

Water & Steam Boilers – Series 2

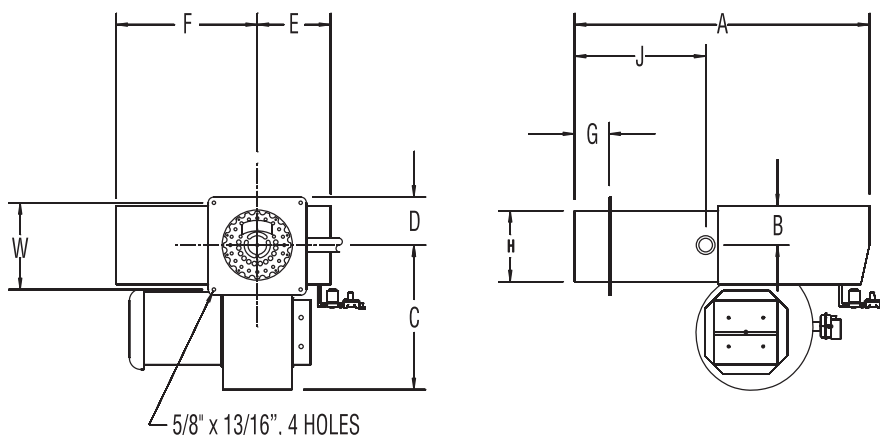
For Gas, Light Oil, & Gas/Light Oil – Fired Burners

Burner Specification & Data Sheet

Power Flame Gas Burners Models WJ30A, WJ50A



Figure 1 Model WJA



| Burner Model Number | A | B | C | D | E | F | G | H | J | W |
|------------------------|-------|------|-------|------|------|-------|------|------|-------|------|
| WJ30A | 25.25 | 3.50 | 12.50 | 4.63 | 7.38 | 11.75 | 3.50 | 6.13 | 11.50 | 7.25 |
| WJ50A | 29.75 | 4.38 | 14.00 | 5.25 | 8.50 | 11.75 | 4.00 | 8.13 | 13.63 | 8.25 |



| Boiler Model Number | Burner Input | Positive Pressure In Firebox | Burner Model Designation | Burner Motor 3450 Rpm H.P. | Standard Motor Voltage | Pressure Drop Thru Gas Train & Orifice Tee | Gas Tee (8) Pressure | Orifice Tee Drill Size | Gas Pressure Required At Gas Control Inlet Inches W.C.* | |
|---------------------|--------------|------------------------------|--------------------------|----------------------------|------------------------|--|----------------------|------------------------|---|---------|
| | Gas MBH | Inches w.c. | | | | Inches w.c. | Inches w.c. | Inches | Minimum | Maximum |
| 488R | 996 | 0.43 | WJ30A-10 | 1/3 | 120/60/1 | 2.20 | 2.10 | — | 4.30 | 14.00 |
| 488 | 1010 | 0.43 | WJ30A-10 | 1/3 | 120/60/1 | 2.30 | 2.30 | — | 4.50 | 14.00 |
| 588 | 1357 | 0.44 | WJ50A-15 | 1/3 | 120/60/1 | 1.80 | 3.20 | 13/16 | 5.00 | 14.00 |
| 688 | 1703 | 0.46 | WJ50A-15 | 1/3 | 120/60/1 | 2.40 | 2.30 | — | 4.70 | 14.00 |
| 788 | 2049 | 0.47 | WJ50A-15 | 1/2 | 120/60/1 | 2.50 | 3.10 | — | 5.60 | 14.00 |

* Gas pressures shown are for standard gas train arrangement. Contact Weil-McLain for alternate gas trains to support other pressures.

| Standard Gas Control Components and Sizes in Inches | | | | | | | | | |
|---|---|-------------------------|------------------------|-------------------------------------|-------------------------------|---|------------------|---------------------------|--------------------------|
| Boiler Model Number | Manual Hand Valve (Point Of Field Connection) | Low Gas Pressure Switch | Gas Pressure Regulator | Combination Gas Valve And Regulator | Motorized Operating Gas Valve | Motorized Operating Gas Valve (With Proof Of Closure) | Safety Gas Valve | Manual Checking Gas Valve | High Gas Pressure Switch |
| 488R & 488 | 1 | Optional | Optional | 1 | Optional | Optional | * | 1 | Optional |
| 588 & 688 | 1 1/4 | Optional | Optional | 1 1/4 | Optional | Optional | * | 1 1/4 | Optional |
| 788 | 1 1/2 | Optional | Optional | 1 1/2 | Optional | Optional | * | 1 1/2 | Optional |

* Combination operating gas valve and regulator also serves as a safety gas valve.

| Flame Safeguards Provided with Listed Control Systems by Code | | | | | | | | | | | | | | | |
|---|----------|----------|----------|----------|----------|----------|----------|----------|--|--|--|--|--|--|--|
| GAS BURNERS | | | | | | | | | | | | | | | |
| Boiler Model Number | UL / FM | | | | CSD-1 | | | | | | | | | | |
| | OO | LHO | LHL | MOD | OO | LHO | LHL | MOD | | | | | | | |
| 488R-688 | MEP230FR | MEP230FR | MEP230FR | MEP230FR | MEP230FR | MEP230FR | MEP230FR | MEP230FR | | | | | | | |
| 788 | — | MEP230FR | MEP230FR | MEP230FR | — | MEP230FR | MEP230FR | MEP230FR | | | | | | | |

Notes

- Standard Flame Safeguard Control is MEP230FR with pre-purge and flame rod.
- Electric gas pilot furnished as standard equipment.
- 488R-688 standard gas controls provide on-off operation with fixed combustion air control (OO system). 788 standard gas controls provide on-off operation, low fire start, high fire run and two-position air control, controlled by damper arm on motorized gas valve (LHO system).
- Optional gas controls for all burner sizes; LHL – low-high-low-off firing conditions and two-position air control; MOD – on-off operation, proven low fire start and full modulating firing conditions with modulating combustion air control.
- Burner capacities listed for elevations up to 2,000 feet. For higher elevations, consult local Weil-McLain distributor/agent or sales office.
- Gas ratings based on natural gas with heating value of 1,000 Btu per cubic foot and specific gravity of 0.60. Gas burners for other gases are available. Consult local Weil-McLain distributor/agent or sales office.
- Boiler-burner unit to be adjusted to achieve +0.10 inches W.C. pressure at flue collar, resulting in positive pressure in firebox as listed.
- Minimum gas pressures listed are subject to variations due to job conditions. Gas burners for other gas pressures are available. Consult local Weil-McLain distributor/agent or sales office.
- Gas tee pressures shown are for initial start-up. Final pressure should be determined after checking actual gas flow and combustion readings.



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