

MANUFACTURED FOR LAPIERRE EQUIPMENT BY: ICC Industrial Chimney Company inc.

### INSTALLATION AND OPERATION INSTRUCTIONS "LWS"

CHIMNEY TYPE: TYPE "A", FACTORY BUILT CHIMNEY FOR VENTING

MAPLE INDUSTRY EVAPORATOR.

SIZE: 6" TO 24" I.D.

A MAJOR CAUSE OF CHIMNEY RELATED FIRES IS FAILURE TO MAINTAIN REQUIRED CLEARANCES (AIR SPACES) TO COMBUSTIBLE MATERIALS. IT IS OF UTMOST IMPORTANCE THAT THIS CHIMNEY BE INSTALLED ONLY IN ACCORDANCE WITH THESE INSTRUCTIONS.

Use only factory supplied components. Failure to do so will void the certification and the warranty of this chimney.

If possible, install the chimney on the interior of the building as it will provide better performance than an exterior chimney. In areas with continuous temperatures below -18  $^{\circ}$ C (0  $^{\circ}$ F.) the use of an exterior chimney may result in operating problems such as poor draft and excessive condensation of combustion products. If you do install an exterior chimney, we recommend that you install it within an insulated enclosure.

Read these instructions and keep them for future reference. Contact local building or fire officials about restrictions and installation inspection in your area.

LWS has been tested as per CAN/ULC-S604 and UL103 HT chimney standards and listed by Intertek Testing Services. Listing # 5965



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#### **TECHNICAL SPECIFICATIONS**

#### **MATERIALS**

CASING: Type 430 Stainless Steel

FLUE: Type FW2 Stainless Steel, SS304

INSULATION: *Thermoplus* High Temperature Mineral Fibre

#### **ALLOWABLE FLUE GAS TEMPERATURES**

Maximum continuous: 1000°F (540°C)

Brief forced firing: 1400°F (760°C)

Tested to (3 X 10 min.): 2100°F (1150°C)

**CLEARANCES** To combustible materials: 2" air space minimum

To non-combustible materials: No clearance required

		S	Suppor	t Capa	city Ta	able				
Size	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"
Anchor Plate	186'	146'	120'	102'	89'	78'	70'	64'	58'	53'
Base Support	186'	146'	120'	102'	89'	78'	70'	64'	58'	53'
Wall Support	150'	118'	97'	82'	72'	63'	57'	51'	47'	43'
Offset Support	55'	45'	40'	35'	30'	25'	20'	20'	20'	20'
Roof Support	55'	45'	40'	35'	30'	25'	20'	20'	20'	20'
Insulated Tee	65'	57'	53'	45'	39'	35'	31'	28'	26'	23'



#### **INSTALLATION NOTES**

#### **GENERAL**

- The chimney is intended for use with commercial and industrial maple industry evaporator relying on natural draft for venting the combustion products. This chimney is NOT for use in single or two-family residences. See page 3 for maximum allowable flue gas temperatures.
- 2. Size the chimney in accordance with the appliance manufacturer's instructions. *Lapierre Equipment* will calculate correct chimney sizing on request.
- 3. The chimney may be enclosed in a combustible chase. If it is desirable to enclose the chimney, then maintain at least 2" clearance to combustibles. We recommend that the chase be lined with drywall. Some areas require fired rated drywall; see local authorities for the regulations in your area.
- 4. Do not fill the space around the chimney with insulation or any other material. This space must remain empty.
- 5. The chimney shall extend at least 3 ft. above point of contact with the roof and at least 2 ft. higher than any wall, roof or adjacent building within 10 ft.
- 6. The maximum height of un-guyed chimney above the roof is 5 ft.
- 7. The clearance between single wall connector and unprotected combustible material must not be less than 24" for solid fuel and 18" for fuel oil. (Refer to the Building Code in use in your area).
- 8. Factory built chimneys which extend through any story above that on which the connected appliance is located are to be provided with enclosures having a fire rating equal to or greater than that of the floor or roof assembly through which they pass.
- A support must be installed above each chimney offset. See page 3 for support capacity.
- 10. Keep your chimney clean. Access should be provided for the inspection and cleaning of all sections of the chimney. Have your chimney cleaned by a qualified chimney sweep. If you want to clean your chimney yourself, then clean your chimney using nylon or metal chimney brush of the CORRECT SIZE. DO NOT use a brush that will scratch the stainless steel interior of the chimney.

#### Soot formation and need for removal (oil appliance)

Soot can accumulate on the chimney flue when connected to an oil fired appliance. If not removed periodically, this deposit can ignite and possibly damage the chimney. The chimney should be inspected at least once every year during the heating season to determine if any build-up of soot has occurred. If soot has accumulated, it should be removed to reduce the risk of chimney fire.

#### **CHIMNEY SIZING**

Use the evaporator base stack / flue collar diameter.

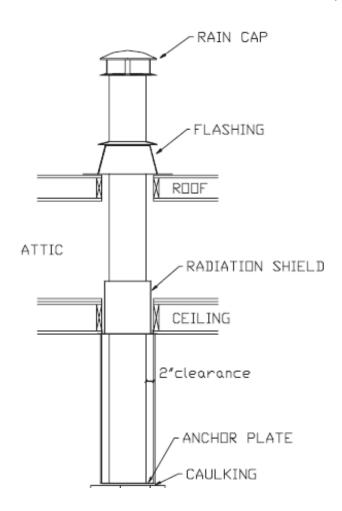
**Lapierre Equipment** can size your chimney according to the evaporator size, fuel type, chimney offset and location. In any case, a minimum chimney length of 12 ft. is required.



#### **INSTALLATION INSTRUCTIONS**

#### **INSTALLATION PLANNING**

- The chimney installation must be as vertical as possible.
- > If an offset is required to bypass a building feature, refer to the offset chart on page 14.
- > Using a plumb bob, located in the center of the evaporator base stack / flue collar center, determine the location where the chimney will pass through ceiling and roof.
- Determine the roof pitch.
- ➤ The chimney must be supported using a Base Support (ZMBS) or a Roof Support (ZMSR).
  - If the installation is for an open structure and the chimney does not pass through a finish ceiling/floor, a Base or Roof Support can be used.
  - If the installation passes through a finish ceiling/floor, then a Radiation Shield (ZMRS) will be required at the ceiling/floor passage and only a roof support (ZMSR) can be used.
- ➤ If a Base Support (ZMBS) is used, a supporting structure for the base support will be required.





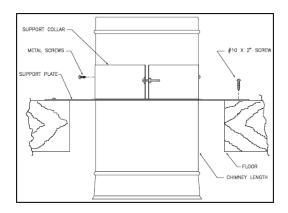
		Mini	mum Ro	ough Op	ening I	Dimensi	ions			
Diameter	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"
Combustible wall,	40" 40"		4611 4611	4011 4011	2011 2011	4011 4011	2011 2011	2211 2211	2411 2411	2611 2611
floor or roof	12" X 12"	14" x 14"	16" X 16"	18" x 18"	20" x 20"	18" x 18"	20" x 20"	22" x 22"	24" x 24"	26" x 26"

Table 1

#### **INSTALLATION**

#### **Base Support (ZMBS)**

- 1. **If a Base Support is used**, construction of a supporting structure may be required.
  - a. Cut and frame the opening to the dimensions required in *Table 1* above.
  - b. Attach the support to the floor using one #10 x 2".
  - c. Place the support collar around the chimney length at the desired height. Tighten the support collar and screw using the stainless steel metal screws (supplied with support) through the collar and into the chimney casing. Be sure to use metal screw in each pre-punch hole.
  - d. Place the chimney and collar in the support.
  - e. Continue installing chimney lengths as required.

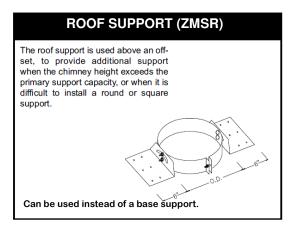


# Designed to support the chimney from a floor or roof. It may be used as a supplementary support when the chimney height exceeds that of the primary support. The support attaches to the chimney casing. See Support Capacity Table for maximum supported chimney height.



#### Roof Support (ZMSR)

- 2. If a **Roof Support is used**, refer to *Table 1* for the required opening.
  - a. Lower the following chimney section.
  - b. Attach the chimney section to the preceding one, with stainless steel metal screws.
  - Slide the roof support (ZMSR) over the chimney and slide it all the way down until it comes into contact with the roof.
  - d. Secure the roof support to the roof.

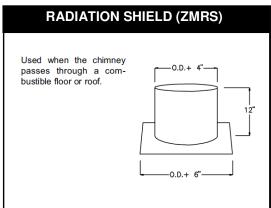


NOTE: It is important to relieve some of the chimney weight from the evaporator base stack since the base stack is not designed to carry the weight.

e. While relieving some of the weight from the evaporator base stack, secure the chimney section to the roof support (ZMSR).

#### Radiation Shield (ZMRS)

- 3. If the chimney passes through a ceiling/floor a **Radiation Shield is used** to shield the chimney when passing through a combustible floor or roof. See *Table 1* for the correct rough opening size.
  - Install the chimney length that passes through the floor or roof.
  - b. From below place the radiation shield in the floor or roof.
  - c. Attach it to the floor or roof using # 8 X 2" screws through each prepunched hole.



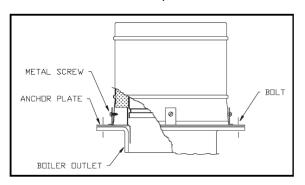


#### **Anchor Plate (ZMAP)**

4. Install the **Anchor Plate** on the base stack/flue collar of the evaporator.

Slide the crimped end of the Anchor Plate into the base stack / flue collar. Not required, but metal screw can be used to secure this connection.

- 5. If used, install the radiation shield.
- From above slide the first chimney section through the base support / radiation shield.



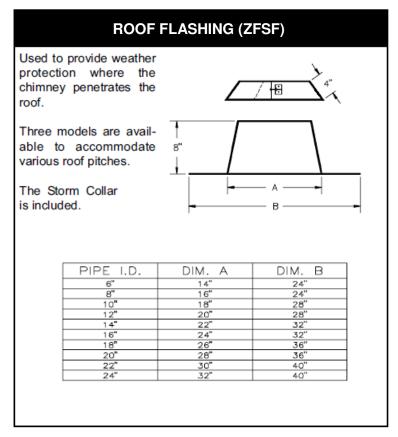
- 7. Place the first chimney length in the anchor plate. Fasten it in place using one factory supplied stainless steel screw through each anchor plate bracket into the chimney casing.
- 8. With a plumb bob, verify the chimney run alignment to the roof opening.
- 9. Stack one chimney length on to another.
- 10. Screw the stainless steel metal screws supplied with the length through the pre-punched holes in the bottom of the length and into the lower length. Be sure to use a metal screw in each pre-punched hole. Continue until the required chimney height is achieved.

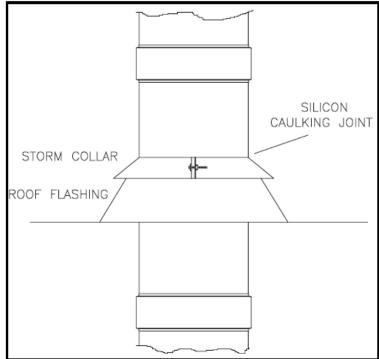
In some installations, it is difficult to install all of the screws in the pre-punched holes (e.g.: when the chimney is run parallel to a wall at minimum clearance).



#### **Roof Flashing (ZFSF)**

#### 11. Install the required Roof Flashing.



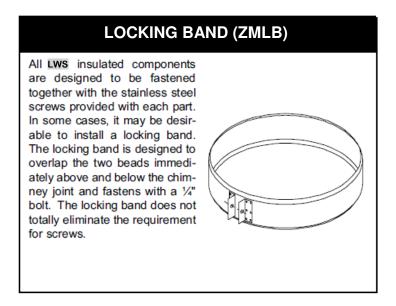




Continue installation of chimneys sections to the required height (see INSTALLATION NOTES).

#### Locking Band (ZMLB)

12. To hide the screws, install Locking Bands to every chimney section joint.

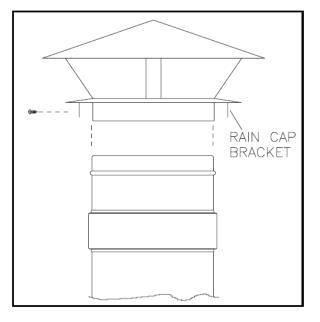


#### Rain Cap (ZMRC)

#### 13. Install the Rain Cap.

The chimney must be terminated by a rain cap.

- a. Fit the cap to the top of the chimney.
- b. Screw the stainless steel metal screws (supplied with the cap) through the prepunched holes in the bottom of the cap and into the lower length. Be sure to use a metal screw in each prepunched hole.
- c. Install the locking band.





#### SPECIALIZED COMPONENTS

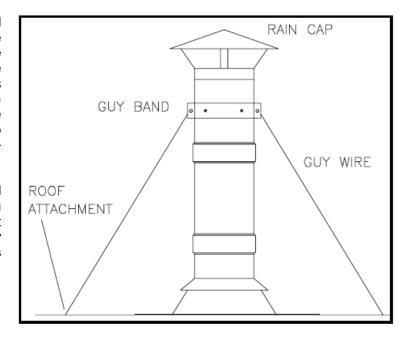
#### Guy Band (ZMGB)

If the chimney height above the roof support is more than 5 ft., install a **Guy Band** (ZMGB). The maximum distance between guy bands is 10 ft.

The guy band may also be used to secure a chimney above the roof. The maximum length of un-guyed chimney above the roof is 5 ft. The maximum length of guyed chimney above the roof is 20 ft. The maximum length of chimney between guy bands is 10 ft. If height greater than 20 ft. is required above the roof, an engineered support system should be installed.

## Designed to stabilize the chimney above the roof line. The maximum un-guyed chimney height above the roof is 5'. The maximum guyed chimney height above the roof is 20'. May be used to replace Wall Bands where their installation is difficult. Uses three wires installed at 120° intervals.

- Place the band collar around the chimney length at the desired location. Tighten the ring and then screw the stainless steel metal screws (supplied with the band) through the band and into the chimney casing. Be sure to use a metal screw in each prepunched hole.
- Attach guy wires to the band and to the roof or ceiling using adequate attachments (not supplied). Tighten the guy wires until the chimney is properly located and secure.

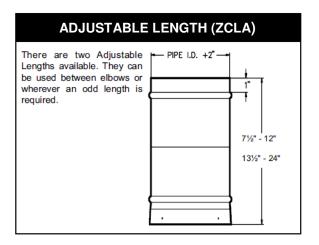




#### Adjustable Lengths (ZCLA)

the adjustable length is to allow the chimney to fit in a fixed distance when a suitable standard length is not available. Typical applications are between two elbows when a fixed offset distance is required or between two boiler outlet flanges which are a fixed distance apart.

The length of the outer casing of the adjustable length must be set before it is installed. The adjustable length is installed by sliding the flue (inner stainless steel) into the section below it after the two piece outer casing has been adjusted to the correct overall length. The adjustable length should

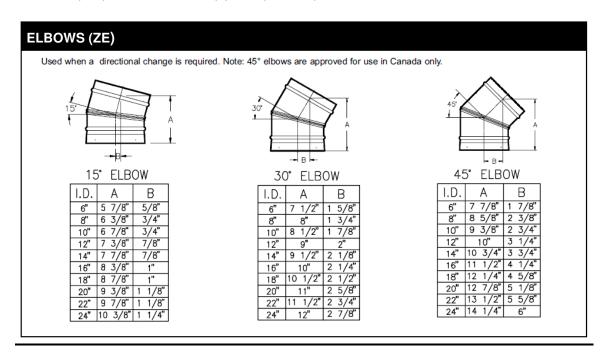


be installed with a straight chimney section below it, there is not sufficient room for it to adjust into a tee or elbow.

- Measure the exact length required, be sure to allow for the overlap between chimney sections.
- 2. Slide the two piece outer casing together until the correct overall length is achieved.
- 3. Fasten the two casing sections together using the stainless steel metal screws provided. Be sure to put a screw in each pre-punched hole.
- 4. Cut off the exposed insulation. You do not need to remove any extra insulation in order to allow for overlap, the insulation will compress sufficiently when assembled.
- 5. Slide the flue into the length below it and fasten the exterior together in the same manner as a conventional chimney section. It may require somewhat more effort to connect the adjustable length since you are compressing the insulation at the same time.

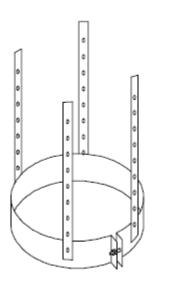


#### Elbows (ZE) and Offset support (ZMOS)



#### **OFFSET SUPPORT (ZMOS)**

The offset support is primarily used to re-support the chimney above an offset, however it may also be used to provide additional support when the chimney height exceeds the capacity of the primary support.



#### **LWS Offset tables**

030 11113 14101	e ii you ai	e not installi	ng an adjust	able length b	etween the	elbows	
LENGTH	15° Elbows		30	'Elbows	45° Elbows		
BETWEEN ELBOWS	RISE	OFFSET	RISE	OFFSET	RISE	OFFSET	
6 INCH Ø	,						
NO LENGTH	9 1/2	1 1/4	11	3	12	5	
12" Length	19 1/4	4	19 3/4	8	19 1/4	12 1/4	
24" Length	31	7	30 1/4	14	27 3/4	20 3/4	
48" Length	54	13 1/4	51	26	44 3/4	37 3/4	
48" + 12"	64	15 3/4	60	31 1/4	52	45	
48" + 24"	75 1/2	19	70 1/4	37 1/4	60 1/2	53 1/2	
48"+24"+12"	85 1/2	21 3/4	79 1/4	42 1/4	67 3/4	60 3/4	
48" + 48"	98 3/4	25 1/4	91	49 1/4	77 1/2	70 1/2	
8 INCH Ø							
NO LENGTH	10	1 1/4	12	3 1/4	13 1/2	5 1/2	
12" Length	19 3/4	4	20 3/4	8 1/4	20 3/4	12 3/4	
24" Length	31 1/2	7	31 1/4	14 1/4	29 1/4	21 1/4	
48" Length	54 3/4	13 1/4	52	26 1/4	46 1/4	38 1/4	
48" + 12"	64 1/2	16	61	31 1/2	53 1/2	45 1/2	
48" + 24"	76 1/4	19	71 1/4	37 1/2	62	54	
48"+24"+12"	86	21 3/4	80 1/4	42 1/2	69 1/4	61 1/4	
48" + 48"	99 1/4	25 1/4	92	49 1/2	79	71	
10 INCH Ø	·····						
NO LENGTH	11 7/8	1 5/8	14 1/8	3 3/4	15 7/8	6 5/8	
12" Length	22 1/4	4 3/8	23 3/8	9 1/8	23 1/2	14 1/8	
24" Length	33 7/8	7 1/2	33 3/4	15 1/8	32	22 5/8	
48" Length	57	13 5/8	54 5/8	27 1/8	48 7/8	39 5/8	
48" + 12"	67 3/8	16 1/2	63 7/8	32 1/2	56 1/2	47 1/4	
48" + 24"	79	19 1/2	74 1/4	38 1/2	65	55 3/4	
48"+24"+12"	89 3/8	22 3/8	83 5/8	43 7/8	72 5/8	63 3/8	
48" + 48"	102 1/4	25 3/4	95	50 1/2	82	72 3/4	
12 INCH Ø							
NO LENGTH	11 7/8	1 5/8	15	4	17 1/8	7 1/8	
12" Length	22 1/4	4 3/8	24 3/8	9 3/8	24 3/4	14 3/4	
24" Length	33 7/8	7 1/2	34 3/4	15 3/8	33 1/4	23 1/4	
48" Length	57	13 5/8	55 1/2	27 3/8	50 1/4	40 1/8	
48" + 12"	67 3/8	16 1/2	64 7/8	32 3/4	57 7/8	47 3/4	
48" + 24"	79	19 1/2	75 1/4	38 3/4	66 1/4	56 1/4	
48"+24"+12"	89 3/8	22 3/8	84 1/2	44 1/8	73 7/8	63 7/8	
48" + 48"	102 1/4	25 3/4	96	50 3/4	83 1/4	73 1/4	
14 INCH Ø	-32 2/7	, 23 3, 4		,50 5/-	,55 4 -	, , , , , ,	
NO LENGTH	12 7/8	1 3/4	16	4 1/4	18 7/8	7 3/4	
12" Length	23 1/4	4 1/2	25 1/4	9 5/8	26 1/2	15 3/8	
24" Length	23 1/4 34 7/8	7 5/8	35 5/8	2 5/8 15 5/8	35	23 7/8	
48" Length	54 //8 58	13 3/4		27 5/8	51 7/8	40 7/8	
48" + 12"	<u> </u>	····•	56 1/2	33	~~ <del>{</del> ~~~~~~~~~~~		
48" + 12 48" + 24"	68 3/8 80	16 5/8	65 3/4	39	59 1/2 68	48 1/2 57	
48 + 24 48"+24"+12"	80 90 3/8	19 5/8 22 1/2	76 1/8 85 1/2	39 44 3/8	75 5/8	57 64 1/2	

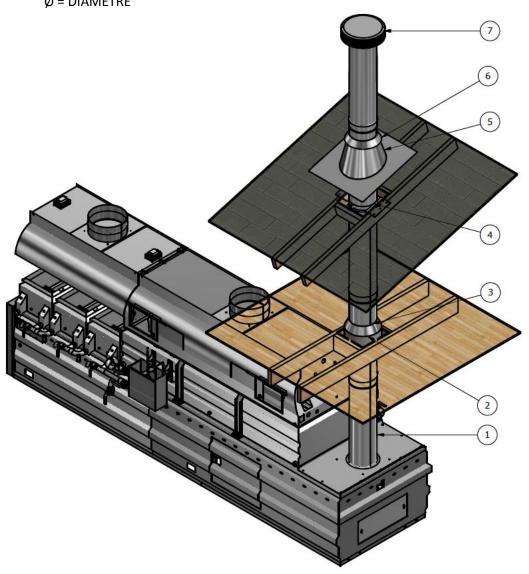
		WS Office	Table 16	" to 24"					
Uso this tab					otwoon the	albour			
Use this table if you are not installing an adjustable length between the elbows  LENGTH 15° Elbows 30° Elbows 45° Elbows									
BETWEEN ELBOWS	}	OFFSET			OFFSET				
16 INCH Ø	NIJE	OFFSET	NISE	OFFSET	NISE	OFFSET			
NO LENGTH	12 7/8	1 3/4	16 7/8	4 1/2	20 1/8	8 3/8			
12" Length	23 1/4	4 1/2	26 1/4	9 7/8	27 3/4	16			
24" Length	34 7/8	7 5/8	36 5/8	15 7/8	36 1/4	24 3/8			
48" Length	58	13 3/4	57 3/8	27 7/8	53 1/4	41 3/8			
48" + 12"	68 3/8	16 5/8	66 5/8	33 1/4	60 3/4	49			
48" + 24"	80	19 5/8	77 1/8	39 1/4	69 1/4	57 1/2			
48"+24"+12"	90 3/8	22 1/2	86 3/8	44 5/8	76 7/8	65 1/8			
48" + 48"	103 1/8	25 7/8	97 7/8	51 1/4	86 1/4	74 1/2			
18 INCH Ø	1031/8	23 //8	37 7/6	31 1/4	80 1/4	741/2			
NO LENGTH	13 7/8	1 7/8	17 7/8	4 3/4	21 3/8	8 7/8			
12" Length	24 1/4	45/8	27 1/8	10 1/8	29	16 1/2			
h	<u> </u>	~ <del>*</del> ~~~~~	<del></del>	····\$·········					
24" Length	35 7/8 59	7 3/4	37 1/2	16 1/8 28 1/8	37 1/2	25			
48" Length 48" + 12"	\$	13 7/8	58 1/4	····•	54 1/8	41 7/8 49 1/2			
h	69 3/8	16 3/4	67 5/8	33 1/2	62 1/8				
48" + 24"	81	19 3/4	78	39 1/2	70 5/8	58 CF 5/0			
48"+24"+12" 48" + 48"	91 3/8	22 5/8	87 3/8	44 7/8	78 1/8	65 5/8			
	104 1/8	26	98 3/4	51 1/2	87 1/2	75			
20 INCH Ø	12 7/0	1 7/0	10 4 / 4	F 4/0	22.4/0	0.570			
NO LENGTH	13 7/8	1 7/8	19 1/4	5 1/8	23 1/8	9 5/8			
12" Length	24 1/4	4 5/8	28 1/2	10 1/2	30 3/4	17 1/8			
24" Length	35 7/8	7 3/4	38 7/8	16 1/2	39 1/8	25 5/8			
48" Length	59	13 7/8	59 3/4 69	28 1/2	56 1/4	42 5/8			
48" + 12"	69 3/8	16 3/4		33 7/8	63 3/4	50 1/4			
48" + 24"	81	19 3/4	79 3/8	39 7/8	72 1/4	58 3/4			
48"+24"+12"	91 3/8	22 5/8 26	88 3/4	45 1/4	79 7/8	66 3/8			
48" + 48"	104 1/8	26	100 1/8	51 7/8	89 1/4	75 3/4			
22 INCH Ø	44-10	12	20 - /-	TF-0/0	324	0 - 10			
NO LENGTH	14 7/8	2	20 1/8	5 3/8	24	9 7/8			
12" Length	25 1/4	4 3/4	29 1/2	10 3/4	31 5/8	17 1/2			
24" Length	36 7/8	7 7/8	39 7/8	16 3/4	40 1/8	26			
48" Length	60	14	60 5/8	28 3/4	57	43			
48" + 12"	70 3/8	16 7/8	70	34 1/8	64 5/8	50 5/8			
48" + 24"	82	20	80 3/8	40 1/8	73 1/8	59 1/8			
48"+24"+12"	92 3/8	22 3/4	89 5/8	45 1/2	80 3/4	66 5/8			
48" + 48"	105 1/8	26 1/8	101 1/8	52 1/8	90 1/8	76			
24 INCH Ø				3=		140-1-			
NO LENGTH	14 7/8	2	21 1/8	5 5/8	25 3/4	10 5/8			
12" Length	25 1/4	4 3/4	30 3/8	11	33 1/4	18 1/4			
24" Length	36 7/8	7 7/8	40 3/4	17	41 3/4	26 3/4			
48" Length	60	14	61 5/8	29	58 3/4	43 3/4			
48" + 12"	70 3/8	16 7/8	70 7/8	34 3/8	66 3/8	51 1/4			
48" + 24"	82	20	81 1/4	40 3/8	74 7/8	59 3/4			
48"+24"+12" 48" + 48"	92 3/8	22 3/4	90 5/8	45 3/4	82 1/2	67 3/8			
45 + 48	105 1/8	26 1/8	102	52 3/8	91 3/4	76 3/4 at are in inches			



#### **TYPICAL INSTALLATION**

ITEM	CODE
1	RZ-ØZCL* (1, 2, 18, 4)
2	RZ-ØZMRS
3	RZ-ØZMSC
4	RZ-ØZMSR
5	RZ-ØZFSF*/ZFMF*(A, B, C)
6	RZ-ØZMSC
7	RZ-ØZMRC







#### LWS LIMITED LIFETIME WARRANTY

Industrial Chimney Company (ICC) warrants its LWS chimney systems to be free from functional failure due to defects in material or workmanship for as long as the original consumer owns the chimney system. This warranty provides for replacement of any components which fail as a result of normal use and includes replacement of any components damaged as a result of a chimney fire. (Note: chimney fires are dangerous and preventable. We strongly encourage you to have your chimney cleaned regularly.) ICC warrants all stainless steel chimney components against perforation as a result of corrosion. This warranty does not cover damage caused to the building by chimney fires or misuse of the product.

No claims under this warranty will be honored unless ICC is notified of the potential claim and is given the opportunity to have one of its agents examine the chimney prior to replacement.

ICC will only be responsible for repair or replacement of any components found to be defective under this warranty. In no event shall ICC be responsible for any incidental or consequential damage caused by defects in the LWS chimney system.

During the first ten years of the warranty ICC will provide replacement chimney components at no charge. During the balance of the warranty ICC will provide replacement chimney components at 50% of the current retail price at the time of the warranty claim.

ICC will not be responsible for labor of any kind required in the removal or replacement of a LWS system replaced under this warranty.

These chimneys are designed to vent residential heating oil, untreated wood, low sulphur coal, and natural or LP gas. They are designed to operate at a continuous temperature of 540°C (1000°F) or less. They are not designed to vent condensing oil or gas appliances. This warranty is void if the chimney is used in an application for which it is not designed.

The LWS systems must be installed according to the Installation Instructions included with every system at the time of purchase. If you do not have a set of installation instructions, they are available free upon request. This warranty is void if the chimney is not installed according to the installation instructions.

This warranty may not be extended or modified by our agents or representatives. This warranty is in lieu of all other express warranties or guarantees, of any kind.

This warranty is effective as of June 1, 2017.

