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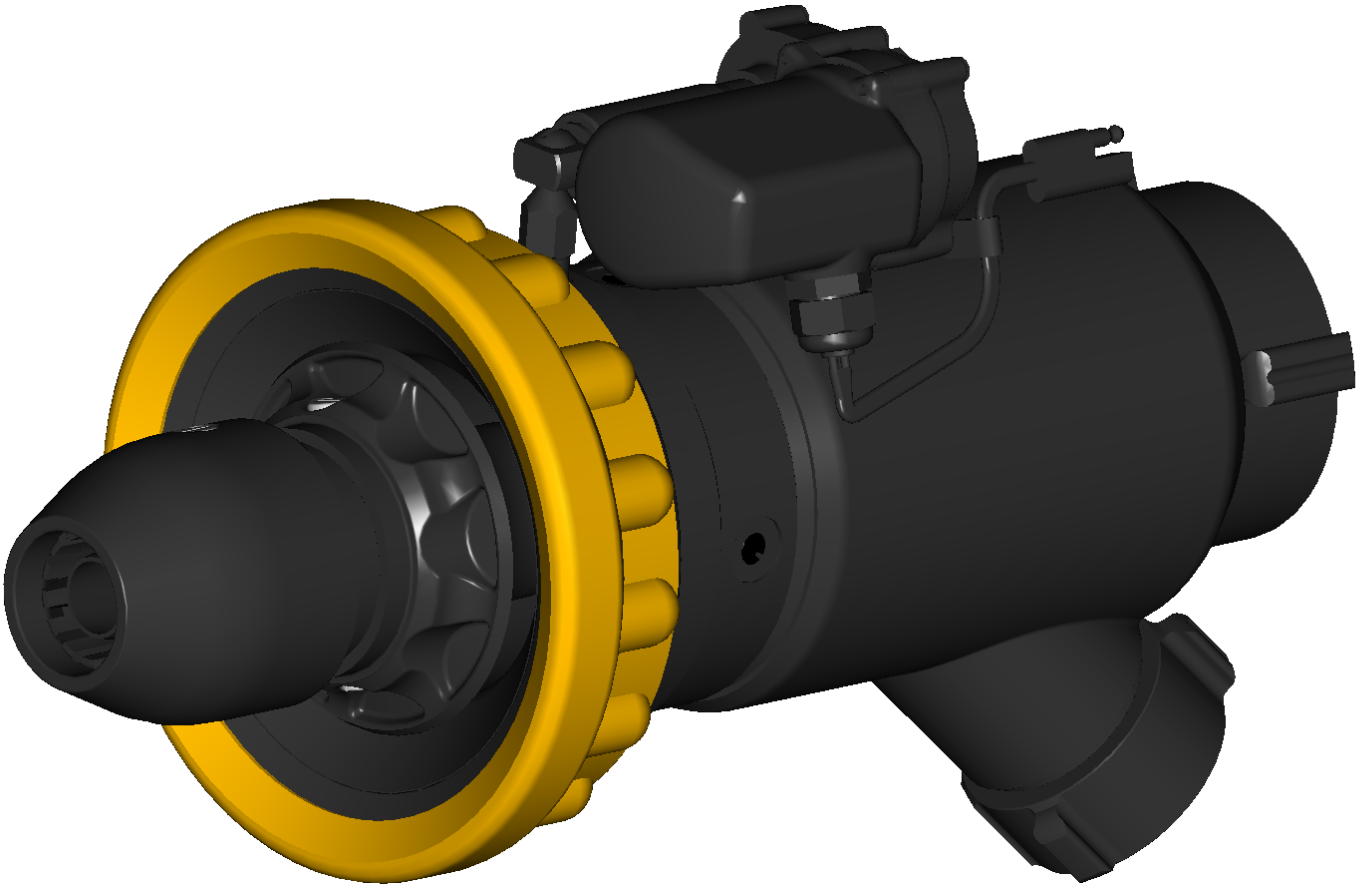
Operating and Maintenance Instructions



Hydro-Chem® Flex

Hydro-Chem® powder technology of Williams Fire & Hazard Control with Flex variable smooth bore technology of Elkhart Brass.

Catalog Number: HC-750E-FLX
Part Number: 00090011

98325000 – REV. REL

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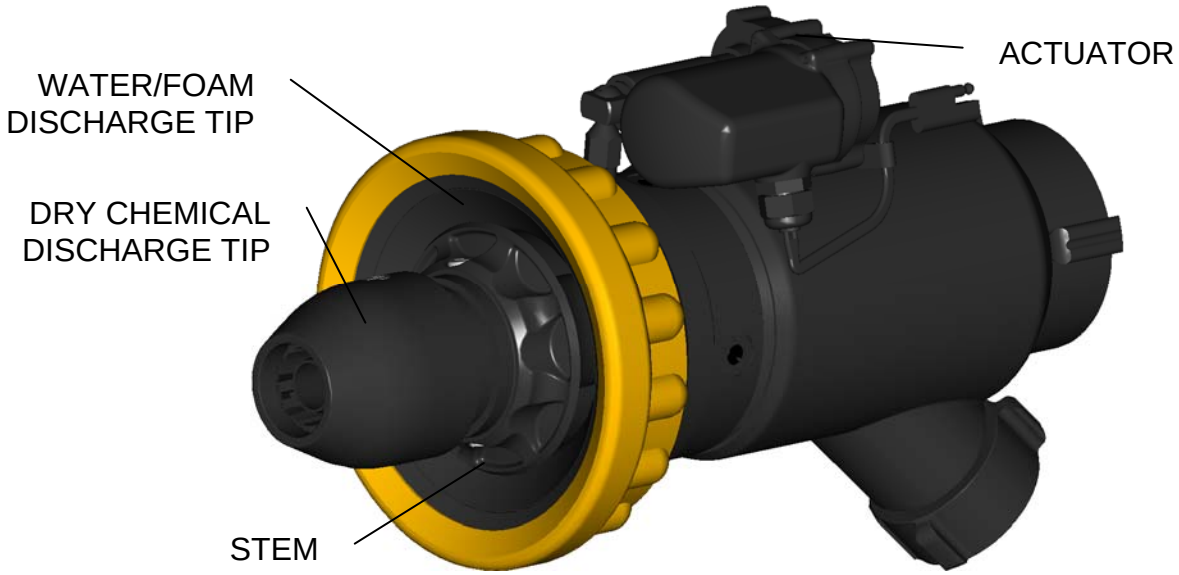
I. PRODUCT SAFETY INFORMATION

Important:
Before installing and operating this equipment, read & study this manual thoroughly. Proper installation is essential to safe operation. In addition, the following points should be adhered to in order to ensure the safety of equipment and personnel:

- All personnel who may be expected to use this equipment must be thoroughly trained in its safe and proper use.
- Before flowing this device, check that all personnel (fire service and civilian) are out of the stream path. Also, check to make sure stream direction will not cause avoidable property damage.
- Become thoroughly familiar with the hydraulic characteristics of this equipment, and the pumping system used to supply it. To produce effective fire streams, operating personnel must be properly trained.
- Open water valve supplying this equipment slowly, so that piping and hose lines fill slowly, thus preventing possible water hammer occurrence.
- After each use, and on a scheduled basis, inspect equipment per instructions in section III.
- The maximum allowable water pressure for this nozzle is 150 psi.
- Follow dry chemical manufacturer recommendations for operations with any dry chemical agent.

Important:
Open and close the supply valves slowly to avoid creating pressure spikes. Continually creating pressure spikes may compromise the integrity of the nozzle. Never intentionally cause water hammer or pressure spikes.

II. HYDRO-CHEM® FLEX OPERATION



A. Stream Adjustment

ELECTRIC;
The controls for the monitor can be used to change the nozzle's stream pattern from straight stream to wide fog. The 12 (24) VDC electric actuator uses a ball screw mechanism that free spins at each end of its stroke preventing the actuator motor from experiencing a stall condition at the ends of its stroke. The nozzle may be operated in any position from straight stream to wide fog. Motor power required is 11-14 (22-27) VDC. Motor current draw is approximately 0.5 (0.25) Amps.

MANUAL;
The electric actuator has a ¾ inch hex nut that can be used to change the stream pattern in the event that power is lost. Disconnecting the power lead to the nozzle will make it easier to turn the manual override nut. **NEVER** use anything but a hand wrench to operate the manual override. Using powered tools will damage the nozzle actuator and void the warranty.

B. Water/Foam Settings

The standard operating pressure for water/foam is 75 psi at the nozzle. The Hydro-Chem® Flex nozzle has three water/foam settings and a flush setting. A detent has been utilized to indicate each position. Rotating the stem clockwise from the inlet end of the nozzle will increase the flow all the way to the flush position shown in the picture while rotating the stem in the opposite direction will decrease the flow. The nozzle must be shut down before changing the flow setting.

SYMBOL	DESCRIPTION
	FLUSH
	750 GPM @ 75 PSI (2900 LPM @ 5 bar)
	500 GPM @ 75 PSI (2000 LPM @ 5 bar)
	300 GPM @ 75 PSI (1150 LPM @ 5 bar)

C. Dry Chemical Settings

The standard operating pressure for dry chemical/air is 150 psi at the nozzle. The discharge size of the nozzle can be adjusted by simply rotating the dry chemical discharge tip of the nozzle. Rotating the tip in the direction indicated by the arrows will achieve the largest discharge setting of 20 lbs/s (9 kg/s) and the smallest discharge setting of 10 lbs/s (4.5 kg/s). If it is desirable to have a dry chemical shut-off the nozzle, the HC-150-A shut-off is designed to attach directly to the air inlet of the nozzle. A detent has been utilized to indicate each discharge position. The nozzle must be shut down before changing this setting.

III. HYDRO-CHEM® FLEX MAINTENANCE

The following maintenance procedures should be followed in order to reduce the possibility of field difficulty or failure.

A. Inspections

Weekly visual inspections and monthly operational checks will promote proper nozzle function. These inspections may be done daily in busy companies. All nozzles should be flow tested before entering any hazardous environment to ensure equipment is operating properly.

B. Maintenance After Use

The nozzle should be flushed thoroughly after every use. This can be done by flowing a clean water source through the nozzle. The internal passageway of the nozzle should also be visually inspected for possible damage caused by foreign objects carried by the water through the nozzle. Periodic removal of dry chemical from the adjustable center barrel is recommended. Follow dry chemical manufacturer recommendations for maintenance and cleaning of the dry chemical agent portion of the nozzle.

The dry chemical discharge tip and stem portions of the nozzle rotate via a cam and slot mechanism. If these parts become difficult to turn, remove the detent screws, coil springs and detent balls and slide apart. Clean all parts and surfaces including the cam slots. Lubricate the cam slot with Engineered Custom Lubricants #0025 Teflon Grease or equivalent. Use lubricant sparingly. Excess grease will attract dirt and grit and can cause interference between close fitting parts. Reassemble and check for proper operation.

The water/foam discharge tip is actuated electronically. If these parts become difficult to operate, remove the two screws that retain the electric actuator and remove it. Remove the nozzle tip and the nozzle tip o-ring. Use a mild soap & water solution to clean the outside surface of the center barrel, the nozzle tip, and the o-ring. Inspect the o-ring and replace if worn or damaged. Apply a thin coat of lubricant (Dow Corning #7 Lubricant/Sealant) to the o-ring, the outside surface of the center barrel, and the inside surface of the nozzle tip. Reinstall the o-ring, nozzle tip, and electric actuator (see exploded drawing for Loctite requirements). Move the nozzle tip through its entire range of motion several times to distribute the grease. With the tip in the wide fog position, wipe off any excess grease with a clean rag. Storing the nozzle in the wide fog position will help protect the greased surfaces from exposure to the elements and contaminants that may be attracted by the grease.

Important: If there is a question regarding any necessary repair or damage issue, contact Elkhart Brass for assistance. Parts drawings are located on our website.

www.elkhartbrass.com

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