



DYNATHERM FP Series Boilers
BECKETT OEM OIL BURNER CONFIGURATION

Boiler model	Burner Model	ATC	Head Type	Head setting/ firing pin	Nozzle or Gas Orifice Size	Air Setting	Pump or Manifold Pressure	Baffle	Solenoid Valve	Flange	Flange Insertion depth	Flange Pitch	Flange Rotation
FP 24 Oil	AFII 100	HLX50HB	6-slot	4	0.65 X 60°B (H)	4.0	160(psig)	31769	None	3167403	2 5/8"	1°	0°
FP 24 Oil	AFII 100	HLX50HB	6-slot	6	0.85 X 45°B (H)	5.5	160(psig)	31769	None	3167403	2 5/8"	1°	0°
FP 24 Oil	AFII 150	HLX50HB	6-slot	4	0.85 X 45°B (H)	3.5	160(psig)	None	None	3167403	2 5/8"	1°	0°
FP 24 Oil	AFII 150	HLX50HB	6-slot	6	1.00 X 45°B (H)	5.0	160(psig)	None	None	3167403	2 5/8"	1°	0°

DYNATHERM Boiler Manufacturing
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**SPECIFICATIONS FOR DYNATHERM
 FPB MODELS 24 & 36 WITH CARLIN SERIES 99CRD BURNERS
 FPB MODEL 48 WITH CARLIN SERIES 99-48CRD BURNER
 FPB MODELS 24 & 36 WITH CARLIN SERIES 100CRD BURNERS
 FPB MODEL 48 WITH CARLIN SERIES 101-48CRD BURNER**

**RECOMMENDED SETTINGS FOR 99 CRD
 BURNER USED WITH MOD 24 & 36 FPB BOILERS
 BLANK AIR SHUTTER**

Firing Rate	Retention Ring Setting	Percent Opening Air Band %
0.85	1/8	20
1.00	1/8	30
1.10	1/8	40
1.25	1/8	40
1.35	3/16	50
1.50	3/16	60

**RECOMMENDED SETTINGS FOR 99-48 CRD
 BURNER USED WITH MOD 48 FPB BOILER
 OPEN AIR SHUTTER**

Firing Rate	Retention Ring Setting	Percent Opening Air Band %
1.50	3/16	20
1.65	1/4	50
1.75	5/16	50

**RECOMMENDED SETTINGS FOR 100 CRD
 BURNER USED WITH MOD 24 & 36 FPB BOILERS WITH
 DELAY OIL VALVE**

Firing Rate	Retention Ring Setting	Percent Opening Air Shutter	Percent Opening Air Band
0.85	Min. 1/8	70	0
	Max. 1/4	20	0
1.00	Min. 3/16	80	100
	Max. 5/16	20	0
1.10	Min. 3/32	100	100
	Max. 1/4	70	0
1.25	Min. 7/16	100	50
	Max. 9/16	30	0
1.35	Min. 7/16	100	100
	Max. 9/16	100	0
1.50	Min. 7/16	100	100
	Max. 5/8	50	20

**RECOMMENDED SETTINGS FOR 101-48 CRD
 MODEL 48 FPB WITH 5-1/16" DIA. BLOWER WHEEL
 NO DELAY OIL VALVE**

Firing Rate	Retention Ring Setting	Percent Opening Air Shutter	Percent Opening Air Band
1.50	1.4	100	50
1.65	5/16	100	50
1.75	3/8	100	50

NOZZLE SPECIFICATIONS

MODEL 99 CRD AND 100 CRD	45° semi-solid Hago 45° Steinen Q 45° Monarch R 45° Monarch AR
MODEL 99-48 CRD AND 101-48 CRD	45° Steinen S

RATINGS & DATA

Boiler	Gross Boiler Output MBH	D.O.E. A.F.U.E. Efficiency %	Nozzle Size	Gross Stack Temperature °F	Net Hot Water MBH	Net Hot Water Sq.Ft.
24A	104	85.2	.85	318	90.4	603
24B	118	84.0	1.00	350	102.6	684
24C	146	82.1	1.25	418	127.0	847
36A	152	85.5	1.25	295	132.2	881
36B	163	85.3	1.35	308	141.7	945
36C	182	84.1	1.50	336	158.3	1055
48A	188	87.5	1.50	249	163.5	1090
48B	203	87.1	1.65	266	176.5	1177
48C	212	86.5	1.75	281	184.3	1229

WEIGHTS AND DIMENSIONS

FP/B MODEL	LENGTH				WIDTH	HEIGHT	SHIPPING WEIGHT CRATED	INSTALLATION CLEARANCE			
	BARE BOILER	SKID	JACKET	BURNER				VERTICAL	SIDE	FRONT	REAR
24	23"	35"	33"	13"	19"	34"	555	6"	12"	18"	24"
36	35"	47"	44"	13"	19"	34"	665	6"	12"	18"	24"
48	47"	59"	56"	13"	19"	34"	775	6"	12"	18"	24"

DOMESTIC WATER OUTPUT

MODEL	Intermittent G.P.M.	Continuous G.P.H.
24A	4	133
24B	4	151
24C	4	187
36A	4	195
36B	4	209
36C	4	234
48A	5	240
48B	5	260
48C	5	270

Standard Equipment

Flame Retention Oil Burner
 Primary Control Temperature & Pressure Gauge
 Flush Jacket Boiler Insulation
 Dual Connections for Vent & Return Piping
 Oil Valve

Water Boiler Features

Tankless Coil
 Combination High Limit/Low Limit
 Operating Control and Circulator Relay

Steam Boiler Features

Low Water Cutoff Safety Valve
 Pressure Control
 Operating Control
 Water Gauge
 Compound Gauge

Optional Equipment

Two-Stage Fuel Unit
 Dual Tankless Coil
 Tankheater Coil
 Jacket Extension



DYNATHERM

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DYNATHERM FP Series Boilers

CARLIN OEM GAS BURNER CONFIGURATION

Appliance Venting arrangement	Boiler model	Burner Model	Control Pre/Post Purge	Firing Rate	Natural Gas orifice	Natural Gas Air Setting	Propane Orifice	Propane Air Setting
CHIMNEY VENTED	FP 18 Gas	EZ-GAS	6020002FR 30/6/30	91 MBH	13/64"	15%	9/64"	12%
	FP 18 Gas	EZ-GAS		105 MBH	#3 (0.213")	22%	9/64"	23%
	FP 18 Gas	EZ-GAS		119 MBH	15/64"	32%	11/64"	33%
DIRECT VENT	FP 18 DV	EZ-GAS	6020002FR 30/6/30	91 MBH DV	13/64"	5%	9/64"	6%
	FP 18 DV	EZ-GAS		105 MBH DV	#3 (0.213")	8%	#21 (0.159)	8%
	FP 18 DV	EZ-GAS		119 MBH DV	15/64"	11%	11/64"	12%
CHIMNEY VENTED	FP 24 Gas	EZ-GAS	6020002FR 30/6/30	119 MBH	15/64"	41%	11/64"	42%
	FP 24 Gas	EZ-GAS		140 MBH	17/64"	60%	13/64"	60%
	FP 24 Gas	EZ-GAS		175 MBH	5/16"	90%	B (0.238")	90%
DIRECT VENT	FP 24 DV	EZ-GAS	6020002FR 30/6/30	119 MBH DV	15/64"	8%	11/64"	11%
	FP 24 DV	EZ-GAS		105 MBH DV	17/64"	18%	13/64"	18%
	FP 24 DV	EZ-GAS		119 MBH DV	5/16"	37%	B (0.238")	28%
CHIMNEY VENTED	FP 36 Gas	EZ-GAS	6020002FR 30/6/30	175 MBH	5/16"	50%	B (0.238")	40%
	FP 36 Gas	EZ-GAS		189 MBH	Q (0.332')	60%	F (0.257")	53%
	FP 36 Gas	EZ-GAS		210 MBH	3/8"	83%	J (0.277")	67%
DIRECT VENT	FP 36 DV	EZ-GAS	6020002FR 30/6/30	175 MBH DV	5/16"	37%	B (0.238")	32%
	FP 36 DV	EZ-GAS		189 MBH DV	Q (0.332')	43%	F (0.257")	42%
	FP 36 DV	EZ-GAS		210 MBH DV	3/8"	75%	J (0.277")	85%

NOTES:

- A) 3 1/2" Water Column Manifold Pressure
- B) 4" long orificed nipple used, orifice toward gas valve

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CARLIN OEM OIL BURNER CONFIGURATION

Appliance Venting arrangement	Boiler model	Burner Model	Control Pre/Post Purge	Nozzle Size	Air Band/ Air Boot	Head Bar	Pump or Manifold Pressure	Flange Insertion depth
CHIMNEY VENTED	FP 18 Oil	EZ-1 PRO	6020002 10/10	0.55 X 45°B	0.60	0.50	150(psig)	3.00" to flange
	FP 18 Oil	EZ-1 PRO	6020002 10/10	0.65 X 45°B	0.65	0.60/ 0.65	150(psig)	3.00" to flange
	FP 18 Oil	EZ-1 PRO	6020002 10/10	0.75 X 45°B	0.75	0.75	150(psig)	3.00" to flange
DIRECT VENT	FP 18 DV	EZ-1 PRO	6020002 15/120	0.55 X 45°B	0.45	0.60/ 0.65	150(psig)	3.00" to flange
	FP 18 DV	EZ-1 PRO	6020002 15/120	0.65 X 45°B	0.55	0.75	150(psig)	3.00" to flange
	FP 18 DV	EZ-1 PRO	6020002 15/120	0.75 X 45°B	0.65	0.85/ 1.00	150(psig)	3.00" to flange
CHIMNEY VENTED	FP 24 OIL	EZ-1 PRO	6020002 10/10	0.75 X 45°B	0.75	0.75	150(psig)	3.00" to flange
	FP 24 OIL	EZ-1 PRO	6020002 10/10	0.85 X 45°B	0.85	0.85/ 1.00	150(psig)	3.00" to flange
	FP 24 OIL	EZ-1 PRO	6020002 10/10	1.10 X 45°B	1.10	1.10/ 1.25	150(psig)	3.00" to flange
DIRECT VENT	FP 24 DV	EZ-1 PRO	6020002 15/120	0.75 X 45°B	0.65	0.85/ 1.00	150(psig)	3.00" to flange
	FP 24 DV	EZ-1 PRO	6020002 15/120	0.85 X 45°B	0.85	1.10/ 1.25	150(psig)	3.00" to flange
	FP 24 DV	EZ-1 PRO	6020002 15/120	1.10 X 45°B	1.15	1.35/ 1.50	150(psig)	3.00" to flange
CHIMNEY VENTED	FP 36 OIL	EZ-1 PRO	6020002 10/10	1.00 X 45°B	1.15	0.85/ 1.00	150(psig)	3.00" to flange
	FP 36 OIL	EZ-1 PRO	6020002 10/10	1.10 X 45°B	1.15	1.10/ 1.25	150(psig)	3.00" to flange
	FP 36 OIL	EZ-1 PRO	6020002 10/10	1.25 X 45°B	1.20	1.35/ 1.50	150(psig)	3.00" to flange
DIRECT VENT	FP 36 DV	EZ-1 PRO	6020002 15/120	1.00 X 45°B	1.20	1.10/ 1.25	150(psig)	3.00" to flange
	FP 36 DV	EZ-1 PRO	6020002 15/120	1.10 X 45°B	1.20	1.35/ 1.50	150(psig)	3.00" to flange
	FP 36 DV	EZ-1 PRO	6020002 15/120	1.25 X 45°B	1.60	1.65	150(psig)	3.00" to flange

NOTES:

- A) All "B" oil burner nozzles listed above for EZ-1 Pro Oil burner are Hago or Delavan
- B) All Air tubes for above burners are 7" in length

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CARLIN OEM OIL BURNER CONFIGURATION

EZ-1/ 99FRD

Appliance Venting arrangement	Boiler model	Burner Model	Control	Nozzle or Gas Orifice Size	Air Setting	Turbulator or Head setting	Pump or Manifold Pressure	Flange Insertion depth
CHIMNEY VENTED	FP 24 Oil	EZ-1HP	60200 10/10	0.75 X 45 ^o B	0.65	0.75	140(psig)	2.75" to flange
	FP 24 Oil	EZ-1HP	60200 10/10	0.85 X 45 ^o B	0.75	0.85/1.00	140(psig)	2.75" to flange
	FP 24 Oil	EZ-1HP	60200 10/10	1.10 X 45 ^o B	1.10	0.85/1.00	140(psig)	2.75" to flange
DIRECT VENT	FP 24 DV	EZ-1HP	60200 15/120	0.75 X 45 ^o B	0.75	0.75	140(psig)	2.75" to flange
	FP 24 DV	EZ-1HP	60200 15/120	0.85 X 45 ^o B	0.75	0.85/1.00	140(psig)	2.75" to flange
	FP 24 DV	EZ-1HP	60200 15/120	1.10 X 45 ^o B	1.60	1.10/1.25	140(psig)	2.75" to flange
CHIMNEY VENTED	FP 18	99FRD	48245	0.65 X 45Q	15%	0.0	100(psig)	3.00" to flange
	FP 18	99FRD	48245	0.85 X 45Q	25%	1.0	100(psig)	3.00" to flange
	FP 18	99FRD	48245	1.00 X 45Q	30%	2.0	100(psig)	3.00" to flange
CHIMNEY VENTED	FP 24	99FRD	48245	0.85 X 45Q	25%	1.0	100(psig)	3.00" to flange
	FP 24	99FRD	48245	1.00 X 45Q	30%	2.0	100(psig)	3.00" to flange
	FP 24	99FRD	48245	1.25 X 45Q	50%	2.0	100(psig)	3.00" to flange
CHIMNEY VENTED	FP 36	99FRD	48245	1.25 X 45Q	50%	2.0	100(psig)	3.00" to flange
	FP 36	99FRD	48245	1.35 X 45Q	55%	2.0	100(psig)	3.00" to flange
	FP 36	99FRD	48245	1.50 X 45Q	70%	2.0	100(psig)	3.00" to flange
CHIMNEY VENTED	FP 42	99FRD	48245	1.50 X 45Q	70%	2.0	100(psig)	3.00" to flange
	FP 42	99FRD	48245	1.65 X 45Q	75%	3.0	100(psig)	3.00" to flange
	FP 42	99FRD	48245	1.75 X 45Q	80%	3.0	100(psig)	3.00" to flange

NOTES:

- C) All "B" oil burner nozzles listed in above setup chart for EZ-1 Oil burner are Hago or Delavan
- D) All "Q" oil burner nozzles listed in above setup chart for 99FRD Oil burner are Steinen
- E) All Air tubes for above burners are 5" in length

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Nozzle Interchange Chart

Spray Angles 30° through 90°

HAGO/SID HARVEY	DELAVAN
H SS (up to 2.0) SS (over 2.0) ES/P B	A SS A or W B* B*
MONARCH	DELAVAN
NS/PL R/AR (up to 2.0) R/AR (over 2.0) PLP	A R-D/AR-D A/A or W B*
DANFOSS	DELAVAN
AS AH	W or B A

*The original B Nozzle

Burner Manufacturer's Recommendations*

Manufacturer	Model	Delavan Nozzle	
Aero Burner	F-AFC	80° W, A or B	
	HF-US	80° W, A or B	
	HF-AFC	80° W, A or B	
	SV-SSV	70° or 80° B	
R.W. Beckett	AF/FG (F)	60°, 70° or 80° A or B (100-150 PSI)	
	AF/AFG (M)	60° or 70° A or B (100-150 PSI)	
	AFII (FB)	45°, 60° or 70° A, W or B (140-200 PSI)	
	AFII (HLX)	45°, 60° or 70° A, W or B (140-200 PSI)	
The Carlin Co.	99 FRD (Std.)	.50 - .75 GPH	60° A
		.85 - 3.00 GPH	45° A, 60° A or B
	100 CRD (Std.)	.50 - .75 GPH	60° A
		.85 - 2.25 GPH	45° A, 60° A or B
		.75 - 1.10 GPH	60°
	Elite EZ-1	.50 - 1.00 GPH	70° A
		.50 - .85 GPH	60° SS
		1.00 - 1.65 GPH	60° or 70°
Elite (EZ-2,3)	All Flow Rates	60° A, B or SS	
Riello Burners	Mectron 3M 5M	60° W, B, or Del-O-Flo A (Up to .85 GPH)	
	F3, F5	.40 - 1.25 GPH	60° or 80° W or A
	F10	1.25 - 2.50 GPH	60° W or B
	F15, F20	2.00 - 5.00 GPH	45° or 60° W or B
	R35.3, R35.5	.50 - 1.25 GPH	60° or 80° W or B
	Press Series	2.00 - 12.00 GPH	60° or 45° B or W
Intertherm	MAC 1265	P/N 6601-181 or .55 GPH 90° W or .579 MH	
	MSH 066	.50	80° A
	MSH 086	.65	80° A
Wayne Home Equipment	P100	.50 – 1.00 GPH	60°, 70°, or 80° A or B
	EHASR	.75 – 3.00 GPH	80°, 70°, or 60° **
	MSR	.75 – 2.75 GPH	80°, 70°, or 60° **
	HS	.50 – 2.50 GPH	80°, 70°, or 60° **
	HS	.50 – 3.00 GPH	80°, 70°, or 60° B
	EG-1	.50 – 3.00 GPH	80°, 70°, or 60° **
		**Under 1.00 GPH use A; above 1.00 use B	
Weil-McLain	QB180 (150 PSI)	.55 – 1.80 GPH	45°, 60°, 70°, 80° A or B
	QB180 (140 PSI)	1.75 – 3.00 GPH	45°, 60°, 70°, 80° B

*Effective November 1999. Subject to updating by burner manufacturers. For models not listed, contact burner manufacturer. Always follow the appliance manufacturer's instructions for the correct nozzle specification. For more current information, please visit our website at www.delavaninc.com.

NOTE: Information on this chart is to be used as a general guide only.

DELAVAN

Recommended Nozzle Sizes for ***DYNATHERM*** Boilers

MODEL	BURNER	BRAND	GPH	DEGREE	SPRAY
18	RIELLO	DELAVAN	.65	80 or 60	SOLID
			.75		
			.85		
	BECKETT AFII 150	HAGO	.65	45	SOLID
			.75		
			.85		
	CARLIN	HAGO/DELAVAN	.65	45	SOLID
			.75		
			.85		

24	RIELLO	DELAVAN	.75	80 or 60	SOLID
			.85		
			1.00		
	BECKETT AFII 150	HAGO	.75	45	SOLID
			.85		
			1.00		
	CARLIN	HAGO/DELAVAN	.75	45	SOLID
			.85		
			1.00		

36	RIELLO	DELAVAN	1.00	80 or 60	SOLID
			1.10		
			1.25		
	BECKETT AFII 150	HAGO	1.00	45	SOLID
			1.10		
			1.25		
	CARLIN	HAGO/DELAVAN	1.00	45	SOLID
			1.10		
			1.25		

42	RIELLO	DELAVAN	1.10	45	SOLID
			1.25		
			1.35		
	CARLIN	HAGO/DELAVAN	1.10	45	SOLID
			1.25		
			1.35		

48	RIELLO	DELAVAN	1.50	30	SOLID
			1.75		
			2.00		
	CARLIN	HAGO/DELAVAN	1.50	45	SOLID
			1.75		
			2.00		



DYNATHERM BOILERS

DYNATHERM FP Series Boilers

RIELLO OEM OIL BURNER CONFIGURATION

Appliance Venting arrangement	Boiler model	Burner Model	Firing rate input value US gph or BTU/Hr.	Nozzle or Gas Orifice Size	Air Gate Setting	Turbulator or Head setting	Pump or Manifold Pressure	Flange Insertion depth
CHIMNEY VENTED	FP 24 Oil	40 F5 w/SBT	0.85	.75 X 80°B	2.8	0.0	145(psig)	2.50" to flange
	FP 24 Oil	40 F5 w/SBT	1.00	.85 X 80°B	3.0	1.0	145(psig)	2.50" to flange
	FP 24 Oil	40 F5 w/SBT	1.25	1.10 X 80°B	3.25	3.0	145(psig)	2.50" to flange
DIRECT VENT	FP 24 DV	40 BF5 w/SBT	0.85	.75 X 80°B	3.5	0.0	145(psig)	2.50" to flange
	FP 24 DV	40 BF5 w/SBT	1.00	.85 X 80°B	4.0	1.0	145(psig)	2.50" to flange
	FP 24 DV	40 BF5 w/SBT	1.25	1.10 X 80°B	5.5	3.0	145(psig)	2.50" to flange
CHIMNEY VENTED	FP 24 gas	40 G200 w/SBT	119,000	2.0mm	2.0	2.0	.85° w.c.	Fixed
	FP 24 gas	40 G200 w/SBT	140,000	2.0mm	2.25	3.0	1.0° w.c.	Fixed
	FP 24 gas	40 G200 w/SBT	175,000	2.0mm	3.0	4.0	1.45° w.c.	Fixed
CHIMNEY VENTED	FP 48 Oil	40 F10 w/LBT	1.65	1.50 X 30°B	3.0	2.0	145(psig)	2.50" to flange
	FP 48 Oil	40 F10 w/LBT	2.00	1.75 X 30°B	4.0	3.0	160(psig)	2.50" to flange
	FP 48 Oil	40 F10 w/LBT	2.25	2.00 X 30°B	5.0	4.0	155(psig)	2.50" to flange
CHIMNEY VENTED	FP 48 gas	40 G200 (see note °C)	231,000	NO DATA AVAILABLE				
	FP 48 gas	40 G200 (see note °C)	280,000					
	FP 48 gas	40 G200 (see note °C)	315,000					

NOTES:

- A) All oil burner nozzles listed in above setup chart = Delavan
- B) FP 48 boiler with F10 oil burner utilized a OEM specific milled aluminum type turbulator disk see OEM part number below
- C) FP 48 boiler with 40 G400 gas burner: No application data available
- D) All Gas burner installations must have a minimum of 6" of gas supply pressure measured at the inlet of gas valve during a firing cycle to obtain proper input value.
- E) All chimney applications must utilize a draft regulator (single acting oil) & (double acting gas) and draft pressure in breech to be set @ -0.02 to 0.04" WC
- F) All OEM configurations and settings listed above are a starting point only.

OEM spare parts list

	40 F3	40 F5	40 F10	40 G200	40 G400
Flange	C6840001	C6840001	C6840001	C6840001	N/A
Gasket	C6880019	C6880019	C6880019	C6880019	N/A

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**RECOMMENDED SETTINGS FOR 99 CRD
 BURNER USED WITH MOD 24 & 36 FPB BOILERS
 BLANK AIR SHUTTER**

Firing Rate	Retention Ring Setting	Percent Opening Air Band %
0.85	1/8	20
1.00	1/8	30
1.10	1/8	40
1.25	1/8	40
1.35	3/16	50
1.50	3/16	60

**RECOMMENDED SETTINGS FOR 99-48 CRD
 BURNER USED WITH MOD 48 FPB BOILER
 OPEN AIR SHUTTER**

Firing Rate	Retention Ring Setting	Percent Opening Air Band %
1.50	3/16	20
1.65	1/4	50
1.75	5/16	50

**RECOMMENDED SETTINGS FOR 100 CRD
 BURNER USED WITH MOD 24 & 36 FPB BOILERS WITH
 DELAY OIL VALVE**

Firing Rate	Retention Ring Setting	Percent Opening Air Shutter	Percent Opening Air Band
0.85	Min. 1/8	70	0
	Max. 1/4	20	0
1.00	Min. 3/16	80	100
	Max. 5/16	20	0
1.10	Min. 3/32	100	100
	Max. 1/4	70	0
1.25	Min. 7/16	100	50
	Max. 9/16	30	0
1.35	Min. 7/16	100	100
	Max. 9/16	100	0
1.50	Min. 7/16	100	100
	Max. 5/8	50	20

**RECOMMENDED SETTINGS FOR 101-48 CRD
 MODEL 48 FPB WITH 5-1/16" DIA. BLOWER WHEEL
 NO DELAY OIL VALVE**

Firing Rate	Retention Ring Setting	Percent Opening Air Shutter	Percent Opening Air Band
1.50	1.4	100	50
1.65	5/16	100	50
1.75	3/8	100	50

NOZZLE SPECIFICATIONS

MODEL 99 CRD AND 100 CRD	45° semi-solid Hago 45° Steinen Q 45° Monarch R 45° Monarch AR
MODEL 99-48 CRD AND 101-48 CRD	45° Steinen S

RATINGS & DATA

Boiler	Gross Boiler Output MBH	D.O.E. A.F.U.E. Efficiency %	Nozzle Size	Gross Stack Temperature °F	Net Hot Water MBH	Net Hot Water Sq.Ft.
24A	104	85.2	.85	318	90.4	603
24B	118	84.0	1.00	350	102.6	684
24C	146	82.1	1.25	418	127.0	847
36A	152	85.5	1.25	295	132.2	881
36B	163	85.3	1.35	308	141.7	945
36C	182	84.1	1.50	336	158.3	1055
48A	188	87.5	1.50	249	163.5	1090
48B	203	87.1	1.65	266	176.5	1177
48C	212	86.5	1.75	281	184.3	1229

WEIGHTS AND DIMENSIONS

FP/B MODEL	LENGTH				WIDTH	HEIGHT	SHIPPING WEIGHT CRATED	INSTALLATION CLEARANCE			
	BARE BOILER	SKID	JACKET	BURNER				VERTICAL	SIDE	FRONT	REAR
24	23"	35"	33"	13"	19"	34"	555	6"	12"	18"	24"
36	35"	47"	44"	13"	19"	34"	665	6"	12"	18"	24"
48	47"	59"	56"	13"	19"	34"	775	6"	12"	18"	24"

DOMESTIC WATER OUTPUT

MODEL	Intermittent G.P.M.	Continuous G.P.H.
24A	4	133
24B	4	151
24C	4	187
36A	4	195
36B	4	209
36C	4	234
48A	5	240
48B	5	260
48C	5	270

Standard Equipment

Flame Retention Oil Burner
 Primary Control Temperature & Pressure Gauge
 Flush Jacket Boiler Insulation
 Dual Connections for Vent & Return Piping
 Oil Valve

Water Boiler Features

Tankless Coil
 Combination High Limit/Low Limit
 Operating Control and Circulator Relay

Steam Boiler Features

Low Water Cutoff Safety Valve
 Pressure Control
 Operating Control
 Water Gauge
 Compound Gauge

Optional Equipment

Two-Stage Fuel Unit
 Dual Tankless Coil
 Tankheater Coil
 Jacket Extension



DYNATHERM

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DYNATHERM FP Series Boilers

CARLIN OEM OIL BURNER CONFIGURATION

Appliance Venting arrangement	Boiler model	Burner Model	Control	Nozzle or Gas Orifice Size	Air Setting	Turbulator or Head setting	Pump or Manifold Pressure	Flange Insertion depth
CHIMNEY VENTED	FP 24 Oil	EZ-1HP	60200 10/10	0.75 X 45°B	0.65	0.75	140(psig)	2.75" to flange
	FP 24 Oil	EZ-1HP	60200 10/10	0.85 X 45°B	0.75	0.85/1.00	140(psig)	2.75" to flange
	FP 24 Oil	EZ-1HP	60200 10/10	1.10 X 45°B	1.10	0.85/1.00	140(psig)	2.75" to flange
DIRECT VENT	FP 24 DV	EZ-1HP	60200 15/120	0.75 X 45°B	0.75	0.75	140(psig)	2.75" to flange
	FP 24 DV	EZ-1HP	60200 15/120	0.85 X 45°B	0.75	0.85/1.00	140(psig)	2.75" to flange
	FP 24 DV	EZ-1HP	60200 15/120	1.10 X 45°B	1.60	1.10/1.25	140(psig)	2.75" to flange
CHIMNEY VENTED	FP 18	99FRD	48245	0.65 X 45Q	15%	0.0	100(psig)	3.00" to flange
	FP 18	99FRD	48245	0.85 X 45Q	25%	1.0	100(psig)	3.00" to flange
	FP 18	99FRD	48245	1.00 X 45Q	30%	2.0	100(psig)	3.00" to flange
CHIMNEY VENTED	FP 24	99FRD	48245	0.85 X 45Q	25%	1.0	100(psig)	3.00" to flange
	FP 24	99FRD	48245	1.00 X 45Q	30%	2.0	100(psig)	3.00" to flange
	FP 24	99FRD	48245	1.25 X 45Q	50%	2.0	100(psig)	3.00" to flange
CHIMNEY VENTED	FP 36	99FRD	48245	1.25 X 45Q	50%	2.0	100(psig)	3.00" to flange
	FP 36	99FRD	48245	1.35 X 45Q	55%	2.0	100(psig)	3.00" to flange
	FP 36	99FRD	48245	1.50 X 45Q	70%	2.0	100(psig)	3.00" to flange
CHIMNEY VENTED	FP 42	99FRD	48245	1.50 X 45Q	70%	2.0	100(psig)	3.00" to flange
	FP 42	99FRD	48245	1.65 X 45Q	75%	3.0	100(psig)	3.00" to flange
	FP 42	99FRD	48245	1.75 X 45Q	80%	3.0	100(psig)	3.00" to flange

NOTES:

- A) All "B" oil burner nozzles listed in above setup chart for EZ-1 Oil burner are Hago or Delavan
- B) All "Q" oil burner nozzles listed in above setup chart for 99FRD Oil burner are Steinen
- C) All Air tubes for above burners are 5" in length

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DYNATHERM FP Series Boilers

CARLIN OEM GAS BURNER CONFIGURATION

Appliance Venting arrangement	Boiler model	Burner Model	Control Pre/Post Purge	Firing Rate	Natural Gas orifice	Natural Gas Air Setting	Propane Orifice	Propane Air Setting
CHIMNEY VENTED	FP 18 Gas	EZ-GAS	6020002FR 30/6/30	91 MBH	13/64"	15%	9/64"	12%
	FP 18 Gas	EZ-GAS		105 MBH	#3 (0.213")	22%	9/64"	23%
	FP 18 Gas	EZ-GAS		119 MBH	15/64"	32%	11/64"	33%
DIRECT VENT	FP 18 DV	EZ-GAS	6020002FR 30/6/30	91 MBH DV	13/64"	5%	9/64"	6%
	FP 18 DV	EZ-GAS		105 MBH DV	#3 (0.213")	8%	#21 (0.159)	8%
	FP 18 DV	EZ-GAS		119 MBH DV	15/64"	11%	11/64"	12%
CHIMNEY VENTED	FP 24 Gas	EZ-GAS	6020002FR 30/6/30	119 MBH	15/64"	41%	11/64"	42%
	FP 24 Gas	EZ-GAS		140 MBH	17/64"	60%	13/64"	60%
	FP 24 Gas	EZ-GAS		175 MBH	5/16"	90%	B (0.238")	90%
DIRECT VENT	FP 24 DV	EZ-GAS	6020002FR 30/6/30	119 MBH DV	15/64"	8%	11/64"	11%
	FP 24 DV	EZ-GAS		105 MBH DV	17/64"	18%	13/64"	18%
	FP 24 DV	EZ-GAS		119 MBH DV	5/16"	37%	B (0.238")	28%
CHIMNEY VENTED	FP 36 Gas	EZ-GAS	6020002FR 30/6/30	175 MBH	5/16"	50%	B (0.238")	40%
	FP 36 Gas	EZ-GAS		189 MBH	Q (0.332')	60%	F (0.257")	53%
	FP 36 Gas	EZ-GAS		210 MBH	3/8"	83%	J (0.277")	67%
DIRECT VENT	FP 36 DV	EZ-GAS	6020002FR 30/6/30	175 MBH DV	5/16"	37%	B (0.238")	32%
	FP 36 DV	EZ-GAS		189 MBH DV	Q (0.332')	43%	F (0.257")	42%
	FP 36 DV	EZ-GAS		210 MBH DV	3/8"	75%	J (0.277")	85%
CHIMNEY VENTED	FP 48 Gas	201 Gas	6020002FR 30/6/30	259 MBH	3/8" @ 3.3" WC	40%	5/16" @ 3.5" WC	40%
	FP 48 Gas	201 Gas		280 MBH	3/8" @ 3.7" WC	50%	Let O @ 3.2" WC	50%
	FP 48 Gas	201 Gas		300 MBH	25/64" @ 3.2" WC	75%	Let O @ 3.5" WC	75%

NOTES:

- A) 3 1/2" Water Column Manifold Pressure FP 18, 24, 36
- B) 4" long orificed nipple used, orifice toward gas valve

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DYNATHERM FP Series Boilers

CARLIN OEM OIL BURNER CONFIGURATION

Appliance Venting arrangement	Boiler model	Burner Model	Control Pre/Post Purge	Nozzle Size	Air Band/ Air Boot	Head Bar	Pump or Manifold Pressure	Flange Insertion depth
CHIMNEY VENTED	FP 18 Oil	EZ-1 PRO	6020002 10/10	0.55 X 45°B	0.60	0.50	150(psig)	3.00" to flange
	FP 18 Oil	EZ-1 PRO	6020002 10/10	0.65 X 45°B	0.65	0.60/ 0.65	150(psig)	3.00" to flange
	FP 18 Oil	EZ-1 PRO	6020002 10/10	0.75 X 45°B	0.75	0.75	150(psig)	3.00" to flange
DIRECT VENT	FP 18 DV	EZ-1 PRO	6020002 15/120	0.55 X 45°B	0.45	0.60/ 0.65	150(psig)	3.00" to flange
	FP 18 DV	EZ-1 PRO	6020002 15/120	0.65 X 45°B	0.55	0.75	150(psig)	3.00" to flange
	FP 18 DV	EZ-1 PRO	6020002 15/120	0.75 X 45°B	0.65	0.85/ 1.00	150(psig)	3.00" to flange
CHIMNEY VENTED	FP 24 OIL	EZ-1 PRO	6020002 10/10	0.75 X 45°B	0.75	0.75	150(psig)	3.00" to flange
	FP 24 OIL	EZ-1 PRO	6020002 10/10	0.85 X 45°B	0.85	0.85/ 1.00	150(psig)	3.00" to flange
	FP 24 OIL	EZ-1 PRO	6020002 10/10	1.10 X 45°B	1.10	1.10/ 1.25	150(psig)	3.00" to flange
DIRECT VENT	FP 24 DV	EZ-1 PRO	6020002 15/120	0.75 X 45°B	0.65	0.85/ 1.00	150(psig)	3.00" to flange
	FP 24 DV	EZ-1 PRO	6020002 15/120	0.85 X 45°B	0.85	1.10/ 1.25	150(psig)	3.00" to flange
	FP 24 DV	EZ-1 PRO	6020002 15/120	1.10 X 45°B	1.15	1.35/ 1.50	150(psig)	3.00" to flange
CHIMNEY VENTED	FP 36 OIL	EZ-1 PRO	6020002 10/10	1.00 X 45°B	1.15	0.85/ 1.00	150(psig)	3.00" to flange
	FP 36 OIL	EZ-1 PRO	6020002 10/10	1.10 X 45°B	1.15	1.10/ 1.25	150(psig)	3.00" to flange
	FP 36 OIL	EZ-1 PRO	6020002 10/10	1.25 X 45°B	1.20	1.35/ 1.50	150(psig)	3.00" to flange
DIRECT VENT	FP 36 DV	EZ-1 PRO	6020002 15/120	1.00 X 45°B	1.20	1.10/ 1.25	150(psig)	3.00" to flange
	FP 36 DV	EZ-1 PRO	6020002 15/120	1.10 X 45°B	1.20	1.35/ 1.50	150(psig)	3.00" to flange
	FP 36 DV	EZ-1 PRO	6020002 15/120	1.25 X 45°B	1.60	1.65	150(psig)	3.00" to flange
CHIMNEY VENTED	FP 48 OIL	EZ-66	6020002 30/30	1.50 x 30°B	80%	6-8 set @ 7	150(psig)	3.00" to flange
	FP 48 OIL	EZ-66	6020002 30/30	1.65 x 30°B	100%	6-8 set @ 7	150(psig)	3.00" to flange

NOTES:

- A) All "B" oil burner nozzles listed above for EZ Oil burner are Hago or Delavan
- B) Air tubes for FP 18,24,36 burners are 7" in length
- C) Air Tube for FP48 Burner is 11" in length

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