Sinclair XF Series Gas Furnace

80% AFUE

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Features：

- Durable aluminized steel tubular heat exchanger.
- Hot-surface ignition for dependable operation.
- Quiet multi-speed direct-drive Blower.
- Natural gas and propane (LP) convertible.
- R454b refrigerant leakage sensor adaptable
- UL60335-2-40 certified.
- Designed for multi-position installation: Up flow, down flow, horizontal.
- Industry-standard cabinet sizes for easy replacement, installation and add-on cooling.
- Convenient left or right connection for gas and electric service.
- Removable bottom for side or bottom return application.

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1 Product Lineup

Model	FUR040145M801ESNCXFN FUR060145M801ESNCXFN FUR060175M801ESNCXFN FUR080175M801ESNCXFN	FUR080021M801ESNCXFN FUR100021M801ESNCXFN FUR120245M801ESNCXFN
Appearance		

2 Nomenclature

FUR	040	145	M	80	1	E	SNC	XF	N
1	2	3	4	5	6	7	8	9	10

Legend		
No.	**Code**	**Remarks**
1	FUR	Line: Gas Furnace
2	040	Capacity: 040 = 40k BTU; 060 = 60k BTU; 080 = 80k BTU; 100 = 100k BTU; 120 = 120k BTU
3	145	Cabinet: 145 = 14.5; 175 = 17.5; 021 = 21.0; 245 = 24.5
4	M	Position: Multi-Position
5	80	Efficiency: 80% AFUE
6	1	Stage: 1 Stage Heating
7	E	Fan: ECM
8	SNC	Brand: Sinclair
9	XF	Series: XF
10	N	Fuel: Natural Gas

3 Specifications

	FUR040145M801ESNCXFN	FUR060145M801ESNCXFN	FUR060175M801ESNCXFN	FUR080175M801ESNCXFN
FUEL TYPE	Natural/Propane Gas	Natural/Propane Gas	Natural/Propane Gas	Natural/Propane Gas
GAS HEATING PERFORMANCE				
Input (BTU/h)	40,000	60,000	60,000	80,000
Natural Gas	32,000	48,000	48,000	64,000
LP Gas	32,000	48,000	48,000	64,000
AFUE	80	80	80	80
Available AC @ 0.5" ESP	1/1.5/2/2.5	1.5/2/2.5/3	1.5/2/2.5/3	2.5/3/3.5/4
Temperature Rise Range (° F)	20-50	25-55	25-55	30-60
ELECTRICAL DATA				
Voltage/Phase (60Hz)	115	115	115	115
Min. / Max. Voltage (V)	104/127	104/127	104/127	104/127
Min. Circuit Ampacity (MCA) (A)	6	6	6	6
Max. Overcurrent Protection (MOP) (A)	15	15	15	15
FAN MOTOR				
Motor Type	ECM	ECM	ECM	ECM
Horsepower (HP)	1/2	1/2	1/2	1/2
Rated RPM	1050	1050	1050	1050
Full Load Amps (FLA) (A)	8	8	8	8
Capacitor (uF)	\	\	\	\
CIRCULATOR BLOWER				
Material	Metal	Metal	Metal	Metal
Type	Centrifugal	Centrifugal	Centrifugal	Centrifugal
Size (D x H) (in.)	11-3/16 x 6-9/64	11-3/16 x 6-9/64	11-3/16 x 9-41/64	11-3/16 x 9-41/64
Vent Diameter (in.)	3/4	3/4	3/4	3/4
No. of Burners	3	3	3	5
Speed Mode Number	5	5	5	5

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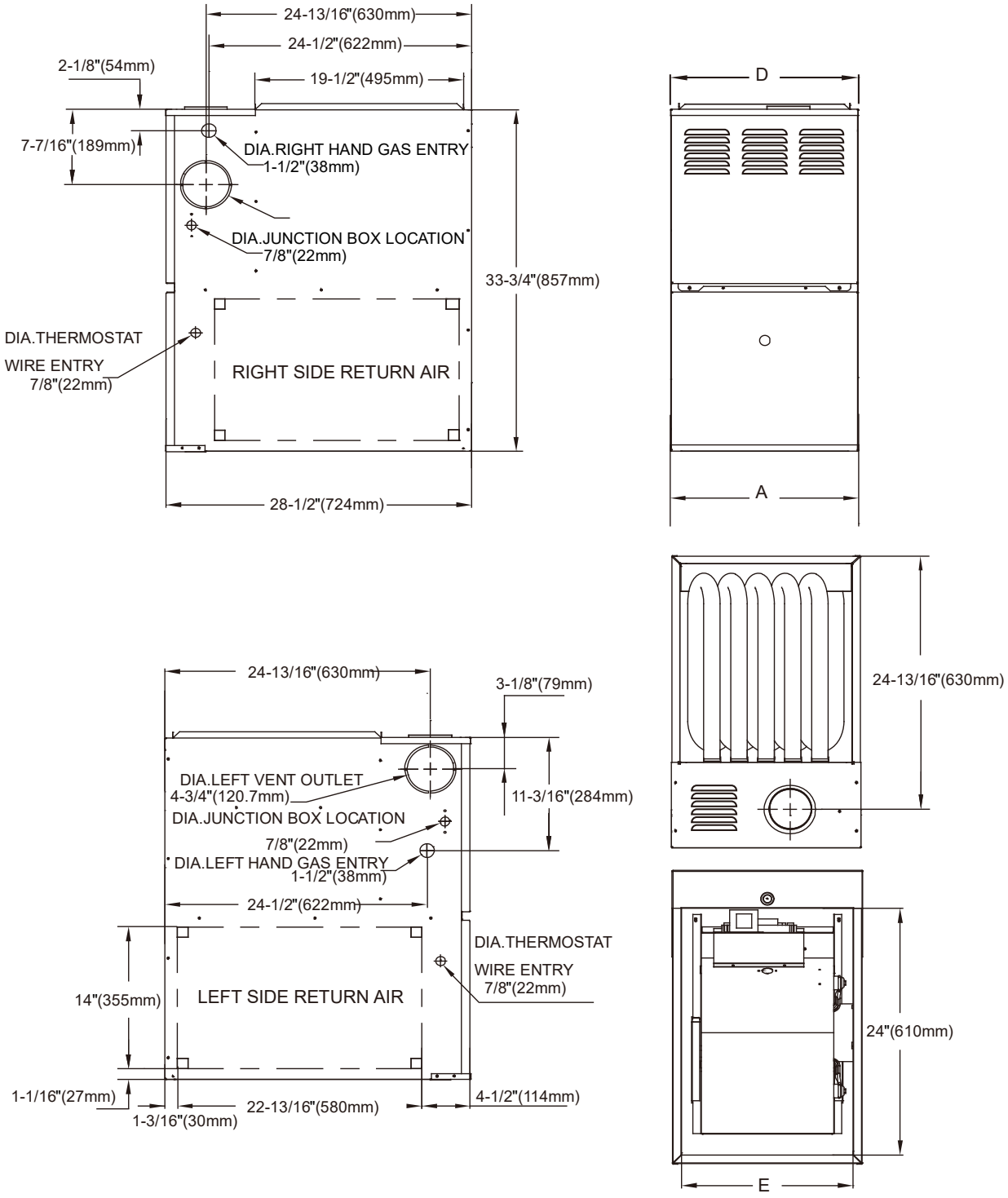
Specifications

	FUR080021M801ESNCXFN	FUR100021M801ESNCXFN	FUR120245M801ESNCXFN
FUEL TYPE	Natural/Propane Gas	Natural/Propane Gas	Natural/Propane Gas
GAS HEATING PERFORMANCE			
Input (BTU/h)	80,000	100000	120000
Natural Gas	64,000	80,000	96,000
LP Gas	64,000	80,000	96,000
AFUE	80	80	80
Available AC @ 0.5" ESP	2.5/3/3.5/4	3.5/4/4.5/5	3.5/4/4.5/5
Temperature Rise Range (° F)	30-60	30-60	35-65
ELECTRICAL DATA			
Voltage/Phase (60Hz)	115	115	115
Min. / Max. Voltage (V)	104/127	104/127	104/127
Min. Circuit Ampacity (MCA) (A)	6	12.3	13
Max. Overcurrent Protection (MOP) (A)	15	20	20
FAN MOTOR			
Motor Type	ECM	ECM	ECM
Horsepower (HP)	1/2	1	1
Rated RPM	1050	1050	1050
Full Load Amps (FLA) (A)	8	14	14
Capacitor (uF)	\	\	\
CIRCULATOR BLOWER			
Material	Metal	Metal	Metal
Type	Centrifugal	Centrifugal	Centrifugal
Size (D x H) (in.)	11-3/16 x 11-3/16	11-3/16 x 11-3/16	12-6/8 x 11-1/4
Vent Diameter (in.)	3/4	3/4	3/4
No. of Burners	5	6	7
Speed Mode Number	5	5	5

4 Combustion System Specifications

Model				FUR040145	FUR060145	FUR060175	FUR080175	FUR080021	FUR100021	FUR120245
Max. Inlet Gas Press	Natural Gas	in.w.c		10.5	10.5	10.5	10.5	10.5	10.5	10.5
	Propane Gas (LP)	in.w.c		13	13	13	13	13	13	13
Min. Inlet Gas Press	Natural Gas	in.w.c		4.5	4.5	4.5	4.5	4.5	4.5	4.5
	Propane Gas (LP)	in.w.c		11	11	11	11	11	11	11
Natural Gas Manifold Pressure (High/Low fire)		in.w.c		3.0	3.5	3.5	3.8	3.8	3.8	3.9
Propane Gas Manifold Pressure (High/Low fire)		in.w.c		10	10	10	10	10	10	10.5
Natural Gas Factory Orifice (0-2000 feet)		#		50	45	45	49	49	49	49
Propane Gas (LP) Factory Orifice (0-2000 feet)		#		59	55	55	56	56	56	56
Gas Connection Size		in. NPT		3/4	3/4	3/4	3/4	3/4	3/4	3/4
Igniton Device				Hot surface						
Number of Burners		#		3	3	3	5	5	6	7
Primary Heat exchanger Diameter		Inch		1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2
Primary Heat exchanger		# tubes		3	3	3	5	5	6	7
Flue Vent Diameter		Inch		1-3/16	1-29/64	1-29/64	1-49/64	1-37/64	1-57/64	1-57/64
Safety Switch Settings										
Pressure Switch Factory Setting		Low	in.w.c	0.55	0.55	0.55	0.55	0.55	0.55	0.55
Rollout switch - resettable		Off/ On	°F	300	300	300	300	300	300	300
Inlet High Temperature Limit switch - fixed		Off/ On	°F	180/150	180/150	180/150	180/150	150/120	180/150	180/150

5 Dimensions



MODEL	A CABINET WIDTH IN.	D SUPPLY AIR WIDTH IN.	E RETURN AIR WIDTH IN.	SHIP WT (lbs)
FUR040145	14.5	13	15-57/32	119
FUR060145	14.5	13	15-57/32	119
FUR060175	17.5	16	15-27/32	126
FUR080175	17.5	16	15-27/32	139
FUR080021	21	19.5	19-13/32	146
FUR100021	21	19.5	19-13/32	159
FUR120245	24.5	23	22-27/32	170

6 Airflow Data

Air Delivery - CFM without filter

MODEL	SPEED	STATIC PRESSURE	0	0.2	0.4	0.6	0.8	1
FUR040145	H	[SCFM]	1149	1121	1160	1153	1143	1169
		Temp.Rise °F	26	27	26	26	26	26
	MH	[SCFM]	999	1008	994	1030	990	972
		Temp.Rise °F	30	30	30	29	30	31
	M	[SCFM]	799	777	797	782	828	809
		Temp.Rise °F	37	38	37	38	36	37
	ML	[SCFM]	600	611	622	611	577	632
		Temp.Rise °F	/	/	/	/	/	/
	L	[SCFM]	450	483	460	469	437	454
		Temp.Rise °F	/	/	/	/	/	/
FUR060145	H	[SCFM]	1149	1121	1160	1153	1143	1169
		Temp.Rise °F	39	40	39	39	39	38
	MH	[SCFM]	999	1008	994	1030	990	972
		Temp.Rise °F	45	44	45	43	45	46
	M	[SCFM]	799	777	797	782	828	809
		Temp.Rise °F	/	/	/	/	/	/
	ML	[SCFM]	600	611	622	611	577	632
		Temp.Rise °F	/	/	/	/	/	/
	L	[SCFM]	450	483	460	469	437	454
		Temp.Rise °F	/	/	/	/	/	/
FUR060175	H	[SCFM]	1301	1294	1313	1325	1301	1288
		Temp.Rise °F	34	35	34	34	34	35
	MH	[SCFM]	1101	1106	1103	1106	1077	1142
		Temp.Rise °F	41	40	41	40	42	39
	M	[SCFM]	901	899	889	886	879	918
		Temp.Rise °F	50	50	50	50	51	49
	ML	[SCFM]	800	816	841	783	824	813
		Temp.Rise °F	/	/	/	/	/	/
	L	[SCFM]	600	631	635	612	601	610
		Temp.Rise °F	/	/	/	/	/	/

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FURNACE SIZE	SPEED	STATIC PRESSURE	0	0.2	0.4	0.6	0.8	1
FUR080175	H	[SCFM]	1301	1294	1313	1325	1301	1288
		Temp.Rise °F	46	46	45	45	46	46
	MH	[SCFM]	1101	1106	1103	1106	1077	1142
		Temp.Rise °F	54	54	54	54	55	52
	M	[SCFM]	901	899	889	886	879	918
		Temp.Rise °F	/	/	/	/	/	/
	ML	[SCFM]	800	816	841	783	824	813
		Temp.Rise °F	/	/	/	/	/	/
	L	[SCFM]	600	631	635	612	601	610
		Temp.Rise °F	/	/	/	/	/	/
FUR080021	H	[SCFM]	1301	1297	1271	1251	1343	1240
		Temp.Rise °F	46	46	47	48	44	48
	MH	[SCFM]	1101	1113	1142	1141	1060	1168
		Temp.Rise °F	54	54	52	52	56	51
	M	[SCFM]	901	855	905	938	874	924
		Temp.Rise °F	/	/	/	/	/	/
	ML	[SCFM]	800	785	815	823	798	863
		Temp.Rise °F	/	/	/	/	/	/
	L	[SCFM]	600	606	593	549	571	549
		Temp.Rise °F	/	/	/	/	/	/
FUR100021	H	[SCFM]	1751	1739	1742	1739	1736	1733
		Temp.Rise °F	43	43	43	43	43	43
	MH	[SCFM]	1501	1516	1492	1500	1499	1505
		Temp.Rise °F	50	49	50	50	50	50
	M	[SCFM]	1351	1351	1364	1356	1347	1336
		Temp.Rise °F	55	55	55	55	55	56
	ML	[SCFM]	1151	1154	1152	1132	1154	1142
		Temp.Rise °F	/	/	/	/	/	/
	L	[SCFM]	1001	995	996	982	981	1013
		Temp.Rise °F	/	/	/	/	/	/
FUR120245	H	[SCFM]	1951	1910	1896	1929	1981	1917
		Temp.Rise °F	38	39	39	39	38	39
	MH	[SCFM]	1751	1775	1749	1772	1786	1771
		Temp.Rise °F	43	42	43	42	42	42
	M	[SCFM]	1501	1570	1575	1569	1543	1544
		Temp.Rise °F	50	48	47	48	48	48
	ML	[SCFM]	1348	1420	1410	1416	1412	1400
		Temp.Rise °F	55	53	53	53	53	53
	L	[SCFM]	1148	1210	1196	1174	1179	1175
		Temp.Rise °F	/	/	/	/	/	/

Filter Size Information - In.

FURNACE CASING WIDTH (IN.)	FILTER SIZE		FILTER TYPE
	SIDE RETURN (IN.)	BOTTOM RETURN (IN.)	
14-1/2	16 X 25	14 X 25	High Velocity (600 FPM)
17-1/2	16 X 25	16 X 25	
21	16 X 25	20 X 25	
24.5	16 X 25	24 X 25	

Minimum Area in Square Inch Required for Each Opening

BTUH Input Rating	Minimum Free Area in Square Inch Required for Each Opening
40,000	40 in^2
60,000	60 in^2
80,000	80 in^2
100,000	100 in^2
120,000	120 in^2

Minimum Free Area Required for Each Opening

BTUH Input Rating	Minimum Free Area Required for Each Opening		
	Horizontal Duct (2,000 BTUH)	Vertical Duct or Opening to Outside (4,000 BTUH)	Round Duct (4,000 BTUH)
40,000	20 in^2	10 in^2	4″
60,000	30 in^2	15 in^2	5″
80,000	40 in^2	20 in^2	5″
100,000	50 in^2	25 in^2	6″
120,000	60 in^2	30 in^2	7″

EXAMPLE: Determining Free Area.

Appliance 1 Appliance 2 Total Input

100,000 + 30,000 = (130,000 ÷ 4,000) = 32.5 Sq. In. Vertical

Appliance 1 Appliance 2 Total Input

100,000 + 30,000 = (130,000 ÷ 2,000) = 65 Sq. In. Horizontal

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7 Piston

High Altitude Derate Orifice Size Chart (Natural and LP Gas*)

Input Rate kBTU/H	Number of Burner	Elevation (Ft)									
		0-2000		2000-4000		4000-6000		6000-8000		8000-10000	
		Nat	LP	Nat	LP	Nat	LP	Nat	LP	Nat	LP
40A	3	50	59	51	61	52	62	53	64	54	65
60A	3	45	55	47	56	48	56	49	57	51	57
60B	3	45	55	47	56	48	56	49	57	51	57
80B	5	49	56	50	57	51	58	52	59	53	61
80C	5	49	56	50	57	51	58	52	59	53	61
100C	6	49	56	50	57	51	58	52	59	53	61
120D	7	49	56	50	57	51	58	52	59	53	61

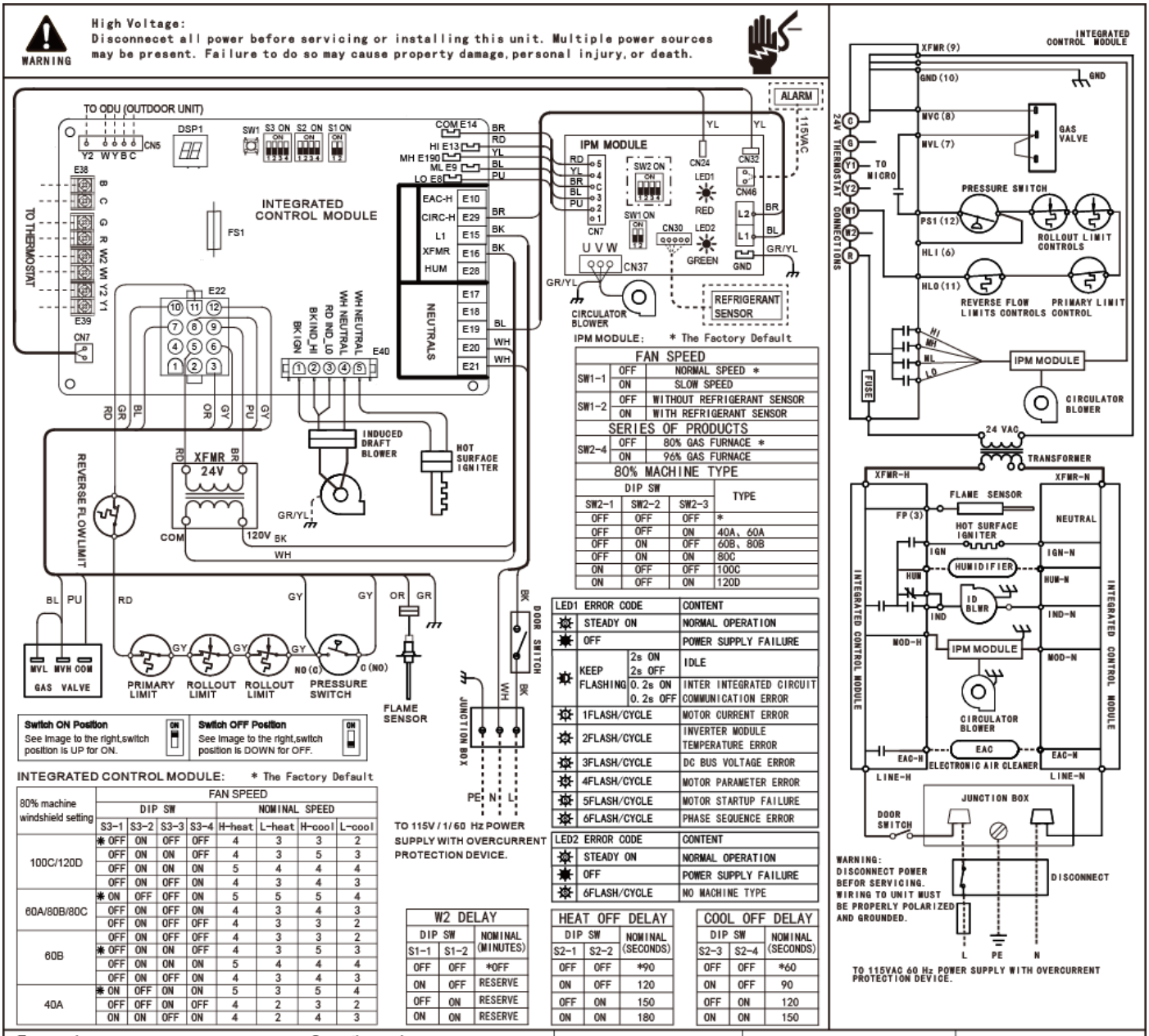
*LP orifice based on 10 in.w.c manifold pressure

The input to the furnace must be checked AFTER reorificing.

High Altitude Derate Orifice Size Chart (Natural and LP Gas*)

Input Rate kBTU/H	Number of Burner	Elevation (Ft)									
		0-2000		2000-4000		4000-6000		6000-8000		8000-10000	
		Nat	LP	Nat	LP	Nat	LP	Nat	LP	Nat	LP
40A	3	50	59	51	61	52	62	53	64	54	65
60A	3	45	55	47	56	48	56	49	57	51	57
60B	3	45	55	47	56	48	56	49	57	51	57
80B	5	49	56	50	57	51	58	52	59	53	61
80C	5	49	56	50	57	51	58	52	59	53	61
100C	6	49	56	50	57	51	58	52	59	53	61
120D	7	49	56	50	57	51	58	52	59	53	61

*LP orifice based on 10 in.w.c manifold pressure

The input to the furnace must be checked AFTER reorificing.

8 Wiring Diagrams