

## INSTALLATION AND MAINTENANCE INSTRUCTIONS PARKER INDUSTRIAL HORIZONTAL DRUM STEAM BOILERS 7 TO 25 H.P. GAS FIRED

BEFORE INSTALLING THE BOILER, BE CERTAIN TO CAREFULLY READ THE BASIC & GENERAL INSTALLATION INSTRUCTIONS ON STEAM BOILERS AS THESE ARE ESSENTIAL PREREQUISITES TO THE INSTRUCTIONS THAT FOLLOW. FOR BLOWDOWN CONNECTIONS AND RETURN SYSTEMS SEE SEPARATE DETAILED INSTRUCTION SHEETS.

IN ORDER TO RECEIVE THE BEST OPERATING LIFE AND EFFICIENCY FROM YOUR PARKER INDUSTRIAL BOILER, IT IS ESSENTIAL TO FOLLOW THE MANUFACTURER'S MINIMUM STANDARDS AND ANY ADDITIONAL REQUIREMENTS OF LOCAL AND STATE CODES. THE DIAGRAM FURNISHED ILLUSTRATES THE RECOMMENDED PROCEDURE FOR PROPER INSTALLATION OF THE BOILER AND EQUIPMENT. THE EQUIPMENT SHOULD BE INSTALLED IN LOCATION FOR ACCESSIBILITY AND EFFICIENT OPERATION. THE BOILER MUST BE INSTALLED ON A NON-COMBUSTIBLE SURFACE.

4 & 5 VENT STACK: CAREFULLY REVIEW THE "GENERAL BASIC INSTALLATION INSTRUCTIONS, PARAGRAPH VI" FOR THE GENERAL REQUIREMENTS FOR A PROPER AND SAFE VENT. THE 4A DRAFT CONTROL FURNISHED MUST BE INSTALLED ON THE BOILER VENT OUTLET IN THE SAME ROOM WITH THE BOILER. THE 5A VENT MUST BE RUN OUTSIDE THE BUILDING IN ACCORDANCE WITH ALL CODE REQUIREMENTS. A FULL SIZE NON-RESTRICTIVE 5C VENT CAP IS REQUIRED ON TOP OF THE STACK. DO NOT SUPPORT WEIGHT OF VENT STACK ON BOILER.

7G GAS SUPPLY: THE GAS LINE SHOULD BE INSTALLED PROPER SIZE NOT LESS THAN THE MINIMUM SHOWN ON THE SPECIFICATION SHEET, ITEM 7B. THE METER AND SIZE OF LINE SHOULD BE SUFFICIENT TO ACCOMMODATE THE B.T.U. INPUT SHOWN ON SPECIFICATION SHEET, ITEM 7C AND IN COMPLETE COMPLIANCE WITH CODE. SEE "GENERAL BASIC INSTALLATION INSTRUCTIONS, PARAGRAPH VIII" FOR INFORMATION ON GAS SUPPLY.

ON NATURAL GAS, AN INLET PRESSURE OF 7" TO 14" W.C. IS RECOMMENDED ON 7 H.P. AND 9.5 H.P. BOILERS. 7" TO 27.7" W.C. IS RECOMMENDED ON 15 H.P. TO 25 H.P. BOILERS. A 7GPR GAS PRESSURE REGULATOR IS STANDARDLY FURNISHED TO REDUCE INLET PRESSURE TO THE DESIRED BURNER PRESSURE. THE REGULATOR SHOULD BE SET FOR 4" W.C. PRESSURE AT THE BURNER ORIFICE WHILE THE BURNER IS ON AT FULL RATE FOR THE PROPER BOILER CAPACITY. ON INLET PRESSURES EXCEEDING THE ABOVE RECOMMENDATIONS A PROPER HIGH GAS PRESSURE REGULATOR MUST BE INSTALLED. ON INLET PRESSURES BELOW 7" W.C., CONSULT FACTORY.

ON LIQUID PETROLEUM GAS, 20" TO 27.7" W.C. IS RECOMMENDED AT THE BURNER MANIFOLD INLET AND 18" W.C. PRESSURE IS REQUIRED AT THE BURNER SPUD WHEN THE BURNER IS ON AT FULL RATE. A SEPARATE PILOT LINE GAS PRESSURE REGULATOR IS FURNISHED AND SHOULD REMAIN SET FOR 11" W.C. AT THE PILOT BURNER EVEN THOUGH 18" IS REQUIRED AT THE MAIN BURNER.

ONE 7GC GAS COCK IS STANDARDLY FURNISHED UP TO 9.5 H.P. AND TWO 7GC GAS COCKS ARE STANDARDLY FURNISHED ON 15 TO 25 H.P. BOILERS. AN ADDITIONAL GAS SHUTOFF (NOT FURNISHED) IS REQUIRED TO BE INSTALLED NEAR THE BOILER. GAS LINES SHOULD BE BLOWN OUT BEFORE CONNECTING TO THE BOILER AND A 7DL DRIP LEG SHOULD BE INSTALLED AT LOW POINT ON THE GAS LINE JUST BEFORE CONNECTING TO THE BOILER CONTROLS.

9 STEAM LINE: CONNECT FROM TOP OF BOILER AS SHOWN WITH 9A STEAM VALVE INSTALLED CONVENIENTLY NEAR BOILER AND 9C CHECK VALVE (NOT FURNISHED) RECOMMENDED NEAR STEAM VALVE. STEAM LINE SHOULD BE PROPERLY SIZED IN ACCORDANCE WITH STANDARD ENGINEERING PRACTICES AND MAY BE INCREASED AFTER LEAVING THE STEAM VALVE. SHOULD BE GRADED DOWNWARD 1/8" PER FOOT WITH A STEAM TRAP INSTALLED AT THE LOW POINT. IT IS CONSIDERED GOOD PRACTICE TO INSULATE ALL STEAM LINES TO PREVENT UNNECESSARY RADIATION LOSS.

10 WATER FEED LINE: THE WATER FEED LINE FROM PUMP SHOULD BE INSTALLED NOT LESS THAN 3/4" SIZE TO THE OPENING PROVIDED OUT THE TOP OF THE CABINET. A 10C CHECK VALVE MUST BE INSTALLED CONVENIENTLY NEAR THE BOILER FEED PUMP. AN ADDITIONAL 10C CHECK VALVE (FURNISHED ONLY WITH KOMPACT MODELS) SHOULD ALSO BE INSTALLED. A 10A SHUTOFF VALVE (NOT FURNISHED) MUST BE INSTALLED NEAR BOILER. BE SURE THIS VALVE IS OPEN AT ALL TIMES THE SYSTEM IS IN OPERATION. A 10D RELIEF VALVE (NOT FURNISHED) SHOULD BE INSTALLED ON THE PUMP DISCHARGE LINE ON THE PUMP SIDE OF THE CHECK VALVE AND PIPED TO A SAFE LOCATION. THIS WILL PREVENT DAMAGE TO THE PUMP BY RELIEVING EXCESSIVE PRESSURE SHOULD RESTRICTION OR STOPPAGE OCCUR IN THE WATER FEED LINE TO THE BOILER.

12A SAFETY VALVE: INSTALL DIRECTLY ON TOP OF THE BOILER AS SHOWN AND CONNECT FULL SIZE DOWNWARD TO A SAFE LOCATION. IF PIPED UPWARD, A SMALL DRAIN LINE MUST BE PROVIDED AT THE LOW POINT. THE SAFETY VALVE IS FURNISHED FACTORY SEALED FOR THE MAXIMUM WORKING PRESSURE OF THE BOILER AND TRIM. IF THE VALVE IS REPLACED, ALWAYS REPLACE WITH A VALVE WHICH HAS THE SAME PRESSURE SETTING AND REQUIRED RELIEVING CAPACITY.

13A WATER GAUGE GLASS: GLASS INDICATES THE AMOUNT OF WATER IN THE BOILER WITH THE NORMAL LEVEL SLIGHTLY ABOVE CENTER. ON INITIAL START OF BOILER, THE WATER WILL EXPAND IN THE GLASS AND FLUCTUATE FROM HALF TO TWO-THIRDS OF THE GLASS UNDER NORMAL OPERATION. THE GAUGE GLASS VALVES SHOULD BE OPEN AT ALL TIMES. CHANGE GAUGE GLASS REGULARLY AND IMMEDIATELY UPON INDICATION OF LEAKS OR WHEN IT BECOMES DIRTY. CHANGE ONLY WHEN THE BOILER IS NOT IN SERVICE BY CLOSING GAUGE VALVES, UNSCREWING HEXAGON NUTS AND REMOVING OLD GLASS AND GASKETS. INSTALL GLASS WITH NEW RUBBERS AND GASKETS ON BOTH SIDES OF RUBBERS. INSERT INTO UPPER GAUGE AND THEN CENTER EQUALLY INTO BOTH VALVES BEFORE TIGHTENING PACKING NUT. KEEP SPARE GLASSES, RUBBERS AND GASKETS.

13B TRY COCKS: FURNISHED FOR PURPOSE OF CHECKING WATER LEVEL IF GLASS IS BROKEN.

16A STEAM PRESSURE GAUGE: SHOULD BE INSTALLED AS SHOWN ON THE UPPER PART OF THE SYPHON AND IS FOR THE PURPOSE OF REGISTERING THE STEAM PRESSURE IN THE BOILER.

17 WATER LEVEL PUMP CONTROL & LOW WATER CUTOFF: THIS CONTROL IS WIRED IN CONJUNCTION WITH THE BOILER FEED PUMP TO INJECT WATER INTO THE BOILER AS REQUIRED. IT IS ALSO WIRED IN SERIES WITH THE ELECTRIC GAS VALVES TO SHUT OFF THE MAIN BURNER ON LOW WATER EXPERIENCE. THE LOW WATER CONTROL SHOULD BE TESTED DAILY TO BE CERTAIN IT IS SAFELY OPERATING. THE 18A DRAIN VALVE SHOULD BE FLUSHED DAILY AND ALL CONNECTING LINES PERIODICALLY INSPECTED AND CLEANED.

# PARKER INDUSTRIAL HORIZONTAL DRUM STEAM BOILER 7 TO 25 H.P. INSTALLATION DRAWING – FRONT VIEW – WITH WATER MAKE-UP AND CONDENSATE RETURN TANK

27C. VENT CAP (NF)

27. RETURN TANK VENT (NF)

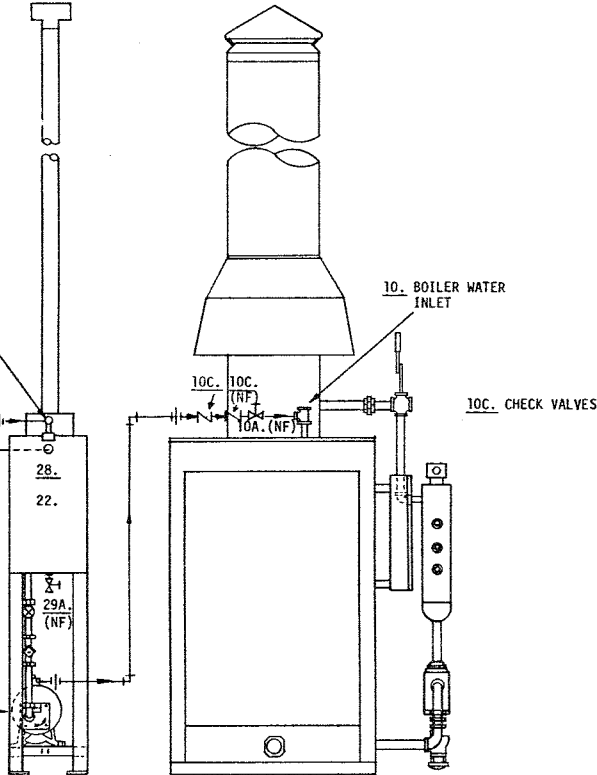
23. CONDENSATE RETURN INLET  
Located on top of tank near back end of tank.

25. TANK CASA FLOAT VALVE

26A. (NF)

26. WATER INLET

28. TANK OVERFLOW



29. TANK DRAIN

21. BOILER WATER FEED PUMP

22. WATER MAKE-UP AND CONDENSATE RETURN TANK  
(See separate Return System Installation Sheet)

5C. VENT CAP (NF)

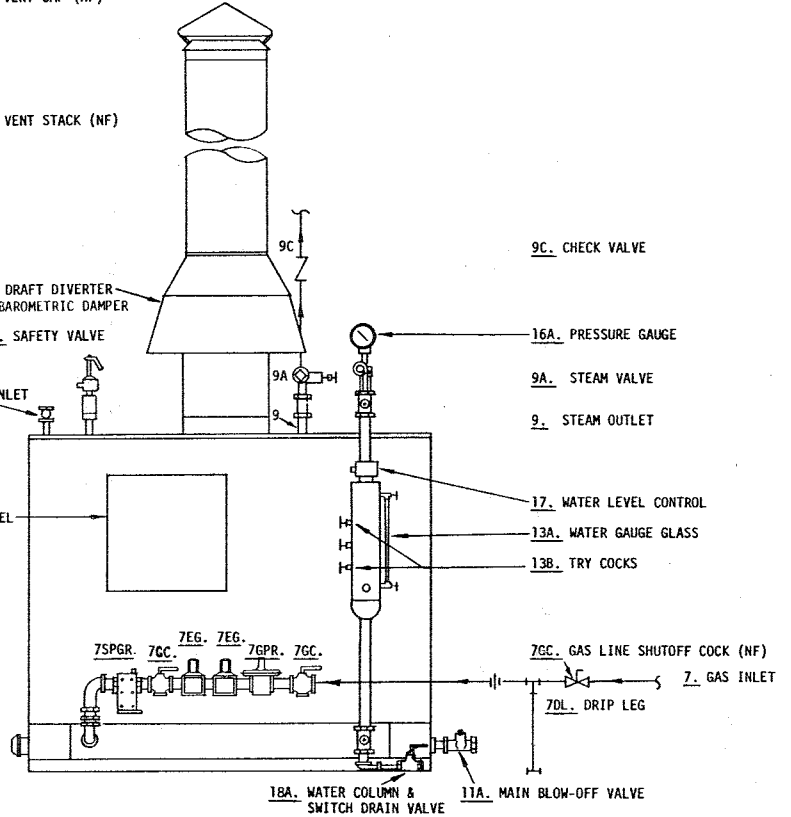
5A. VENT STACK (NF)

4A. DRAFT DIVERTER OR BAROMETRIC DAMPER

12A. SAFETY VALVE

10. BOILER WATER INLET

ELECTRICAL PANEL



9C. CHECK VALVE

9A. STEAM VALVE

9. STEAM OUTLET

17. WATER LEVEL CONTROL

13A. WATER GAUGE GLASS

13B. TRY COCKS

7GC. GAS LINE SHUTOFF COCK (NF)

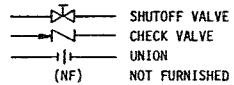
7. GAS INLET

7DL. DRIP LEG

18A. WATER COLUMN & SWITCH DRAIN VALVE

11A. MAIN BLOW-OFF VALVE

PARKER INDUSTRIAL STEAM BOILER GAS FIRED - FRONT VIEW  
(See separate Installation Drawing for Blowdown and Drain Lines)



USED ON	7 TO 25 H.P. STEAM BOILER	PART NAME	INSTALLATION DRAWING
FOR	PARKER STEAM BOILER WITH WATER MAKE-UP AND CONDENSATE RETURN TANK		
DR.	DW	DATE	SCALE
CH.		12/75	
APPROVED		SID E. PARKER BOILER MFG. CO. 2035 EAST THIRTY-SEVENTH STREET LOS ANGELES 58, CALIF.	
		SUPERCEDES NO.	10/73
		DWG. NO.	103-1 INST 2