



## Condensate Return Systems

- Max. liquid temp.: 200°F
- Motor enclosure: Open drip-proof (ODP)

Condensate return systems collect condensation generated in a large boiler loop system and pump the condensation back to the boiler. They are used when gravity-fed return is not an option. These systems have a built-in collection tank fitted with a mechanical float switch. The switch triggers when

condensation levels rise, which activates the pump to pump the condensate back to the boiler. **Duplex** systems have two pumps. Pumping alternates between the two pumps to reduce wear on both of them. They are used for systems with higher condensate return demand.

**Simplex** systems have one circulating pump.

*Hoffman*



| Horsepower     | Phase  | Voltage     | Equivalence of Direct Radiation Rating | Maximum Flow Rate @ 30 Feet of Head | Maximum Flow Rate @ 50 Feet of Head | Maximum Flow Rate @ 70 Feet of Head | Maximum Feet of Head | Tank Cap. | Intake Connection | Discharge Connection | Tank Material | Simplex 4RD31 |            |          |
|----------------|--------|-------------|--|-------------------------------------|-------------------------------------|-------------------------------------|----------------------|-----------|-------------------|----------------------|---------------|---------------|------------|----------|
|                |        |             |  |                                     |                                     |                                     |                      |           |                   |                      |               | Series        | Mfr. Model | Item No. |
| <b>Duplex</b>  |        |             |  |                                     |                                     |                                     |                      |           |                   |                      |               |               |            |          |
| 1/2 hp         | Single | 115/230     | 12,000                                 | 33 gpm                              | 12 gpm                              | —                                   | 52 ft                | 14 gal    | 2 in NPT          | 3/4 in NPT           | Cast Iron     | WCD12-20 B-MA | 160032     | 4RD33    |
| 1/2 hp         | Single | 115/230     | 12,000                                 | 33 gpm                              | 12 gpm                              | —                                   | 52 ft                | 14 gal    | 2 in NPT          | 3/4 in NPT           | Welded Steel  | WCS12-20 B-MA | 160013     | 4RD30    |
| 3/4 hp         | Single | 115/230     | 15,000                                 | —                                   | —                                   | —                                   | 75 ft                | 14 gal    | 2 in NPT          | 1 1/2 in NPT         | Cast Iron     | SCC1          | 160018     | 5DP21    |
| 3/4 hp         | Three  | 208-230/460 | 15,000                                 | —                                   | —                                   | —                                   | 75 ft                | 14 gal    | 2 in NPT          | 1 1/2 in NPT         | Cast Iron     | SCC2A         | 160033     | 5DP22    |
| 3/4 hp         | Three  | 230         | 22,000                                 | —                                   | —                                   | —                                   | 75 ft                | 23 gal    | 2 in NPT          | 1 1/2 in NPT         | Cast Iron     | SCC3B         | 160034     | 5DP23    |
| 1 1/2 hp       | Three  | 208-230/460 | 45,000                                 | —                                   | —                                   | 35 gpm                              | 75 ft                | 36 gal    | 3 in NPT          | 1 1/2 in NPT         | Cast Iron     | SCC4A         | 160035     | 5DP24    |
| <b>Simplex</b> |        |             |  |                                     |                                     |                                     |                      |           |                   |                      |               |               |            |          |
| 1/2 hp         | Single | 115/230     | 8,000                                  | 33 gpm                              | 12 gpm                              | —                                   | 52 ft                | 9 gal     | 2 in NPT          | 3/4 in NPT           | Cast Iron     | WC8-20B       | 160030     | 4RD31    |
| 1/2 hp         | Single | 115/230     | 12,000                                 | 33 gpm                              | 12 gpm                              | —                                   | 52 ft                | 14 gal    | 2 in NPT          | 3/4 in NPT           | Cast Iron     | WC12-20B      | 160031     | 4RD32    |
| 1/2 hp         | Single | 115/230     | 12,000                                 | 33 gpm                              | 12 gpm                              | —                                   | 52 ft                | 14 gal    | 2 in NPT          | 3/4 in NPT           | Welded Steel  | WCS12-20B     | 160012     | 4RD29    |

## Boiler Feed Systems

- Single phase

Pumps store and monitor the amount of condensate returning to the boiler to ensure it does not exceed the boiler's capacity. They mount directly to the boiler in either a vertical or horizontal orientation to accommodate various spacing requirements. Welded steel tank, single phase.

**Simplex** systems have one circulating pump.

**Duplex** systems have two pumps. Pumping alternates between the two pumps to reduce wear on both of them. They are used for systems with higher condensate return demand.

*Hoffman*



| Horsepower     | Voltage     | Equivalence of Direct Radiation Rating | Maximum Flow Rate @ 30 Feet of Head | Maximum Flow Rate @ 40 Feet of Head | Maximum Flow Rate @ 50 Feet of Head | Maximum Feet of Head | Tank Cap. | Intake Connection | Discharge Connection | Tank Orientation | Series        | Mfr. Model | Item No. |
|----------------|-------------|--|-------------------------------------|-------------------------------------|-------------------------------------|----------------------|-----------|-------------------|----------------------|------------------|---------------|------------|----------|
| <b>Simplex</b> |             |  |                                     |                                     |                                     |                      |           |                   |                      |                  |               |            |          |
| 1/2 hp         | 115/230     | 7,000                                  | 33 gpm                              | 30 gpm                              | 12 gpm                              | 46 ft                | 50 gal    | 2 in NPT          | 3/4 in NPT           | Vertical         | 50VBFS-B      | 161001     | 4RD34    |
| <b>Duplex</b>  |             |  |                                     |                                     |                                     |                      |           |                   |                      |                  |               |            |          |
| 1/2 hp         | 115/208-230 | 15,000                                 | 33 gpm                              | 30 gpm                              | 12 gpm                              | 46 ft                | 50 gal    | 2 1/2 in NPT      | 3/4 in NPT           | Horizontal       | 50HBF12-1520  | 161052     | 5DPY9    |
| 3/4 hp         | 115/208-230 | 15,000                                 | 33 gpm                              | 30 gpm                              | 12 gpm                              | 46 ft                | 110 gal   | 3 in NPT          | 1 1/2 in NPT         | Horizontal       | 100HBF12-1520 | 161054     | 5DPZ0    |

## Replacement Pump for Condensate Return & Boiler Feed System

These pumps replace a worn or damaged pump in either one-pump (simplex) or two-pump (duplex) condensate return systems or boiler feed units. Pumps transfer condensate in a collection tank back to the

boiler and are typically mounted vertically at the base of the tank. Replacement pumps should match the brand, series, and manufacturer model number of the condensate return system or the boiler feed unit.

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| Mfr. Model | Compatible with Manufacturer Model Number                      | Nameplate Voltage | Item No. |
|------------|--|-------------------|----------|
| 609PF      | 160010, 160011, 160012, 160013, 160030: 160031, 160032, 160036 | 115V AC; 230V AC  | 4RD67    |

## Seal Kits for Condensate Return & Boiler Feed Systems

Replacement gaskets and seals should match the brand, series, and manufacturer model number of the condensate return system or the boiler feed unit.

**Float switch** is a mechanical device installed inside a condensate or boiler feed collection tank. It floats upon the rising condensate as the container fills. Once the float reaches a preset level, it triggers the switch to start the pump and evacuate the tank.

**Gaskets and Seal Kits** keep the pump motor and assembly dry by preventing water from exiting the pump body. These items wear over time and need to be replaced.



| Mfr. Model          | Compatible with Manufacturer Model Number   | Item No. |
|---------------------|---|----------|
| <b>Float Switch</b> |   |          |
| DA0393              | WC12-20B, WC8-20B, WCS12-20B  | 6JHF9    |
| <b>Gasket</b>       |   |          |
| DG0060              | 160012, 160013, 160018, 160030, 160031, 160032, 160033, 160034, 160035, 161001, 161052, 161054, 609PF | 6HKZ5    |
| DG0092              | 609PF   | 6HKZ7    |
| <b>Seal Kit</b>     |   |          |
| 180013              | 160030, 160032, 609PF   | 6HKZ3    |
| 180014              | 616, 617, 625, 626, 650   | 6HKZ8    |

**WATTS**  
REGULATOR

## Thermal Expansion Tanks and Accessories

■ Connection size/type: 3/4", MIP  
Steel tank. For use in residential water heater tank installation.



**Expansion Tank 419X92**



**Vent Valve 4A821**

| Features   | L (in.)      | W (in.)   | Dia. (in.) | Includes                      | Mfr. Model | Item No. |
|--|--------------|-----------|------------|-------------------------------|------------|----------|
| <b>Thermal Expansion Tank</b>  |              |           |            |                               |            |          |
| 2 gal Capacity, 304 Stainless Steel System Connection, 6 yr Warranty, Butyl Rubber Diaphragm   | 8 in         | 8 in      | 8 in       | Factory pre-charged at 40 PSI | 60022      | 419X92   |
| 304 Stainless Steel System Connection, 4.5 gal Capacity, 6 yr Warranty, Butyl Rubber Diaphragm | 11 in        | 11 in     | 11 in      | Factory pre-charged at 40 PSI | 60023      | 419X93   |
| <b>Tank Accessories</b>  |              |           |            |                               |            |          |
| Automatic Dual Air Vent Valve  | 1/2" MNPT    | Brass     | Watts      | 1/2" DUO-VENT NPT             |            | 3EJF7    |
| Enhanced Air Separator   | 1 in NPT     | Cast Iron | Watts      | 1 AS-M1 T                     |            | 3EJG5    |
|  | 1 1/4 in NPT | Cast Iron | Watts      | 1 1/4 AS-M1 T                 |            | 3EJG6    |
| Automatic Vent Valve   | 3/8" MNPT    | Brass     | Watts      | FV-4-1/8                      |            | 4A820    |
|  | 1/4" MNPT    | Brass     | Watts      | FV-4-1/4                      |            | 4A821    |