

GHT-15

OPERATION AND MAINTENANCE MANUAL



Read and understand this owner's manual and the included pump/motor literature before operating. Failure to do so could result in personal injury, equipment damage, and could void your warranty.

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GHT-15

Akron Brass thanks you for choosing the GHT-15. Designed for easy operation and long lasting service, this hose tester matches a 5.5 horsepower gasoline engine with a 1500 psi pump for optimum performance. With its narrow framework, it can be easily transported through doorways, yet is stable enough to connect up to (4) 5" Storz adapters directly to the manifold without tipping over the unit.

Features

- Powerful 5.5 horsepower gasoline engine
- 1500 psi 3 gpm pump
- Large 4" diameter 2000 psi gauge
- Powder coated heavy duty steel frame
- Folding handles and rubber wheels for easy transport and storage.
- Thermal relief valve
- 5 year warranty



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WARNING: The GHT-15 should be used by competent, trained personnel following the guideline put in place by NFPA and all literature included with this unit. Failing to do so could cause an unsafe condition that can result in bodily injury or property damage. Akron Brass strongly recommends following the guidelines and procedures set forth in Chapter 7 of NFPA 1962 Standard for Service Testing of hoses. Please tie down your hoses at the bleeder cap end and have an established safe perimeter of at least 15 feet to the left side of the nearest hose when facing the free of the hose in the test layout before conducting your hose test.

PRODUCT RATINGS AND SPECIFICATIONS

Dry Weight	140 lbs
Dimensions	26"W x 37"L x 24"H
Gasoline Capacity	.95 gal (3.6 L)
Max Pump Pressure	1500 PSI
Flow Rate	3 gpm
Maximum Power	5.5 HP (4.1kW @ 3600 RPM)
Max Torque	7.8 ft. lb (10.5 N*M/3000rpm)
Engine Oil Capacity	.63 qt (.60 L)
Fuel Consumption	≤395 (g/kW*h)
Noise(≤)	80 db(A)
Engine Oil Grade	10W-30
Pump Oil	Hypro Oil (P/N 2160-0038)
Inlet Water Requirements	5 gpm (10 gpm for a garden hose)
Fuel Type	Gasoline (≥86 Octane)

PRODUCT WARNINGS

-  **WARNING:** Do not pump at pressures higher than 1500 psi. Higher pressures may result in equipment failure with unintended consequences and potential injury.
-  **WARNING:** Do not pump flammable, explosive, or abrasive fluids.
-  **WARNING:** Do not pump fluids with temperatures in excess of 160°.







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-  **WARNING:** Improperly maintaining this engine, or failure to correct a problem before operation, can cause a malfunction in which you can be seriously hurt or killed. Always follow the inspection and maintenance recommendations and schedules of this manual.
-  **WARNING:** Carbon monoxide gas is toxic. Breathing it can cause unconsciousness even death. Avoid any confined areas or actions that expose you to carbon monoxide.
-  **CAUTION:** The muffler will become very hot during operation resulting in a burn injury if touched,

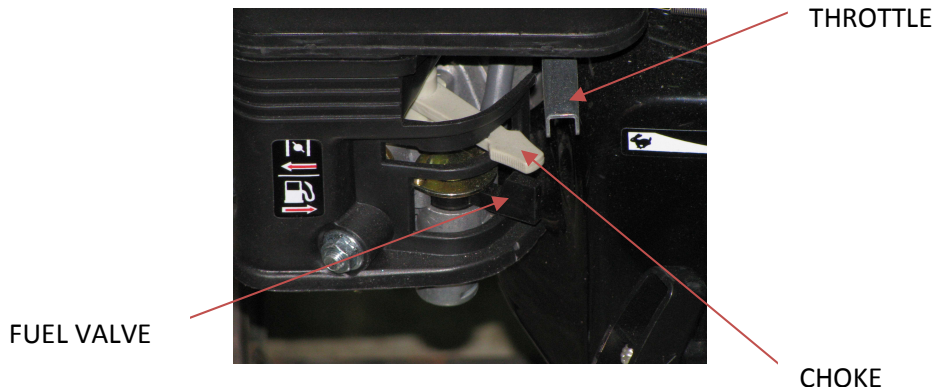
GENERAL SAFETY INFORMATION

- **Owner Responsibilities**
 - The GHT-15 is designed to give safe and dependable service if operated according to instructions. Read and understand this owner's manual before operating. Failure to do so could result in personal injury or equipment damage.
 - Know how to stop the engine quickly, and understand the operation of all controls. Never permit anyone to operate the engine without proper instructions.
 - Do not allow children to operate the unit. Keep children and pets away from the area of operation and clear of hose testing layout at all times.
- **Hot Exhaust**
 - The muffler becomes very hot during operation and remains hot for a while after stopping the engine. Be careful not to touch the muffler while it is hot. Let the engine cool before storing it indoors to avoid burns to skin.
 - To prevent fire hazards and to provide adequate ventilation, keep the engine 3 feet (1 meter) away from buildings, walls and other equipment during operation. Do not place flammable objects close to the engine.
- **Carbon Monoxide Hazard**
 - Exhaust gas contains poisonous carbon monoxide. Avoid inhalation of exhaust gas. Never run the engine in a closed garage or confined area.
- **Maintenance Safety**
 - Read the instructions before you begin.

SETUP INSTRUCTIONS

1. Place the GHT-15 on a flat surface with no more than 10 degrees of incline off vertical. If the GHT-15 is used on an incline the unit must be at the lowest point during the test with the hoses at the highest point on the incline.
2. Check all fuel, engine oil, and pump oil levels.
3. Connect hose(s) to be tested to each discharge. Attach a vented bleeder cap to the open end of each hose with the petcock open. The maximum length allowed on each discharge is 300 feet (91 m).
4. Attach a hose safety tie line at every coupling connection for safety in case a hose bursts or couplings fail to avoid potential whipping movement of test hose(s).
5. Close the inlet ball valve. Connect the GHT-15 to the water supply. Turn on the water supply. Open the discharge valves that are being used. Slowly open the supply valve driving air from the hoses to avoid air hammering during pressurized testing of hose(s).
6. After the hose lays have been filled and a continuous stream of water is being forced out the petcocks, close the inlet valve to force water through the pump. Allow water to flow through the pump for several minutes.

ENGINE STARTING PROCEDURE




1. Move the fuel valve lever to the ON position.

2. To start a cold engine, move the choke lever to the CLOSE position. To start a warm engine, leave the choke to the OPEN position.
3. Move the throttle lever from the SLOW position, about a 1/3 of the way toward the FAST position.
4. Turn the engine switch to the ON position.
5. When operating the pull starter pull the starter grip lightly until you feel resistance, then pull briskly. Return the starter gently.
6. If the choke lever is in the CLOSED position, move the choke lever to the OPEN position gradually until the engine is warmed up.
7. Position the throttle lever for the desired engine speed. Half throttle is more than sufficient for hose testing.
8. To stop the engine in an emergency, move the engine switch to the OFF position. During normal shutdown, move the throttle to the SLOW position and then move the engine switch to the OFF position.
9. Turn the fuel valve lever to the OFF position.

HOSE TESTING

1. **NOTE: THE PRESSURIZING STEP COULD TAKE 15 TO 20 MINUTES OR MORE. INCREASING THE PRESSURE MUST BE DONE IN STEPS OF 15 PSI/SEC OR LESS TO INSURE HOSES ARE NOT OVER PRESSURIZED!**
2. **EACH BALL VALVE ON YOUR GHT-15 IS EQUIPED WITH A LOCKING MECHANISM. TO DISENGAGE THE LOCK, SLIDE THE PLATE UP THE HANDLE AND THEN ADJUST THE VALVE.**


 **WARNING:** Over pressurizing a hose can cause damage to equipment, personal injury or death from a whipping burst hose.

3. Once the engine is warm, slowly turn the pressure relief valve knob located in front of the gauge clockwise until you feel a slight resistance on the knob. Then give the pump time to start pressurizing the hose.

4. Always watch the gauge. When the gauge no longer shows increasing pressure, you can slowly turn the relief valve knob. Repeat this in steps until the desired pressure is obtained.
5. Once testing pressure is obtained close all discharge ball valves, reduce the engine speed and turn the engine switch to the OFF position. If the motor is not turned off it will cause the pump to build up heat. If the pump reaches 140 degree the thermal relief valve will open causing a small amount of water to escape the pump through the clear hose beside the pump. This water is hot; the hose is set to spray the water under the Hose Tester, letting hot water out let's cool water back in protecting your pump from over heating. Turning the motor off when the discharge valves are closed is best for the motor and pump.
6. Once the valves are closed, follow the procedures in the current edition of NFPA 1962 in Chapter 7 for service testing without deviation.
7. To relieve pressure after testing, open the petcock at the end of each hose. Then open all ball valves before removing any hose.

ENGINE MAINTENANCE

Please see the included engine literature

 **WARNING:** Improperly maintaining this engine, or failure to correct a problem before operation, can cause a malfunction in which you can be seriously hurt or killed. Always follow the inspection and maintenance recommendations and schedules of this manual.

- Make sure the engine is off before you begin any maintenance or repairs. This will eliminate several potential hazards:
 - **Carbon monoxide poisoning from exhaust.** Be sure there is adequate ventilation whenever you operate the engine to avoid inhalation of gases.
 - **Burns from hot parts.** Let the engine and exhaust system cool before touching.
 - **Injury from moving parts.** Do not run the engine unless instructed to do so.
- Read the instructions before you begin, and make sure you have the tools and skills required to perform the maintenance on a gas engine with a pump.



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- To reduce the possibility of fire or explosion, be careful when working around gasoline. Use only a nonflammable solvent, not gasoline, to clean parts. Keep cigarettes, sparks and flames away from all fuel-related parts.

Engine Maintenance Schedule

REGULAR SERVICE PERIOD Performed at every indicated month or operating hour interval, whichever comes first.			Each Use	First month or 20 Hrs.	Every 3 months or 50 Hrs.	Every 6 months or 100 Hrs.	Every year or 300 Hrs.
ITEM							
•	Engine oil	Check level	○				
•		Change		○		○	
•	Air cleaner	Check	○				
•		Clean			○(1)		
•		Replace					○◇
•	Sediment cup	Clean				○	
•	Spark plug	Check-Clean				○	
•		Replace					○
•	Idle speed	Check-Adjust					○(2)
•	Valve clearance	Check-Adjust					○(2)
•	Fuel tank and strainer	Clean					○(2)
•	Combustion chamber	Clean	After every 300 Hrs. (2)				
•	Fuel line	Check	Every 2 years (replace if necessary) (2)				
•	Spark arrester (optional parts)	Clean				○	

- ◇ Replace the paper element type only.
- (1) Service more frequently when used in dusty areas.
- (2) These should be serviced by your local dealer unless you have the proper tools and are mechanically proficient.

Refueling

- With the engine stopped, remove the fuel tank cap and check the fuel level. Refill the tank if the fuel level is low.



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- Refuel in a well ventilated area before starting the engine. If the engine has been running, allow it to cool. Refuel carefully to avoid spilling fuel. Do not fill above the fuel strainer shoulder. After refueling, tighten the fuel tank cap securely.
- Never refuel the engine inside a building where gasoline fumes may reach flames or sparks. Keep gasoline away from appliance pilot lights, barbeques, electric appliances, power tools, etc.
- Spilled fuel is not only a fire hazard, it causes environmental damage. Wipe up spills immediately.

PUMP MAINTENANCE

- Check the oil level before each operation. Use Hypro Oil (P/N 2160-0038) when refilling.
- Change oil after the first 40 hours. Change the oil every 500 hours after that.

! WARNING: Do not pump flammable, explosive, or abrasive fluids in the hose tester system that may cause bodily injury or property damage.

CLEANING AND STORAGE

Proper cleaning and storage preparation will keep your GHT-15 looking good and trouble free. Please follow the following steps will keep rust and corrosion from impairing your GHT-15 function and appearance, and it will make the engine easier to start after storage.

Cleaning

If the engine has been running, allow it to cool for at least half an hour before cleaning. Clean all exterior surfaces with a mild soap and water. Touch up any damaged paint and coat other areas that may rust with a light film of oil.

NOTICE: USING A GARDEN HOSE OR PRESSURE WASHER TO CLEAN THE ENGINE MAY FORCE WATER INTO THE AIR CLEANER AND MUFFLER. THIS WILL CAUSE ENGINE DAMAGE AND WILL VOID YOUR WARRANTY.

WATER CONTACTING A HOT ENGINE CAN CAUSE DAMAGE. PLEASE AVOID THIS IF POSSIBLE. PLEASE ALLOW THE ENGINE TO COOL FOR AT LEAST A HALF AN HOUR BEFORE CLEANING.

Storage

Gasoline will oxidize and deteriorate in long storage. Akron Brass Co. strongly recommends using a fuel stabilizer to avoid hard starting and possible fuel system damage. Fuel system damage from long storage may not be covered by the 5 year warranty.

Storage Precautions

1. Change the engine oil.
2. Remove the spark plugs.
3. Pour a tablespoon (5-10 cc) of clean engine oil into the cylinder.
4. Pull the starter rope several times to distribute the oil in the cylinder.
5. Reinstall the spark plugs.
6. Pull the starter rope slowly until resistance is felt. This will close the valves so moisture cannot enter the engine cylinder. Return the starter rope gently.

If your engine will be stored with gasoline in the fuel tank and carburetor, it is important to reduce the hazard of gasoline vapor ignition. Select a well-ventilated storage area away from any appliance that operates with a flame, such as a furnace, water heater or clothes dryer. Also avoid any area with a spark-producing electric motor, or where power tools are operated.

If possible, avoid storage areas with high humidity, because that promotes rust and corrosion.

Unless all fuel has been drained from the fuel tank, leave the fuel valve lever in the OFF position to reduce the possibility of fuel leakage.

Position the GHT-15 so the engine is level. Tilting can cause fuel or oil leakage.

With the engine and exhaust system cool, cover the GHT-15 to keep out dust. A hot engine and exhaust system can ignite or melt some materials. Do not use sheet plastic as a dust cover. A nonporous cover will trap moisture around the GHT-15, promoting rust and corrosion.

PROCEDURE REFERENCED FROM NFPA 1962 2008 EDITION

7.2 Service Test Procedure.



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7.2.1 Each length of hose to be service-tested shall be inspected as specified in Section 4.6.

4.6 Hose Inspection.

4.6.1 Physical inspection shall determine that the hose, couplings, and any nozzle have not been vandalized, are free of debris, and exhibit no evidence of mildew, rot, or damage by chemicals, burns, cuts, abrasion, and vermin.

4.6.2 During the inspection, a check shall be made to determine if the service test of the hose is current.

4.6.3 Liner Inspection.

4.6.3.1 The interior of the hose at each end shall be visually inspected for any physical signs of liner delaminating.

4.6.3.2 If the liner shows signs of delaminating, the hose shall be condemned (removed hose from service).

4.6.4 If the hose fails the physical inspection, it shall be removed from service and either repaired as necessary and service-tested as specified in Chapter 7 or condemned.

4.6.5 The couplings shall be inspected as specified in 6.2.3. and 6.2.4.

6.2.3 After each use, and during each hose service test, couplings shall be visually inspected for the following defects:

- (1) Damaged threads
- (2) Corrosion
- (3) Slippage on the hose
- (4) Out-of-round
- (5) Swivel not rotating freely
- (6) Missing lugs
- (7) Loose external collar
- (8) Internal gasket defects
- (9) Other defects that impair operation

6.2.4 Hose with defective couplings shall be removed from service and the couplings repaired or replaced.

7.2.2 Any length of hose that fails the inspection shall be removed from the service test area and repaired as necessary or condemned.

7.2.3 Lengths of hose to be tested simultaneously shall be of the same service test pressure and collectively, shall be considered the hose test layout.

7.2.4 The total length of any hose line in the hose test layout to be service-tested shall not exceed 300 ft (91 m) except as required by 6.2.10 and 7.2.11.

6.2.10 When couplings are attached or reattached to hose, the hose shall be tested at its service test pressure one length at a time in accordance with Chapter 7.

6.2.11 The hose test layout shall be straight, without kinks or twists

6.2.12 All 3 ½" (89 mm) and larger diameter hose shall be service-tested while lying flat with a short length of smaller diameter hose with the same or higher proof pressure used to connect the pressure source to the hose being tested.

- 6.2.13** A test location shall be selected that allows connection of the hose testing apparatus (pressure source) to a water source.
- 6.2.14** A hose testing machine, a stationary pump, or a pump on a fire department apparatus shall be used as a pressure source.
- 6.2.14.1** If a hose testing machine is used, the procedure defined in Section 7.6 shall be used.
- 6.2.14.2** If a stationary pump or a pump on a fire department apparatus is used, the procedure defined in Section 7.7 shall be used.
- 6.2.15** At the conclusion of the test, the hose records shall be updated to indicate the results of the service test for each length of hose tested.
- 6.2.11** Any hose that fails the inspection defined in 4.6 [specified on previous page], bursts or leaks during the service test, or has couplings that leak or are otherwise found defective as defined in 6.2.3 [specified on previous page] shall be tagged as required in 5.1.6 or 5.3.6. and removed from service.
- 5.1.6. and 5.3.6** Hose removed from service for repair or because it has been condemned shall be tagged with a distinctive tag with the reason for removal from service noted on the tag.
- 6.2.16.1** If the hose leaks or the hose jacket fails inspection, a distinguishing mark noting the location of the defect(s) shall be placed on the hose.
- 6.2.16.2** If the couplings fail or are defective, they shall be repaired or replaced.
- 6.2.16.3** If the hose cannot be repaired, the couplings shall be removed from both ends.
- 6.2.17** if the hose is repaired, or the couplings are repaired or replaced, the hose shall be service tested one length at a time in accordance with Chapter 7 before being placed back in service.
- 6.2.18** After testing, all hose shall be thoroughly cleaned, drained, and dried as specified in Section 4.7 before being placed in service or storage.
- 4.7.1 Cleaning and Drying.**
- 4.7.2** After each use, all hose shall be cleaned.
- 4.7.3** If dirt cannot be thoroughly brushed from the hose or if the hose has come in contact with harmful materials, the hose shall be washed.
- 4.7.4** If, during use, the hose has been exposed to hazardous materials, it shall be decontaminated by the method approved for the contaminate.
- 4.7.5** Covered hose shall be permitted to be wiped dry.
- 4.7.6** Hose shall not be dried on hot pavements or under intense sunlight.
- 7.3 Unlined Hose.** Unlined fire hose shall be replaced with an approved lined fire hose when service testing is required.
- 7.4 Booster Hose.**
- 7.4.1** Booster hose shall be tested in accordance with Section 7.2. to 100 percent of its maximum working pressure.
- 7.4.2** If a maximum working pressure cannot be determined for the hose, it shall be tested to 110 percent of the normal highest working pressure as used in the system.
- 7.5 Suction Hose**

- 7.5.1** Suction hose shall be dry-vacuum tested using the following procedure:
- (A) The hose shall be attached to a suction source.
 - (B) The free end shall be sealed with a transparent disk and connected to an accurate vacuum measuring instrument.
 - (C) A 22" mercury (0.75-bar or 74.5-kPa) vacuum shall be developed.
 - (D) While holding the vacuum for 10 minutes, the interior of the hose shall be inspected through the transparent disk.
 - (E) There shall be no signs of physical damage or collapse of the lining into the waterway.
- 7.5.2** If suction hose is used under positive pressure, it shall also be service tested to a water pressure of 165 psi (1138 kPa) using the procedures outlined in Section 7.2.
- 7.6 Service Test using a Hose Testing Machine.** The procedure defined in this section shall be used when hose is service tested using a hose testing machine.
- 7.6.1 Hose Testing Machine Integrity.** The condition of the hose testing machine shall be thoroughly checked daily before each testing session and before the machine is used after being transported to a new testing site.
- 7.6.1.1** The hose testing machine shall be carefully examined for damaged components that might fail during the test.
- 7.6.1.2** If any damage is discovered, the hose testing machine shall not be used until the damaged component(s) is repaired or replaced.
- 7.6.1.3** A pressure leak integrity test shall be performed on the machine to determine whether the pressurized outlet side of the machine and its related components are leak-free.
- 7.6.1.3.1** The fire hose outlet connection(s) of the machine shall be capped or otherwise closed.
- 7.6.1.3.2** Pressure shall be applied through the machine using the integral pump to a level that is 10 percent higher than the highest service test pressure needed for the hose to be tested.
- 7.6.1.3.3** The pressure shall be held for 3 minutes with the pump turned off.
- 7.6.1.3.4** If leaks are detected, the testing machine shall not be used until the leaking component(s) is repaired or replaced.
- 7.6.1.4** The test gauge that is used to read the test pressure shall have been calibrated within the previous twelve months.
- 7.6.2 Conducting the test**
- 7.6.2.1** The test layout shall be connected to the outlet side of the water supply valve on the hose testing machine.
- 7.6.2.2** A test cap with a bleeder valve shall be attached to the far end of each hose line in the test layout. If a test cap is not available, a nozzle with a non-twist shutoff shall be permitted to be used.
- 7.6.2.3** With the test cap valve or the nozzle open, the pressure shall be raised gradually to 45 psi +/- 5 psi (310 kPa +/- 35 kPa).
- 7.6.2.4** After the hose test layout is full of water, all the air in each hose line shall be exhausted by raising the discharge end of each hose line above the highest point in the system.

- 7.6.2.5** Each nozzle or test cap valve shall be closed slowly, and then the outlet water supply valve (check valves) shall be closed.
- 7.6.2.6** The hose directly in back of the test cap or the nozzle shall be secured to avoid possible whipping or other uncontrolled reactions in the event that a hose bursts.
- 7.6.2.7** With the hose at 45 psi +/- 5 psi (3.1 bar +/- 0.35 bar or 310 kPa +/- 35 kPa), it shall be checked for leakage at each coupling and the couplings tightened with a spanner wrench where necessary.
- 7.6.2.8** hose shall then be marked at the end or back of each coupling to determine, after the hose has been drained, if the coupling has slipped during the test.
- 7.6.2.9** All personnel other than those persons required to perform the remainder of the procedure shall clear the area.
- 7.6.2.10** Water supply should be closed and the pressure raised slowly at a rate not greater than 15 psi (1 bar or 103 kPa) per second until the service test pressure is attained and then maintained, by pressure boosts if necessary, for the duration of the stabilization period.
- 7.6.2.11** The stabilization period shall be not less than 1 minute per 100 ft (30 m) of hose in the test layout.
- 7.6.2.12** After the stabilization period, the hose layout shall hold the service test pressure for three minutes without further pressure boosts.
- 7.6.2.13** While the hose test layout is at the service test pressure, it shall be inspected for leaks.
- 7.6.2.13.1** If the inspecting personnel walk the test layout to inspect for leaks, they shall be at least 15 ft (4.5 m) to the left side of the nearest hose line in the (hose) test layout. The left side of the hose line shall be defined as that side that is to the left when facing the free end from the pressure source.
- 7.6.2.13.2** Personnel shall never stand in front of the free end of the hose, on the right side of the hose, or closer than 15 ft (4.5 m) on the left side of the hose, or straddle a hose in the test layout during the test.
- 7.6.2.14** If the hose test layout does not hold the service test pressure for the 3-minute duration, the service test shall be terminated.
- 7.6.2.14.1** The length(s) of hose that leaked shall have failed the test.
- 7.6.2.14.2** The test layout shall be drained and the defective hose removed from the test layout.
- 7.6.2.14.3** The service test shall be restarted beginning with the procedures required in 7.6.2.1.
- 7.6.2.15** After three minutes at the service test pressure, each test cap or nozzle shall be opened to drain the test layout.
- 7.6.2.16 Coupling Slippage.**
- 7.6.2.16.1** The marks placed on the hose at the back of the couplings shall be observed for coupling slippage.
- 7.6.2.16.2** If the coupling has slipped, the hose shall have failed the test.

End of references

Akron Brass strives to make the highest quality hose testing equipment in the industry. Notwithstanding the quality of Akron's gasoline Hose Tester, only trained personnel following the safety procedures outlined in this manual and also following the NFPA 1962 Standard without deviation from its procedures outlined herein should attempt to conduct fire hose testing. All other personnel including any children should clear the area prior to turning on the gasoline engine and pumping to test pressures to avoid personal injury and property damage. Even if the proper test procedures are followed, a burst hose may whip about in an uncontrolled matter despite all known safety procedures are being followed by the testing personnel. Safety should always come first whenever using a piece of test apparatus.



ISO 9001 REGISTERED COMPANY

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