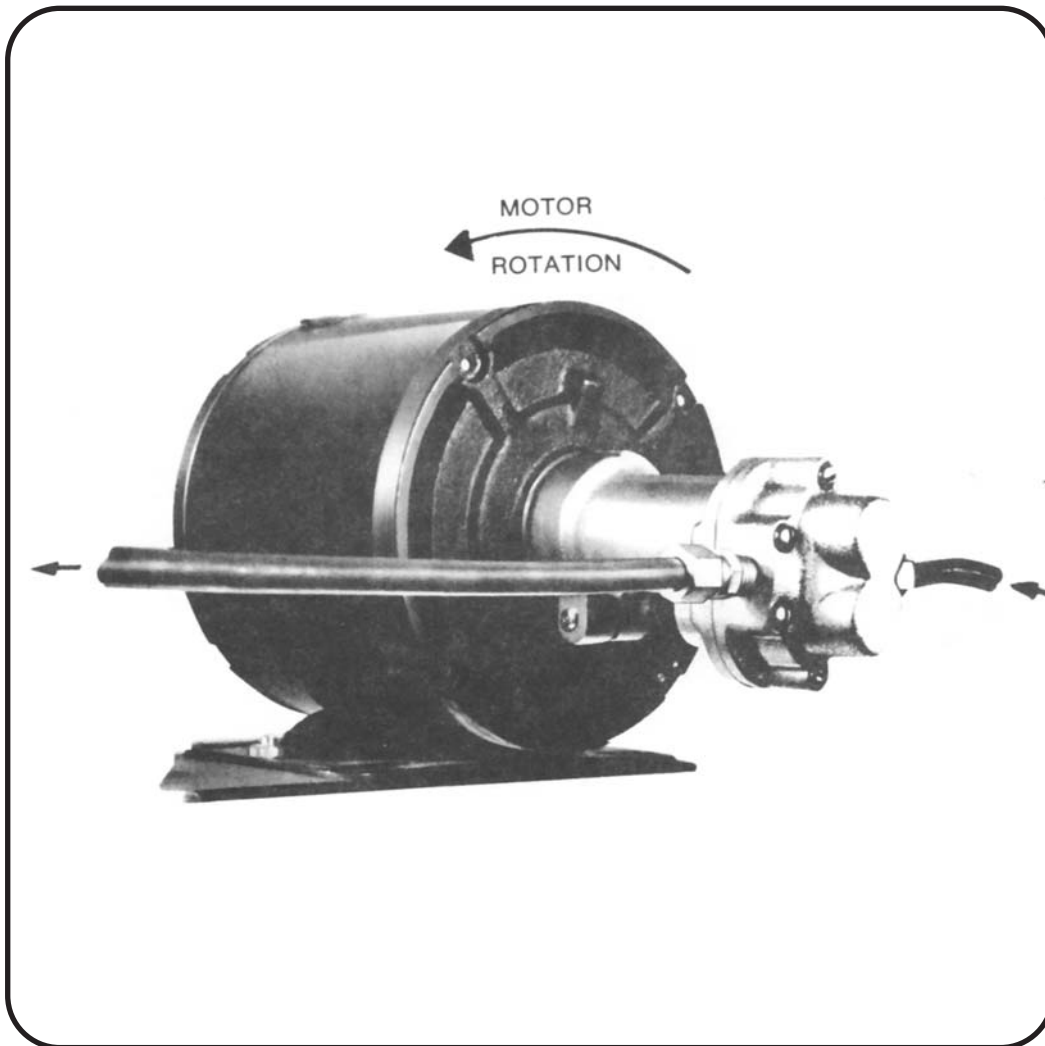


# EXCESS PRESSURE PUMP



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# EXCESS PRESSURE PUMP

## DESCRIPTION

The Excess Pressure pump is an ALL BRONZE positive displacement gear pump which is directly mounted on and coupled to a 1/3 or 1/2 Horsepower, high torque, split phase motor, 115 volt, 60 cycle, single phase. The motor is rigidly supported by a steel mounting plate attached to the flange above the Alarm Valve.

The pump has an output capacity at regular speed of approximately one gallon per minute at 175 psi. The pump can be used with all the "ASTRA" Alarm Valves.

The primary purpose of the Excess Pump is to prevent false alarms due to surges or increases in pressure in the water mains. The Excess Pressure pump introduces approximately 40 psi pressure on the system side of the Alarm Valve and thereby keeps the Alarm Valve in a closed position even when surges occur which might otherwise cause a false alarm.

For automatic operation, a differential pressure switch is used to turn the pump on or off which should be set to a minimum pressure difference of 30 psi pressure above the valve. When activated, it should be set to increase this pressure to a maximum difference of 45 psi pressure above the valve. The pressure switch should be connected to a point above the clapper of the Alarm Valve.

## INSTALLATION

To properly install the Excess Pressure Pump, it is necessary to draw suction for the pump from below the Alarm Valve clapper and to connect the discharge from the pump to a point above the clapper of the Alarm Valve.

For installation with the Model A Alarm Valve, the inlet connection is made to the existing retard trim by removing the 3/4" pipe plug and adding a 3/4" nipple and 3/4" X 1/2" reducing elbow. A 1/2" shut off valve (normally open) and elbow, with 3/8" copper tubing adapters allows for connection into the suction inlet of the pump. The discharge connection is made by connecting into a 2" X 2" X 1/2" tee, added to the drain valve connection, by connecting the 3/8" tubing from the pump to a 1/2" tee, which goes into a shut off valve (normally open), through a check valve, and into the 2" X 2" X 1/2" tee. A relief valve, set at 25 psi above the maximum pressure on the sprinkler system, is added on top of the 1/2" tee to provide a safety relief in case of excessive pressure. The discharge from the relief valve is piped by 3/8" tubing to the drain connection.

With the model B Alarm Valve, the pump inlet connection is made by replacing a 3/4" elbow with a 3/4" X 1/2" X 3/4" tee, then adding a 1/2" elbow, 1/2 ball valve (normally open), another elbow and 3/8" tubing adapters. The outlet connection is made similar to the Model A Alarm Valve connection, by connecting into a tee, a 1/2" ball valve (normally open), through a check valve, and into a 2" X 2" X 1/2" tee on the drain valve connection.

## TESTING & INSPECTION

For all manual installations, periodic inspections are necessary (if regular watchguard service is available this would be daily - if no guard service is available, the inspection periods should be determined individually for each installation to assure that the proper frequency of inspection is obtained).

The proper position (open or closed) of each valve should be clearly marked and any inspection should include checking of the position of all valves.

For manual installations the pump should be run for 4-5 seconds weekly to check operation of the motor and the pump.

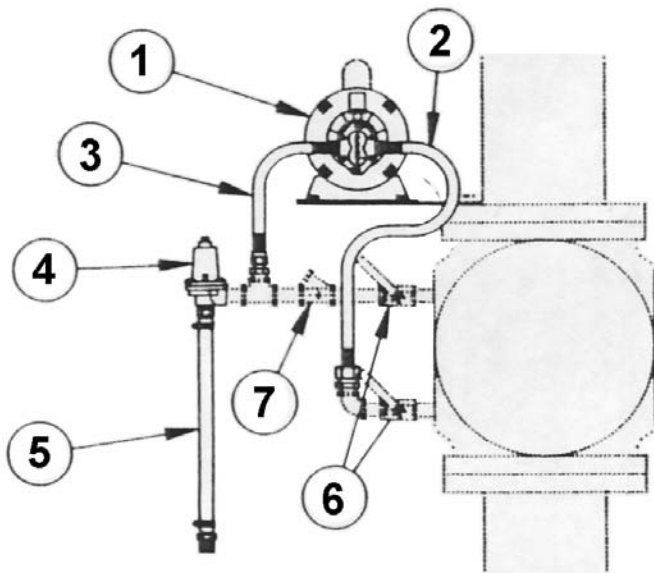
For all automatic installations periodic inspections should be made by observing the pressures as shown on the gauges to be sure that there is at least a 30 psi difference in the readings and no more than a 45 psi difference in the readings.

## INSTALLATION & OPERATING INSTRUCTIONS EXCESS PRESSURE PUMP

1. The CEP Series pump unit supplied is intended to handle **clean water only** at a temperature of 10 to 70 degrees Celsius.
2. Before installing, **examine** the **carton** and the **contents** to determine if damage has occurred during shipping and handling. Any pump, motor or accessory which shows any indication of damage should be returned to the supplier in the same carton in which it was supplied. **Do not** attempt to adjust or repair.
3. Install the pump unit **HORIZONTALLY** on the mounting plate supplied and attach to the flange on the riser check valve as shown in the drawing.
4. See **arrows** on the pump indicating **direction** of flow. Connect the pump using hoses supplied (#2 & #3). Ensure that the long hose set (2) fitted with the strainer is used on the inlet side of the pump. **DO NOT** fit rigid pipe to the pump.
5. **IMPORTANT** : When installing either the inlet or discharge hose assembly ensure that any **BEND** be kept to a **MINIMUM DIAMETER of 5"**. **DO NOT** install either hose in such a manner that the hose is **allowed to bend** immediately **at the clamp** on either end.
6. Install the relief valve supplied (4) as shown below as per the flow diagram attached to the valve.
7. The standard electric motor supplied is 60 cycle, 115 volts. On all 115 volt motors the electric supply must be through a manual switch (not supplied) fitted with a proper overload device rated for the amperage shown on the motor name plate. For all motors having a voltage greater than 115 v, consult with an electrician with regards to proper electrical connection.
8. The standard pump supplied is rated for a **differential pressure of 75 P.S.I.** and a **maximum pressure of 150 P.S.I.** The adjustable relief valve supplied (4) is factory set at 125 P.S.I.
9. **INSTALL** a suitable **CHECK VALVE** (#7 - not supplied) in the pump discharge line as shown below.
10. On all installations, two suitable **SHUT OFF VALVES** (#6 - not supplied) **must be installed** in the system as shown below. Both valves must be **KEPT IN THE CLOSED POSITION** at all times except when the system is being charged under the supervision of qualified personnel.
11. **NOTE:** For installations that are intended to **OPERATE AUTOMATICALLY**, and the shut off valves are left open, it is necessary to install a solenoid valve (not supplied) in the pump inlet line.
12. Use electric wire of sufficient size to carry the full load current of the motor as shown on the name plate.

### MAINTENANCE

All Excess Pressure Pumps are designed to operate without need of servicing or adjustments. No lubrication is necessary. The pump is equipped with self-lubricating carbon bearings and a seal type packing which requires no adjustment. The electric motor is life-time lubricated and requires no maintenance.



### EXCESS PRESSURE PUMP

1. Pump/Motor Unit with mounting plate
2. Inlet hose - long, with strainer
3. Discharge hose - short
4. Adjustable relief valve preset to 125 PSI
5. Sight flow tube (optional)

### ITEMS NOT SUPPLIED

6. Shut-off valves (2)
7. Check valve

**NOTE:** Minimum hose bend diameter is 5 inches