TK-240 INSTRUCTION, OPERATING, AND MAINTENANCE MANUAL

Ultra Compact Mobile Fuel Polishing Systems

1.239.690.9 589
1.877.425.4239 Toll Free
www.AXI-International.com

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INSTALLATION, OPERATING AND MAINTENANCE MANUAL

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TK-240 XT

Portable Mobile Fuel Polishing System

The TK-240 Mobile Fuel Polishing System is designed to efficiently and safely clean and restore fuel to pristine condition. The TK-240 incorporates a multi-stage filtration process that reconditions, stabilizes, and decontaminates diesel and biofuels. The TK-240 system is specifically designed for tanks with contaminated fuel that require the removal of water, sediment and sludge accumulation. The TK-240 ultra-compact design is ideal for use on small tanks with limited access ports.

TK-240 XT SPECIFICATIONS

Flow Rate	4 GPM / 240 GPH (15.1 LPH / 908.5 LPH)
Primary Filter	40, 80 Mesh
Secondary Filter	10μ Fine Filter, 3μ Waterblock
Fuel Conditioner	LG-X 500 Inline Conditioner
Pump	Helical Spur Gear Pump
Power	12V 10A
Port Size	1/2” In 1/2” Out
Clear Suction Hose	1/2”, 15 ft (4.6 m)
Discharge Hose	1/2”, 15 ft (4.6 m)
Dimensions	13” x 12” x 12” (H x W x D) (33 x 30 x 30 cm)
Weight	≈ 26 lbs (11.8 kg)
Not for use with fluids that have a flash point below 100°F (37.8°C).	

TK SERIES FEATURE:

- Compact Industrial Lightweight Design
- Quick Connect Power Connection
- Spill Containment Tray
- Convenient Carrying handle

TK Systems are designed around a self-priming 240 GPH nickel-plated brass gear pump. Quality filtration components are connected using corrosion-resistant stainless steel plumbing. A pressure gauge is installed on the filter housing to ensure optimal filter usage by showing remaining filter life. Available filter elements include stainless steel screens, particulate or water block elements.

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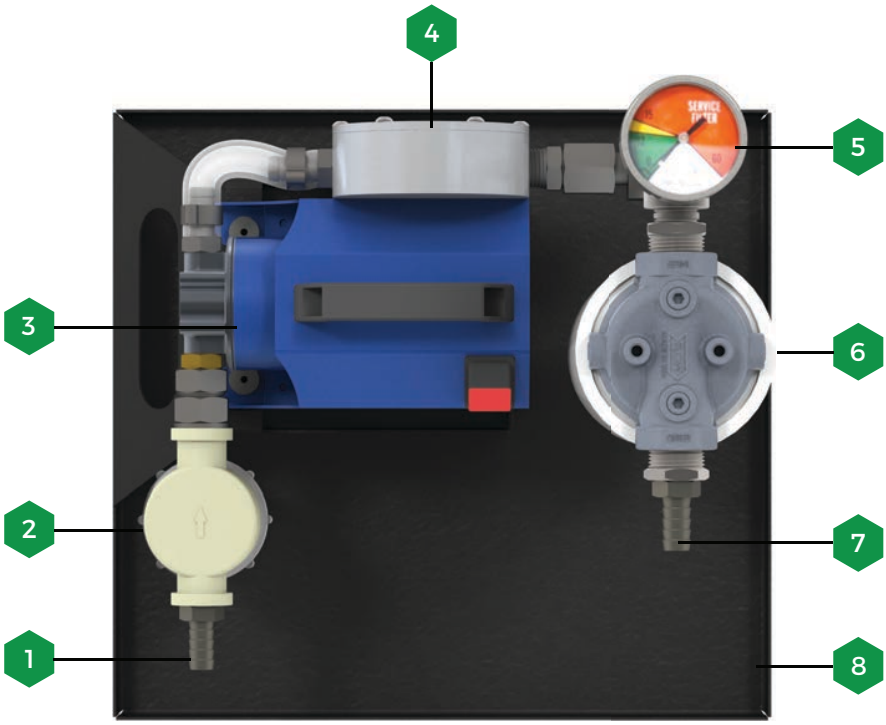
TK-240 XT

Portable Mobile Fuel Polishing System



1. Inlet Port
2. Inline Mesh Strainer
3. Nickel-plated Brass Gear Pump
4. LG-X 500 Fuel Conditioner
5. Pressure Gauge
6. Water Block Cartridge
7. Discharge Port
8. Spill Containment Tray

TK-240 XT OPTIONS

- AC to DC Universal Power Converter (110 to 220V, 50 to 60 Hz Input-12V DC Output)
- 3 Micron Waterblock Filter
- 10 Micron Fine Filter
- 40 Mesh (380 Micron) Cleanable Stainless Screen
- 80 Mesh (178 Micron) Cleanable Stainless Screen

AFC 705/710 FUEL ADDITIVE

A unique and powerful broad spectrum concentrate for use in diesel, gasoline, bio-fuel, kerosene, and HFO. Benefits include:

- Extended Engine Life
- Extended Filter Life
- Removes / Prevents Carbon Build Up
- Prevents Corrosion
- Cleans Injection System
- Tier 4 Compliant (710 only)
- Stablized Fuel up to 12 mo.
- Added Lubricity
- Improved Combustion
- Lower Emissions
- Improved Fuel Economy

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GENERAL SPECIFICATIONS

TK 240

Flow Rate	approx. 240 gph (908 l/h)
Outline Dimensions	12" (305mm) x 13" (330mm) x 12.5" (320mm) (L x W x H)
System Weight	12.5 lbs (5.7 kg)
Operating Temperature	32 - 104° F (0 - 40° C)
Electrical	12 V DC, 10 A (standard)
Pump	Brass Gear Pump
Suction capability	5 ft (1.5m) vertical lift (lines >1/2", primed)
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
Strainer (40 Mesh / 380 Micron)	TK-070
Fuel Conditioner	LG-X 500
Fuel Filter (3 Mic. WB Cartridge)	WBS-3
Pressure Gauge	CI-12

OPERATING INSTRUCTIONS

TK systems are equipped with a 12V DC motor. Connect the positive pole of your battery with the red wire connector of the TK first and then the black wire to the negative battery pole. After the initial hook up check system operation to ensure 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. Prime the pump and strainer. 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 straight into an appropriate waste container. Insert the suction hose so that the end reaches the lowest point in the tank (this can also be achieved by using a straight 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", the filters elements stay clean and the reading on the pressure gauge will not rise any more.

In most instances, circulating the fuel through a combination of LG-X Fuel Conditioner and fuel filter 2-4 times will do the job. Final polishing should be done with the WBS-3 3 micron water blocking filter element. For tanks with heavy sedimentation we recommend to use the cleanable wire mesh TK-083/4 element for initial tank cleaning.

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.

Note: The TK 240 is not designed for permanent installation.

The application of a "Water Block" filter element (e.g. WBS-3) will remove emulsified water from your fuel. The use of the Fuel Catalyst, AFC-710, will accelerate the tank cleaning process. AFC-710 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 240 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 240 is designed to meet environmental standards for safe operation. Larger capacity systems available.

STABILIZING AND OPTIMIZING FUEL QUALITY

The use of AFC-710 is an essential part of any fuel maintenance plan to quickly and efficiently decontaminate and clean the entire fuel system. AFC-710 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 to enhance and accelerate the tank cleaning process by breaking down and dissolving tank sludge. AFC-710 contains detergent, dispersant, corrosion inhibitor, lubricity enhancer, fuel stabilizer and combustion catalyst. It does NOT contain biocides. AFC-710 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 240 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.

TROUBLESHOOTING

No fuel delivery

1. Pump does not run
2. Pump is not primed
3. Fuel supply line blocked
4. Excessive lift
5. Air leak in fuel supply to pump
6. Pump rotation direction incorrect
7. Intake or outlet valve closed
8. Check valve installed backwards

Insufficient fuel delivered

1. Air leak at inlet
2. Defective pressure relief valve or check valve
3. Excessive lift
4. Pump worn

Noisy operation

1. Insufficient fuel supply
2. Air leaks in the inlet pipe

Pump leaks fuel

1. Loose pump plumbing fittings
2. Worn pump shaft seal

AXI INTERNATIONAL WARRANTY - LIMITED WARRANTY

AXI International makes every effort to assure that its products meet high quality and durability standards and expressly warrants the products described herein, against defects in material and workmanship for a period of one (1) year from the date of purchase. This warranty is not intended to supplant normal inspection, care and service of the products covered by the user, and shall not obligate AXI International to provide free service during the warranty period to correct breakage, maladjustment, or other difficulties arising out of abuse, misuse, or improper care and maintenance of such products. Our express warranty is subject to the following terms and conditions:

This warranty shall only extend to and is only for the benefit of original purchaser(s), or end customer(s) who use the products covered hereby. This warranty is not an onsite warranty. Travel requests will be at the discretion of AXI International. Defective systems and ancillary products will require a return authorization number and shipping to AXI Internationals' Factory in Fort Myers, FL.

Any warranty claim received by AXI International after one (1) year from the date of purchase will not be honored even if it is claimed that the defect occurred prior to one (1) year from the date of purchase. Claims outside of this one (1) year period, and for claims not listed within, payment, repair, or service will be awarded at the discretion of AXI International.

This warranty shall not apply to products (1) which have been tampered with, altered or repaired by anyone other than AXI International without the express prior written consent of AXI International (2) which have been installed improperly or subject to misuse, abuse, accident, negligence of others, improper operation or maintenance, neglect or modification, or (3) which have had the serial number altered, defaced or removed.

The liability of AXI International under this warranty is limited to the repair or replacement of the defective product. AXI International assumes NO LIABILITY for labor charges or other costs incurred by any purchaser incidental to the service, adjustment, repair, return, removal or replacement of products. AXI INTERNATIONAL ASSUMES NO LIABILITY FOR ANY GENERAL, SPECIAL, INCIDENTAL, CONSEQUENTIAL, CONTINGENT OR OTHER DAMAGES UNDER ANY WARRANTY, EXPRESS OR IMPLIED, AND ALL SUCH LIABILITY IS HEREBY EXPRESSLY EXCLUDED.

AXI INTERNATIONAL MAKES NO WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE, WITH RESPECT TO THE PRODUCTS COVERED BY THIS WARRANTY POLICY, EXCEPT AS EXPRESSLY PROVIDED FOR HEREIN. NO EMPLOYEE, AGENT, REPRESENTATIVE OR DISTRIBUTOR IS AUTHORIZED TO MAKE ANY WARRANTY ON BEHALF OF AXI INTERNATIONAL OTHER THAN THE EXPRESS WARRANTY PROVIDED FOR HEREIN.

AXI International reserves the right at any time to make changes in the design, material, function and specifications of its products. Any such changes shall not obligate AXI International to make similar changes in such products that were previously manufactured. \

WARRANY CLAIM PROCEDURE

To make a claim under this warranty, please call AXI International at (239) 690 9589 or (877) 425-4239, and provide: Name and location where unit was purchased, the date and receipt of purchase, model number, serial number, and a detailed explanation of the problem you are experiencing. The Customer Service Representative may, at the discretion of AXI International, arrange for a Field Engineer to inspect your system. If the inspection discloses a defect covered by its limited warranty, AXI International will either repair or replace the defective parts or products. AXI assumes no liability, if upon inspection, AXI International or its representative determines that there is no defect or that the damage to the system resulted from causes not within the scope of this limited warranty. For service and sales, please contact AXI International:

AXI International
5400-1 Division Drive, Fort Myers, FL 33905
Phone: 1-877-425-4239
Fax: 239-690-1195

Web: www.axi-international.com
Email: support@axi-international.com

TECHNICAL ASSISTANCE AND ORDERING

Please write, fax, email or call:

AXI International
5400 Division Drive
Fort Myers, FL 33905

Tel: 239-690-9589
Fax: 239-690-1195
Email: info@axi-international.com Internet: www.axi-international.com

Please provide the following information:
Serial Number of your TK-240, the required part numbers and quantity.
The drawings / parts list included in this manual are the most accurate source of part numbers for your TK-240

REPLACEMENT FILTER ELEMENTS

Filter:
FFS-10 - 10µ spin-on filter (not water blocking)
WB-3 - 3µ water blocking
TK-070 - Strainer

TK-240 SYSTEM IDENTIFICATION

Serial Number: _____ (e.g. B 070010 – 240) System

Specification:

Voltage:
- ☐ 12 V DC

Filter Element:
- ☐ 10 Micron
- ☐ 3 Micron
- ☐ 40 Mesh
- ☐ 80 Mesh

Inspected by: _____ Date: _____

AXI International's innovative fuel solutions restore, maintain, and improve the quality and stability of diesel fuel wherever it is used or stored. AXI's product range includes automated enclosed fuel maintenance systems, mobile fuel polishing systems, compact fuel maintenance systems, fully integrated day tank systems, fuel transfer systems, fuel conditioners, Tier 4 compliant fuel catalyst, fuel sampling, and fuel testing.

AXI also designs, engineers, and manufactures custom built fuel system solutions – working side by side with its customers, architects, engineering firms, and facility management companies to create innovative, fully-automated fuel optimization and maintenance systems.

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