USER MANUAL

REVERSE OIL FIRED ARCH

LEADER™
WE HELP YOU GET MAPLE DONE

LEADER EVAPORATOR
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EQUIPMENT DESCRIPTION

A reverse fired oil fired arch from Leader Evaporator is designed to provide maximum heat distribution to the syrup pan. The front control panel features control switches, indicators light for burner functions and a digital oil pressure gauge. The use of insulating blanket in the arch allows the arch to heat more rapidly and maintain the higher temperatures while in operation.

NOTE: Pictures, sketches and drawings presented in this document are not to scale.

The Leader Reverse Fired Oil Fired arch consists of the following parts:

ITEM	LEADER ORDER #	DESCRIPTION / PHOTO
Arch	As Ordered	
Barometric Damper - Factory installed in first section of smoke stack		
Push Bar Thumbscrew Assembly – qty. 2		

ITEM	LEADER ORDER #	DESCRIPTION / PHOTO
Stainless Steel Smoke Stack	Quantity and size to meet specifications for arch ordered – see table below	
Leveling Bolts (6’ arch – qty. 4, 8’ or longer arch – qty. 6)	68118	
Push Bar		

SMOKE STACK INFORMATION

ARCH Width	Stack Diameter (inches)	Number of Pieces of Stack
24	8	4
30	10	6
36	12	6
40	12	6
48	14	6
60	16	6
72	18	6

NOTES:

- 36” X 8’ takes 10” stack
- 24” X 8’ takes 15’ of stack
- Arches for MAX and MAX COMBO pan sets will have stack sizes 2” larger in diameter unless otherwise specified.

OPTIONAL SPARE PARTS, SETUP PARTS AND OPERATIONS EQUIPMENT AND SUPPLIES

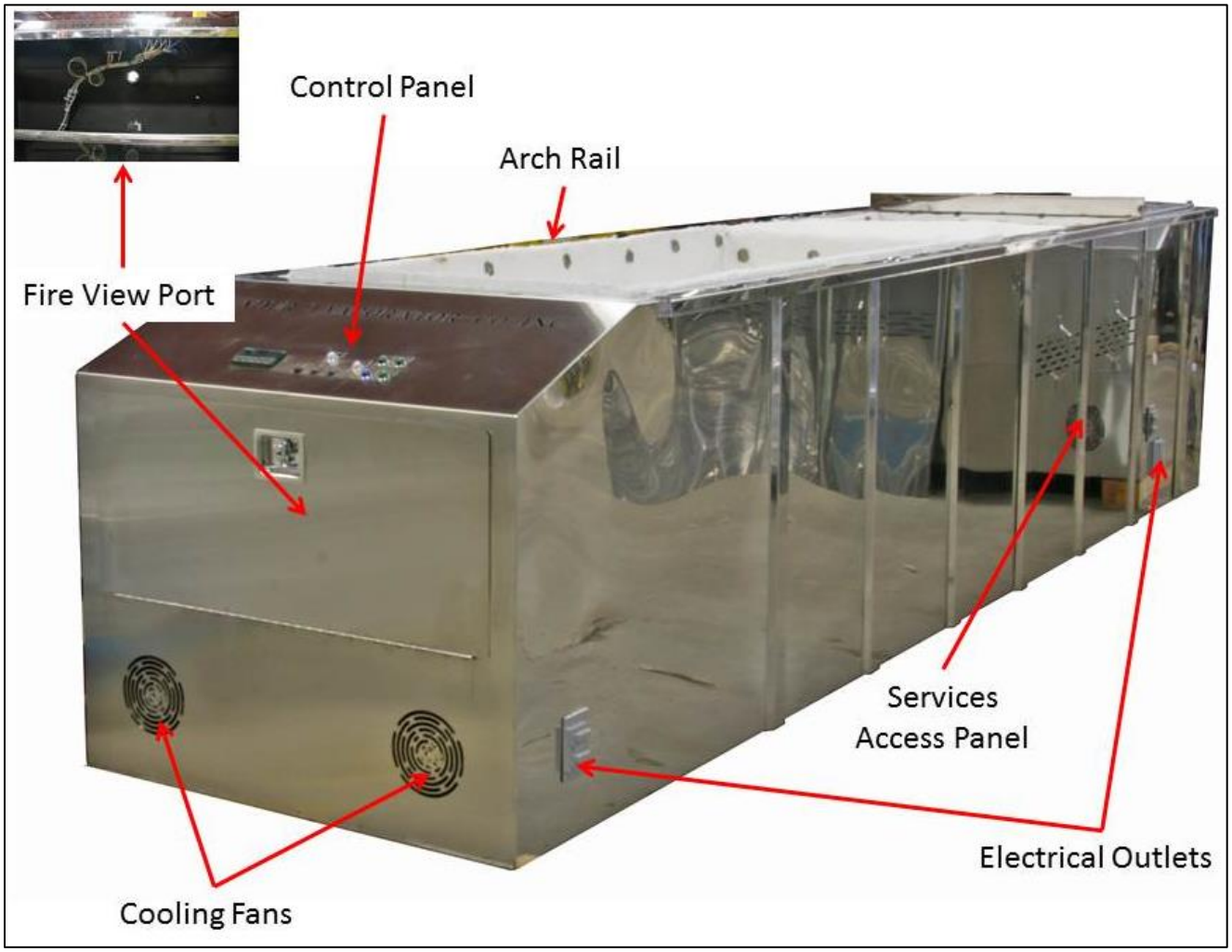
ITEM	LEADER ORDER #	DESCRIPTION / PHOTO
Leader Style Roof Jack		 Peak or  Side of Roof Style
Burner Nozzles		Sized for firing requirements of the burner used

ITEM	LEADER ORDER #	DESCRIPTION / PHOTO
Stack Cover		

DIAGRAM OF THE REVERSE FIRE OIL-FIRED ARCH

NOTE: Arches manufactured before 2017 have a chrome like finish with a stepped control panel as shown in the picture below:

ARCH DESCRIPTION

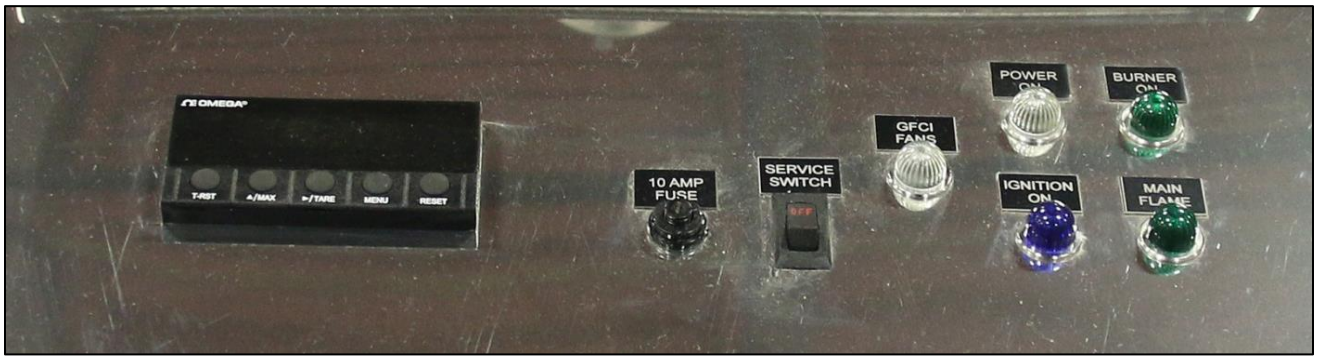


CONTROL PANELS

Single Burner Arches without High/Low Fire

The following arches have a single burner without high/low fire

- 2’ X 6’
- 2’ X 8’
- 2’ X 10’
- 30” X 8’



Description of Panel:

- Digital meter (left side of panel) – indicates fuel pressure
- Service Switch – turns on the burner and the ignition
- GFCI Fans – lights when power is active from the breaker
- Power ON – lights when power is active from the breaker
- Ignition ON – lights when burner ignitor is active
- Burner ON – lights when burner is ON
- Main Flame – lights when burner flame is ON

Single Burner Arches with High/Low Fire

The following arches have a single high/low fire burner.

- 30” X 10’
- 30” X 12’
- 3’ X 8’
- 3’ X 10’
- 3’ X 12’
- 3’ X 14’
- 40” X 10’
- 40” X 12’
- 40’ X 14’

Description of Panel:

- Digital meter (left side of panel) – indicates fuel pressure
- Service Switch – turns on the burner and the ignition
- Power ON – lights when power is active from the breaker
- Low Fire / High Fire – allows selecting which mode of operation the burner is to use
- GFCI Fans – lights when power is active from the breaker
- Burner ON – lights when burner is ON
- Ignition ON – lights when burner ignitor is active
- Main Flame – Lights when burner flame is ON
- High Fire – lights when burner is in High Fire operation

Dual Burner Arches with High/Low Fire

The following arches have two burners with high/low fire.

- 4’ X 10’ (1 or 2 burner)
- 4’ X 12’
- 4’ X 14’
- 4’ X 16’
- 5’ X 14’
- 5’ X 16’
- 5’ X 18’
- 6’ X 14’
- 6’ X 16
- 6’ X 18’

Description of Panel:

- Digital meter (left and right side of panel) – indicates fuel pressure
- Service Switch – turns on the burner and the ignition

- Power ON – lights when power is active from the breaker
- Low Fire / High Fire – allows selecting which mode of operation the burner is to use
- GFCI Fans – lights when power is active from the breaker
- Burner ON – lights when burner is ON
- Ignition ON – lights when burner ignitor is active
- Main Flame – lights when burner flame is ON
- High Fire – lights when burner is in High Fire operation

NOTE: The left and right sides of the panel are mirrored as to location of switches, lights and gauge.

FIRING RATES AND NOZZLES

The following firing rates are suggested. The final rate to be used may be higher or lower in order to optimize performance. Contact your LEADER EVAPORATOR sales person or your local dealer for assistance.

When determining firing rates;

- Burner operating pressures are as follows;
  - 102 CRD – 100 PSIG
  - 301CRD and 801CRD – 150 PSIG
  - 702CRD – Low fire 100 PSIG, High fire – 300 PSIG (uses one nozzle only)
- Burners with high/low firing rates – use the high fire rate as the firing rate
- Arches 4 feet wide and above use two burners – divide the firing rate in half to use the manufacturers reference tables
- CARLIN 702CRD burner uses one nozzle for both high and low firing rates.

To determine the correct burner and nozzle to use reference the charts below. The charts to be used is determined by the type of flue pan (dropped, raised, max, max combo):

DROPPED
FLUE

	PAN CONFIGURATION		FIRING RATE		BTU (in 1000)		CARLIN Burner	NOZZLE	
ARCH	FLUE	SYRUP	LOW	HIGH	LOW	HIGH		45° Hollow	60° Solid
2 X 6	**3**	**3**	2	3	295	397	102		1
	3.5	**2.5**	2	3	327	441	102		1
	4	**2**	3	4	360	485	102		1
2 X 8	**4**	**4**	3	4	393	529	102		1
	5	**3**	3	4	458	617	102		1
	6	**2**	4	5	524	705	301		1

2 X 10	**6**	**4**	4	5	557	749	301		1
	7	**3**	4	6	622	837	301		1
30 X 8	**4**	**4**	4	5	532	716	301		1
	5	**3**	5	6	624	840	301		1
	5.5	**2.5**	5	7	670	902	301		1
30 X 10	**6**	**4**	5	7	757	1019	702		1
	7	**3**	6	8	849	1143	702		1
30 X 12	**7**	**5**	6	9	890	1198	702		1
	8	**4**	7	10	982	1322	702		1
3 X 8	**4**	**4**	5	7	671	903	702		1
	5	**3**	6	8	790	1063	702		1
3 X 10	**6**	**4**	7	9	958	1289	702		1
	7	**3**	8	10	1076	1449	702		1
3 X 12	**7**	**5**	8	11	1125	1515	702		1
	8	**4**	9	12	1244	1675	702		1
	9	**3**	10	13	1363	1834	702		1
3 X 14	**9**	**5**	10	14	1412	1900	801	1	1
	10	**4**	11	15	1530	2060	801	1	1
40 X 10	**6**	**4**	8	11	1097	1476	702		1
	7	**3**	9	12	1232	1658	702		1
40 X 12	**7**	**5**	9	13	1289	1735	702		1
	8	**4**	10	14	1424	1917	801	1	1
40 X 14	**8**	**6**	11	14	1481	1994	801	1	1
	9	**5**	12	16	1616	2176	801	1	1
	10	**4**	13	17	1751	2358	801	1	1
4 X 10	**6**	**4**	10	13	1359	1829	801	1	1
	7	**3**	11	15	1530	2060	801	1	1
4 X 12	**7**	**5**	12	16	1596	2148	801	1	1
	8	**4**	13	17	1768	2380	801	1	1
	9	**3**	14	19	1940	2611	801	1	1

4 X 14	**8**	**6**	13	18	1833	2468	801	1	1
	9	**5**	14	19	2005	2699	801	1	1
	10	**4**	16	21	2177	2931	801	1	1
4 X 16	**9**	**7**	15	20	2071	2787	801	1	1
	10	**6**	16	22	2242	3019	801	1	1
5 X 12	**7**	**5**	15	20	2066	2782	702 (X2)		1 (X2)
	8	**4**	17	22	2292	3085	702 (X2)		1 (X2)
5 X 14	**8**	**6**	17	23	2373	3195	702 (X2)		1 (X2)
	9	**5**	19	25	2598	3498	702 (X2)		1 (X2)
	10	**4**	20	27	2824	3801	702 (X2)		1 (X2)
5 X 16	**9**	**7**	19	26	2680	3608	702 (X2)		1 (X2)
	10	**6**	21	28	2905	3911	801 (X2)	2	2
6 X 14	**8**	**6**	21	28	2914	3922	801 (X2)	2	2
	9	**5**	23	31	3192	4297	801 (X2)	2	2
6 X 16	**9**	**7**	24	32	3290	4429	801 (X2)	2	2
	10	**6**	26	35	3568	4803	801 (X2)	2	2

RAISED FLUE

	PAN CONFIGURATION		FIRING RATE		BTU (in 1000)		CARLIN Burner	NOZZLE	
ARCH	FLUE	SYRUP	LOW	HIGH	LOW	HIGH		45° Hollow	60° Solid
2 X 6	**3**	**3**	2	3	325	438	102		1
	3.5	**2.5**	3	4	363	489	102		1
	4	**2**	3	4	401	540	102		1
2 X 8	**4**	**4**	3	4	434	584	102		1
	5	**3**	4	5	509	686	102		1
	6	**2**	4	6	585	788	301		1

2 X 10	**6**	**4**	4	6	618	832	301		1
	7	**3**	5	7	694	934	301		1
30 X 8	**4**	**4**	4	6	573	771	301		1
	5	**3**	5	7	675	909	301		1
	5.5	**2.5**	5	7	726	978	301		1
30 X 10	**6**	**4**	6	8	818	1102	702		1
	7	**3**	7	9	921	1239	702		1
30 X 12	**7**	**5**	7	9	962	1295	702		1
	8	**4**	8	10	1064	1432	702		1
3 X 8	**4**	**4**	5	7	671	903	702		1
	5	**3**	6	8	790	1063	702		1
3 X 10	**6**	**4**	7	9	958	1289	702		1
	7	**3**	8	10	1076	1449	702		1
3 X 12	**7**	**5**	8	11	1125	1515	702		1
	8	**4**	9	12	1244	1675	702		1
	9	**3**	10	13	1363	1834	702		1
3 X 14	**9**	**5**	10	14	1412	1900	801	1	1
	10	**4**	11	15	1530	2060	801	1	1
40 X 10	**6**	**4**	8	11	1097	1476	702		1
	7	**3**	9	12	1232	1658	702		1
40 X 12	**7**	**5**	9	13	1289	1735	702		1
	8	**4**	10	14	1424	1917	801	1	1
40 X 14	**8**	**6**	11	14	1481	1994	801	1	1
	9	**5**	12	16	1616	2176	801	1	1
	10	**4**	13	17	1751	2358	801	1	1
4 X 10	**6**	**4**	9	13	1297	1746	801	1	1
	7	**3**	11	14	1459	1964	801	1	1
4 X 12	**7**	**5**	11	15	1524	2052	801	1	1
	8	**4**	12	16	1686	2270	801	1	1
	9	**3**	13	18	1848	2487	801	1	1

4 X 14	**8**	**6**	13	17	1751	2358	801	1	1
	9	**5**	14	19	1913	2575	801	1	1
	10	**4**	15	20	2075	2793	801	1	1
4 X 16	**9**	**7**	14	19	1979	2663	801	1	1
	10	**6**	15	21	2140	2881	801	1	1
5 X 12	**7**	**5**	14	19	1923	2589	702 (X2)		1 (X2)
	8	**4**	15	21	2128	2864	702 (X2)		1 (X2)
5 X 14	**8**	**6**	16	21	2210	2975	702 (X2)		1 (X2)
	9	**5**	17	23	2414	3250	702 (X2)		1 (X2)
	10	**4**	19	25	2619	3525	702 (X2)		1 (X2)
5 X 16	**9**	**7**	18	24	2496	3360	702 (X2)		1 (X2)
	10	**6**	20	26	2701	3636	801 (X2)	2	2
6 X 14	**8**	**6**	19	26	2668	3592	801 (X2)	2	2
	9	**5**	21	28	2916	3925	801 (X2)	2	2
6 X 16	**9**	**7**	22	29	3014	4057	801 (X2)	2	2
	10	**6**	24	32	3261	4390	801 (X2)	2	2

MAX FLUE
PAN

	PAN CONFIGURATION		FIRING RATE		BTU (in 1000)		CARLIN Burner	NOZZLE	
ARCH	FLUE	SYRUP	LOW	HIGH	LOW	HIGH		45° Hollow	60° Solid
2 X 6	**3**	**3**	3	5	473	636	102		1
	3.5	**2.5**	4	5	535	720	301		1
	4	**2**	4	6	597	804	301		1
2 X 8	**4**	**4**	5	6	630	848	301		1
	5	**3**	5	7	755	1016	301		1
	6	**2**	6	9	880	1184	301		1

2 X 10	**6**	**4**	7	9	913	1228	702		1
	7	**3**	7	10	1037	1396	702		1
30 X 8	**4**	**4**	6	8	835	1124	301		1
	5	**3**	7	10	1003	1350	702		1
	5.5	**2.5**	8	11	1086	1463	702		1
30 X 10	**6**	**4**	9	12	1211	1631	702		1
	7	**3**	10	13	1379	1856	702		1
30 X 12	**7**	**5**	10	14	1420	1911	702		1
	8	**4**	11	15	1588	2137	801	1	1
3 X 8	**4**	**4**	7	9	977	1315	702		1
	5	**3**	8	11	1172	1577	702		1
3 X 10	**6**	**4**	10	14	1416	1906	801	1	1
	7	**3**	12	16	1611	2169	801	1	1
3 X 12	**7**	**5**	12	16	1660	2235	801	1	1
	8	**4**	13	18	1855	2497	801	1	1
	9	**3**	15	20	2050	2760	801	1	1
3 X 14	**9**	**5**	15	20	2099	2826	801	1	1
	10	**4**	17	22	2294	3088	801	1	1
40 X 10	**6**	**4**	12	16	1620	2181	801	1	1
	7	**3**	13	18	1843	2481	801	1	1
40 X 12	**7**	**5**	14	18	1900	2558	801	1	1
	8	**4**	15	21	2122	2857	501	1	1
40 X 14	**8**	**6**	16	21	2180	2934	801	1	1
	9	**5**	17	23	2402	3234	801	1	1
	10	**4**	19	26	2624	3533	801	1	1
4 X 10	**6**	**4**	14	19	1919	2583	801	1	1
	7	**3**	16	21	2184	2941	702 (X2)		1 (X2)
4 X 12	**7**	**5**	16	22	2250	3029	702 (X2)		1 (X2)
	8	**4**	18	24	2515	3386	702 (X2)		1 (X2)
	9	**3**	20	27	2781	3743	702 (X2)		1 (X2)

4 X 14	**8**	**6**	19	25	2581	3474	702 (X2)		1 (X2)
	9	**5**	21	28	2846	3831	801 (X2)	2	2
	10	**4**	22	30	3111	4188	801 (X2)	2	2
4 X 16	**9**	**7**	21	28	2911	3919	801 (X2)	2	2
	10	**6**	23	31	3177	4276	801 (X2)	2	2
5 X 12	**7**	**5**	21	28	2840	3823	801 (X2)	2	2
	8	**4**	23	31	3175	4275	801 (X2)	2	2
5 X 14	**8**	**6**	24	32	3257	4385	801 (X2)	2	2
	9	**5**	26	35	3593	4836	801 (X2)	2	2
	10	**4**	28	38	3928	5288	801 (X2)	2	2
5 X 16	**9**	**7**	27	36	3675	4947	801 (X2)	2	2
	10	**6**	29	39	4010	5398	801 (X2)	2	2
6 X 14	**8**	**6**	28	38	3934	5296	801 (X2)	2	2
	9	**5**	31	42	4340	5842	801 (X2)	2	2
6 X 16	**9**	**7**	32	43	4438	5974	801 (X2)	2	2
	10	**6**	35	47	4844	6520	801 (X2)	2	2

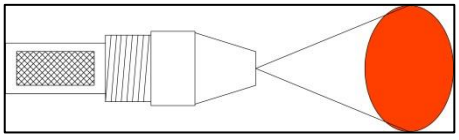
MAX COMBO
FLUE PAN

	PAN CONFIGURATION		FIRING RATE		BTU (in 1000)		CARLIN Burner	NOZZLE	
ARCH	FLUE	SYRUP	LOW	HIGH	LOW	HIGH		45° Hollow	60° Solid
2 X 6	**3**	**3**	3	4	449	605	102		1
	3.5	**2.5**	4	5	508	683	301		1
	4	**2**	4	6	566	762	301		1
2 X 8	**4**	**4**	4	6	599	806	301		1
	5	**3**	5	7	716	964	301		1
	6	**2**	6	8	833	1121	301		1

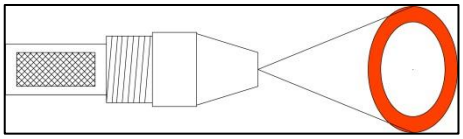
2 X 10	**6**	**4**	6	8	865	1165	702		1
	7	**3**	7	10	982	1323	702		1
30 X 8	**4**	**4**	6	8	803	1082	301		1
	5	**3**	7	9	963	1297	702		1
	5.5	**2.5**	8	10	1043	1404	702		1
30 X 10	**6**	**4**	8	11	1164	1567	702		1
	7	**3**	10	13	1324	1782	702	1	1
30 X 12	**7**	**5**	10	13	1365	1838	702	1	1
	8	**4**	11	15	1525	2053	801	1	1
3 X 8	**4**	**4**	7	9	945	1272	702		1
	5	**3**	8	11	1132	1524	702		1
3 X 10	**6**	**4**	10	13	1369	1843	801	1	1
	7	**3**	11	15	1556	2095	801	1	1
3 X 12	**7**	**5**	12	16	1605	2161	801	1	1
	8	**4**	13	17	1792	2413	801	1	1
	9	**3**	14	19	1980	2665	801	1	1
3 X 14	**9**	**5**	15	20	2029	2731	801	1	1
	10	**4**	16	22	2216	2983	801	1	1
40 X 10	**6**	**4**	11	15	1573	2118	801	1	1
	7	**3**	13	17	1788	2407	801	1	1
40 X 12	**7**	**5**	13	18	1845	2484	801	1	1
	8	**4**	15	20	2060	2773	501	1	1
40 X 14	**8**	**6**	15	21	2117	2850	801	1	1
	9	**5**	17	23	2331	3138	801	1	1
	10	**4**	18	25	2546	3427	801	1	1
4 X 10	**6**	**4**	14	18	1872	2520	801	1	1
	7	**3**	15	21	2130	2867	702 (X2)		1 (X2)
4 X 12	**7**	**5**	16	21	2195	2955	702 (X2)		1 (X2)
	8	**4**	18	24	2452	3301	702 (X2)		1 (X2)
	9	**3**	20	26	2710	3648	702 (X2)		1 (X2)

4 X 14	**8**	**6**	18	24	2518	3390	702 (X2)		1 (X2)
	9	**5**	20	27	2775	3736	801 (X2)	2	2
	10	**4**	22	29	3033	4083	801 (X2)	2	2
4 X 16	**9**	**7**	21	28	2841	3824	801 (X2)	2	2
	10	**6**	22	30	3098	4171	801 (X2)	2	2
5 X 12	**7**	**5**	20	27	2785	3749	801 (X2)	2	2
	8	**4**	22	30	3113	4190	801 (X2)	2	2
5 X 14	**8**	**6**	23	31	3195	4300	801 (X2)	2	2
	9	**5**	25	34	3522	4741	801 (X2)	2	2
	10	**4**	28	37	3850	5183	801 (X2)	2	2
5 X 16	**9**	**7**	26	35	3604	4852	801 (X2)	2	2
	10	**6**	28	38	3932	5293	801 (X2)	2	2
6 X 14	**8**	**6**	28	38	3871	5211	801 (X2)	2	2
	9	**5**	31	41	4269	5747	801 (X2)	2	2
6 X 16	**9**	**7**	32	42	4367	5879	801 (X2)	2	2
	10	**6**	34	46	4765	6415	801 (X2)	2	2

NOTES:



- A solid nozzle delivers a full pattern of flame



- A hollow nozzle delivers a less condensed flame pattern. It is recommended for low fire as it will ignite faster than a solid nozzle.

- The burners used in these arches have flame retention heads allowing for cleaner more efficient combustion.
- When nozzles are installed ensure screens, threads and tips are not scratched or damaged.
- Do not use sealant or sealing tape such as TEFLON tape on the nozzle threads.

SETUP OF THE REVERSE OIL-FIRED ARCH

NOTE: Installations should meet all applicable governmental regulations and standards.

RECEIVING YOUR ARCH:

Upon receipt of the arch, it is recommended the following tasks be performed:

1. Protect all incoming materials from damage and the environment. If possible place the arch at the location where it will be setup (See section titled SUGAR HOUSE SETUP).
2. Unpack all materials and check the received materials against the Equipment Description list provided above.
3. Immediately notify Leader Evaporator or your local dealer if there are questions on the received equipment.

SUGAR HOUSE SETUP:

Prior to setup of the sugar house, it is suggested future needs be considered. The requirements for the setup of the arch may not be adequate if in the future additional or larger equipment will be needed. If assistance is needed in determining possible future requirements please contact Leader Evaporator Sales or your local dealer.
The following are *minimum* clearances recommended for around the arch. When determining the clearances, keep in mind any additional items/equipment (ex. packaging supplies, canner, table(s), chairs) and where they will be located in the sugar house:

1. Front of the arch: six (6) feet
2. Back of the arch: three (3) feet
    a. Allows for cleaning and removal of the stack
3. Sides of the arch: four (4) feet
    a. Allows for draw off and movement

GUIDELINES FOR ARCH FOUNDATIONS

The following are basic guidelines for the arch foundations:

1. Use standard concrete to ensure a sturdy and durable foundation.
2. The support should be adequate and reach deeper than the frost line.
3. All footers should be at least 12 inches wide. Plan on the arch sitting in the center so it can be slid a few inches in any direction.

SETTING THE ARCH ON THE FOUNDATION:

1. Place the arch with the firebox centered on the foundation. Use a plumb bob to center the collar of the arch to the roof jack – if the roof jack is already installed.
2. Thread the leveling bolts into the leveling bolt locations. Thread until they are approximately ½ threaded.
    - 2’ X 6’ arch has levelling bolt in each corner
    - Arches 8’ in length or more will have 3 levelling bolts on each side; one on each end and one approximately in the center

3. Level the arch on the foundation.
   a. Place a 4-foot level on the rail of the arch front to back. (The rail is the part where the pans are rested).
   b. Adjust the level of the arch by raising or lowering the leveling bolts.
   c. Place the level on the rail of the arch side-to-side.
   d. Adjust the level of the arch by raising or lowering the leveling bolts.

INSTALL THE STACK

A roof jack should be installed prior to setting up your taper and stack. Leader Evaporator recommends a water tight roof jack for the evaporator. Leader Evaporator offers two styles of roof jack; water tight or with collar in either a peak or side mount.

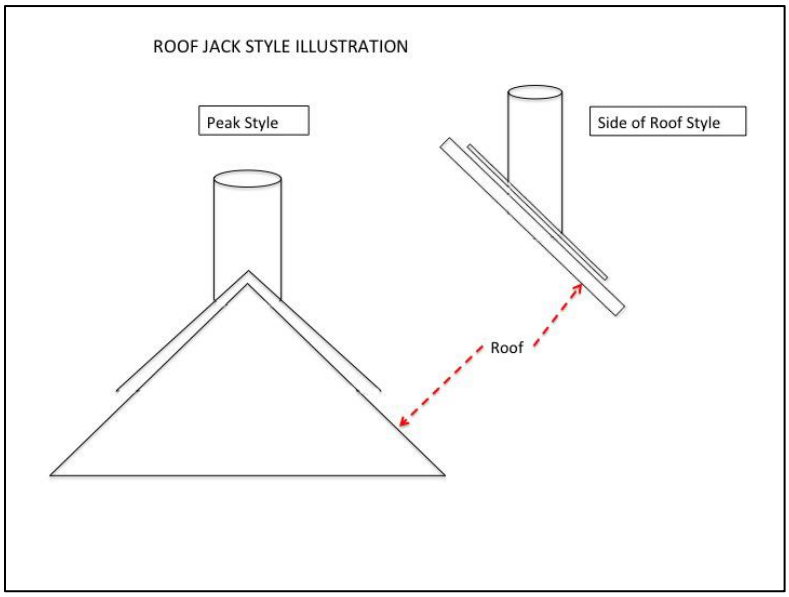
In order to determine your requirements you will need to know where you will penetrate the roof with the stack and the pitch of your roof.

Roof Penetration and the Type of Roof Jack:

a. Obtain a plumb bob with sufficient line to reach from the roof to the stack collar of the arch.

b. Run the plumb bob from the center of the stack collar to the roof, moving the roof point until the plumb bob is properly positioned. Ensure there are no bends in the line caused by other items.

c. If the plumb bob line end is at the peak of the roof - order a Leader peak mount roof jack. If the plumb bob line end is at the side of the roof – order a Leader side mount roof jack.



d. Prior to taking down the plumb bob, mark the inside of the roof, as this will be used when making the roof penetration for the stack or installation of the roof jack.

e. Roof penetration:

i. When installing a roof jack refer to the LEADER CUSTOMIZED ROOF JACK document.

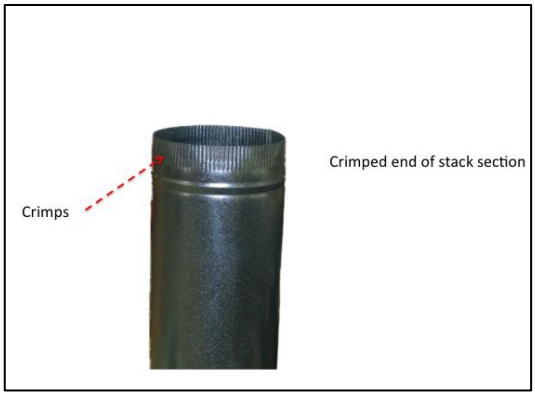
ii. If not using a roof jack, make a hole at the point marked on the inside of the roof in the previous step. Mark the roof a minimum of 2" out from and around the template. Refer to the applicable governmental regulations as to minimum clearances required dependent on materials of roof construction.

Install the Stack

NOTE: It is recommended you install all supplied exhaust stack, as a minimum. Additional stack may be required to ensure proper draft.

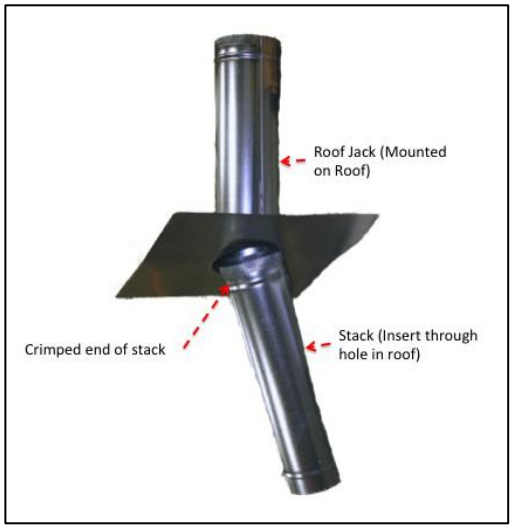
Draft is correct when:

- The boil is the same in the syrup pan front-to-back and side-to-side



NOTE: When working with stack sections, recognize that the crimped end of the stack section is the upper / top section.

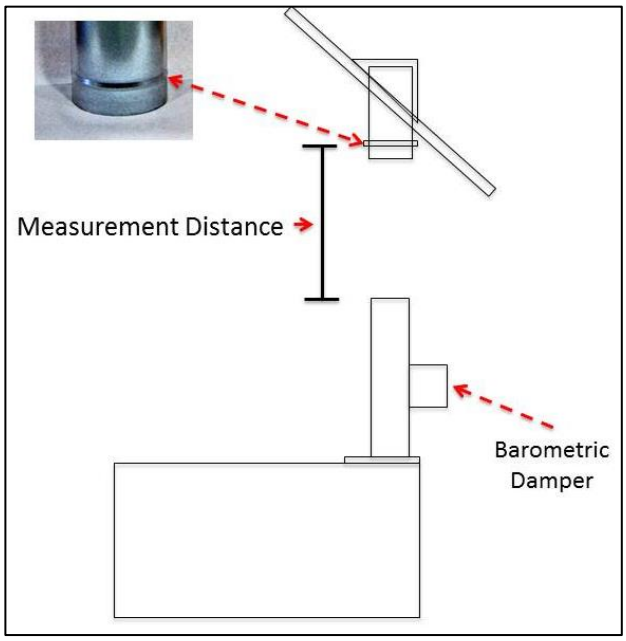
1. The first stack section is the section having the barometric damper installed. Place it on the collar of the arch. NOTE: If the pans have not been installed ensure the barometric damper is positioned so it will not hit the flue pan.



2. If a roof jack is used,

    a. Insert one piece of stack into the roof jack until it is a lightly wedged. The Leader style roof jack is tapered from larger to smaller. The end to be inserted into the roof jack is the crimped end. NOTE: You will be moving the piece of stack back down by approximately 2 ½" when you connect to the next stack section so ensure it will be able to move.

    b. Measure from the top of the section with the barometric damper to the bead at the bottom of the stack section in the roof jack.



    c. Determine the number of lengths of stack required by dividing the measurement taken in inches by 34".
        i. For example if the measurement was 68", then 68" ÷ 34" = 2 so 2 lengths of stack are required.
        ii. For example if the measurement was 60", then 60" ÷ 34" = 1.76 lengths of stack are required. This would mean one full length and a length measuring 26" would be required. To obtain the 26" length you can either
        iii. Special order a piece of stack the length required
        iv. Cut a standard length of stack to fit. If you cut a length of stack to fit, measure the length from the bead of the stack and cut off the top crimped end.

3. Install the stack sections starting from the section with the barometric damper. Ensure you place the crimped end up when connecting the stack sections.
4. When you put the last indoor section in place, lower the stack section from the roof jack (if used) approximately 2 ½" down onto the top piece of stack, or lower a stack section through the penetration in the roof.
5. If a roof jack is used, use all remaining sections of stack by placing the beaded / bottom end over the top of the roof jack.
6. Continue installing stack until all pieces have been installed. Ensure you have a good overlap for each stack joint. Overlap will be 2 to 2 ½". It is recommended you screw all sections together using self tapping stainless steel screws.

7. Stack above the roof should be guide wired in at least three directions (tripod configuration) to minimize the effects of wind.
    a. It is recommended you install a stack cover on the last / top section of stack. A closed stack cover will minimize the rain and moisture entering the stack and arch. When installing a stack cover refer to the LEADER STACK COVER document.

POWERING THE ARCH

The arch requires 2 breaker feeds from the breaker box. The connections are located inside the service panel. Contact a licensed electrician for installation

FUELING THE ARCH

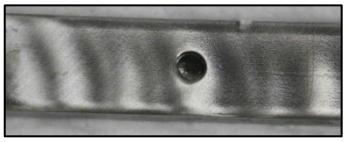
All arches use number 2 fuel oil.

Reference the manual supplied with the burner. Contact a licensed professional for proper installation of the fuel feed and adjustments to the burner. Contact LEADER EVAPORATOR sales or your local dealer with any concerns.

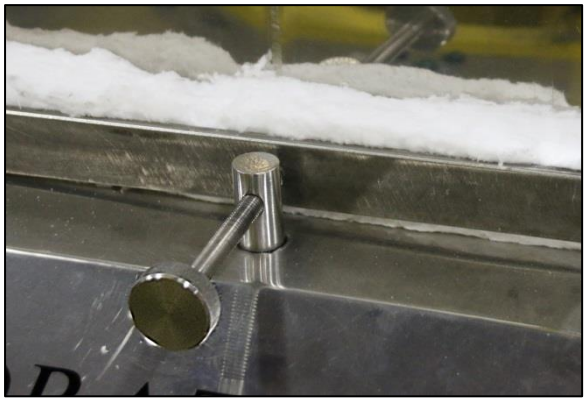
PAN TIGHTENING ASSEMBLY

During assembly of the pan set on the arch, the push bar assembly should be added to tighten the pans.

1. Insert a thumbscrew assembly into each of the locations provided on the arch. They are located on the front top of the arch above the control panel.



2. Place a strip of rail gasket 2” wider on each side in front of the syrup pan.
3. Place the push bar between the thumbscrew assemblies and the rail gasket. The ends of the thumbscrews should align with the depressions in the support bar.



4. Tighten the thumbscrews to secure the rail gaskets of the pan sets.

NOTES ON THE OPERATION OF THE ARCH

1. The barometric damper should be adjusted by a trained technician with a draft gauge to ensure proper draft.
2. To start the arch
    a. Turn on the electrical breakers to power the arch.
    b. Ensure the fuel feed is adequate
    c. Turn on the Service Switch
    d. Verify the ignition light is on followed by the burner when lit.
3. If using an arch with low and high fire burner, the arch can be started in either setting.
    a. If starting in the high fire setting, the high fire light will not be activated immediately. Burners with high and low fire settings will automatically start in low fire then switch to high fire when the burner is lit.
4. The nominal pressure displayed on the digital pressure gauge will be dependent on the burner used. The pressure should be the operating pressure of the burner.

BURNER	**NOMINAL PRESSURE (PSIG)**
CARLIN 102CRD	100
CARLIN 301CRD	150
CARLIN 801CRD	150
CARLIN 702CRD	Low Fire – 100
	High Fire - 300

5. If the fuel pressure drops
    a. Check the fuel filter
    b. Check the level of the fuel
6. To cool the arch, the fans will continue to run for 15 to 20 minutes after the burner has been shut down.

MAINTENANCE

PERIODIC

1. Check all fuel connections.
2. Check fuel storage tank for leaks.
3. Wipe down the exterior of the arch.

ANNUAL

1. Change the burner nozzles.
2. Change the fuel filter.
3. Clean the exterior of the arch.

FEEDBACK

Please use the following e-mail address (feedback@leaderevaporator.com) to suggest improvements or enter comments on this document. Reference the document title in your note. You may also contact LEADER Customer Service.

NOTES