they endured "To bring forth on this continent, a new nation.

We need to re-examine the media, the most all embracing of which is television. We need to determine whether it has been infiltrated by disloyal elements that plan our downfall. It must be clear that the opposite of a free society is not desirable or there would not be so many who are willing to chance death by trying to escape the Berlin Wall and other barriers.

Slavery is not limited to ownership of a human being by another. It can also be by a country of its inmates. Freedom and Self-Reliance go hand in hand but it has been this quality that has made our country great. Let's insure its continuance and carry into action what we state on our coins "In God We Trust."

THE 25-WJAC AIR PUMP

There is no question that the standard class 25 Water Jacketed Air Pump is the most efficiently cooled air pump that we manufacture. It has many advantages. First, it costs less because it does not require so many accessories. Secondly the cooling water usually comes in at a lower temperature than the ambient air temperature and on the thirty second on and thirty second off cycle, the cooling water can usually bring the temperature down during the static cycle of the air pump.

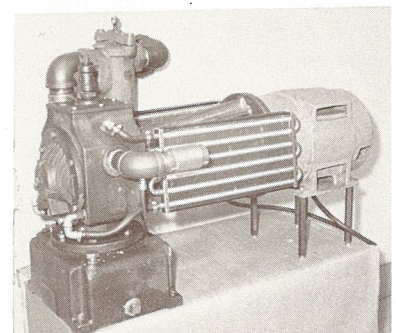
However, when our air pumps are used with sewage ejectors, there are many cases where it is too expensive or otherwise impractical to provide a water supply. For such cases, in the past, we provided our Fan Cooled Pumps. So many of our air pumps were used for sewage ejection that this became a very frequent application where a water supply was not available. The ejector unit was frequently placed out in some field where a man hole cover was the access to the complete assembly.

Although we have emphasized that we will not sell air pumps, knowingly, where air tanks are involved as part of the installation for reasons that we have given in previous discussions, even though any performance characteristics are invalidated, the use of our air pumps with air tanks cannot be ruled out as they can be installed without our knowledge and we have no intention of policing installations where our pumps are used.

It is a known physical fact that temperature in a water jacketed unit cannot rise above the boiling point of the coolant until it is boiled off. This is of course not true of direct fan cooled units and is a source of this possibility.

It therefore seemed advisable to combine the best characteristics of both in an air cooled heat exchanger unit that would augment the volume of liquid coolant which can be rendered freeze proof by anti freeze additives used in our automobiles.

We believe we have done this with our 25-WJAC units as shown in the photograph and are suggesting the Fan Cooled Curves for guidance in making installations.



BARRIER SEPARATORS

According to our definitions this includes both strainers and filters. We draw the line for convenience, between strainers and filters at perforated metal screens or the equivalent in coarse mesh. Usually the same housing can accommodate either strainer or filter inserts so that if an incorrect selection is made to meet an application, the insert or basket which is inconsequential in relative expense can be substitute.

Single separators can be selected if the process or application calls for intermittent service or inspection. When the application calls for continuous operation a duplex unit is needed so that one side can be serviced while the other is in operation.

There is a single separator available in each of our class separators and the bulletin that describes each class shows not only the characteristics of the single separator but in most cases the dimensions.

Since in most cases the single separator can be visualized as one side of a duplex unit this description emphasizes the duplex separators for comparison applications.

MULTI ELEMENT BASKETS

Basket strainers have been supplied from their inception with single element baskets but this does not take advantage of additional surface that can be offered by the greater separating area of multi element baskets.

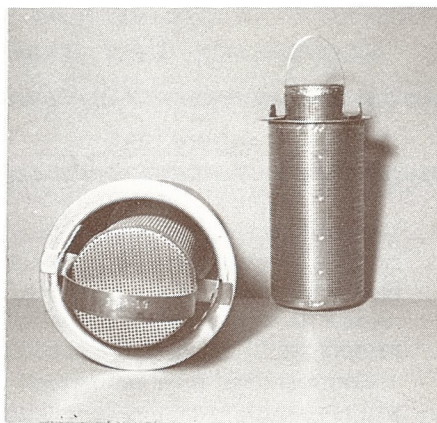
Basically the housing of a separator is merely an enclosure for holding a separating element in position so that it can separate undesirable extraneous matter from the fluid being conditioned which is generally a liquid but which can be a gas.

With due allowance for ample flow considerations, the more separating area that can be accommodated, the greater will be its separating efficiency. For example, our double element baskets can provide between 30 to 50 percent greater separating area depending on screen open area than single element baskets of the same external dimensions. This permits a more compact and less costly unit than a similar separator of the same screen area limited to a single element insert.

One of the considerations is how the double elements are secured and the photo shows our patented devices for holding the double element baskets together. When rotated in the opposite direction from closure they easily separate and it is our opinion that the elements can be more easily cleaned as

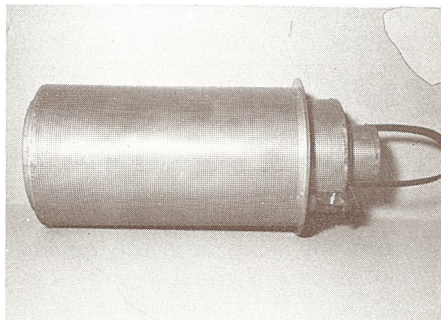
the outside element has a port when the inner element is removed, through which the accumulated debris can be easily removed.

DOUBLE ELEMENT BASKET
U.S. PATENT No. 3,347,386

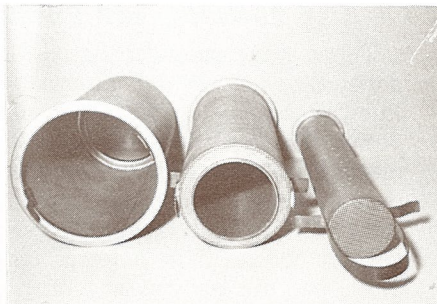


While most of our customers have found the separating area of our double element baskets more than adequate for most purposes, the larger size separators can also be supplied with triple element baskets. This, again, adds greatly to the separating area without increasing the size of the body or closure. In these days of competent engineering design it is important to take advantage of progress that has been provided.

TRIPLE ELEMENT BASKET
U.S. PATENT No. 3,347,386
SIDE VIEW



DISMANTLED



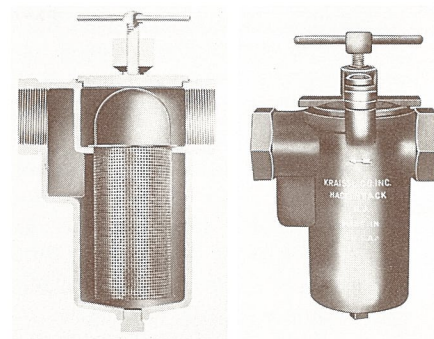
While few will argue with the historic value of paddle wheel steamers that used to ply the Mississippi River, there seems to be less of them being built in this modern generation, and the same might be true of single element separators. A triple element basket is also shown which has been designed for those who need additional separating area for the larger size units. There is a nice balance of consideration between the extraneous matter that must be separated, the liquid flow, the amount of debris per unit volume and the time it takes to clean the baskets.

It might be good thinking to have clean baskets available for all sizes used so that a clean basket could be immediately inserted and the dirty basket cleaned when convenient. Then duplex separators would reach their efficiency as down time would be reduced to a minimum.

SINGLE SEPARATORS

Our basic term of separators is our designation for both strainers and filters as the insert or basket becomes the barrier and in most cases the collector of separated debris.

Single separators are used when the process or procedure can be interrupted for cleaning and duplex units are mandatory when interruption is undesirable or in many cases unacceptable.



VARIETY OF DUPLEX SEPARATORS

The three piece design was the first of our duplex series and many customers prefer them. They have the advantage that if a unit is accidentally dropped and a foot knocked off, the entire unit is not ruined or the foot can in many cases be welded by removing the side body without distorting the machine work on the valve center section which is the most expensive part.

This design has also the advantage of reinforcement around the juncture of the side body and the valve center section, producing the effect of a high pressure auto clamp. We use it on many of our higher pressure units and larger

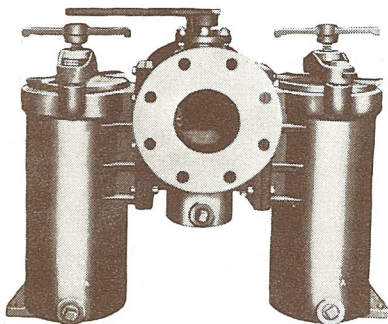
sizes in which cases there is many times a trade off between machining the components separately and our integral design with much greater unit weight during machining requiring the services of several individuals.

It also has the advantage of holding wall thickness as the cores are less complicated and can be better controlled by this simplification.

It is available in cast iron, bronze and cast steel, all tested in accordance with Underwriters requirements and for marine cooling water service the valve center section can be bronze and side bodies galvanized cast iron, reducing the cost of an all bronze unit with acceptable limited corrosion characteristics.

The three piece construction has all the advantages of the integral design with a great deal of versatility as the side bodies can be shortened or elongated with minimum expense if this is desirable.

CLASS 72A THREE PIECE DESIGN



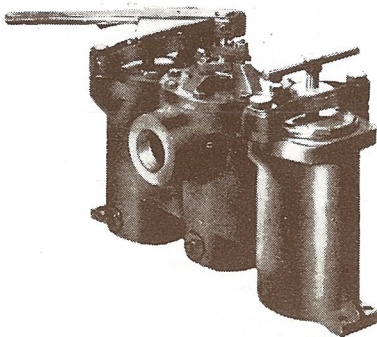
CLASS 72 DUPLEX INTEGRAL DESIGN

For standardized low cost applications, the integral design meets most requirements. The internal channels like the three piece construction hold pressure drop to a minimum by keeping each size consistent with the nominal pipe size.

The valve plugs, also like the three piece design are of an anti-wedging taper so that plug lifting devices are usually not necessary except for stainless steel construction and even this may be eliminated by specifying an integrated graphitized coating that minimizes galling or scoring when stainless elements operate with other steel components.

The integral duplex separators our term for both strainers and filters are available in usual metals with the cast iron intended for off the shelf delivery. During seasonal activity the demand for certain sizes may exhaust our stock but careful records of the most used sizes are being kept so that our authorized stock can be adjusted.

CLASS 72 INTEGRAL DESIGN



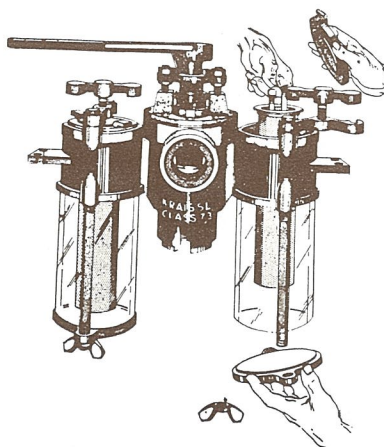
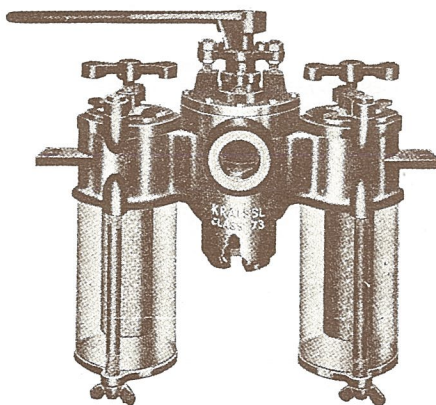
CLASS 73 SERIES DESIGN

Our duplex separators with visible sumps were designed so that separated debris could be easily eliminated when accumulated.

It has been found that the best arrangement is with the side chambers in a vertical position like the rest of our line so that baskets can be easily removed when cleaning is necessary.

Brass has the components for self electrolysis, which mandates a bronze specification to avoid this possibility.

It has always been a source of wonder to us why Naval Architects do not specify salt resisting aluminum. The completed unit would be much lighter and we believe if manufactured in similar production quantities, much less costly.



CLASS 75 SERIES SEPARATORS

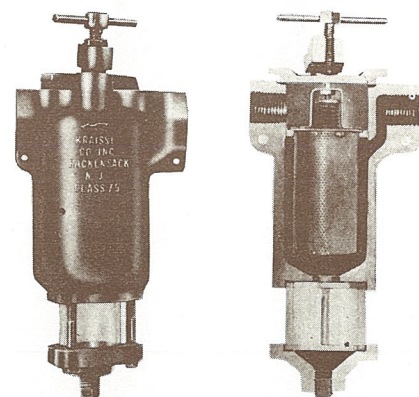
These are directed toward fuel conditioning requirements. Since diesel oil fueled motor cars as well as commercial vehicles are beginning to be generally employed, there is no question in our minds that there should be a filter on each vehicle to preclude a situation that happened to us.

The Class 75 series is a successor to our 72-72D where the gauge was on the side wall. This was difficult to see even with a flashlight, so we arranged that the whole sump could be visible. We tested both on the boat illustrated and could find no difference in performance so we obsoleted the former. It can be emphasized that the rat-trap partition in the bottom of the main body permits separated extraneous matter to go through but it appears that no matter how the boat is jostled by wave conditions the material separated out does not appear to contaminate the fuel.



BOAT ON WHICH FILTERS WERE TESTED

CLASS 75 SINGLE SEPARATORS



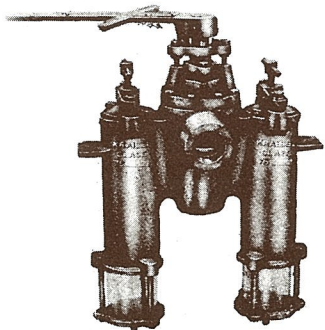
There is less likelihood of this occurring with vehicles operated on land although there might be a close approximation with the pot holes in some roads and of course with off the road recreational vehicles.



CAR ON WHICH DIESEL FILTER IS BEING TESTED

We found that deleterious water could be separated from gasoline by a 120 mesh insert and we are testing the pictured diesel engine driven car to determine the best mesh to suggest. The greatest problem is in cold weather when the viscosity of diesel oil increased making a too fine mesh undesirable. Additives that might damage or dissolve plastic parts are of no concern with our filters as all elements are of metal.

We also found that water in the diesel oil was not the only problem. We had the tank dropped to determine the amount of water that might be present and found little or no water but a large amount of debris and gunk that would be certain to jam the diesel jets. Since we only go for refueling to reputable sources we feel sure that if it could happen to us, it could happen to anybody. So, we have two extraneous materials to deal with, water and dirt from unknown sources. It seems that with the price of diesels far from inconsequential, it is good insurance to have a controllable filter when all that is necessary is to change the filter basket and we suggest the storage battery syringe method for eliminating the separated extraneous matter.



SALES REPRESENTATION

HOME OFFICE

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.

Northeast Region

Boston-Cooper Corp.
Manor Parkway
Salem Ind. Pkwy., Salem, N. H. 03079

Capt. C. V. Watson
Maiden Cove Lane
Cape Elizabeth, Maine 04107

Eastern Region

Filtration Unlimited
Buffalo & John Streets
Akron, N. Y. 14001

Jobe & Co., Inc.
1815 Edison Hwy.
Baltimore, Md. 21213

Daily Associates
8 E. Mt. Vernon Ave.
Haddonfield, N. J. 08033

R. C. White Co.
3065 Enterprise Blvd.
Bethel Park, Pa. 15102

Southeast Region

Power Equipment Co.
1307 West Main St.
Richmond, Va. 23201
Dillon Supply Company — Main Office
Raleigh, N. C. 27602

Dillon Supply Company
Durham, No. Carolina 27702
Dillon Supply Company
Rocky Mt., No. Carolina 27801

Dillon Supply Company
Goldsboro, No. Carolina 27530
Dillon Supply Company
Charlotte, No. Carolina 28201

Boiler Supply Company, Inc.
490 Craighead Street
Nashville, Tenn. 37204
601 Van St., N. W.
Knoxville, Tenn. 37921
Applied Engineering Co., Inc.
P. O. Box 506, Orangeburg, S. C. 29115

R. A. Litkenhaus & Assoc. Inc.
P. O. Box 16323
7825 Baymeadows Way, Suite 106E
Jacksonville, Florida 32216
Phone: (904) 737-3536

Spotswood Parker & Co.
721 Miami Cir. NE, Atlanta, Ga. 30324
Procter & Co.
Box 26158
Birmingham, Ala. 35226

North Central Region

Comb & Groves, Inc.
336 W. Eight Mile Rd.
Ferndale, Mich. 48220

Hetler Equipment Co.
P. O. Box 1904
Grand Rapids, Mich. 49501

Central Region

M. Huffman Sales Co.
3404 Upton A. e.
Toledo, Ohio 43613
W. G. Taylor Co.
1900 Euclid Bldg., Cleveland, Ohio 44115

The Jordan Engineering Co.
P. O. Box 30071
Cincinnati, Ohio 45230
T. A. Heidenreich Co., Inc.
2525 E. 54th Street
Indianapolis, Ind. 46220

Tobra Engineering Co.
5438 Milwaukee Ave.
Chicago, Illinois 60630

A. K. Howell
No. 2 Exmoor Dr.
St. Louis, Mo. 63124

South Central Region

Creole Engineering Co.
P. O. Box 23159, Harahan, La. 70183
Jack Tyler Engineering Co.
6112 Patterson Ave.
Little Rock, Ark. 72209
Albert Sterling & Assoc., Inc.
P. O. Box 66099, Houston, Texas 77006

Northwest Region

Baxter-Rutherford, Inc.
P. O. Box 24324 Terminal Annex
Seattle, Washington 98134

Western Region

Jav Besore & Assoc.
1690 Plymouth St.
Mountain View, Cal. 94043

Power Engineering Co.
364 W. North 600th St.
Salt Lake City, Utah 84110

Killam Gas Burner Co.
1240 S. Bannock St.
Denver, Colorado 80223

Southwest Region

Wagner Hydraulic Equip. Co.
2089 Westwood Blvd.
Los Angeles, California 90025

Engineered Sales Co.
5150 N. 16th St., Suite A-126
Phoenix, Arizona 85016

Canada—Ontario and Quebec Provinces

Kirk Equipment Ltd.
7435 Chester Ave
Montreal, Quebec, Canada H4V1M4

P. O. Box 508
Knowlton, Quebec, Canada
K. C. Hamilton Equip. Ltd. — Marine

Canada—British Columbia Province

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

Canada—Alberta Province

H. F. Clarke Limited
5220-1A Street S. E.
Calgary, Alberta, Canada

Hawaii

Foster Equipment Co.
719 Ahua St.
Honolulu, Hawaii 96803

Mexico

Ingenieria Termo Industrial, S. A.
Apartado 20-360
Mexico 20, D. F., Mexico

THE KRAISSL COMPANY

INCORPORATED

HACKENSACK, NEW JERSEY 07601

RETURN POSTAGE GUARANTEED



YOUR
COPY
OF

**KRAISSL
QUARTERLY**

BULK RATE

U. S. POSTAGE

PAID

Permit No. 1268

Hackensack, N. J.