



**ELKHART BRASS MFG. CO., INC.**

1302 WEST BEARDSLEY AVENUE • P.O. BOX 1127 • ELKHART IN 46515 • (574) 295-8330 • FAX (574) 293-9914

# Installation, Operating, & Maintenance Instructions



Model 299-11

*Python*®

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# I. PRODUCT SAFETY



## **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:**

1. All personnel who may be expected to use this equipment must be thoroughly trained in its safe and proper use.
2. Before flowing water from 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.
3. 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.
4. Open water valve supplying this equipment slowly, so that the piping fills slowly, thus preventing possible water hammer occurrence.
5. After each use, and on a scheduled basis, inspect equipment per instructions in Maintenance & Inspection on page 6.



**Warning:** The piping must be able to withstand a horizontal reaction force of at least 850 lbs at the height of the vertical swivel joint center and from any angle of rotation that the monitor is capable of turning. Serious injury to personnel and equipment can result from improper installation.

## II. INSTALLATION INSTRUCTIONS

### 1. NPT Base

Apply an appropriate thread sealant to the NPT nipple. Thread the monitor base onto the nipple and tighten with pipe wrench.

### 2. Flat Faced Flange

- a) Attach an ANSI pattern companion flange to the water supply pipe.
- b) Seal the flange joint with a full face gasket or suitable flange sealant. Most wafer type butterfly valves have seats that serve as flange gaskets, and separate gaskets or sealant is not required.
- c) Attach the monitor inlet flange to the companion flange on the water supply pipe with grade 5 carbon steel or stainless steel bolts with nuts. See Table 1 for quantity and size of bolts. If an Elkhart Brass Model 84 butterfly valve is installed between the monitor and the companion flange, the bolt length should be 4-1/2".
- d) Apply Loctite® #242 to the bolt threads, then thread on the nuts, and torque the flange bolts to 60-70 ft-lbs for 5/8" and 110-120 ft-lbs for 3/4" uniformly in increments of approximately 20 ft-lbs.

Note: Elkhart Brass recommends using part number 81315001 Companion Flange Kit for a 3" 150# flat face flange and part number 81317001 Companion Flange Kit for a 4" 150# flat face flange.

Base	# Bolts	Size of Bolts	Minimum Length of Bolts
2-1/2" 150# ANSI Flange	4	5/8"-11 UNC	2-1/2"
3" 150# ANSI Flange	4	5/8"-11 UNC	2-1/2"
4" 150# ANSI Flange	8	5/8"-11 UNC	2-1/2"
6" 150# ANSI Flange	8	3/4"-10 UNC	3"
2-1/2" 300# ANSI Flange	8	3/4"-10 UNC	3"
3" 300# ANSI Flange	8	3/4"-10 UNC	3"
4" 300# ANSI Flange	8	3/4"-10 UNC	3"

Table 1



**Warning:** When installing monitor on a raised face companion flange or butterfly valve, it is critical that bolts be tightened uniformly to prevent cocking of the monitor relative to the flange or valve. If the monitor becomes cocked, (see Figure 1) the monitor cast flange base will fracture and fail when the bolts on the "high" side are tightened.

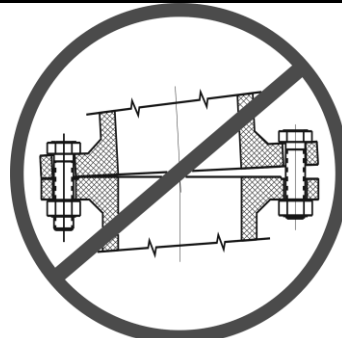


Figure 1  
Improper Flange Installation

### III. OPERATING

#### 1. Tiller Handle Monitor

The tiller handle monitor comes with both a left/right and an up/down lock handle. See Figure 2. To disengage lock(s), turn handle(s) counterclockwise. Move the tiller handle to direct the stream to the desired position. Turn lock handle(s) clockwise to engage lock.

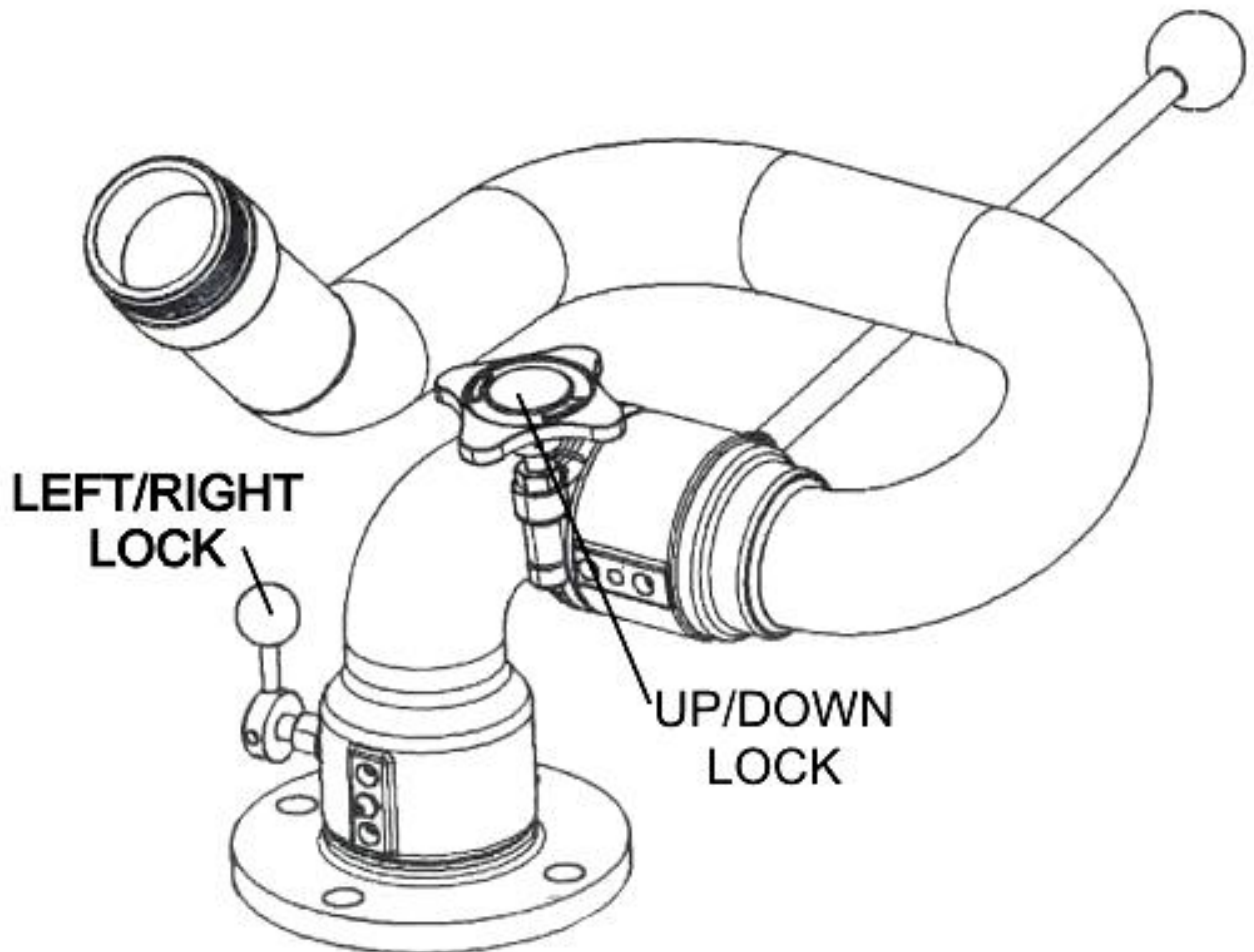


Figure 2

#### 2. Wheel Handle Monitor

The wheel handle monitor comes with both a left/right and an up/down lock handle. See Figure 2. To disengage lock(s), turn handle(s) counterclockwise. Move the wheel handle to direct the stream to the desired position. Turn lock handle(s) clockwise to engage lock.

## IV. MAINTENANCE & INSPECTION

The monitor should be inspected regularly. Careful inspection for damage to the monitor or nozzle is especially important after use in emergency operations.

Flow water to check nozzle pattern. If pattern is disrupted, remove nozzle and check for debris lodged between the nozzle stem and body, or in the stream shaper inlet.

During nozzle flow test, inspect monitor swivel joints for leaks.

**Note:** Although grease fittings are provided for the up-down and left-right gear cases, routine greasing should not be necessary. If the monitor is exposed to a high level of radiant heat for a prolonged period, it may be possible for the factory grease to thin and run out of the swivel joints. In such an event, fresh grease should be applied.

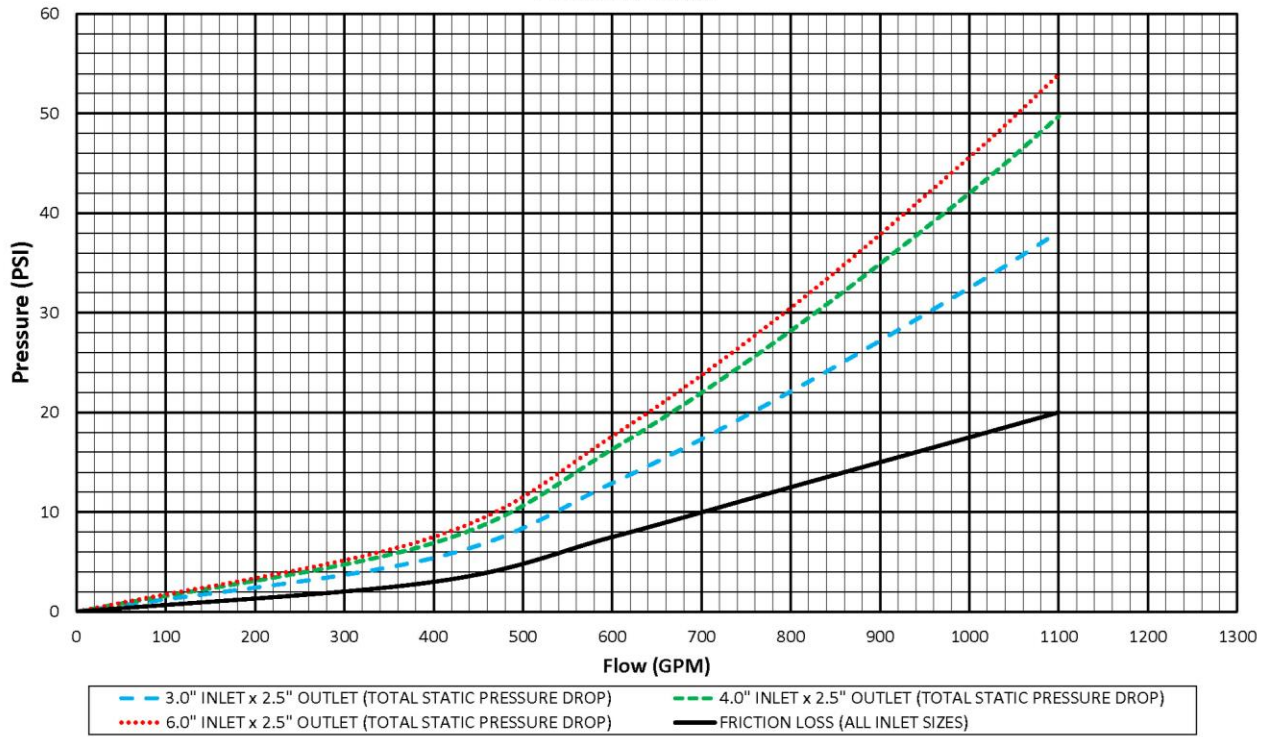
## V. PARTS DRAWINGS

To view the most current parts list, drawings, or demonstrations of common EXM commands, please visit [www.elkhartbrass.com](http://www.elkhartbrass.com).

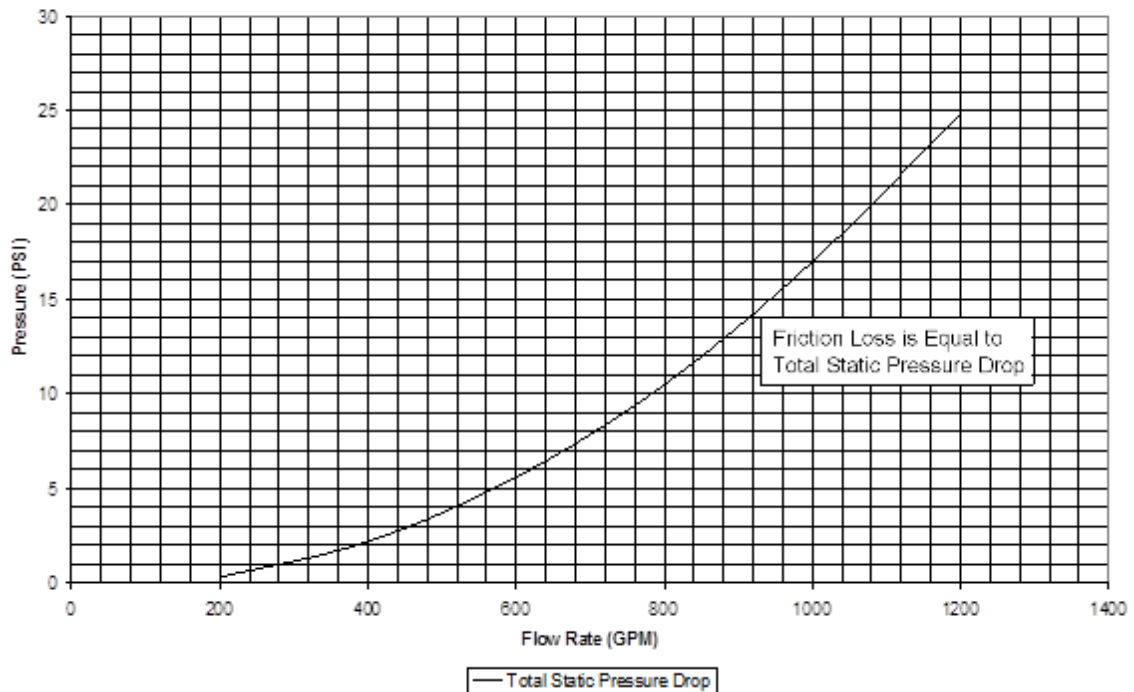
# VI. MONITOR & STREAM SHAPER

## 299-11 PYTHON PRESSURE LOSS

Revised 11/13/15



## 282-A, 282-B Stream Shaper Losses





# Elkhart Brass

Fire Fighting Equipment

**Elkhart Brass Mfg. Co., Inc.**

**Mailing Address:**

**P.O. Box 1127**

**Elkhart, IN 46515 USA**

**Shipping Address:**

**1302 W. Beardsley Ave.**

**Elkhart, IN 46514 USA**

**Tel. 1-574-295-8330**

**1-800-346-0250**

**Fax 1-574-293-9914**

**e-mail: [info@elkhartbrass.com](mailto:info@elkhartbrass.com)**

**[www.elkhartbrass.com](http://www.elkhartbrass.com)**