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ALGAE-X® Fuel Conditioning

TK-100 / TK-150 / TK-180

Compact Tank Cleaning & Fuel Transfer System

Installation and Operation

GENERAL SPECIFICATIONS

TK-100 / TK-150 / TK-180

Flow Rate	approx. 3 gpm / 180 gph (12 l/min / 720 l/h)
Outline Dimensions (TK-100)	8” (200mm) x 6.75” (170mm) x 6.25” (160mm) (L x W x H)
System Weight (TK-100)	6.5 lbs (2.95 kg)
Operating Temperature	32 - 104° F (0 - 40° C)
Electrical	12 V DC, 10 A (standard) - 24 V DC / 5 A – with fuse
Pump	Brass Gear Pump
Suction capability	5 ft (1.5m) vertical lift (lines >1/2”)
Max. allowed discharge pressure	28 PSI (1.8 bar)
Inlet / Outlet	1/2” hose barb
Inlet / Outlet ports on pump head	3/8” BSPP
Max. Fluid Viscosity	46 cSt
Fluids	Diesel fuel, hydraulic, engine and lube oil, water, antifreeze
Fuel Conditioner	LG-X 500 (Only with TK-150)
Fuel Filter w/ clear bowl (10 Mic. Cartridge)	TK-080 (Only with TK-180)

OPERATING INSTRUCTIONS

TK systems are equipped with either a 12 V DC or 24 V DC motor. Connect the positive pole of your battery with the red wire connector of the TK and the black wire to the negative battery pole. After the initial hook up check system operation to insure the pump is running in the right direction. If the motor is running in the opposite direction or is not running at all, reverse the two electrical leads. The TK system is now ready for action.

The TK is an excellent, compact and versatile tank cleaning and fuel polishing system. Step one in fuel polishing is always the removal of water and sludge from the tank bottom. Insert the suction hose so that the end reaches the lowest point in the tank (this can also be achieved by using a straight PVC pipe connected to the end of the hose). After that has been accomplished, circulate the fuel through the TK system back to the tank until the appearance of the fuel is “Clear & Bright” and the filters elements stay clean.

In most instances, circulating the fuel through a combination of LG-X Fuel Conditioner and fuel filter/water-separator 2-4 times will do the job. For tanks with heavy sedimentation we recommend to use an additional, larger capacity strainer (e.g. TK strainer TK-070 or TK-080 with TK-083/4 element) in-line before the TK pump unit.

In marine applications, the TK system can be used in connection with the existing onboard primary filter/water-separator. Hooked up in this way, the fuel can flow from the tank to the onboard primary filter, through the TK and then back to the tank, either through the return line, an inspection port or the fill pipe. Please make sure the flow rate of your existing primary filter matches the flow rate of the TK. If the existing primary filter is not used, it is recommended to use a water separator/filter in-line with the TK system. Filters should be compatible with 3 GPM flow rate (e.g. TK-080, Separ 2000/10, Racor 1000).

The application of a "Water Block" filter element (e.g. TK-082) will remove emulsified water from your fuel. The use of Algae-X Fuel Catalyst, AFC-705, will accelerate the tank cleaning process. AFC-705 should be applied after free water and sludge have first been removed from the tank.

Use proper quality approved fuel line materials with at least 1/2" inner diameter and up to 15 ft in length for the suction hose to connect TK-100 / TK-150 / TK-180 to accessories and/or tanks. For more viscous fluids the hose length should be shortened and ID increased. Fuel lines that are to long, or have an ID that is too small will place excessive load on the pump motor and may shorten its life.

The TK-100 (TK-150 / TK-180) is designed to meet environmental standards for safe operation.
Larger capacity systems available.

STABILIZING AND OPTIMIZING FUEL QUALITY

We recommend treating the fuel with the **ALGAE-X® Fuel Catalyst (AFC-705)** to enhance and accelerate the tank cleaning process by breaking down and dissolving existing tank sludge. AFC-705 will decontaminate compartments of the tank that are out of reach of the suction line. Depending on the condition of the fuel and the amount of sludge build-up, it is recommended to initially use a double dose of one to twenty-five hundred (1:2500 or 1 oz : 20 gallons of fuel), instead of the normal maintenance ratio of one to five thousand (1:5000 or 1 oz : 40 gallons of fuel). This has proven to be very helpful in accelerating the tank cleaning process. AFC-705 contains detergent, surfactant, dispersant, corrosion inhibitor, lubricity enhancer, fuel stabilizer and combustion catalyst. It does NOT contain biocides.

AFC-705 should always be used periodically to stabilize fuel stored for 90 days or more.

! WARNING ! DO NOT USE WITH GASOLINE. This System is not meant for use with gasoline nor with other flammable liquids having a flash point less than 100°F (38°C). Use with gasoline or any flammable liquids at a temperature exceeding their flash point, presents explosion and fire hazards. Motor is NOT explosion proof. Do not use within 20 ft (6m) of hazardous locations where explosive vapors may be present.

! WARNING ! Gear pumps are capable of developing extremely high pressure. Care must be taken not to operate the pump with either the suction (inlet) or discharge (outlet) lines closed or obstructed. If the pump is allowed to run without fuel serious damage may occur. Only run the system when you are able to supervise it. Unattended Operating of the TK-100 / TK-150 / TK-180 is NOT recommended.

! WARNING ! Some fuels may have been treated with biocides. Biocides are extremely toxic and may enter the body through the skin. Use adequate protection and avoid contact.

Note: Water, fuel and sediments removed from the tank should be handled and disposed in accordance with Federal, State and Local regulations.

TECHNICAL ASSISTANCE AND ORDERING

Please write to, fax, email or call:
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