

## Condensate Return Units

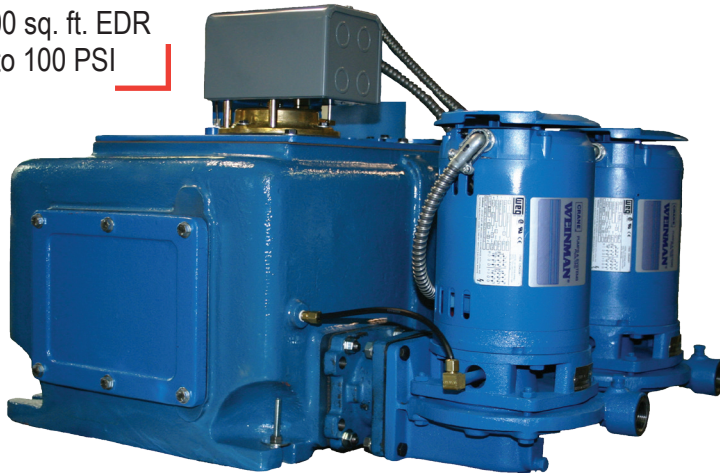
### **Cast Iron & Fabricated Steel Tanks** **Pump Types ACV, ADV, AEV and AFV**

Weinman Condensate Return Units are designed for the automatic return of hot water condensation from radiators and heating coils and the delivery of those fluids to low and high pressure boilers.

### **Applications:**

*Municipal Buildings  
Utilities  
Hotels  
Supermarkets  
Irrigation Systems  
Apartment Buildings  
Office Buildings  
Food Processors  
Refrigerating*

Cast Iron Tank  
up to 50,000 sq. ft. EDR  
pressures to 100 PSI



Cast Iron Duplex Unit

Pump Models ACV - AFV  
Heads to 300'  
Flows to 225GPM  
Up to 20 HP  
Hot water circulation



Models ACV - AFV

Fabricated Steel Tank  
up to 100,000 sq. ft. EDR  
pressures to 100 PSI



Fabricated Steel Duplex Unit

## Features

### Types ACV & AEV and Types 4ACV, 4AEV & 6ACV with 2 HP and Smaller motors

**Motors** are drip proof construction with canopy cover and are available for either single or three phase current. Smaller motors have stainless steel shafts while larger motors have alloy steel shafts protected with bronze sleeves.

**Seal Piping** insures continuous venting of and positive water circulation through the seal cavity.

**Mechanical Seal**, which is designed especially for this service, provides leak less operation through the full range of condensate temperatures and pump pressures.

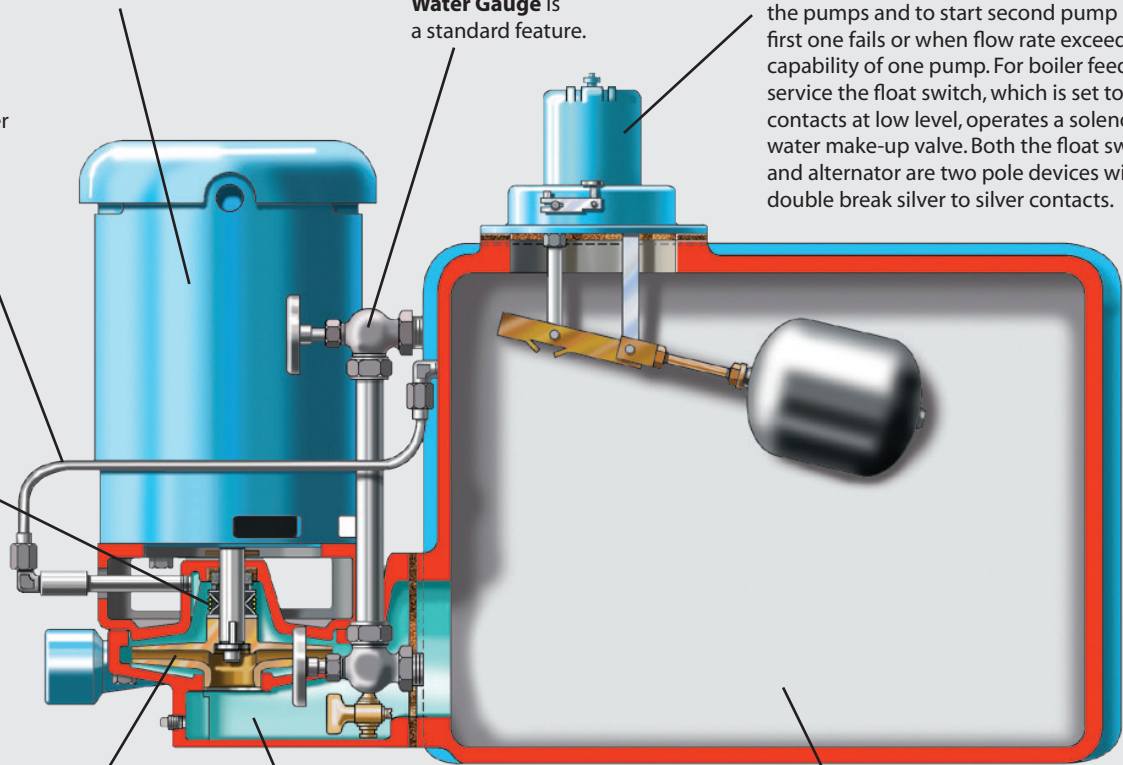
**Impeller** is a one-piece bronze casting made by the shell mold process, which produces extremely smooth water passages and resulting optimum performance. It is keyed to the shaft and held in place with stainless steel washer and self locking impeller screw.

**Casing** is of cast iron with top pull-out feature permitting servicing of pump without disturbing pipe connections. It provides the lowest possible location of the impeller insuring against air or vapor binding of the pump, even with the lowest water level in the receiver.

**Float Switch** - Simplex units have a float switch to start the pump on high level and stop it on low level. Duplex units have mechanical alternator for alternating the pumps and to start second pump if first one fails or when flow rate exceeds capability of one pump. For boiler feed service the float switch, which is set to close contacts at low level, operates a solenoid water make-up valve. Both the float switch and alternator are two pole devices with double break silver to silver contacts.

**Receiver** is cast iron with low return inlet to provide adequate drainage of radiators with low elevation. Through 30-gallon size the receivers have  $\frac{3}{8}$ " wall while the 45-gallon units have  $\frac{1}{2}$ " wall.

**Water Gauge** is a standard feature.



**Weinman Types ACV, ADV, AEV and AFV** - Simplex and Duplex style Condensate Return Units are designed for automatic return of hot water condensation from radiators, coils, etc., to low and high pressure boilers, or for return of water and other liquids to the overhead tanks of industrial gravity circulating systems.

All units are shipped complete, ready for fast, easy installation into any system and they are precision engineered for heavy, continuous service in handling water up to 200°F.

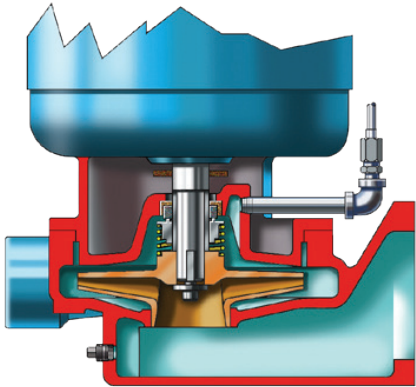
The Duplex Unit is designed for systems having extra heavy loads of condensate or other liquid return, or where a stand-by-pump is required.

Both Simplex and Duplex Units can be converted into a boiler feed unit by the addition of a solenoid operated make-up valve.

Isolation valves between receiver and pump flange are available.

# Descriptions

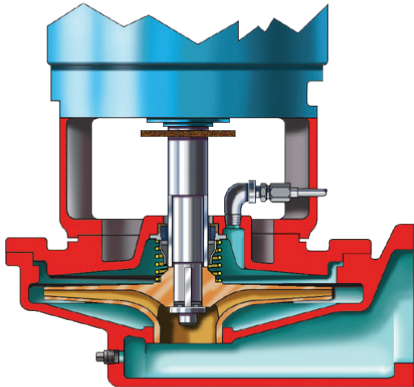
**Type ACV and AEV Pump**  
(Type 4AEV and 6ACV Pump with 3 HP and larger motors)



**Pump can be removed from casing without disturbing piping connections**



**Type ADV and AFV Pump**  
(Type 6ADV and 6AFV Pump, All Motor Sizes)



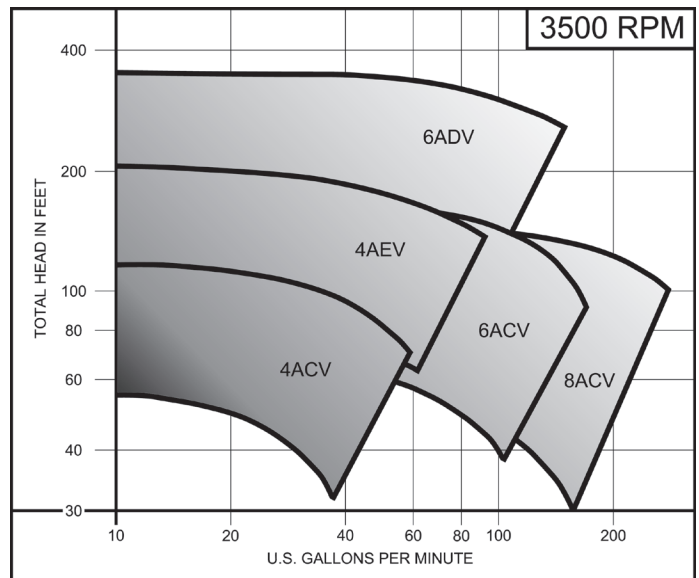
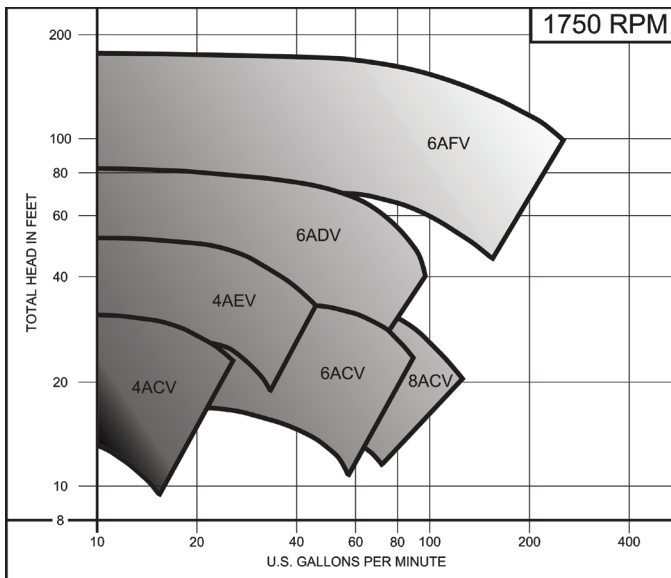
**Mounting:** Whether used as condensate return or boiler feed units, types ACV, ADV, AEV and AFV pumps are mounted vertically for two reasons.

1. For proper motor elevation to eliminate danger of submergence if floor or pit is flooded.
2. To provide a low level suction inlet so that the impeller is sufficiently submerged even with minimum water level in the receiver - an important requirement in the handling of hot water.

**Pump:** Sized for three times the normal required capacity in order to handle the abnormal rate of condensation resulting from starting a cold system. They have bronze impellers and are equipped with a mechanical shaft seal.

**Strainer:** Can be supplied when specified. Units use wye strainers mounted on the receiver inlet connection.

# Performance Curves

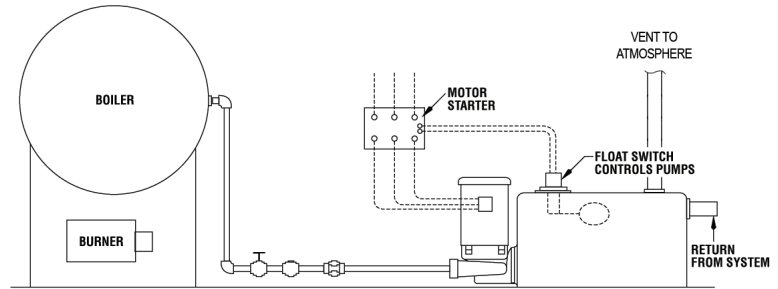


## Operation of Condensate Return and Boiler Feed Units

### Condensate Return Units

#### Operation:

The condensate pump is operated by a float switch in the condensate tank. As water is returned from the system, it is pumped to the boiler by the condensate pump.

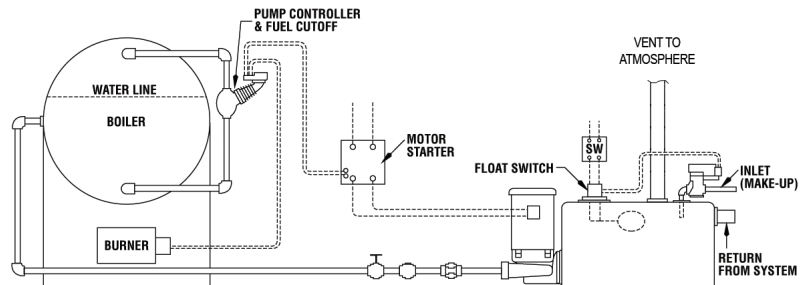


### Boiler Feed Units

#### Operation:

*Circuit I.* Boiler Level Controller operates the pump feeding water to the boiler as required by the boiler.

*Circuit II.* Float Switch mounted in the condensate tank operates a solenoid in the solenoid valve adding water to the condensate tank as required.



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