Burner Specification and Data Sheet

Gordon-Piatt burner models WR and WFL
Flame retention burners for gas, light oil and combination gas/light oil firing

WR10 & WR12

<table>
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<th>Dimensions in Inches</th>
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WFL12

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<td>Burner Model Number</td>
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<td>WFL12</td>
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### Gordon-Piatt — Models WR and WFL

- **Burner capacities listed for elevations up to 2,000 feet.** For higher elevations, consult local Weil-McLain distributor/agent or sales office.
- **Light oil ratings based on No. 2 fuel oil with heating value of 140,000 Btu per gallon.**
- **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 the flue collar, resulting in positive pressure in the 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.
- **Manifold pressures and combustion air settings shown are for initial start-up.** Final pressure and air settings should be determined after checking actual gas flow and combustion readings.
- **Gas Control Systems:**
  - **H (LHO):** On-off operation, low fire start, high fire run. Two-position air controlled by damper arm on motorized gas valve.
  - **H4 (LHL):** Low-high-low-off firing conditions. Two-position air controlled by damper arm on motorized gas valve.
  - **E2 (MOD):** On-off operation, with proven low fire start and full modulating firing conditions with combustion air control. Proportional motor drives fuel metering valve and combustion air damper according to the firing conditions. Open damper pre-purge.

#### Notes

1. Burner capacities listed for elevations up to 2,000 feet. For higher elevations, consult local Weil-McLain distributor/agent or sales office.
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7. Gas Control Systems:
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   - **H4 (LHL):** Low-high-low-off firing conditions. Two-position air controlled by damper arm on motorized gas valve.
   - **E2 (MOD):** On-off operation, with proven low fire start and full modulating firing conditions with combustion air control. Proportional motor drives fuel metering valve and combustion air damper according to the firing conditions. Open damper pre-purge.

#### Standard gas control components and sizes in inches

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* 208/60/3, 240/60/3, 480/60/3 burner motor voltage must be specified.
Burner Specification and Data Sheet

### Light Oil Control Systems:
- **F4S (LHO):** On-off operation, low fire start, high fire run. Two-position air, two-position oil.
- **F4S (LHL):** Low-high-low-off firing conditions. Two-position air, two-position oil.
- **F7T & F7.2 (MOD):** On-off operation, with proven low fire start and full modulating firing conditions. Proportional motor drives fuel metering valve and combustion air damper according to the firing conditions.

### Gas/Light Oil Control Systems:
- **H/F4S (LHO/LHO):** Combines gas and light oil characteristics listed above.
- **H4/F4S (LHL/LHL):** Combines gas and light oil characteristics listed above.
- **E2/F7T and E2/F7.2 (MOD/MOD):** Combines gas and light oil characteristics listed above.

### Combustion Controls:
- **R8184G** combustion control uses cadmium cell for flame detector to monitor oil burner flame, also furnishes intermittent ignition.
- **RM7895** flame safeguard control uses ultraviolet electronic flame detector to monitor gas or oil burner flame and provides pre-purge programming. “A” models provide intermittent pilot; “C” models provide interrupted pilot and RUN/TEST switch. RM7896 provides same as above with post-purge.
- **RM7840M, E110/EPD390** flame safeguard control monitors the oil or gas burner flame, provides pre-purge and post-purge programming. Timed low fire start is provided by means of timing built into control. Control is used with UL on-off (low fire start) systems. Ultraviolet sensitive electronic flame detector is standard with infrared detector available.
- **RM7840L, E110/EPD160** flame safeguard control monitors the oil or gas burner flame, provides pre-purge and post-purge programming, provides switching necessary to allow firing rate motor to be driven to both low fire and high fire positions, prevents start-up if pre-ignition interlocks are open and has low fire start proving circuit. In the event pre-ignition interlock circuit or running interlock circuit does not “prove”, system will lock out on safety. Ultraviolet sensitive electronic flame detector is standard with infrared detector available.

### Notes
- **8** Light Oil Control Systems:
  - **F4S (LHO):** On-off operation, low fire start, high fire run. Two-position air, two-position oil.
  - **F4S (LHL):** Low-high-low-off firing conditions. Two-position air, two-position oil.
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- **9** Gas/Light Oil Control Systems:
  - **H/F4S (LHO/LHO):** Combines gas and light oil characteristics listed above.
  - **H4/F4S (LHL/LHL):** Combines gas and light oil characteristics listed above.
  - **E2/F7T and E2/F7.2 (MOD/MOD):** Combines gas and light oil characteristics listed above.

- **10** 120/60/1 control circuit is used for all burners.

- **11** Control circuit transformer is available as an option.

- **12** Motor starter or contactor will be furnished for all burners.

- **13** Combustion Controls:
  a) **R8184G** combustion control uses cadmium cell for flame detector to monitor oil burner flame, also furnishes intermittent ignition.
  b) **RM7895** flame safeguard control uses ultraviolet electronic flame detector to monitor gas or oil burner flame and provides pre-purge programming. “A” models provide intermittent pilot; “C” models provide interrupted pilot and RUN/TEST switch. RM7896 provides same as above with post-purge.
  c) **RM7840M, E110/EPD390** flame safeguard control monitors the oil or gas burner flame, provides pre-purge and post-purge programming. Timed low fire start is provided by means of timing built into control. Control is used with UL on-off (low fire start) systems. Ultraviolet sensitive electronic flame detector is standard with infrared detector available.
  d) **RM7840L, E110/EPD160** flame safeguard control monitors the oil or gas burner flame, provides pre-purge and post-purge programming, provides switching necessary to allow firing rate motor to be driven to both low fire and high fire positions, prevents start-up if pre-ignition interlocks are open and has low fire start proving circuit. In the event pre-ignition interlock circuit or running interlock circuit does not “prove”, system will lock out on safety. Ultraviolet sensitive electronic flame detector is standard with infrared detector available.
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500 Blaine Street
Michigan City, IN 46360-2388
http://www.weil-mcclain.com

Gordon-Piatt – Models WR and WFL

Notes

e) RM7800L, E110/EP160 flame safeguard control monitors the oil or gas burner flame with
digital readout control system, provides pre-purge and post-purge programming, provides
switching necessary to allow firing rate motor to be driven to both low fire and high fire position,
presents start-up if pre-ignition interlocks are open and has low fire start proving circuit. In the
event pre-ignition interlock circuit or running interlock circuit does not “prove”, system will lock
out on safety. Ultraviolet sensitive electronic flame detector is standard with infrared detector
available.

14 Airflow safety switch is standard for all gas and combination gas/light oil units.
15 Burners will be completely assembled and wired (except gas trains).
16 Burners listed by Underwriters Laboratories, Inc., Canadian Gas Association, state of Connecticut, Fire
Marshal state of Massachusetts, city of New York MEA, and others.
17 Special controls can be provided to meet other code requirements not listed. Consult your local Weil-McLain
distributor/agent or sales office.
18 Electric gas pilot is standard on gas and combination gas/light oil units and on light oil units 1494-2594.
Direct spark ignition is standard on light oil units 894-1394. Direct spark ignition is optional on combination
gas/light oil units 894-1494 and 1694-1794. Consult your local Weil-McLain distributor/agent or sales
office.

Flame safeguards provided with listed control systems by code

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