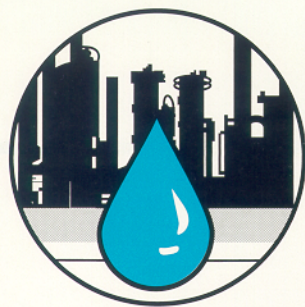




HCP FIELD APPLICATIONS

HCP-16B

FOR HYDROCARBON, CHEMICAL, AND POLYMER PLANTS

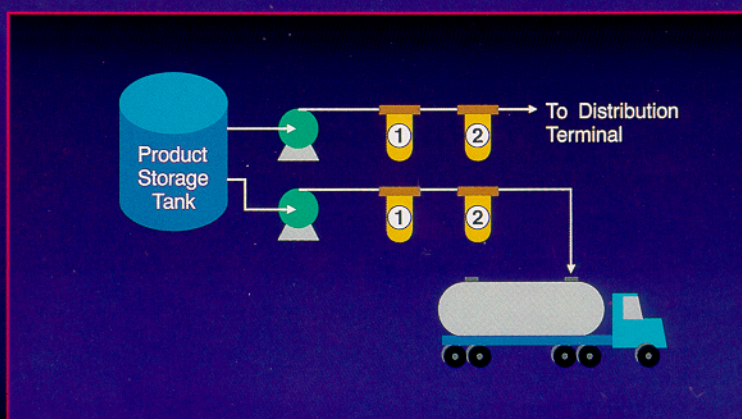
REFINERY FINAL PRODUCTS

Application Background

The major products of oil refining are: gasoline, diesel, jet fuel, fuel oil and kerosene. Each of these products consists of a blend of several different streams produced by the various refinery processes to meet final specifications. These products are then stored in a tank farm on the refinery premises before being delivered to retail markets. Delivery may be via pipeline to area distribution terminals, or loaded onto tanker trucks for direct delivery to retail outlets.

Prior to leaving the site, the product is often filtered and coalesced to remove solid contaminants and suspended water. Contaminants, such as rust and pipe scale can foul and erode distribution equipment (e.g. pumps, nozzles, meters) as well as end users' equipment (e.g. engines, boilers). Water can also cause engine maintenance problems. Water in fuels often extracts highly corrosive sulfur compounds and chlorides enhancing corrosion and plugging in engine injection systems or the engine itself.

Refinery Final Products



HCP Filter Recommendations

Filter Location	Recommended Pall Assembly	Purpose of Filtration	Benefits of Filtration
1	Pall MCC1401 style elements, E100 (10 µm) or U2-20 (2 µm) media	Removes scale, rust, and solid particles	- Reduces off-spec product due to solids - Improves maintenance of equipment (e.g. pump seal replacement, fouling of downstream exchangers)
2	Pall AquaSep™ liquid/liquid coalescer*	Removes suspended water from fuel to a concentration below 15 ppm	- Overall low cost of water removal - Reduces off spec product due to suspended water - Does not disarm in the presence of known surfactants (ie. extremely efficient for "high detergent" fuels) - Effective in water/fuel mixtures with interfacial tension lower than 3.5 dynes/cm - Long service life - Low disposal and maintenance costs

* A solids removal filter (described in filter location 1) used upstream of the AquaSep™ liquid/liquid coalescer is recommended to protect the coalescer.



Mini-Markets

Oil Refining/Marketing

Literature References

"Pall MCC1401 High Pressure Filter Cartridge" *Literature code: WER-5106*

"Flood Guard High Pressure Filter Assembly" *Literature code: WER-5100*

"Pall AquaSep" Liquid/Liquid Coalescer System" *Literature code: GAS-4105*



Pall Corporation

Hydrocarbon, Chemical & Polymer Group

2200 Northern Blvd., East Hills, New York 11548-1289

(516) 484-5400, (800) 645-6532, Telex: 968855 FAX: (516) 484-5228