

HYDROSTATIC TEST PUMPS

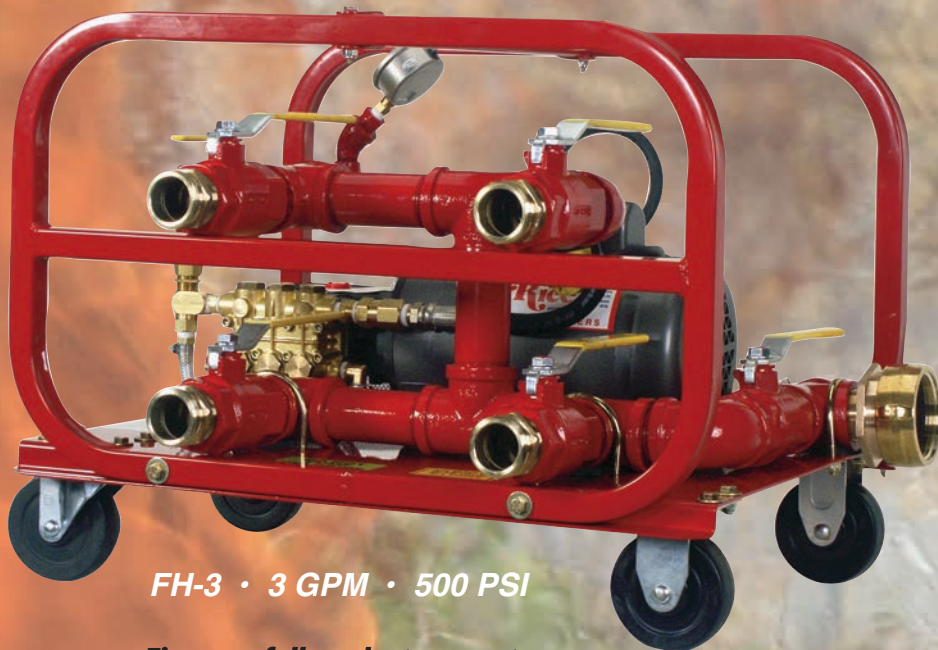
FH Series

FIRE HOSE TESTERS

The FH-series line of fire hose testers, offers testing pressures up to 1,000 PSI, with flow rates up to 10 GPM. Gas, Electric, and Diesel driven models, designed to safely test fire hose up to 6" in diameter. A large 2 & 1/2" swivel inlet aids in the ability to quickly fill and bleed the fire hoses through the large 1 & 1/2" heavy duty manifold, with independently controlled stainless steel ballvalves. NO WILD LINES - unique to the RICE Hydro line of fire hose testers, a ballvalve strategically placed on the inlet piping allows the user to fill with "LARGE VOLUME at LOW PRESSURE" and test with "LOW VOLUME at HIGH PRESSURE", eliminating the elements that may cause wild lines. The FH-series hose testers, meet or exceed test standards set forth by the NFPA 1962. A safe, less costly and more efficient way to test your fire hose, keeping your pumper ready for action, where it should be!

MODEL	GPM	PSI	POWER
FH-3	3	500	ELECTRIC
EL-FHT	3	500	ELECTRIC
FH-5(B) (H)	5	1000	GAS
FH5-E	5	800	ELECTRIC
FH4-E	4	1000	ELECTRIC
FH2-(B) (H)	3.5	1000	GAS
FH10-(B) (H)	10	450	GAS

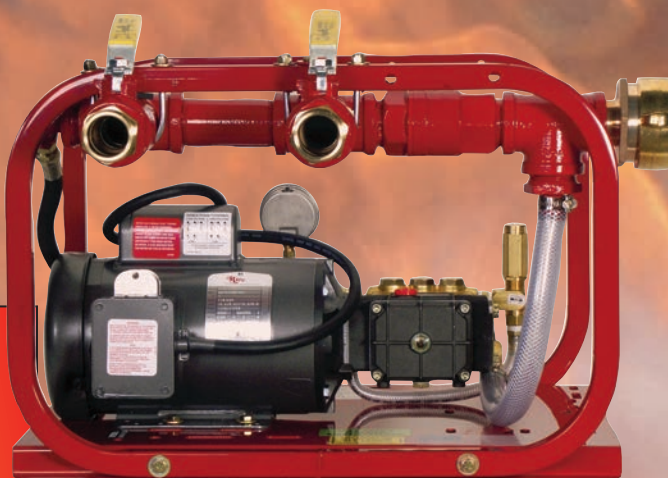
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FH-3 • 3 GPM • 500 PSI

- **Five year full product warranty**
- **Up to Ten Independently Controlled Outlets, 1 & 1/2" Stainless Steel Ballvalves, with NST Couplings**
- **Stainless Steel Liquid-Filled Gauge Ensures Accurate Readings, with Less Flutter**
- **Rugged Roll Cage Construction Protects Pump From Damage**

MINI HOSE TESTER EL-FHT



EL-FHT • 3 GPM • 500 PSI

- **Two Independently Controlled Outlets, 1 & 1/2" Stainless Steel Ball valves, with NST Couplings**
- **1 HP 50/60 Hz Electric Motor with MTO, and TEFC**
- **Dual Swivel Inlets: 2 & 1/2" NST and 3/4" GHT.**
- **Liquid Filled Stainless Steel Gauge**

The EL-FHT is a mini hose tester with all the power and design of the FH-3, yet just half its size. Great for on board ships, inside factories and plants or any confined spaces.

Pressure Wands



Fire Hose Testers



Hose Restraints



Hand Pumps

ricehydroworld.com



3500 Arrowhead Drive
Carson City, Nevada
89706

web site:
www.ricehydro.com
e-mail:
sales@ricehydro.com

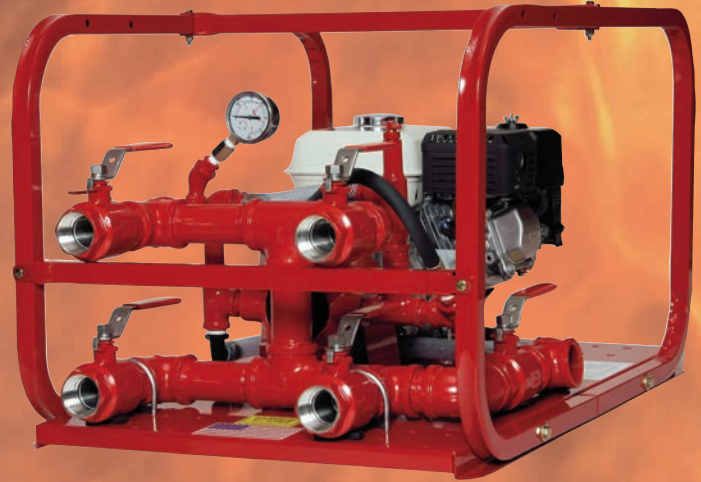
Toll Free U.S. & Canada:
(800) 245-4777
Phone:
(775) 885-1280

Fax:
(800) 998-7423

FH10-H

Freedom and Versatility! The FH10-H is one of six gas models offered in the Rice Hydro line of fire hose testers. Excellent for testing requirements in rural and remote areas, or anywhere electricity is not readily available.

- **Shown with Honda engine, OHV, oil alert**
- **All units enclosed in a Rugged Steel Rollcage**
- **Increased speed and efficiency with higher GPM flow ratings**



FH10-H • 10 GPM • 450 PSI

FH-series Wand Accessory

Ideal for Haz-Mat and contaminated equipment wash down. Strong cleaning power at 500 psi, yet soft enough to offer less risk for damage of department decals or custom paint jobs. The FHWA-1 wand accessory makes your FH-series fire hose tester a year round contributor to your equipment fleet.



- **Dual Tips offer option of Spraying Either Water only or Soap & Water**
- **50 Feet of High Pressure Hose for Long Range Mobility**
- **Quick Disconnects for Easy On/Off Capability**
- **Adjustable Injector for Soap or other Cleaning Solvents**
- **Steel Construction, with Nylon Tip Guards and Handle**



**Keep'M Caged!
Safety Anchor &
Securement Device**



The **LineCage**, a patented design, for safely securing and anchoring your fire hose during pressure testing.

RICE HYDRO, INC.
MANUFACTURER'S OPERATING INSTRUCTIONS
FIRE HOSE TESTER SERIES

FOR WARRANTY REGISTRATION CALL: 1-800-245-4777

CAUTIONS:

1. Power source must meet voltage, phase, hertz and amperage requirements of electric motor, as stated on label. If an extension cord is used, requires at least 12 gauge 3 wire with maximum of 25 foot length.
2. Check ALL fluid levels prior to operating the unit.
3. Protect the pump from freezing, FLUSH with anti-freeze.
4. DO NOT run dry or pump chlorine thru the unit.

CONNECTING THE PUMP:

1. Check oil level of pump and engine (if gas unit), use 10W30 ND oil.
2. Connect inlet to fire hydrant.
3. Connect fire hose to be tested to suitable adapters on manifold outlets. Hose should have nozzles on the end to bleed the air from the lines at full flow. Hoses should be lying up hill from pump if possible.
4. Connect garden hose to back bleed & direct to a drain away for dry test area.
5. ASSURE MOTOR IS "OFF". Connect the power cord to a standard wall outlet.
Extension cord: when needed, a 12 gauge 3 wire, maximum 25 ft. length, plugged into a 20 amp breaker is required.

OPERATING THE PUMP:

1. Close all ballvalves, slightly crack open the 1/2" bleeder ballvalve.
2. Open inlet ballvalve. Open outlet ballvalves one at a time and allow each hose to be filled through manifold. Do not turn pump on at this time.
3. To ensure air is safely bled from hoses, bleed each hose, one line at a time with hydrant volume and pressure, utilizing a nozzle at the end of each hose.
4. When each line is filled, free of air, with nozzle closed, close the ballvalve at the manifold outlet to seal the line. Bleed **ALL** outlets whether or not in use for testing. All air must be removed.
5. With back bleed open, turn on the pump. This will bleed air out of the pressure side of the pump - out to the drain area.
6. **Close the 1&1/2" ballvalve at the inlet of manifold/unit, directing water flow from the hydrant to pressure side of pump. No pressure will build until this ballvalve is closed.**
7. Slowly close the 1/2" back bleed ballvalve, check the gauge to verify pressure setting of relief valve.
8. The pressure regulator has been preset at the factory. ***To change this setting you must make this adjustment while the water is flowing freely, and under NO pressure.*** To adjust the pressure, first loosen the locknut. Turn the T-handle/Knob clockwise to increase and counterclockwise to decrease the pressure. Place a ballvalve or similar open and close valve at the end of the outlet hose, open and close this valve multiple times as needed, to check pressure setting and re-adjust as necessary. Upon reaching desired pressure setting, tighten locknut and prepare to begin test.

9. Open the 1½" ballvalves at the outlets and begin building pressure in all the lines. In the event there is an acceptable leak in the system that must be overcome by leaving the pump running.. Crack the ½" back bleed valve allowing a small amount of clean fresh water to flow while in bypass. **Once pressure has been reached, close all ballvalves and shut off pump.**
10. If the air has been bled as outlined, the pump will build pressure quickly and safely with only hose stretch to overcome. If a hose ruptures, the only volume of water available is through GPM of the pump. NO SURGE OF VOLUME, NO WILD LINE.
11. It is impossible to ensure that air is not caught behind couplings. If air is caught behind a coupling that fails - it could cause an explosion and fragmentary effect. DO NOT BEND OVER THE TOP OF THE PUMP. Treat hoses and couplings under pressure as dangerous.

NOTE: When dealing with existing pressured hoses or to re-pressurize hose, unit's existing manifold/piping pressure must be bled back down to 70 psi. **DO NOT LOWER PRESSURE ON HOSES OR TEST ENVIROMENT**, just in manifold/piping section of pump. High existing "head pressure" will cause motor to stall, not start at all, or pump to fail. Examples: hoses are pre-filled and have existing pressure of 120 PSI, and you need to build to 150 PSI, the positive displacement pump will struggle with overcoming this existing head pressure. **TO OVERCOME:** with 1½" outlet ballvalves closed holding existing pressure, open back bleed ½" ballvalve to release pressure in piping/manifold down to 70 PSI or below. Turn motor/unit on and close ½" back bleed ballvalve building pressure within piping/manifold to at least 30 psi above existing test pressure (this will allow the pump to overcome the existing head pressure) and begin to open individually the 1 ½" ballvalves.

TROUBLE SHOOTING:

NOT building pressure

Inlet ballvalve has not been closed.

AIR, AIR AND MORE AIR

**Ensure air is bled from hoses, manifold, piping.
The length of time to build pressure and test hoses
is directly related to overcoming air buildup.**

Motor will not Run

**Verify plugged directly into wall outlet, or using
minimum 12 gauge 3 wire, maximum 25' extension cord.
Push thermal overload button to reset.**

GAUGE

Pegged or faulty, order new gauge.



WARNING: Operating, servicing and maintaining this equipment can expose you to chemicals including engine exhaust, carbon monoxide and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, avoid breathing exhaust, do not idle the engine except as necessary, operate and service your equipment in a well-ventilated area and wear gloves or wash your hands frequently when servicing your equipment. For more information go to: www.p65warnings.ca.gov

PARTS BREAKDOWN FOR MODEL FH10-SERIES

RICE HYDRO INC.

PUMP PARTS:

REF#	PART NUMBER..	DESCRIPTION..	QTY REQ'D
2	HYPRO-2220-0013	PISTON CAP SCREW	2
3	HYPRO-2270-0012	WASHER	2
4	HYPRO-1830-0039	PISTON CUP SPREADER	2
5	HYPRO-1410-0054	CUP BACKING PLATE	2
7	HYPRO-1440-0005	PISTON GUIDE	2
8	HYPRO-1410-0018	SUPPORT RING 5210	2
10	HYPRO-0503-5200	CONNECTING ROD	1
11	HYPRO-0602-5200	SAFETY COVER	1
12	HYPRO-2405-0006A	GREASE FITTING ASSEMBLY	1
14	HYPRO-5003-5210	SUB ASSEMBLY SHAFT	1
14	HYPRO-5001-5210	COMPLETE SHAFT ASSEMBLY	1
15	HYPRO-1810-0001	RETAINER RING	2
16	HYPRO-1600-0013	CRANKPIN RETAINER	1
17	HYPRO-1610-0005	KEY FOR SOLID SHAFT	1
20	HYPRO-1410-0006	SLINGER RING	2
21	HYPRO-2005-0006	MAIN BEARING	1
22	HYPRO-2210-0062	CYLINDER HEAD BOLT	8
23	HYPRO-0203-5200CB	CYLINDER HEAD	2
24	HYPRO-1720-0028	O-RING FOR CYLINDER HEAD	2
25	HYPRO-1720-0019	O-RING FOR CYLINDER SLEEVE	2
26	HYPRO-3550-0007	CYLINDER SLEEVE	2
27	HYPRO-3400-0038	VALVE ASSEMBLY	4
28	HYPRO-0100-5200C	PUMP BODY	1
29	HYPRO-1510-0024	PUMP BASE	1

MISCELLANEOUS PARTS:

NA	BRIGG-12S452-0049-F8	5.5 HP 206 CC ENGINE W/GR	1
NA	HONDA-GX160UT2-HX2	5.5 HP 163 CC ENGINE W/GR	1
NA	CHECKVALVE-1/2CON	1/2" FEMALE CHECKVALVE	1
NA	BALLVALVE-1/2	1/2" BALLVALVE	1
NA	BALLVALVE-S-1&1/2	STAINLESS STEEL BALLVALVE	5
NA	SPRAY-6815-700-3/4	PRESSURE REGULATOR	1
NA	ADAPTER-NST-1&1/2	1&1/2" NPT X NST OUTLET ADAPTER	4
NA	SWIVEL-INLET-FH3	2&1/2" FEMALE SWIVEL INLET	1
NA	COUPLING-LVJ-3/4	3/4" COUPLING LOVEJOY (ENG SIDE)	1
NA	COUPLING-LVJ-ENG-1"	1" COUPLING LOVEJOY (PUMP SIDE)	1
NA	CENTERDISK-5210	URETHANE SPIDER 5210 (WHITE)	1
NA	CASTER-RIGID-4	4" RIGID CASTER	2
NA	CASTER-SWIVEL-4	4" SWIVEL CASTER	2
NA	GAUGE-600	0-600 PSI LIQUID FILLED GAUGE	1
NA	GAUGE-SNUBBER-1/4	1/4" VIBRATION SNUBBER	1
NA	HYPRO-5210C-FL	TWIN PISTON 10GPM, 450 PSI	1
NA	LABEL-KIT-FH	INSTRUCTION AND CAUTION STICKERS	1

KITS:

HYPRO-3430-0037	PISTON REPAIR KIT--LEATHER: PISTON STACK PARTS KIT W/ LEATHER CUPS REF. #6
HYPRO-3430-0039	PISTON REPAIR KIT--FABRIC: PISTON STACK PARTS KIT W/ FABRIC CUPS REF. #6
SPRAY-AB6815-700	UNLOADER/BYPASS REPAIR KIT

Piston Stack Parts Kits

Leather Cup Kit No. 3430-0037 (STD)

Consists of two each of the following parts: No. 2220-0013 Piston Cap Screw (Ref. 6A), No. 2270-0012 Washer (Ref. 6B), No. 1720-0030 O-Ring (Ref. 6C), No. 2150-0001 Leather Cup (Ref. 6D), No. 1720-0065 O-Ring (Ref. 6E) and No. 1440-0012 Seal Ring (Ref. 6F).

Fabric Cup Kit No. 3430-0039

Same as Leather Cup Kit except with two No. 2150-0012 Fabric Cups.

Rubber Cup Kit No. 3430-0189

Same as Leather Cup Kit except with two No. 2150-0042 Rubber Cups.

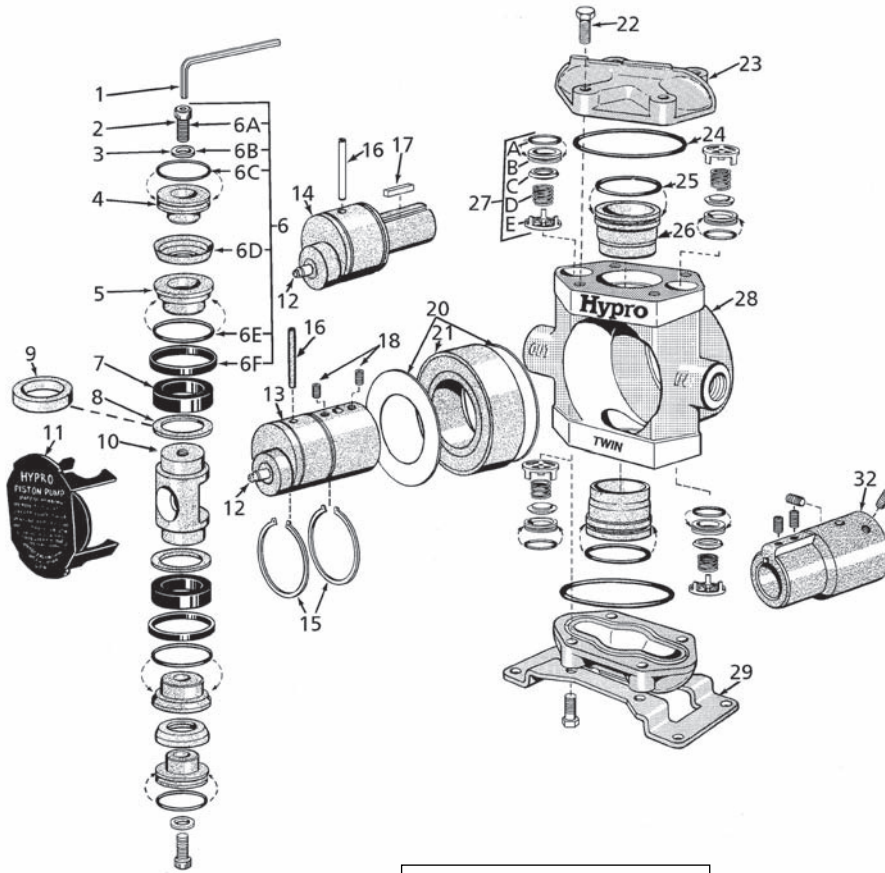
Crankshaft Assemblies

Sub-Assemblies

Include Grease Fitting (Ref. 12), Crankshaft with cam bearing (Ref. 13 or 14) and Crankpin Retainer (Ref. 16).

Complete Assemblies

Include Sub-Assembly components plus Retaining Rings (Ref. 15), slinger rings (Ref. 20) and Bearing (Ref. 21).



NOTE: When ordering parts, give **quantity, part number, description, and complete model number.** Reference numbers are used **ONLY** to identify parts in the drawing and are **NOT** to be used as order numbers.

Ref. No.	Qty. Req'd.	Part No.	Description
1	1	3020-0008	Allen Wrench (Optional)
2	2	2220-0013	Piston Cap Screw
3	2	2270-0012	Washer
4	2	1830-0039	Piston Cup Spreader
5	2	1410-0054	Cup Backing Plate
6	1	3430-0037	Piston Stack Parts Kit with Leather Cups (Standard)
6	1	3430-0039	Piston Stack Parts Kit with Fabric Cups (Models 5200-F)
6	1	3430-0189	Piston Stack Parts Kit with Buna-N Cups (Models 5200-R)
7	2	1440-0005	Piston Guide
8	2	1410-0018	Support Ring For 5210 Models Only
9	2	1410-0020	Support Ring For 5206 Models Only
10	1	0503-5200	Connecting Rod
11	1	0602-5200	Safety Cover
12	1	2405-0006	Grease Fitting Assembly
13	1	See Listing	Crankshaft (Solid Shaft Models)
14	1	See Listing	Crankshaft (Hollow Shaft Models)
15	2	1810-0001	Retainer Ring
16	1	1600-0013	Crankpin Retainer

Sub-Assembly PART NO.	Complete Assembly PART NO.	Pump Model Number
with 1-3/8" Hollow PTO Shaft (Ref. 13)		
5503-5206	5501-5206	5206C-H
5503-5210	5501-5210	5210C-H
with 1" Solid Shaft (Ref. 14)		
5003-5206	5001-5206	5206C
5003-5210	5001-5210	5210C

Ref. No.	Qty. Req'd.	Part No.	Description
17	1	1610-0005	Key (Solid Shaft Models)
18	2	2230-0003	Set Screw
20	2	1410-0006	Slinger Ring
21	1	2005-0002	Main Bearing
22	8	2210-0062	Cylinder Head Bolt
23	2	0203-5200CB	Cylinder Head
24	2	1720-0028	O-Ring – for cylinder head
25	2	1720-0019	O-Ring – for cylinder sleeve
26	2	3550-0007	Cylinder Sleeve
27	4	3400-0038	Valve Assembly—Consists of: O-ring (Ref. A), Valve Seat (Ref. B), Valve Poppet (Ref. C), Valve Spring (Ref. D) and Valve Spring Retainer (Ref. E)
28	1	0100-5200C	Body
29	1	1510-0024	Base
32	1	1320-0081	Adapter-Adapts 1" solid shaft to 1-3/8" 6-spline PTO hollow shaft. (Includes set screws.)