

Power Flame Burner Information
5.0 rating

Boiler Size	Burner Model		Motor			Firing Sequence ^[1]		Standard UL Flame Safeguard			Gas Train		
	Gas and #2 Oil	#2 Oil	Horsepower		Voltage	Gas	#2 Oil Gas/#2 Oil	Gas	#2 Oil	Gas/#2 Oil	Size ^[6]	Min. Pres.	Max. Pres.
4F-63	CR1-10	CR1-O	1/3	1/3									
4F-78	CR1-10	CR1-O	1/3	1/3	120/60/1	On-Off	On-Off	RM7895A/UV	R7184P/CC	RM7895C/UV	1	4.3" w.c.	14.0" w.c.
4F-92	CR1-10	CR1-O	1/3	1/2	120/60/1	On-Off	On-Off	RM7895A/UV	R7184P/CC	RM7895C/UV	1	4.7" w.c.	14.0" w.c.
4F-107	CR1-12	CR1-O	1/3	1/2	120/60/1	On-Off	On-Off	RM7895A/UV	R7184P/CC	RM7895C/UV	1	4.5" w.c.	14.0" w.c.
4F-127	CR1-12	CR1-O	1/2	1/2	120/60/1	On-Off	On-Off	RM7895A/UV	R7184P/CC	RM7895C/UV	1	5.0" w.c.	14.0" w.c.
4F-154	CR1-12	CR1-O	1/2	1/2	120/60/1	L-H-O	L-H-O	RM7895A/UV	R7184P/CC	RM7895C/UV	1 1/4	5.0" w.c.	14.0" w.c.
4F-180	C2-15	C2-OA	1/2	3/4	240/60/1 ^[3]	L-H-O	L-H-O	RM7895A/UV	R7184P/CC	RM7895C/UV	1 1/4	4.6" w.c.	14.0" w.c.
4F-209	C2-15	C2-OA	1/2	3/4	240/60/1 ^[3]	L-H-O	L-H-O	RM7895A/UV	R7184P/CC	RM7895C/UV	1 1/4	5.4" w.c.	14.0" w.c.
4F-240	C2-20A	C2-OB	3/4	1 1/2 / 1 ^[2]	240/60/1	L-H-O	L-H-O	RM7895A/UV	R7184P/CC	RM7895C/UV	2	4.3" w.c.	14.0" w.c.
4F-277	C2-20A	C2-OB	3/4	1 1/2 / 1 ^[2]	240/60/1	L-H-O	L-H-O	RM7895A/UV	R7184P/CC	RM7895C/UV	2	4.8" w.c.	14.0" w.c.
4F-311	C2-20B	C2-OB	1	1 1/2	3-phase ^{[4][5]}	L-H-O	L-H-O	RM7895C/UV	R7184P/CC	RM7896C/UV	2	4.2" w.c.	14.0" w.c.
4F-345	C2-20B	C2-OB	1	1 1/2	3-phase ^{[4][5]}	L-H-O	L-H-O	RM7895C/UV	RM7896A/UV	RM7896C/UV	2	4.9" w.c.	14.0" w.c.
4F-360	C2-20B	C2-OB	1	1 1/2	3-phase ^{[4][5]}	L-H-O	L-H-O	RM7895C/UV	RM7896A/UV	RM7896C/UV	2	5.0" w.c.	14.0" w.c.
4F-450	C3-25	C3-O	1 1/2	2	3-phase ^[5]	L-H-O	L-H-O	RM7895C/UV	RM7896A/UV	RM7896C/UV	2 / 2 1/2	5.9" w.c.	14.0" w.c.
4F-563	C3-25B	C3-OB	3	3	3-phase ^[5]	L-H-O	L-H-O	RM7895C/UV	RM7896A/UV	RM7896C/UV	2 1/2	5.8" w.c.	14.0" w.c.
4F-675	C4-25	C4-OA	3	5	3-phase ^[5]	L-H-O	L-H-O	RM7895C/UV	RM7896A/UV	RM7896C/UV	2 1/2	7.4" w.c.	14.0" w.c.
4F-827	C4-30	C4-OB	5	5	3-phase ^[5]	Full Mod	Full Mod	RM7840L/UV	RM7840L/UV	RM7840L/UV	2 1/2	9.5" w.c.	14.0" w.c.
4F-993	C5-30	C5-O	7 1/2	7 1/2	3-phase ^[5]	Full Mod	Full Mod	RM7840L/UV	RM7840L/UV	RM7840L/UV	3	11.3" w.c.	28.0" w.c.
4F-1157	C5-30	C5-O	7 1/2	7 1/2	3-phase ^[5]	Full Mod	Full Mod	RM7840L/UV	RM7840L/UV	RM7840L/UV	3	15.1" w.c.	28.0" w.c.
4F-1323	C6-30	C6-O	10	10	3-phase ^[5]	Full Mod	Full Mod	RM7840L/UV	RM7840L/UV	RM7840L/UV	3	18.1" w.c.	28.0" w.c.
4F-1654	C6-30	C6-O	10	10	3-phase ^[5]	Full Mod	Full Mod	RM7840L/UV	RM7840L/UV	RM7840L/UV	3	25.4" w.c.	28.0" w.c.

[1] Explanation of Firing Sequences:

Gas and Gas Sequence on Combination Gas/Oil Boilers

- On-Off On-Off, fixed fire with slow opening gas valve, fixed air.
- L-H-L Low fire start (not proven), high fire run, Lo-Hi-Off gas valve, two stage air control.
- Full Mod Full modulation with proven low fire start.

Oil and Oil Sequence on Combination Gas/Oil Boilers

- On-Off LFS Fixed air low fire start.
- L-H-O Low fire start (not proven), high fire run, oil cylinder air control .
- Full Mod Full modulation with proven low fire start.

[2] Oil blower motor is 1 1/2 hp and combination gas/oil is 1 hp.

[3] Voltage on gas burner model is 120/60/1.

[4] Voltage on gas burner model is 240/60/1.

[5] On 3-phase voltage, must specify 208, 230, or 460/60/3 on order.

[6] Model 4F-450 - 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.

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 when burner voltage is greater than 120/60/1.
Motor Starter	Gas, #2 Oil, Gas/#2 Oil	Contactors on all single phase motors. Magnetic starter with overload protection on 3 phase motors.
Fusing	Gas, #2 Oil, Gas/#2 Oil	Control circuit only.
Ignition	Gas and Gas/#2 Oil	Gas/Electric pilot w/ manual valve, solenoid valve, regulator.
	#2 Oil	Direct spark (4F-63 and larger). Gas/Electric pilot (4F-675 and larger) w/ manual valve, solenoid valve, regulator.
Signal Lights	Gas, #2 Oil, Gas/#2 Oil	Two [power on and fuel on].
Air Flow Safety Switch	Gas and Gas/#2 Oil	All models.
	#2 Oil	Models 4F- 345 and larger.
Gas Train	Gas and Gas/#2 Oil	UL gas train for minimum inlet pressure indicated on Burner Information table. Shipped unassembled and consisting of the following: <ul style="list-style-type: none"> ● Manual shut-off valve. ● <u>Gas pressure regulator</u> - low pressure appliance type Combination gas valve and pressure regulator (4F-63 to 4F-277). Separate gas valve and pressure regulator (4F-311 and larger.) ● Manual leak test valve. ● <u>Automatic gas valve</u>: Diaphragm type with On-Off sequence. Motorized all others (Proof of closure on 4F-311 and larger.) ● <u>Safety gas valve</u>: Auxiliary gas valve on all models. ● <u>High and Low gas pressure switches</u>: Models 4F- 311 and larger.
Oil Pump	#2 Oil and Gas/#2 Oil	Two stage, integral with burner (4F-63 to 4F-675). Two stage, separate 3/4 HP motor mounted on boiler skid (4F-827 and larger).
Fuel Changeover	Gas/#2 Oil	Manual switch.

Power Flame Burner Information

4.5 ratings

Boiler Size	Burner Model		Motor			Firing Sequence ^[1]		Standard UL Flame Safeguard			Gas Train		
	Gas and #2 Oil	#2 Oil	Horsepower		Voltage	Gas	#2 Oil Gas/#2 Oil	Gas	#2 Oil	Gas/#2 Oil	Size ^[8]	Min. Pres.	Max. Pres.
			Gas	Gas/#2 Oil									
4F-63	CR1-10	CR1-O	1/3	1/3	120/60/1	On-Off	On-Off	RM7895A/UV	R7184P/CC	RM7895C/UV	1	4.1" w.c.	14.0" w.c.
4F-78	CR1-10	CR1-O	1/3	1/2	120/60/1	On-Off	On-Off	RM7895A/UV	R7184P/CC	RM7895C/UV	1	4.2" w.c.	14.0" w.c.
4F-92	CR1-12	CR1-O	1/3	1/2	120/60/1	On-Off	On-Off	RM7895A/UV	R7184P/CC	RM7895C/UV	1	4.4" w.c.	14.0" w.c.
4F-107	CR1-12	CR1-O	1/3	1/2	120/60/1	On-Off	On-Off	RM7895A/UV	R7184P/CC	RM7895C/UV	1	4.8" w.c.	14.0" w.c.
4F-127	CR1-12	CR1-O	1/2	1/2	120/60/1	On-Off	On-Off	RM7895A/UV	R7184P/CC	RM7895C/UV	1 1/4	4.3" w.c.	14.0" w.c.
4F-154	C2-15	C2-OA	1/2	3/4	240/60/1 ^[5]	L-H-O	L-H-O	RM7895A/UV	R7184P/CC	RM7895C/UV	1 1/4	4.5" w.c.	14.0" w.c.
4F-180	C2-15	C2-OA	1/2	3/4	240/60/1 ^[5]	L-H-O	L-H-O	RM7895A/UV	R7184P/CC	RM7895C/UV	1 1/4	4.9" w.c.	14.0" w.c.
4F-209	C2-20A	C2-OB	3/4	1/2 / 1 ^[2]	240/60/1	L-H-O	L-H-O	RM7895A/UV	R7184P/CC	RM7895C/UV	1 1/2	5.2" w.c.	14.0" w.c.
4F-240	C2-20A	C2-OB	3/4	1 1/2 / 1 ^[3]	240/60/1	L-H-O	L-H-O	RM7895A/UV	R7184P/CC	RM7895C/UV	2	4.5" w.c.	14.0" w.c.
4F-277	C2-20B	C2-OB	1	1 1/2	3-phase ^{[6][7]}	L-H-O	L-H-O	RM7895C/UV	R7184P/CC	RM7896C/UV	2	4.1" w.c.	14.0" w.c.
4F-311	C2-20B	C2-OB	1	1 1/2 / 2 ^[4]	3-phase ^{[6][7]}	L-H-O	L-H-O	RM7895C/UV	RM7896A/UV	RM7896C/UV	2	4.9" w.c.	14.0" w.c.
4F-345	C3-20	C3-O	1 1/2	2	3-phase ^[7]	L-H-O	L-H-O	RM7895C/UV	RM7896A/UV	RM7896C/UV	2	5.4" w.c.	14.0" w.c.
4F-360	C3-25	C3-O	1 1/2	2	3-phase ^[7]	L-H-O	L-H-O	RM7895C/UV	RM7896A/UV	RM7896C/UV	2 / 2 1/2	4.7" w.c.	14.0" w.c.
4F-450	C3-25	C3-O	1 1/2	2	3-phase ^[7]	L-H-O	L-H-O	RM7895C/UV	RM7896A/UV	RM7896C/UV	2 1/2	6.3" w.c.	14.0" w.c.
4F-563	C4-25	C4-OA	3	5	3-phase ^[7]	L-H-O	L-H-O	RM7895C/UV	RM7896A/UV	RM7896C/UV	2 1/2	6.5" w.c.	14.0" w.c.
4F-675	C4-25	C4-OA	3	5	3-phase ^[7]	L-H-O	L-H-O	RM7895C/UV	RM7896A/UV	RM7896C/UV	2 1/2	9.0" w.c.	14.0" w.c.
4F-827	C5-30	C5-O	7 1/2	7 1/2	3-phase ^[7]	Full Mod	Full Mod	RM7840L/UV	RM7840L/UV	RM7840L/UV	3	9.9" w.c.	28.0" w.c.
4F-993	C5-30	C5-O	7 1/2	7 1/2	3-phase ^[7]	Full Mod	Full Mod	RM7840L/UV	RM7840L/UV	RM7840L/UV	3	14.1" w.c.	28.0" w.c.
4F-1157	C6-30	C6-O	10	10	3-phase ^[7]	Full Mod	Full Mod	RM7840L/UV	RM7840L/UV	RM7840L/UV	3	17.1" w.c.	28.0" w.c.
4F-1323	C6-30	C6-O	10	10	3-phase ^[7]	Full Mod	Full Mod	RM7840L/UV	RM7840L/UV	RM7840L/UV	3	22.2" w.c.	28.0" w.c.

[1] Explanation of Firing Sequences:

Gas and Gas Sequence on Combination Gas/Oil Boilers

- On-Off On-Off, fixed fire with slow opening gas valve, fixed air.
- L-H-L Low fire start (not proven), high fire run, Lo-Hi-Off gas valve, two stage air control.
- Full Mod Full modulation with proven low fire start.

Oil and Oil Sequence on Combination Gas/Oil Boilers

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- Full Mod Full modulation with proven low fire start.

[2] Oil blower motor is 1/2 hp and combination gas/oil is 1 hp.

[3] Oil blower motor is 1 1/2 hp and combination gas/oil is 1 hp.

[4] Oil blower motor is 1 1/2 hp and combination gas/oil is 2 hp.

[5] Voltage on gas burner model is 120/60/1.

[6] Voltage on gas burner model is 240/60/1.

[7] On 3-phase voltage, must specify 208, 230, or 460/60/3 on order.

[8] Model 4F-360 - 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.

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 when burner voltage is greater than 120/60/1.
Motor Starter	Gas, #2 Oil, Gas/#2 Oil	Contactors on all single phase motors. Magnetic starter with overload protection on 3 phase motors.
Fusing	Gas, #2 Oil, Gas/#2 Oil	Control circuit only.
Ignition	Gas and Gas/#2 Oil	Gas/Electric pilot w/ manual valve, solenoid valve, regulator.
	#2 Oil	Direct spark (4F-63 to 4F- 563). Gas/Electric pilot (4F-675 and larger) w/ manual valve, solenoid valve, regulator.
Signal Lights	Gas, #2 Oil, Gas/#2 Oil	Two [power on and fuel on].
Air Flow Safety Switch	Gas and Gas/#2 Oil	All models.
	#2 Oil	Models 4F- 311 and larger.
Gas Train	Gas and Gas/#2 Oil	UL gas train for minimum inlet pressure indicated on Burner Information table. Shipped unassembled and consisting of the following: <ul style="list-style-type: none"> ● Manual shut-off valve. ● <u>Gas pressure regulator</u> - low pressure appliance type Combination gas valve and pressure regulator (4F-63 to 4F-240). Separate gas valve and pressure regulator (4F-277 and larger.) ● Manual leak test valve. ● <u>Automatic gas valve</u>: Diaphragm type with On-Off sequence. Motorized all others (Proof of closure on 4F-240 and larger.) ● <u>Safety gas valve</u>: Auxiliary gas valve on all models. ● <u>High and Low gas pressure switches</u>: Models 4F-277 and larger.)
Oil Pump	#2 Oil and Gas/#2 Oil	Two stage, integral with burner (4F-63 to 4F-563). Two stage, separate 3/4 HP motor mounted on boiler skid (4F-675 and larger).
Fuel Changeover	Gas/#2 Oil	Manual switch.

Power Flame Burner Information

4.0 ratings

Boiler Size	Burner Model		Motor			Firing Sequence ^[1]		Standard UL Flame Safeguard			Gas Train		
	Gas and Gas/#2 Oil	#2 Oil	Horsepower		Voltage	Gas	#2 Oil	Gas	#2 Oil	Gas/#2 Oil	Size ^[5]	Min. Pres.	Max. Pres.
			Gas	#2 Oil									
4F-63	CR1-10	CR1-O	1/3	1/3	120/60/1	On-Off	On-Off LFS	RM7897A/UV	R7184P/CC	RM7895C/UV	1	4.4" w.c.	14.0" w.c.
4F-78	CR1-10	CR1-O	1/3	1/2	120/60/1	On-Off	On-Off LFS	RM7897A/UV	R7184P/CC	RM7895C/UV	1	4.5" w.c.	14.0" w.c.
4F-92	CR1-12	CR1-O	1/3	1/2	120/60/1	On-Off	On-Off LFS	RM7897A/UV	R7184P/CC	RM7895C/UV	1	4.9" w.c.	14.0" w.c.
4F-107	CR1-12	CR1-O	1/2	1/2	120/60/1	On-Off	On-Off LFS	RM7897A/UV	R7184P/CC	RM7895C/UV	1	5.5" w.c.	14.0" w.c.
4F-127	CR1-12	CR1-O	1/2	1/2	120/60/1	L-H-O	L-H-O	RM7897A/UV	R7184P/CC	RM7895C/UV	1 1/4	4.4" w.c.	14.0" w.c.
4F-154	C2-15	C2-OA	1/2	3/4	120/60/1	L-H-O	L-H-O	RM7897A/UV	R7184P/CC	RM7895C/UV	1 1/4	4.9" w.c.	14.0" w.c.
4F-180	C2-15	C2-OA	1/2	3/4	120/60/1	L-H-O	L-H-O	RM7897A/UV	R7184P/CC	RM7895C/UV	1 1/2	4.8" w.c.	14.0" w.c.
4F-209	C2-20A	C2-OB	3/4	1/2 / 1 ^[2]	240/60/1	L-H-O	L-H-O	RM7897A/UV	R7184P/CC	RM7895C/UV	2	4.9" w.c.	14.0" w.c.
4F-240	C2-20B	C2-OB	1	1 1/2	240/60/1	L-H-O	L-H-O	RM7897C/UV	R7184P/CC	RM7896C/UV	2	3.9" w.c.	14.0" w.c.
4F-277	C2-20B	C2-OB	1	1 1/2	240/60/1	L-H-O	L-H-O	RM7897C/UV	RM7896A/UV	RM7896C/UV	2	4.9" w.c.	14.0" w.c.
4F-311	C3-20	C3-O	1 1/2	2	208-460/60/3	L-H-O	L-H-O	RM7897C/UV	RM7896A/UV	RM7896C/UV	2	5.5" w.c.	14.0" w.c.
4F-345	C3-20	C3-O	1 1/2	2	208-460/60/3	L-H-O	L-H-O	RM7897C/UV	RM7896A/UV	RM7896C/UV	2	6.7" w.c.	14.0" w.c.
4F-360	C3-25	C3-O	1 1/2	2	208-460/60/3	L-H-O	L-H-O	RM7897C/UV	RM7896A/UV	RM7896C/UV	2 / 2 1/2	5.8" w.c.	14.0" w.c.
4F-450	C3-25B	C3-OB	3	3	208-460/60/3	L-H-O	L-H-O	RM7897C/UV	RM7896A/UV	RM7896C/UV	2 1/2	6.0" w.c.	14.0" w.c.
4F-563	C4-25	C4-OA	3	5	208-460/60/3	L-H-O	L-H-O	RM7897C/UV	RM7896A/UV	RM7896C/UV	2 1/2	7.9" w.c.	14.0" w.c.
4F-675	C4-30	C4-OB	5	5	208-460/60/3	L-H-O	L-H-O	RM7840L/UV	RM7840L/UV	RM7840L/UV	2 1/2	11.9" w.c.	14.0" w.c.

[1] Explanation of Firing Sequences:

Gas and Gas Sequence on Combination Gas/Oil Boilers

On-Off On-Off, fixed fire with slow opening gas valve, fixed air.

L-H-L Low fire start (not proven), high fire run, Lo-Hi-Off gas valve, two stage air control.

Full Mod Full modulation with proven low fire start.

Oil and Oil Sequence on Combination Gas/Oil Boilers

On-Off LFS Fixed air low fire start.

L-H-O Low fire start (not proven), high fire run, oil cylinder air control.

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[2] Oil blower motor is 1/2 hp and combination gas/oil is 1 hp.

[3] Voltage on gas burner models is 120/60/1.

[4] On 3-phase voltage, must specify 208, 230, or 460/60/3 on order.

[5] Model 4F-360 - 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.

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 when burner voltage is greater than 120/60/1.
Motor Starter	Gas, #2 Oil, Gas/#2 Oil	Contactors on all single phase motors. Magnetic starter with overload protection on 3 phase motors.
Fusing	Gas, #2 Oil, Gas/#2 Oil	Control circuit only.
Ignition	Gas and Gas/#2 Oil	Gas/Electric pilot.
	#2 Oil	Direct spark (4F-63 to 4F-360). Gas/Electric pilot (4F-450 and larger).
Signal Lights	Gas, #2 Oil, Gas/#2 Oil	Two [power on and fuel on].
Air Flow Safety Switch	Gas and Gas/#2 Oil	All models.
	#2 Oil	Model 4F-675.
Gas Train	Gas and Gas/#2 Oil	UL gas train for minimum inlet pressure indicated on Burner Information table. Shipped unassembled and consisting of the following: <ul style="list-style-type: none"> ● Manual shut-off valve. ● <u>Gas pressure regulator</u> - low pressure appliance type Combination gas valve and pressure regulator (4F-63 to 4F-209). Separate gas valve and pressure regulator (4F-240 and larger). ● Manual leak test valve. ● <u>Automatic gas valve</u>: Diaphragm type with On-Off sequence. Motorized all others (Proof of closure on 4F-240 and larger). ● <u>Safety gas valve</u>: Auxiliary gas valve on all models. ● <u>High and Low gas pressure switches</u>: Models 4F-240 and larger.
Oil Pump	#2 Oil and Gas/#2 Oil	Two stage, integral with burner (4F-63 to 4F-563). Two stage, separate 3/4 HP motor mounted on boiler skid (4F-675).
Pilot Gas Controls	Gas, #2 Oil, Gas/#2 Oil	All models with gas/electric pilot have manual pilot shut-off valve, soft seat low gas pressure regulator and solenoid gas valve.
Fuel Changeover	Gas/#2 Oil	Manual switch.