



SERIES 4S

**Power Flame Burner Information**

| Boiler Size | Burner Model       |         | Motor |              | Firing Sequence <sup>[1]</sup> | Standard UL Flame Safeguard |            |            | Gas Train           |            |            |
|-------------|--------------------|---------|-------|--------------|--------------------------------|-----------------------------|------------|------------|---------------------|------------|------------|
|             | Gas and Gas/#2 Oil | #2 Oil  | HP    | Voltage      |                                | Gas                         | #2 Oil     | Gas/#2 Oil | Size <sup>[2]</sup> | Min. Pres. | Max. Pres. |
| 4S-100      | C3-25B             | C3-OB   | 3     | 208-460/60/3 | L-H-O                          | RM7897C/UV                  | RM7897C/UV | RM7897C/UV | 2                   | 7.3" w.c.  | 14.0" w.c. |
| 4S-125      | C4-30              | C4-OA   | 5     | 208-460/60/3 | L-H-O                          | RM7897C/UV                  | RM7897C/UV | RM7897C/UV | 2 1/2               | 9.9" w.c.  | 14.0" w.c. |
| 4S-150      | C4-30              | C4-OB   | 5     | 208-460/60/3 | L-H-O                          | RM7897C/UV                  | RM7897C/UV | RM7897C/UV | 2 1/2               | 13.2" w.c. | 14.0" w.c. |
| 4S-175      | C5-30              | C5-O    | 7 1/2 | 208-460/60/3 | Full Mod                       | RM7840L/UV                  | RM7840L/UV | RM7840L/UV | 3                   | 11.6" w.c. | 28.0" w.c. |
| 4S-200      | C6-30              | C6-O    | 10    | 208-460/60/3 | Full Mod                       | RM7840L/UV                  | RM7840L/UV | RM7840L/UV | 3                   | 12.8" w.c. | 28.0" w.c. |
| 4S-200      | CM9-30             | CM9-O   |       |              |                                |                             |            |            |                     |            |            |
| 4S-250      | C6-30              | C6-O    | 10    | 208-460/60/3 | Full Mod                       | RM7840L/UV                  | RM7840L/UV | RM7840L/UV | 3                   | 17.0" w.c. | 28.0" w.c. |
| 4S-250      | CM9-30             | CM9-O   |       |              |                                |                             |            |            |                     |            |            |
| 4S-300      | C7-30              | C7-O    | 15    | 208-460/60/3 | Full Mod                       | RM7840L/UV                  | RM7840L/UV | RM7840L/UV | 3                   | 26.8" w.c. | 10 psig    |
| 4S-300      | CM9A-30            | CM9A-O  |       |              |                                |                             |            |            |                     |            |            |
| 4S-350      | C8-30              | C8-O*   | 15    | 208-460/60/3 | Full Mod                       | RM7840L/UV                  | RM7840L/UV | RM7840L/UV | 3                   | 32.4" w.c. | 10 psig    |
| 4S-350      | CM9A-30            | CM9A-O  |       |              |                                |                             |            |            |                     |            |            |
| 4S-400      | CM9B-30            | CM9B-O  | 7 1/2 | 208-460/60/3 | Full Mod                       | RM7840L/UV                  | RM7840L/UV | RM7840L/UV | 3                   | 40.9" w.c. | 10 psig    |
| 4S-500      | CM10-30            | CM10-O  | 10    | 208-460/60/3 | Full Mod                       | RM7840L/UV                  | RM7840L/UV | RM7840L/UV | 3                   | 63.0" w.c. | 10 psig    |
| 4S-600      | CM10C-30           | CM10C-O | 15    | 208-460/60/3 | Full Mod                       | RM7840L/UV                  | RM7840L/UV | RM7840L/UV | 3                   | 91.0" w.c. | 10 psig    |
| 4S-700      | CM10C-30           | CM10C-O | 20    | 208-460/60/3 | Full Mod                       | RM7840L/UV                  | RM7840L/UV | RM7840L/UV | 3 / 4               | 90.0" w.c. | 10 psig    |
| 4S-800      | CM11-30            | CM11C-O | 25    | 208-460/60/3 | Full Mod                       | RM7840L/UV                  | RM7840L/UV | RM7840L/UV | 3HF                 | 94.0" w.c. | 10 psig    |

[1] Explanation of Firing Sequences:                   \*order burner with 6" insertion depth.

**Gas and Gas Sequence on Combination Gas/Oil Boilers**

L-H-O       Low fire start (not proven), high fire run, air control by linkage to motorized gas valve.

Full Mod    Full modulation with proven low fire start, synchronized fuel/air control with modulating motor.

**Oil and Oil Sequence on Combination Gas/Oil Boilers**

L-H-O       Low fire start (not proven), high fire run, oil cylinder air control (reduced input start) with by-passing type nozzle, oil valve and oil pressure regulating valve.

Full Mod    Full modulation with proven low fire start, synchronized fuel/air control with modulating motor, oil by-passing type nozzle, oil metering valve, oil pressure regulating valve.

[2] Models 4S-700 - Dual size gas trains: Leak test cock, main gas valve and auxiliary gas valve are indicated by the first number; gas regulator and main shutoff cock are indicated by the second number.



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Power Flame Burner Equipment

| Equipment                   | Fuel                    | Description  |
|-----------------------------|-------------------------|--|
| Control Cabinet             | Gas, #2 Oil, Gas/#2 Oil | NEMA 1A with hinged door.  |
| Control Voltage Transformer | Gas, #2 Oil, Gas/#2 Oil | Included   |
| Motor Starter               | Gas, #2 Oil, Gas/#2 Oil | Magnetic starter with overload protection with.  |
| Fusing                      | Gas, #2 Oil, Gas/#2 Oil | Control circuit only.  |
| Ignition                    | Gas and Gas/#2 Oil      | Gas/Electric pilot.  |
|                             | #2 Oil                  | Direct spark 100 through 150.<br>Gas/Electric pilot 200 and larger.  |
| Signal Lights               | Gas, #2 Oil, Gas/#2 Oil | LHO, Two [power on and fuel on]. Full Modulation, Four [power on, fuel valve open, call for heat, flame failure.]  |
| Air Flow Safety Switch      | Gas                     | All models.  |
|                             | #2 Oil                  | On models 175 and larger.  |
|                             | Gas/#2 Oil              | All models, functions with both fuels.   |
| Gas Train                   | Gas and Gas/#2 Oil      | UL gas train for minimum inlet pressure indicated on Burner Information table. Assembled, wired and mounted on unit consisting of the following: <ul style="list-style-type: none"> <li>• Manual shut-off valve.</li> <li>• Gas pressure regulator.</li> <li>• Manual leak test valve.</li> <li>• <u>Automatic gas valve</u>: Motorized. Proof of closure on model 125 and larger.</li> <li>• <u>Safety gas valve</u>: Solenoid type. Motorized on model 200 and larger.</li> <li>• <u>High and Low gas pressure switches</u></li> </ul> |
| Oil Pump                    | #2 Oil and Gas/#2 Oil   | Two stage, integral with burner on model 100.<br>Separate oil pump set with motor and accessories mounted on boiler skid model 125 and larger.   |
| Pilot Gas Controls          | Gas, #2 Oil, Gas/#2 Oil | All models with gas/electric pilot have manual pilot shut-off valve, gas pressure regulator and solenoid gas valve.  |
| Fuel Changeover             | Gas/#2 Oil              | Manual switch.   |