



A member of PENTAIR PUMP GROUP

INSTRUCTION MANUAL

REPAIR

MODEL 281-282-283-284

(BOILER FEED)

6

SERVICE

Your Aurora unit requires no maintenance other than periodic inspection, lubrication and occasional cleaning. The intent of inspection is to prevent breakdown, thus obtaining optimum service life. For repair, parts replacement or lubrication of your Aurora pump(s), the pump model number is the item number to refer to under Instruction Manual Section 6. The motor may also require lubrication or repair, in which case, the motor manufacturer's recommendation should be followed.

REPAIRS

Your Aurora unit may be disassembled using figure 2 along with the text. Although complete disassembly is covered, it will seldom be necessary to completely disassemble your Aurora unit.

Inspect removed parts at disassembly to determine their reusability. Take note of the parts of your pump(s) that must be replaced at disassembly as mentioned in the Instruction Manual called out above. Piping gaskets should be replaced if damaged during disassembly. The glass for the water level gauge must be replaced if cracked or broken. In general, it is economical to return to the manufacturer for repair only the motor and electric solenoid make-up valve.

DISASSEMBLY

Disassemble only what is needed to make repairs or accomplish inspection. Refer to figure 2 and proceed as follows:

1. Disconnect all electrical lines. Identify leads with tags for ease of reassembly.
2. Close 3-Way Valve (7), shut off water return (receiver inflow) and disconnect fresh water supply from float valve. Open drain valve (1) and completely drain receiver (9) and pump (10).
3. Unless the entire unit is to be moved, or the receiver (9) or supports (23) are to be replaced, it is advisable to leave piping connected to receiver.
4. Remove discharge piping from pump (10) only if pump must be moved.

5. To remove suction piping from pump to receiver:

- a. Loosen caps (2) to remove dresser type elbow(3).
- b. Remove two sections of piping (4 and 5) and reducing elbow (6).
- c. Take 3-Way Valve (7) and short piping (8) off receiver (9).

6. If pump discharge piping has been removed, pump can be removed by loosening coupling setscrews (11), separating coupling halves (12 and 13), removing insert (14) and then unthreading bolts (15) and washers (16). Motor (17) can also be removed by unthreading bolts (18) and washers (19).

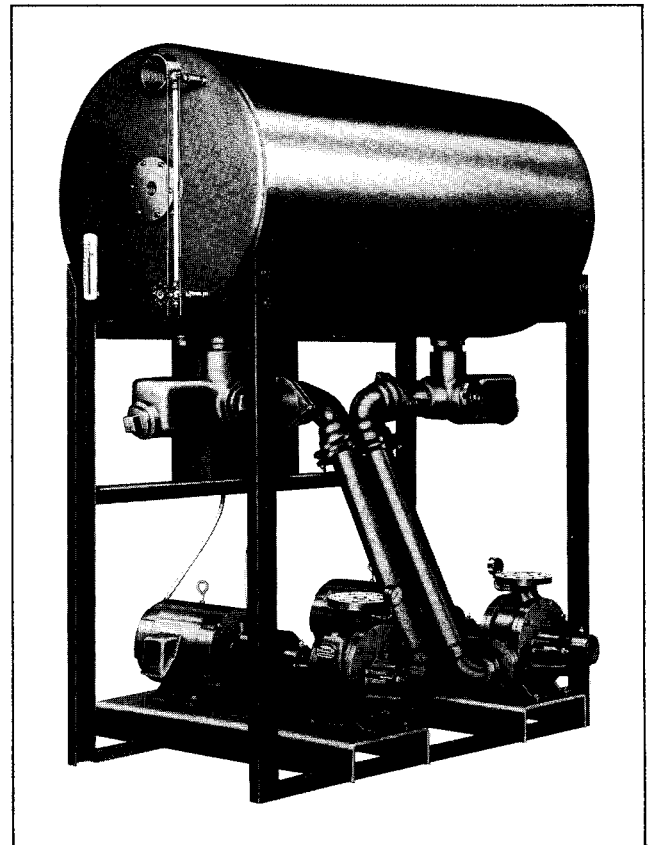


Figure 1. Boiler Feed Unit

7. Remove preheater tube (24), if used, by first loosening bushing (25), otherwise plug (26) can be removed.

8. To remove electrolytic corrosion inhibitor (27), unthread hex nut (47) on the end and pull inhibitor out. If inhibitor is not used on your unit, plug (28) can be removed if necessary.

9. To disassemble water level gauge:

- a. Pull out protector rods (29).
- b. Loosen nuts (30) at each end of glass tube (33) to remove tube, brass washer (31) and rubber washer (32) inside each nut (30).
- c. Remove upper (34) and lower (35) check valves.

NOTE

If you are only replacing glass tube (33), and have not drained receiver (9), be sure to close valve (35) on lower end of gauge first.

10. Unthread thermometer (43); coupling (42) and nipple (41) if your unit has one, otherwise plug (44) can be removed.

11. To remove float valve (40):

- a. Detach fresh water supply piping (36).
- b. Unthread bolts (37) to lift off cover (38) and gasket (39).
- c. Unthread float valve (40) from inside of cover.

12. When all items are removed, receiver (9) and support (23) can be safely moved.

REASSEMBLY

Clean and inspect all parts thoroughly prior to reassembly. Replace worn or damaged parts. Reassembly operations cover the entire unit. If disassembly was not complete, use for reference only those steps which apply to your particular repair program. If the pump and motor were removed from the baseplate, consult the installation section of this manual for instructions. Reassemble the unit as follows: (Refer to figure 2.)

1. Set receiver (9) and support (23) level and secure.

2. Mount pump (10) with bolts (15) and washers (16), and motor (17) with bolts (18) and washers (19) on baseplate (20). Assemble coupling halves (12 and 13), coupling insert (14) and tighten set-screws (11) according to above mentioned Installation Manual.

3. Attach pump discharge piping. Suction piping is to be assembled as follows:

- a. Place reducing elbow (6) on pump suction and thread on piping (5).
- b. Thread on short piping (8) to bottom pipe tap on receiver (9), then attach 3-Way Valve to piping.
- c. Third piece of piping (4) is also threaded to 3-Way Valve. Then connect unthreaded ends of pipes (4 and 5) with dresser type elbow (3).

4. Connect necessary inlet and outlet piping to receiver (9), making sure there is a closed valve (1) on drain piping.

5. If preheater tube (24) is used, slide it in pipe tap provided on receiver (9) and tighten bushing (25), otherwise thread on plug (26).

6. To install electrolytic corrosion inhibitor (27), place it in appropriate pipe tap and tighten hex nut (47) on the end, or else screw on plug (48).

7. To assemble water level gauge:

- a. Screw on upper (34) and lower (35) check valves, making sure they are in a vertical position when tightened.
- b. Assemble on both ends of glass tube, one brass washer (31) and one rubber washer (32) inside each nut (30), place glass tube in position and tighten nuts (30).
- c. Slide protecting rods (29) into place.

8. Thread on nipple (41), coupling (42) and thermometer (43), if used, leaving it in a vertical position when tightened, or else put plug (44) in pipe tap.

9. To assemble float valve (40) and fresh water supply (when used):

- a. Thread float valve (40) onto inside of hole in cover (38).
- b. Place cover (38) in position with gasket (39) over opening on end of receiver (9) and secure with bolts (37).
- c. Connect fresh water line to outside of hole in cover (38).



Safety vent piping should be connected to both of the open pipe taps at the top of receiver (9).

10. Connect all electrical lines and open all valves necessary to comply with pump starting instructions.

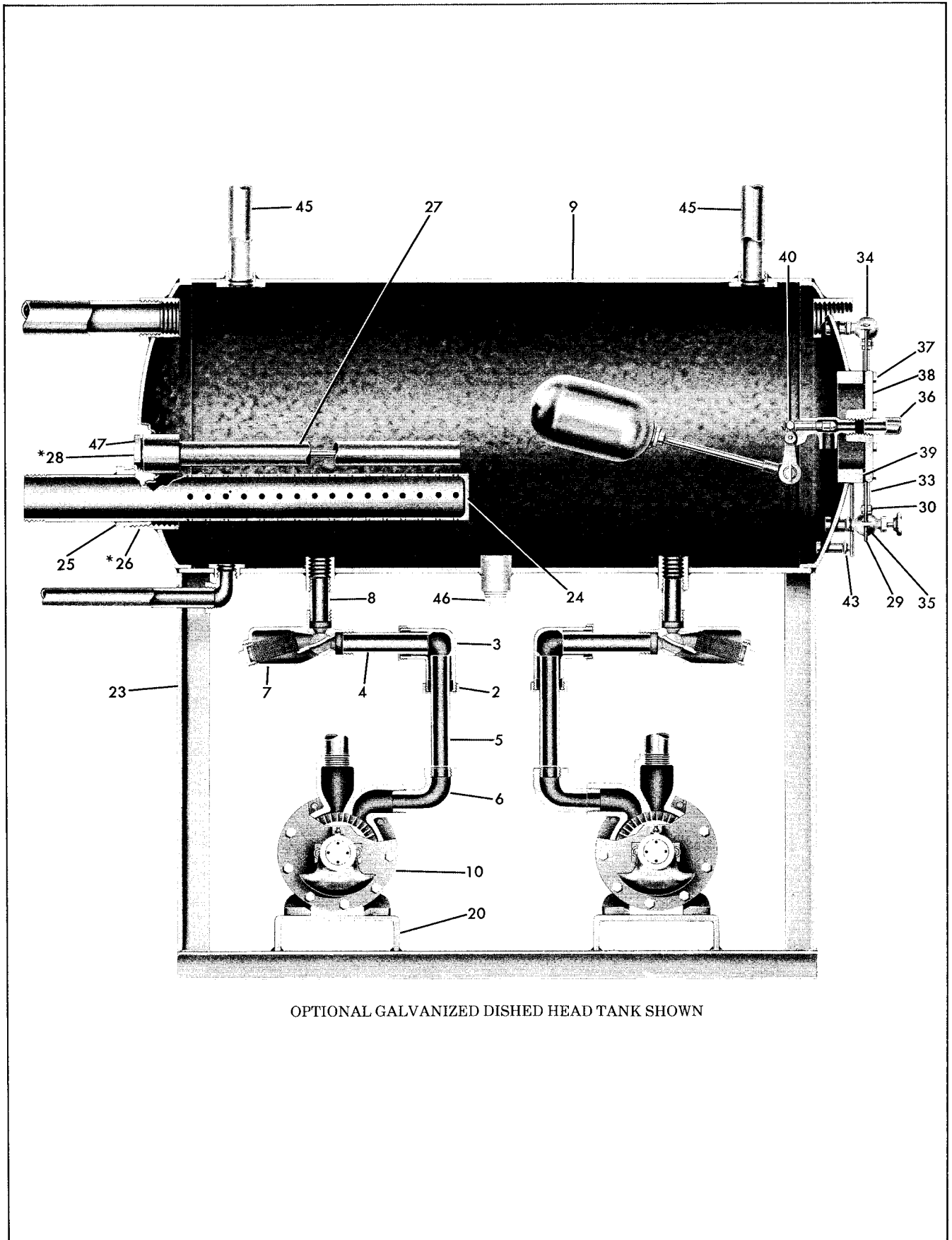


Figure 2. Boiler Feed Exploded View

MODEL 280 List of Parts (See Figure 2)

- | | | |
|-------------------------------------|---------------------------|------------------------------|
| *1. Valve, Gate (Furn. by Customer) | *17. Motor | 34. Valve, Gauge |
| 2. Bushing | *18. Bolt | 35. Valve, Gauge |
| 3. Elbow, Compression | *19. Washer | 36. Pipe |
| 4. Pipe | 20. Baseplate | 37. Capscrew |
| 5. Pipe | 23. Legs, Receiver | 38. Plate, End |
| 6. Elbow, Street | **24. Tube, Preheater | 39. Gasket |
| 7. Valve, 3-Way | 25. Bushing | 40. Float Valve, Water Level |
| 8. Nipple | *26. Plug, Pipe | **41. Nipple |
| 9. Receiver | **27. Corrosion Inhibitor | **42. Coupling |
| 10. Pump | *28. Plug, Pipe | **43. Thermometer |
| *11. Setscrews | 29. Rod, Protector | **44. Plug, Pipe |
| *12. Coupling half | 30. Locknut | 45. Pipe (Furn. by Customer) |
| *13. Coupling half | *31. Washer, Brass | 46. Plug, Pipe |
| *14. Coupling insert | *32. Washer, Rubber | 47. Hex Nut |
| *15. Bolt | 33. Tube, Glass | 48. Plug, Pipe |
| *16. Washer | | |

*Not Illustrated
 **Optional Equipment

NOTE

WHEN ORDERING SPARE PARTS ALWAYS INCLUDE THE PUMP TYPE, SIZE, SERIAL NUMBER, AND THE PIECE NUMBER FROM THE EXPLODED VIEW IN THIS MANUAL.

ORDER ALL PARTS FROM YOUR LOCAL AUTHORIZED DISTRIBUTOR, FACTORY BRANCH SALES OFFICE OR THE FACTORY AT NORTH AURORA, ILLINOIS.