

INSTALLATION INSTRUCTIONS
PARKER INDIRECT WATER HEATER WITH STORAGE TANK AND ACCESSORIES

INST 211
3B

THIS INSTRUCTION SHEET COVERS THE RECOMMENDED INSTALLATION OF THE HEATER WITH STORAGE TANK AND ACCESSORIES. FOR DETAILED INSTALLATION INSTRUCTIONS ON THE HEATER, SEE INSTRUCTION SHEET 210.

STORAGE TANK: A STORAGE TANK WITH CIRCULATING PUMP IS REQUIRED ON ALL HOT WATER SUPPLY SYSTEMS. THE HEATER SELECTED SHOULD HAVE A CAPACITY OF NOT LESS THAN THE MAXIMUM HOURLY LOAD. THE STORAGE TANK SHOULD BE ADEQUATELY SIZED FOR THE PARTICULAR INSTALLATION AND NOT LESS THAN THE SIZE SHOWN ON PRICE SHEET 210. ON JOBS REQUIRING LARGE INTERMITTENT DEMANDS, SUCH AS LAUNDRIES WITH LARGE WASHERS, THE STORAGE TANK CAPACITY SHOULD NEVER BE LESS THAN TWO THIRDS OF THE HOURLY LOAD. THE TANK SHOULD BE CODE APPROVED FOR A WORKING PRESSURE NOT LESS THAN 100 PSI AND NEVER LESS THAN THE WORKING PRESSURE CARRIED ON THE SYSTEM.

23. CIRCULATING PUMP: A HIGH DELIVERY CENTRIFUGAL MODEL CIRCULATING PUMP IS REQUIRED ON ALL INSTALLATIONS OF EQUIVALENT HEAD AND CAPACITY TO THE BURKS GB SERIES AS SPECIFIED ON TRIM SHEET 210. THE PUMP SIZE SHOULD NOT BE SMALLER THAN 1-1/4" ON HEATERS WH-300 TO WH-730, 1-1/2" ON HEATERS WH-970 TO WH-1410, AND 2" ON HEATERS WH-1900 TO WH-3000. (IF A STANDARD OR HIGH VELOCITY CIRCULATING PUMP IS USED, PUMP AND CIRCULATING LINES SHOULD BE INCREASED TO EQUIVALENT HEAD AND CAPACITY.)

THE CIRCULATING LINES 15 AND 16 SHOULD BE ONE SIZE LARGER THAN THE PUMP OR 1-1/2" ON HEATERS WH-300 TO WH-730, 2" ON HEATERS WH-970 TO WH-1410, AND 2-1/2" ON HEATERS WH-1900 TO WH-3000. SHUTOFF VALVES SHOULD BE INSTALLED ON CIRCULATING LINES 15 AND 16 AS SHOWN SO THAT THE PUMP OR HEAT EXCHANGER CAN BE SERVICED WITHOUT DRAINING THE TANK. IF EITHER CIRCULATING LINE IS OVER 25' PIPE LENGTH OR HAS MORE THAN 5 ELLS, INCREASE TO NEXT LARGER SIZE LINE.

INSTALL PUMP ON THE WATER INLET LINE 16 WITH FLOW ARROW TOWARD HEATER AS SHOWN WITH A MINIMUM OF 2' OF STRAIGHT PIPE ON SUCTION SIDE. CAUTION: CIRCULATOR MUST BE INSTALLED WITH OIL CUPS UPWARDS. PIPING MUST BE CAREFULLY ALIGNED AS MISALIGNMENT WILL CAUSE DAMAGE TO THE PUMP BODY. PUMP MUST RUN CONTINUOUSLY AND NOT CYCLE WITH ANY CONTROLS.

WHEN HOT WATER SERVICE LINE IS OF CONSIDERABLE DISTANCE OR TEMPERATURE IS CRITICAL, A SMALL CIRCULATOR SHOULD BE INSTALLED ON THE RETURN LINE AND CONNECTED BACK TO THE LOWER PORTION OF THE STORAGE TANK.

25. TANK TEMPERATURE GAUGE: SHOULD BE INSTALLED IN THE UPPER PORTION OF THE TANK FOR PURPOSE OF INDICATING THE TEMPERATURE OF THE STORAGE TANK WATER.

27. OPERATING WATER TEMPERATURE CONTROL: IS STANDARDLY FURNISHED FACTORY WIRED ON THE HEATER INSIDE OF THE ELECTRICAL CONTROL PANEL. THE SENSING BULB MUST BE MOUNTED IN THE WELL FURNISHED AND INSTALLED ON THE CIRCULATING INLET LINE 16 ON THE HEATER SIDE OF THE PUMP AS SHOWN. THE PUMP MUST RUN CONTINUOUSLY AND NOT CYCLE WITH THE OPERATING WATER TEMPERATURE CONTROL. SET THIS TEMPERATURE CONTROL FOR THE DESIRED WATER TEMPERATURE.

28. TANK PRESSURE RELIEF VALVE: REQUIRED ON ALL STORAGE TANK INSTALLATIONS FOR THE PURPOSE OF RELIEVING EXCESSIVE TANK WATER PRESSURE. THE VALVE SHOULD BE OF ADEQUATE SIZE TO RELIEVE THE FULL HEATING CAPACITY OF THE HEATER. THE RELIEF VALVE SETTING MUST NOT EXCEED THE WORKING PRESSURE OF THE TANK OR SYSTEM. OUTLET MUST BE PIPED FULL SIZE TO A SAFE OPEN DRAIN. IF PIPED UPWARD, A SMALL DRAIN LINE MUST BE PROVIDED AT THE LOW POINT. THE RELIEF VALVE DRAIN LINE SHOULD BE PROPERLY SUPPORTED TO PREVENT ANY STRAIN OR DAMAGE TO THE VALVE BODY. SOME CODES REQUIRE COMBINATION TEMPERATURE AND PRESSURE RELIEF VALVES ON DOMESTIC HOT WATER SUPPLY AND THIS SHOULD BE SPECIFIED AND FURNISHED AT ADDITIONAL CHARGE WHEN REQUIRED.

29. SERVICE WATER INLET: SHOULD BE CONNECTED DIRECTLY INTO CIRCULATING LINE 16 ON THE TANK SIDE OF THE PUMP AS SHOWN. A SHUTOFF VALVE AND CHECK VALVE SHOULD BE INSTALLED ON THE INLET LINE. IT IS IMPORTANT TO INSTALL THE PROPER TRIM ON THE WATER INLET TO CONFORM TO LOCAL CODE AS MANY AREAS REQUIRE A SPECIAL BACKFLOW PREVENTOR.

31A. TANK DRAIN VALVE: (NOT FURNISHED) SHOULD BE INSTALLED AT THE BOTTOM OF THE TANK AS SHOWN AND CONNECTED TO A SAFE OPEN DRAIN. TANK SHOULD BE FLUSHED REGULARLY AND DRAINED WHEN WATER IS DIRTY.

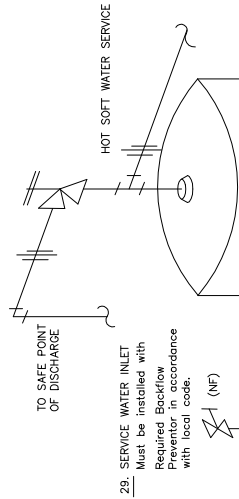
DUAL TEMPERATURE INSTALLATIONS: FOR INSTALLATIONS REQUIRING TWO TEMPERATURES OF HOT WATER, REFER TO INSTALLATION DRAWING 211 INST 2.

DUAL HEATER INSTALLATIONS WITH SINGLE STORAGE TANK: FOR TWO OR MORE HEATERS CONNECTED TO A SINGLE TANK, A SEPARATE CIRCULATING PUMP MUST BE USED FOR EACH HEATER AND NOT LESS THAN THE SIZE SPECIFIED ABOVE. WHEN TWO HEATERS ARE USED, THE MAIN CIRCULATING LINES 15M AND 16M MUST BE INCREASED ON SIZE LARGER THAN THE INLET AND OUTLET SIZE PROVIDED ON THE HEAT EXCHANGER CONNECTIONS 15 AND 16. IF THE TOTAL LENGTH OF EITHER CIRCULATING LINE IS ABOVE 30' PIPE LENGTH OR HAS MORE THAN 8 ELLS, INCREASE TO THE NEXT LARGER SIZE. THE LINES MUST BE CONNECTED WITH SHUTOFF VALVES ON THE INLET AND OUTLET CIRCULATING LINES OF EACH HEATER SO THAT EITHER HEATER CAN BE OPERATED INDEPENDENTLY. REFER TO INSTALLATION DRAWING 211 INST 3.

IMPORTANT INSTRUCTIONS

1. THE COLD WATER ENTERING THE SYSTEM SHOULD BE CONNECTED INTO THE WATER INLET LINE 16 ON THE SUCTION SIDE OF THE CIRCULATING PUMP AS SHOWN.
2. CIRCULATING LINES 15 AND 16 MUST BE CONNECTED TO OPENINGS PROVIDED NEAR BOTTOM OF TANK. INSTALL PUMP ON WATER INLET LINE 16 WITH FLOW TOWARD HEATER AS SHOWN WITH A MINIMUM OF 2'-0" STRAIGHT PIPE RUN ON SUCTION SIDE.
3. WATER INLET 16 AND OUTLET 15 MAY BE REVERSED AT HEAT EXCHANGER FOR PIPING CONVENIENCE.
4. SHUTOFF VALVES (NF) ARE RECOMMENDED AS SHOWN SO THE PUMP OR EXCHANGER CAN BE SERVICED WITHOUT DRAINING THE TANK.
5. THE CIRCULATING PUMP IS REQUIRED ON ALL INSTALLATIONS AND SHOULD BE A HIGH DELIVERY MODEL TO MEET THE BOILERS MANUFACTURER'S RECOMMENDED FLOW RANGE (SEE BULLETIN A-210-HP/PRC FOR FLOW RATES).
6. CIRCULATING LINES 15 AND 16 MUST BE ONE SIZE LARGER THAN THE PUMP OR 1-1/2" ON HEATERS WH-300 TO WH-750, 2" ON HEATERS WH-970 TO WH-1410 AND 2-1/2" ON HEATERS WH-1900 TO WH-3000. IF EITHER LINE IS OVER 25'-0" PIPE LENGTH OR HAS OVER 5 ELLS, INCREASE TO LARGER SIZE.
7. PIPING MUST BE CAREFULLY ALIGNED AS MISALIGNMENT WILL CAUSE PUMP DAMAGE. SEE PUMP MFG.'S INSTALLATION INSTRUCTIONS FOR SPECIFIC'S ON PUMP MOUNTING.
8. THE SENSING BULB OF THE OPERATING WATER TEMPERATURE CONTROL 27 SHOULD BE INSTALLED IN THE WELL FURNISHED ON THE INLET LINE 16 ON THE HEATER SIDE OF THE PUMP AS SHOWN.
9. A SYSTEM RETURN LINE IS RECOMMENDED WITH A SMALL CIRCULATOR CONNECTED TO THE LOWER PORTION OF THE TANK AS SHOWN.
10. ALLOW THE FULL CABINET WIDTH PLUS 10" IN FRONT OF THE HEATER AND INSTALL UNION CONNECTIONS IN THE HEATER CIRCULATING LINES FOR EASY REMOVAL OF EXCHANGER.
11. BEFORE STARTING THE SYSTEM, REMOVE THE EXPANSION TANK (OR EXPANSION TANK ELL) AND FILL THE HEATER WITH CLEAN POTABLE WATER. (SEE SERVICE BULLETIN WT 210 FOR COMPLETE INSTRUCTIONS)
12. FOR DETAILED INSTALLATION INSTRUCTIONS, SEE GENERAL BASIC INSTALLATION INSTRUCTIONS 210. ENTIRE INSTALLATION MUST BE IN COMPLIANCE WITH LOCAL CODES.

LOCATION OF TANK RELIEF VALVE
A combination temperature-pressure relief valve is required and must be installed on the tank outlet. (NF)*



RETURN LINE CIRCULATOR (NF)

25. TANK TEMP. GAUGE (NF)

SAFETY RELIEF VALVE (PIPE TO SAFE POINT OF DISCHARGE)

15. HEATER HOT WATER OUTLET TO TANK*

STORAGE TANK (NF)

16. WATER INLET TO HEATER*

31. TANK DRAIN

20. PRESSURE GAUGE

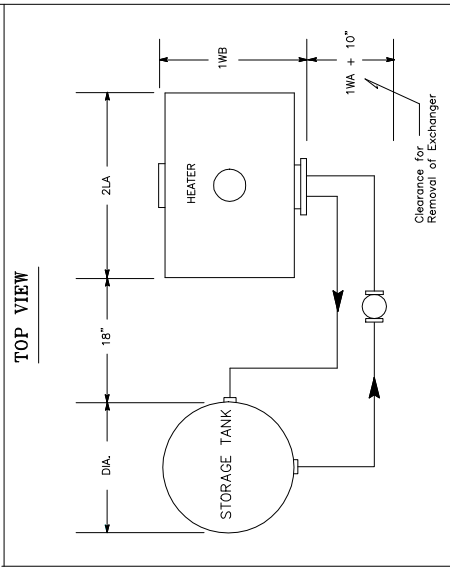
22. OPERATING WATER TEMPERATURE CONTROL
Mount sensing bulb as shown.

HEATER CABINET DOOR
Leave 18" Clearance on Right Side of Cabinet For Servicing Pilot or Burner.

ELECTRICAL CONTROL PANEL

7A. GAS INLET REGULATORS (REQUIRE VENT TO SAFE POINT)

23. CIRCULATING PUMP*



- SHUTOFF VALVE
 - CHECK VALVE
 - UNION
 - TEE
 - (NF)
 - (NF)*
- NOT FURNISHED UNLESS PURCHASED W/ SYSTEM

PARKER INDIRECT WATER HEATER

END SUCTION PUMP USED ON WH1900-WH3000

USED ON	PARKER INDIRECT HEATER	PART NAME	A21NST1.DWG
FOR	HOT WATER SYSTEM WITH PARKER DIRECT HEATER, STORAGE TANK AND ACCESSORIES	PIPING SCHEMATIC	
DR.	M.J.L.	DATE	7/21/84
CH.		SCALE	NONE
APPROVED		SUPERSEDES NO.	1/20/84
		DWG. NO.	A-211-INST1

PARKER BOILER CO.

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