



MTC-3000 INSTRUCTION, OPERATING, AND MAINTENANCE MANUAL

Tank Cleaning and Fuel Restoration System



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AXI MTC-3000

INTERNATIONAL Mobile Fuel Polishing System

The MTC-3000 Mobile Fuel Polishing System is designed to efficiently and safely clean and restore fuel to pristine condition. The MTC-3000 incorporates a multi-stage filtration process that reconditions, stabilizes, and decontaminates diesel, biofuels, light oils and hydraulic fluids. All MTC systems are specifically designed for tanks with contaminated fuel that require the removal of water, sediment, and sludge accumulation.



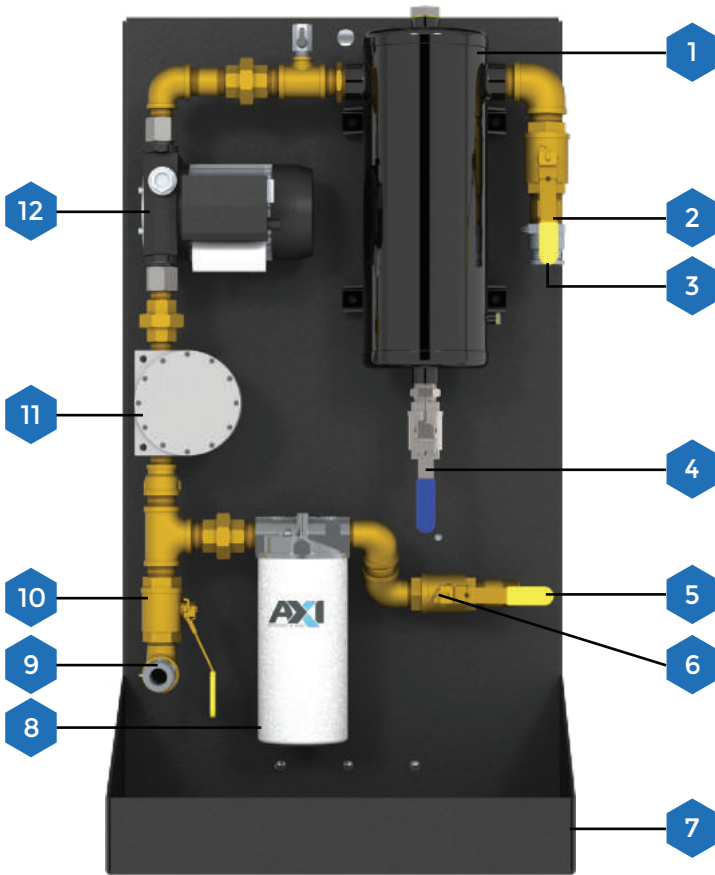
◆ MTC-3000 SPECIFICATIONS

Flow Rate (@ 60Hz)	26 GPM/1560 GPH (98.4 LPM/5905 LPH)
Mechanical Water Separator	Specific Gravity Separation and Particulate Removal
Final Filter	1, 3, 10 or 25 μ Particulate or 3, 10 μ Water Block
Fuel Conditioner	LG-X 3000 Inline Conditioner
Pump	3/4 HP, Self-priming Rotary Vane Pump with Integrated Adjustable Bypass Valve
Power	115V/60Hz/15A or 230V/50Hz/15A
Ports	1-1/2" Cam & Groove In 1-1/4" Cam & Groove Out (Before Fine Filter) 1-1/4" Cam & Groove Out (After Fine Filter)
Clear Suction Hose	1-1/2", 25 ft (7.6 m)
Discharge Hose	1-1/4", 25 ft (7.6 m)
Dimensions	48" x 22.5" x 25" (H x W x D) (122 x 57 x 63 cm)
Weight	≈ 200 lbs (90.7 kg)
Not for use with fluids that have a flash point below 100°F (37.8°C).	

◆ MTC SERIES FEATURE:

- Multi-stage Water Removal, Particulate Filtration, and Fuel Conditioning
- Compact Industrial Design
- Locking Cam and Groove Connections
- Built In Spill Containment Tray
- Pre-filter By-pass Loop Capability

MTC Systems are built with industrial quality components mounted on a heavy-duty aluminum cart. A clear suction hose shows fuel flow and clarity. The large drip tray is designed to prevent spillage. By using the pre-filter bypass loop (discharge Port 1), the system can efficiently and safely remove free water without the use of consumables.



1. Mechanical Water Separator
2. Ball Valve
3. Quick Connect/Disconnect Inlet
4. Ball Valve Drain
5. Discharge Port 2
6. Ball Valve
7. Spill Tray
8. Fine Filter
9. Discharge Port 1
10. Ball Valve
11. AXI Inline LG-X 3000 Conditioner
12. Pump

MTC-3000 OPTIONS:

- Pre-Filter Vessel with Bag Filter
- Spill Containment Berm
- AFC 705/710 Fuel Catalyst
- Digital Flow Meter

REPLACEMENT FILTER OPTIONS:

Fine Filter	Part No.	Fine Filter	Part No.
1 μ Fine Filter	FF-1	3 μ Water Block Filter	WB-3
3 μ Fine Filter	FFZ-3	10 μ Water Block Filter	WB-10
10 μ Fine Filter	FF-10		

MTC SYSTEM INTEGRATION:

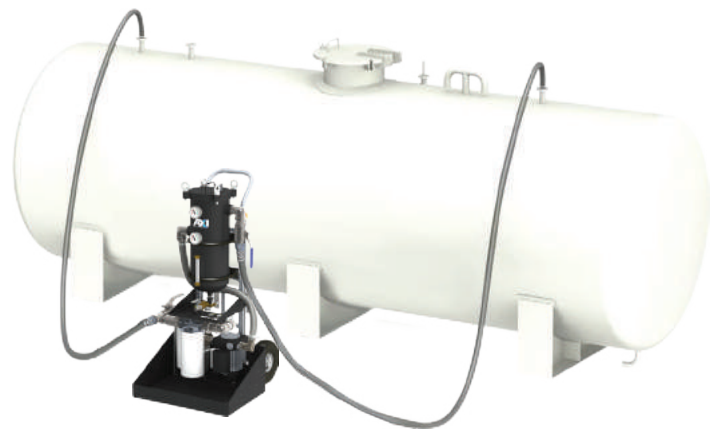


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General Overview

MTC-3000 Specifications

Flow Rate	26 GPM/1560 GPH (98.4 LPM/5905 LPH)
Outline Dimensions (Enclosure)	48" x 22.5" x 25" (122 x 57 x 63 cm) (H x W x D)
System Weight	≈ 200 lbs (90.7 kg)
Operating Temperature	41 - 104°F (5 - 40°C)
Electrical	115V/60Hz/15A or 230V/50Hz/15A
Pump	Self Priming Rotary Vane Pump
Motor	3/4 HP single phase, thermally protected
Fuel Conditioner	LG-X 3000
Inlet	1-1/2" NPT male port
Outlet(s)	1-1/4" NPT male port

Note: The system is designed to meet environmental standards for safe operation. (Not for use with fluids that have a flash point below 100°F (37.8°C), e.g. gasoline, alcohol, etc.)

System Components

Pump/Motor

- 3/4 HP Self-priming Rotary Vane Pump with Integrated Adjustable Bypass Valve
- Motor – UL listed, TEFC (Totally Enclosed Fan Cooled) with thermal overload protection
- Service Factor (1.00)

Pre-Filter/Water Separator

- Drain valve on the bottom

Final Filter

- Down to 1 μ nominal, 3 μ absolute, and 3 μ water blocking spin-on filter
- Pressure gauge

Fuel Conditioner

- Inline Magnetic Fuel Conditioner eliminates and prevents the formation of sediments that naturally occur in diesel fuel and bio-blends

Brass Plumbing

Commissioning/Initial Start-Up

Preparations

Before operating the MTC, we recommend determining the amount of contaminants, free water, and sludge in the tank.

AXI International provides a variety of tank sampling equipment, including Sampling Pumps, tubing and bottles, as well as Tank Samplers (“Bacon Bomb”) – please see our FS Fluid Sampling line of products. Please make sure the samples are taken from the bottom of the tank (in the deepest spot). Use a stick with “Kolor Kut” paste on the end, reach through the top of the tank, and place the end of the stick all the way at the bottom of the tank. Kolor Kut paste will show the water level in the tank, and indicate how much water, and sludge, will have to be removed. Call AXI International for further information on other fuel sampling equipment.

General Tank Cleaning Procedure

The MTC has two different operating modes (**Bypass Mode** and **Fine Filtration Mode**), providing the operator flexibility and time efficiency.

In **Bypass Mode**, bulk water and sludge are removed from the tank into a separate container for disposal. The fuel bypasses the fine filters, removing free water, sludge, and particulate, as small as 1 micron, from the tank. During this step, the system is not in a re-circulating mode. The fuel enters through the Inlet Port and exits through Discharge Port 1 into a separate waste container. Water and sludge are directly removed from the tank and collected in an appropriate container for disposal. Next step, while still in bypass mode, put the hose that was in a separate container back into the main tank to create a kidney loop. This process will further save and extend the life of the spin-on filters, and remove the worst of contaminants, before polishing with fine filters to meet the required cleanliness.

In **Fine Filtration Mode**, the MTC system is continuously restoring, reconditioning, and returning the fuel back to the tank. Fine Filtration mode will continuously remove free water and particles as small as 1 micron, utilizing high efficiency spin-on filters.

We always recommend keeping a “before” and “after” bottom tank sample for “show & tell” purposes to demonstrate the improvement of fuel color, clarity, and opacity.

System Operation

Operating Procedure

Hoses: The intake/suction hose is a clear, see-through reinforced vacuum hose. The return hose is black or blue/black, non-marking, high quality, discharge fuel hose. Both hoses are equipped with quick disconnects or Cam & Groove couplings.

1. Attach quick disconnect end of clear suction hose to the quick disconnect Inlet Port of the MTC.
2. We highly recommend attaching a straight wand or pipe (cut at an angle at the end that goes into the tank and is at minimum the same inner diameter as the suction hose) to the suction hose to reach the lowest part of the tank bottom.
3. Attach quick disconnect end of blue/black discharge hose to quick disconnect Discharge Port 1 of MTC.
4. Place the end of the discharge hose in an appropriate-size container (Phase One only). Try to not agitate the fuel in the tank and stir up and disperse water and sediment throughout the fuel –this will make it more difficult to remove later on.
5. For Phases Two and Three, place the end of the discharge hose back in the tank as far away as possible from the suction hose. Ensure that the hose is secured and will not vibrate out of the container when the system is operating.
6. Verify that both drain valves are closed and the system is set up in a stable and safe position.

Note: Never restrict the flow on the suction side of an MTC; e.g. by using a smaller ID hose or pipe or attaching the suction hose to a fitting on the tank that has a smaller ID than the hose. This will lead to excessive pump load, noise and ultimately damage the pump.

Phase 1:

AXI recommends 3 phases to successfully polish a fuel tank. This will ensure all water is removed from the fuel, particulate is removed, and the fuel is in an optimal condition. The goal of Phase One is to remove any free water and sludge on the bottom of the tank without mixing the water into an emulsified state within the fuel. Start the pump motor and be ready to immediately stop it. The vane pump will start pumping as long as the system is primed and the suction lift is not excessive. The flow of fuel can be observed in the see-through suction hose. Watch for a steady flow of fuel into the container.

1. Once the fluid begins to fill the discharge container, immediately switch off the motor and inspect the discharged fluid. Resume pumping and continue the above procedure until water and sludge have been removed from tank bottom and primarily fuel is discharged from the return hose.
2. To remove as much of the free water and sludge as possible, the suction hose with a straight wand or pipe attached should be placed at the deepest part of the tank. If possible, move the suction hose/pipe to different areas of the tank to more efficiently vacuum the sludge off the bottom. After removing the bulk water and sludge from the tank, switch off the pump. Then, drain all water and debris from the hose and the water separator into an appropriate bucket placed under the drain valve.

Phase 2:

After removing the bulk of the sludge and water from the tank into a separate container for disposal and draining the separator, the return hose is now inserted into the tank. The goal of Phase Two is to remove any additional free water within the tank and also remove any large contaminants and sludge. This phase will clean the fuel and should be a precursor to using the more expensive spin-on filters. It should be noted that meeting required cleanliness codes is typically not possible with pre-filtering alone. Phase Two is used to extend the life of the spin-on filters, and remove the worst of the contaminants, before polishing with fine filters to meet the required cleanliness.

1. Insert blue/black discharge hose into tank as far away from the suction hose as possible. In some cases, it is recommended to remove the sending unit cover to gain sufficient access to the tank. In many cases, both hoses will have to be inserted through the same tank fill opening.
2. After verifying that both hoses are properly placed in the fuel tank and that the valves on the MTC system are in the correct position, switch on the pump and watch the clear suction hose for fuel flow.

Depending on the amount of contaminant in the tank, we recommend you stop the pump shortly after priming and check for free water and sludge by draining the water separator. It may be necessary to depress the air purge valve on top of the separator after opening the drain valve.

Repeating this process and observing the fuel flow will indicate how long the pump should run before it is necessary to drain the separator.

3. The MTC should be kept running in the Phase Two recirculating mode until clean fuel samples can be drained from the separator. Then, switch off the pump for final polishing.
4. Now is the time to add AXI International AFC-705 Fuel Catalyst in a dose of 1 : 2500 or 1 gal of AFC-7010 for 2500 gallons of fuel. Higher doses of AFC-705 may be necessary depending on condition of fuel.

Phase 3:

Phase Three is the most important phase in meeting specific cleanliness codes. Unlike the pre-filter, the spin-on filters typically use absolute rated media. Absolute filters have a very high efficiency and will ensure that fuel leaving the system is clean to specification and has a low water content. Like previously mentioned, pre-filtering should be performed to remove any large particulate, water, and sludge. Pre-filtering will extend the life of the spin-on filters.

1. Connect the return hose to Discharge Port 2.
2. Start the pump and the system will run in the re-circulating mode, restoring the fuel to its optimal pristine and sparkling condition.
3. Monitor the pressure gauge on the filter head. When the pressure reaches 20 - 25 PSI, or reaches the red area it is time to change the filter.

Note: FF-3, FF-10 and FF-25 filters are only for particulate removal and will allow water to pass through – for complete water elimination we highly recommend to finish a tank cleaning job with a WB-3 or WB-10 filter.

Note: The built in bypass-valve on the systems pump can be adjusted for your requirements. If the adjustment screw is all the way out, the valve is set to the lowest possible pressure. Turn screw on bypass valve clockwise to increase bypass pressure if necessary (see also pump instructions).

AFC Fuel Additive

The use of AXI International AFC-705/710 Fuel Additive is an essential part of any tank cleaning and fuel polishing procedure, as AFC can more rapidly and efficiently decontaminate and clean the entire fuel system. The additive is best introduced into the process after Fine Filtration Mode. Before dosing the tank with AFC-705/710, remove as much of the sludge and free water as possible. Adding AFC-705/710 to the tank will speed up the cleaning process by breaking down and dissolving the sludge covering the tank walls and bottom.

AFC-705/710 will decontaminate areas and sections of the tank that are out of reach of the suction hose. It is recommended to use a higher concentration of one to twenty five hundred (1:2500) instead of one to five thousand (1:5000) for the first treatment. This has proven to be very helpful in accelerating the rate of dissolving sludge. Higher doses may be necessary, depending on contamination level of the fuel. AFC-705/710 is a full spectrum fuel additive, containing a combustion catalyst, surfactant (705), detergent, dispersant, corrosion inhibitor, lubricity enhancers, and a fuel stabilizer that eliminates the need for expensive, toxic biocides.

After Fuel Polishing Process

1. Stabilize the Fuel

AFC-705/710 will stabilize the fuel in tanks used for long-term fuel storage. When a recirculation or STS Automatic Filtration System is not in place, AFC-705/710 will maintain fuel quality and prevent formation of sludge for up to twelve months. Added after the fuel polishing process, it is not necessary to add more AFC-705/710 until additional fuel is added into the tank, or an environmental condition for the fuel has been altered (introduction of water or other contamination)

2. Prevent Water from Accumulating

The use of AXI Water Eliminators, or tank breathers, will prevent water from accumulating in the tank. The water eliminators will absorb and remove any water from condensation or other sources. Preventing water accumulation eliminates microbial growth and the need for toxic biocides.

3. Monitor Fuel Quality

Liquid-Cult Fuel Test Kits are ideal for monitoring your fuel supply for microbial contamination. The tests provide indication of bacterial and fungal activity.

4. Intelligent Fuel Management Solutions

AXI International Intelligent Fuel Management Solutions significantly lower operating costs, save fuel, eliminate periodic tank cleaning and the build up of solids, sludge, and acids. AXI International Technology enhances personnel safety and addresses environmental concerns by preventing the need for costly toxic biocides. Larger capacity Mobile and Stationary Tank Cleaning Systems are available.



! IMPORTANT ! It is recommended that only qualified, experienced personnel, familiar with this equipment, who have read and understood all the instructions in this manual should operate and maintain the system.



! WARNING ! Do not use with gasoline, solvents, corrosive liquids, food liquids or other liquids having a flash point less than 100°F. Use with gasoline or use with any flammable liquids at a temperature exceeding their flash point, presents an immediate explosion and fire hazard

Primary Inspection

Upon arrival, the system and accessories must be visually inspected before installation. Improper handling during shipping may cause physical or electrical problems. Immediately report or note any damages (also concealed ones) to the shipper.

Checklist

- If the packing crate shows signs of damage inspect the system for damage.
- Check the entire system for damage that could indicate mechanical or electrical problems.
- Check pump/motor hardware and all plumbing connections for tightness.
- Check all electrical and connections for tightness.

Priming the System

Note: The system is equipped with a positive displacement vane pump. It should never be run dry and started without the hoses attached and/or valves in the closed position. Failure to do so may damage the bypass valve and/or pump.

Priming Procedure

Before turning on the pump make sure the entire suction side of the system (suction hose, separator, plumbing, pump, strainer ...) is primed and filled with oil/diesel fuel. Running the pump dry could cause pump damage and pump to not operate properly.

Note: The separator/coalescer has to be full at all time to perform properly.



! IMPORTANT ! Never exceed 15"HG on vacuum gauge located before of pump.

Maintenance



! IMPORTANT ! It is recommended that only qualified, experienced personnel, familiar with this equipment, who have read and understood all the instructions in this manual should install, operate and maintain the system.



! IMPORTANT ! Always disconnect the system from the electric power supply before working or servicing it. Do not proceed with any maintenance unless the pressure or vacuum has been released, the system has been allowed to reach ambient temperature and all fluids have been drained.

Draining and Storing the System

1. Before releasing the quick disconnect couplings, allow all fuel to flow out of the hoses by draining the system or take the suction hose out of the tank while the pump is still running and wait till system is purged and empty.
2. Place an appropriate container under each drain valve. Open both the valve on the separator and the valve under the pump. Use the air purge valve on top of the separator to make sure all of the fluid can be drained from the system. Opening the valves and the air purge valve will allow fuel to flow down and out of both hoses into the tank.

Pump Strainer/Wye-Strainer

Check the pump strainer (located on pump head of MTC-1000/3000) frequently for debris and clean as necessary.

Fuel/Oil Separator/Coalescer

The separator is a closed dynamic separator/coalescer that does not require any consumables. When draining water and sludge from the separator:

1. Place an appropriate container under the drain valve
2. Remove the top plug to allow air in and fuel to flow out
3. Open the drain valve and close when observing clean fuel

The Separator needs to be serviced and flushed from time to time.

Pump

Check pump for leaks, worn vanes and if bypass valve operates correctly. We highly recommend carrying a spare pump. The MTC pump can be easily changed in a matter of minutes by opening the unions and/or short hose connections. Spare part kits are also available for all MTC pumps. Keep the pump lubricated and pour some oil into pump head for storage.

LG-X Fuel Conditioner

Particles and rust can collect inside the LG-X unit and over time cause a flow restriction and/or diminish its effectiveness. Open the lid of the LG-X Fuel Conditioner by unscrewing the lid screws and clean the magnet and fuel chamber. Inspect O-rings prior to reassembly.

Suction and Discharge Hoses

We recommend replacing the suction hose every year and the discharge hose every two years. Heavy use, visual deterioration, damage or poor condition and excessive wear can require an even earlier change.

Servicing Fine Filter(s)

There are two types of AXI International spin-on fine filters available.

1. The standard 3 or 10 or 25 micron fine filter (FF-3, FF-10, FF-25)
2. The special 3 or 10 micron water block fine filter. (WB-3, WB-10)

The AXI International Water Block removes entrained and emulsified water from fuel and oil.

Changing Filters:

The pressure gauge on the filter head shows the pressure drop over the filter. Red or 20-25 PSI indicates when the spin-on filter element should be replaced. On the system the pop up indicator measures the differential pressure over the filter head and will indicate when it is time to change the filter.

1. Before replacing the filter element, place an appropriate container under the drain valves.
2. Open both the drain valve on the separator and the drain valve under the pump. Use the air purge valve on top of the separator to make sure all fluid has been drained from the system before changing the filter.
3. The water block filters are used to remove entrained and emulsified water from the fuel/oil stream. Saturation of water block filter will cause the pressure drop over the filter to increase.
4. When the pressure drop over the filter blocks the fuel flow and the filter element is not changed, the bypass valve in the pump may open and the system will idle. This should only be allowed to happen for no more than 30 seconds.
5. Apply a film of lubricating oil to the gasket of the new filter. Screw filter on to the flow adaptor until the gasket is tight and secure (an additional 1/2 to one turn after the filter makes contact with the gasket).
6. Check for leaks when re-starting and pressurizing the system.

The material trapped inside the filter can be inspected to better understand the types of contaminants that have been removed from the tank.

! IMPORTANT ! The internal bypass valve of the pump can only be operated for less than 30 seconds. Longer periods can lead to overheating the fuel in the pump head, cause fire and explosion hazard as well as damage the pump.

Note: Disposal of fuel, associated waste, and filters must be in accordance with all applicable Federal, State, and Local rules, laws, standards, and regulations.

Safety Notes

- The systems pump is designed to be used with diesel fuel and oils only. The pump is NOT designed for gasoline, alcohol or other explosive or corrosive liquids.
- Please contact us if you are not sure if the liquid you are intending to polish and clean is compatible with the MTC system.
- Biocides are extremely toxic and may enter the body through the skin. It is recommended to use adequate protection and avoid skin contact with biocide-treated fuels and oil.
- Disposal of tank sludge, water and filter elements should be done in accordance with Federal, State and Local regulations. These materials need to be treated as chemical waste.



! 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.



! WARNING ! 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 MTC 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: Disposal of fuel, associated waste, and filters must be in accordance with all applicable Federal, State, and Local rules, laws, standards, and regulations.

Note: We highly recommend installing the optional Digital Flow Meter in the discharge hose of the MTC (can also be factory equipped – if requested). The Digital Flow Meter is an excellent tool to monitor the performance of the equipment and will measure how much fuel has been processed through the MTC.

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
5. Inoperative foot valve
6. Piping improperly installed or dimensioned
7. Primary filter/water separator plugged

Rapid pump wear

1. Pipe strain on pump causing bind
2. Worn pump/motor coupler
3. Pump has been run dry or with insufficient fuel
4. Plumbing on inlet side not appropriately dimensioned

Vacuum gauge shows more than 15”HG:

1. Restriction on inlet side too high
2. Lift too high
3. Inoperative foot valve
4. Inlet ball valve not fully open
5. Suction line/Coalescer/Strainer/LG-X Fuel Conditioner clogged

Pressure gauge in red area or more than 20 – 25 PSI with clean or new filter element installed

1. Restriction on discharge side too high
2. Head (lift) on discharge side too high
3. Check filter for water saturation (WB only)
4. Outlet ball valve not fully open
5. Discharge line clogged

Pump requires too much power

1. Air in plumbing lines
2. Liquid too viscous
3. Bent pump shaft, binding rotor
4. Misalignment of pump/motor coupler

Noisy operation

1. Insufficient fuel supply
2. Air leaks in the inlet pipe
3. Air or gas in fuel on the suction side
4. Excessive pump load (vacuum > 15”HG)

Pump requires frequent re-priming

1. Inoperative foot valve
2. Inoperative check valve
3. Inoperative solenoid valve (optional)

4. Pump cavitations
5. Plumbing air leaks
6. Lift too high
7. Leaking pump seal

Motor does not turn or turns intermittently

1. Control power not available
2. Motor thermal overload condition
3. Pump failed and seized
4. Motor failure
5. Emergency Button depressed

Pump leaks fuel

1. Loose pump plumbing fittings
2. Worn pump shaft seal
3. Pump pressure relief valve failure
4. Fuel leak elsewhere and fuel dripping or running towards the pump
5. Excessive head from overhead storage tank
6. Worn pump O-rings or seals

Replacement Filter Chart

MTC SERIES FILTERS

ALL FILTERS ARE ABSOLUTE, UNLESS OTHERWISE NOTED | WB: WATERBLOCK | SS: STAINLESS STEEL SCREEN

CARTRIDGE FILTERS						SPIN-ON FILTERS							
	10μ	15μ WB	30μ	40μ SS	60μ SS	80μ SS	1μ B 100/BIO	3μ	3μ WB	10μ	10μ WB	25μ	3μ X-GLASS
TK-240	TK-081	TK-082		TK-083		TK-084			WBS-3	FFS-10			
MTC-500							FF-1	FF-3	WB-3	FF-10	WB-10	FF-25	FFZ-3
MTC-1000							FF-1	FF-3	WB-3	FF-10	WB-10	FF-25	FFZ-3
MTC-3000							FF-1	FF-3	WB-3	FF-10	WB-10	FF-25	FFZ-3
MTC-X							FF-1	FF-3	WB-3	FF-10	WB-10	FF-25	FFZ-3

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 deficiencies 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 and subject to the terms and conditions herein. This warranty is not an on-site 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 International's 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 sole and exclusive discretion of AXI International.

This Warranty shall NOT apply to the following:

1. Damage or deterioration caused by normal wear and tear.
2. Failures caused by any external cause or act of God, such as accident, collision, theft, vandalism, riots, wars, fire, freezing, lightning, earth-quakes, windstorms, hail, volcanic eruptions, floods, tornados or hurricanes.
3. Failures due to alterations, adjustments, unauthorized changes to the product(s), neglect or improper storage, repair and/or maintenance.
4. Failures due to abuse or application of the product(s) for uses other than for which it/they are designed or intended by AXI International, including but not limited to, improper installation or location in a harsh, corrosive or saltwater environment.
5. Failures resulting from attachments, accessory items, and parts not sold by AXI International.
6. Repairs by any party other than those authorized by AXI International.
7. Failures resulting from user's delay in making the product available for inspection by AXI International after notifying AXI International of a potential product problem.
8. Cosmetic damage, discoloration, rusting, corrosion or scratches from applied paint.
9. Replacement of consumables such as, but not limited to, fuses, lamps, filters, etc.
10. Additional expenses for repair after normal business hours, i.e., overtime or holiday labor rates.
11. Expenses for rental of equipment during downtime and/or performance of warranty repairs.
12. Expenses related to investigating performance complaints and/or troubleshooting where no manufacturing defect is found.

In addition to the limitations above, 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, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE, WITH THE RESPECT TO THE PRODUCTS COVERED BY THIS WARRANTY POLICY, EXCEPT AS EXPRESSLY PROVIDED FOR HEREIN. AXI INTERNATIONAL ASSUMES NO LIABILITY FOR ANY GENERAL, SPECIAL, INCIDENTAL, CONSEQUENTIAL, CONTINGENT OR OTHER DAMAGES EVEN IF SUCH DAMAGES ARE A DIRECT RESULT OF AXI INTERNATIONAL'S NEGLIGENCE. 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.

To the fullest extent permitted by law, any claims against AXI International are limited to the remedies as expressly set forth in this warranty and any other further claims, such as but not limited to, compensation for any damage incurred other than to the AXI International product, are hereby excluded.

Warranty Claim Procedure

To make a claim under this warranty, please call AXI International at +1-239-690-9589 or 1-877-425-4239, 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 reveals a defect covered by its limited warranty, AXI International will either repair or replace the defective parts or products. AXI International 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 and customer shall be responsible standard rates incurred by AXI International, as established from time to time by AXI International.

For service and sales, please contact AXI International:

AXI International | 5400 Division Drive Fort Myers, FL 33905
Tel: +1-239-690-9589 | Toll Free: +1-877-425-4239 | Fax: +1-239-690-1195

Email: info@axi-international.com | Internet: www.axi-international.com

TECHNICAL ASSISTANCE AND ORDERING

Please write, fax, email or call:

AXI International
5400 Division Drive
Fort Myers, FL 33905
Tel: +1-239-690-9589
Fax: +1-239-690-1195
Email: info@axi-international.com
Internet: www.axi-international.com

Please provide the following information:

Serial Number of your MTC-3000, the required part numbers and quantity. The drawings/parts list included in this manual are the most accurate source of part numbers for your MTC-3000.

Replacement Filter Elements

Fine Filter:

FF-1 - 1 μ spin-on filter cartridge (not water blocking)
FF-3 - 3 μ spin-on filter cartridge (not water blocking)
FF-10 - 10 μ spin-on filter cartridge (not water blocking)
FF-25 - 25 μ spin-on filter cartridge (not water blocking)
FFZ-3 - X-Glass 3 μ Absolute spin-on filter cartridge (not water blocking)
WB-3 - 3 μ water blocking
WB-10 - 10 μ water blocking

Also available:

• Digital Flow Meter

MTC-3000 SYSTEM IDENTIFICATION

Serial Number: _____ (e.g. B070010-3000)

Voltage:

- 115V/60Hz/15A
- 230V/50Hz/15A

Fine Filter(s):

- FF-1 - 1 μ spin-on filter cartridge (not water blocking)
- FF-3 - 3 μ spin-on filter cartridge (not water blocking)
- FF-10 - 10 μ spin-on filter cartridge (not water blocking)
- FF-25 - 25 μ spin-on filter cartridge (not water blocking)
- FFZ-3 - X-Glass 3 μ Absolute spin-on filter cartridge (not water blocking)
- WB-3 - 3 μ water blocking
- WB-10 - 10 μ water blocking

Inspected By: _____ Date: _____

AXI International, industry leaders in Intelligent Fuel Management Solutions, has specialized in complete fuel system management and control technologies for over twenty years. Our growth and continued success rides on our ability to adapt to the needs of our customers, opening up opportunities to expand our product offering. To the benefit of our customers and the AXI network, we've become very efficient at doing so - faster than any other company in the industry.



Mission Critical



Fuel Storage



Marine



Government



Military



Mining



Agriculture



Power Gen



Railway



On-Road

Our current line of solutions include enclosed, mobile, and compact fuel management systems, partial and fully enclosed day tanks, pump sets, fill stations, Tier 4 fuel additives, centralized system monitoring, and other total fuel system management solutions. These high quality, innovative solutions are engineered to exceed industry standards for customers worldwide.

AXI also designs, engineers, and manufactures custom built complete fuel management systems– working side by side with customers, architects, engineering firms, and facility management companies to create innovative solutions that meet the highest of standards and specifications. From concept and design consultation, to specification review, development, and start-up, our in-house engineering professionals excel in transforming challenging projects into innovation opportunities.

AXI International Intelligent Fuel Management Systems – experience the power of ultra clean fuel.



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