



Recommendations for Burner/Controller & Exhaust/Steam Flues

Revised 07-2023

The following information is intended to be recommendations and general guidelines, **not exact specifications and instructions**. The reason for this is because local building codes differ. We highly recommend that you determine that this information meets your local building codes before attempting to order any venting parts yourself. The information provided below should be adequate and thorough enough to serve as a starting point for a conversation and subsequent quote with a qualified engineer and/or HVAC Technician. The HVAC professional you select should be familiar with and adhere to NFPA 54, which is the National Fuel Gas Code. In terms of the venting of the exhaust and steam vents, it is best to consult an HVAC professional immediately upon receiving this document to avoid time delays in ordering specific venting products. Before ordering venting parts, it is important to completely evaluate how the venting will need to route through the ceiling/floors to the roof line. Also, you will need sufficient time to evaluate the HVAC expertise required and budget needed to complete the venting installation. Often, venting products and installation by a qualified HVAC professional can be quite unexpectedly costly, and time consuming. Ideally, your chosen HVAC company will have sufficient brewery expertise, and will have ordered and received the parts needed to complete the venting project by the time of your Forgeworks brewhouse arrives. Many required venting parts may not be readily available locally, and require special ordering with significant lead times.

The brew kettle requires the venting of steam and the most common method is to route the steam via a flue out the roof or side of the building. If this is not possible, a well designed condenser (also called a Heat Exchanger) must be attached to the Kettle.

If the Kettle is In-Direct fired by a gas power burner, an exhaust flue must be installed to vent the exhaust to the outside of the building. This is achieved with Class A double walled flue sections, and a Double Acting Gas Draft Regulator. Make-up air is also needed in the brewing area.

If the Brewhouse tanks are Steam Fired, you will likely be required to build an explosion proof boiler room. This room will also need steam venting and Make-up air. Contact your local licensing and inspection authority to learn about your area's requirements. In the design of the room, see that there is adequate space around the boiler equipment for ease of service and inspection.

Power Gas Burner

The burners that we specify for your Kettle or Hot Liquor Tank are Midco Economite Burners. Midco

specifies its power burners operate on 6" to 14" of W.C. (Water Column). Our customers report optimal direct fired equipment performance with at least 10" of W.C., but optimally 12-14" supplying the burner. For specific information regarding wiring a thermostat, adjustments for your altitude, BTU output, and conversion to propane, follow the manufacturers recommended adjustments in the appropriate manufacturer supplied manual, so as not to exceed the temperatures in the flu that your exhaust venting choice is rated for.

If your burner arrived without an instruction manual included, a PDF of your specific burner manual is available from Forgeworks.

NOTE: Be sure to establish what gas pressure is achievable into your building before installing and firing the burner. A fired burner is not returnable for a model exchange, unless for warranty purposes.

HIGHLY RECOMMENDED: It is suggested by Midco International to have your HVAC Professional install a In-Line Gas Pressure Regulator to make sure the Water Column pressure does not exceed 14" and compromise the burner. Maxitrol Gas Pressure Regulators are a common and trusted brand: <https://www.maxitrol.com/>

Midco Economite Burner models are (Links will include Product Information, Installation and Parts List, Service Bulletins & Warranty Policy:

-3.5-7bbl Kettles and Hot Liquor Tanks: Economite EC200, 200,000BTU
http://www.midcointernational.com/products/economite_ec/index.htm

-10bbl Kettles and Hot Liquor Tanks: Economite EC300, 300,000BTU
http://www.midcointernational.com/products/economite_ec/index.htm

-Alternative Burner Option for 10bbl Kettles or Hot Liquor Tanks: Economoite RE4400DS
HTD, 400,000BTU
http://www.midcointernational.com/products/economite_re4000/re4400htd/

-15bbl Kettles & 15 & 20bbl Hot Liquor Tanks: RE4700, 700,000BTU's
http://www.midcointernational.com/products/economite_re4000/re4700ba/

Other Burner Options that may have been purchased via Forgeworks:

-Midco Economite RE4400DS, Modulating Burner (Natural Gas Only)
http://www.midcointernational.com/products/economite_re4000/re4400ds/

-If the burner is for a Hot Liquor Tank, the burner may have been down sized following a discussion between the Forgeworks Sales Representative or Engineer, and the Brewery Customer based on need/usage.



Because we are not licensed HVAC professionals, we are limited in providing information for the installation and adjustment of the burner. The staff at Midco are very helpful, but you will want them to connect with your HVAC professional. Because of the nature of this equipment, they too are limited with the information they can share about installation and tuning of the burner with a non-licensed HVAC professional.

Midco International

<http://www.midcointernational.com/>

866-705-0514

For safety, A cut off switch for the burner needs to be installed in proximity to the working area around kettle in the case of a boil over. Also, the cut off switch doubles as a protection for accidentally dry firing the kettle.

Burner Installation:

Tank Placement:

For placement of the Kettle or Hot Liquor Tank in your brewery to allow adequate clearance for the burner, figure a 16" width x 20" length area. The burner mounts to the Kettle or Hot Liquor Tank via the burner's universal flange, married up to (4) .25" bolts that are fixed on the vessel around the 4.125" burner port. The .25" nuts are supplied, and come threaded on the bolts over a washer.

5-Using the (4) flange bolts & washers, attach the flange and insulating gasket to the to the tank, with the insulating gasket between the flange and the tank. Evenly tighten each bolt in a rotating pattern,

much like changing a car tire. Note: -The flange is flat, and as you tighten up the bolts it will conform the shape of the tank.

6-Making sure the flange bolts are loosened, slide the burner snout (stainless section) through the flange. It may take some effort to wiggle the snout into the correct position. If you are having trouble getting the snout through the flange, try loosening the flange bolts some more, until the snout is able to be inserted.

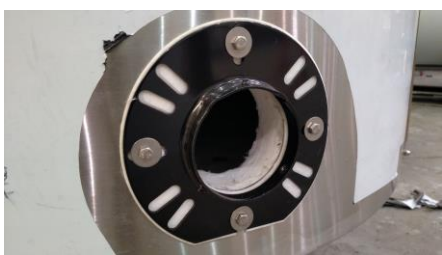
7-By looking through the access panel, determine that the burner is inserted so that it is flush or just slightly proud of the inside of the insulation. In other words, insert the burner snout through the shell, pass through the 1-1/2" of insulation and stop when the snout of the burner is flush to the ID of the insulation or up to 1/2" proud of it. Just make sure the insulation does not get caught on the snout of the burner, or that there is any insulation directly or in front of the burner in any way.

8-Via the access panel, examine the insulation around the burner snout. Press on the insulation all around the snout, and double check the position of the snout.

9-When the position of the snout is determined to be correct, first tighten the flange bolts in a rotating fashion, then secure burner in place with the (3) flange set screws (1/8" allen wrench). Evenly tighten in a rotating pattern.

10-Check the insulation around the snout again, then reattach access panel door.







Burner Installation Procedure for the RE4700

The steps for the RE4700 are similar to the EC200&300 except that the flange comes pre-installed onto the snout, and is not removable. Many of the pictures above in the installation steps for the EC200 & EC300, will apply to the installation of the RE4700.

Tools Needed: Small Crescent Wrench or 7/16 wrench/socket, 1/8" allen wrench

1-Remove the access panel door (via (6) acorn nuts, 7/16) to be able to see that all insulation is in good shape around the burner snout after installation, and that no insulation is blocking the burner. Note the orientation of the panel door, and reinstall in same position to make sure the holes will line up exactly with the bolts.

2-Remove the (4) flange bolts & washers from the burner port of the tank.

3-On the burner, loosen the (3) set screws (1/8" allen wrench required) on the flange so that it can move around on the pipe, behind the stainless cuff.

4-Locate the white insulation gasket (pictured above), and remove the punched out material to match the (4) hole patter of the burner port (with the flat section at the bottom, the positions are at 12 o'clock, 3 o'clock, 6 o'clock, and 9:00 o'clock).

5-Place the insulation gasket over the burner snout and match up to the flange.

6-This step will require a helper for best results. Insert the burner snout through the burner port, and while holding the burner in position, have your helper look through the access panel to see that the burner snout is in the correct position (pictured above). When in position, place the (4) flange bolt & washers into the bolt inserts of the burner port. Tighten in a rotating pattern, but do not tighten completely. Note: the flange is flat, and as you tighten up the bolts, it will conform the shape of the tank.

7-Double check the position of the burner snout. Follow steps 7-10 above (in the EC200 & EC300 instructions)



Fire Chamber Insulation Specifications: The Indirect Fire Chamber is insulated with HarbisonWalker International's refractory product; Inswool HP 8#, a 2300°F/ 1300°C Rated, Alumina Silica Ceramic Fiber Blanket (1.5" Thickness).

Product Safety Data Sheet: <https://thinkhwi.com/products/inswool-hp-blanket-8/>

HarbisonWalker International Contact Information:

<https://thinkhwi.com/>

412-375-6600

Technical Support:

412-375-6756

Email: technical-marketing@thinkhwi.com

Midco Economite 4700DS-HTD Modulating Burner

This Burner is a modulating burner, and requires a specific controller. If the controller is provided by Forgeworks, we supply a ControlTec Controller, and separate installation instructions will be provided by email, or can be resourced on the Forgeworks website, under "articles", then "Support Documents".

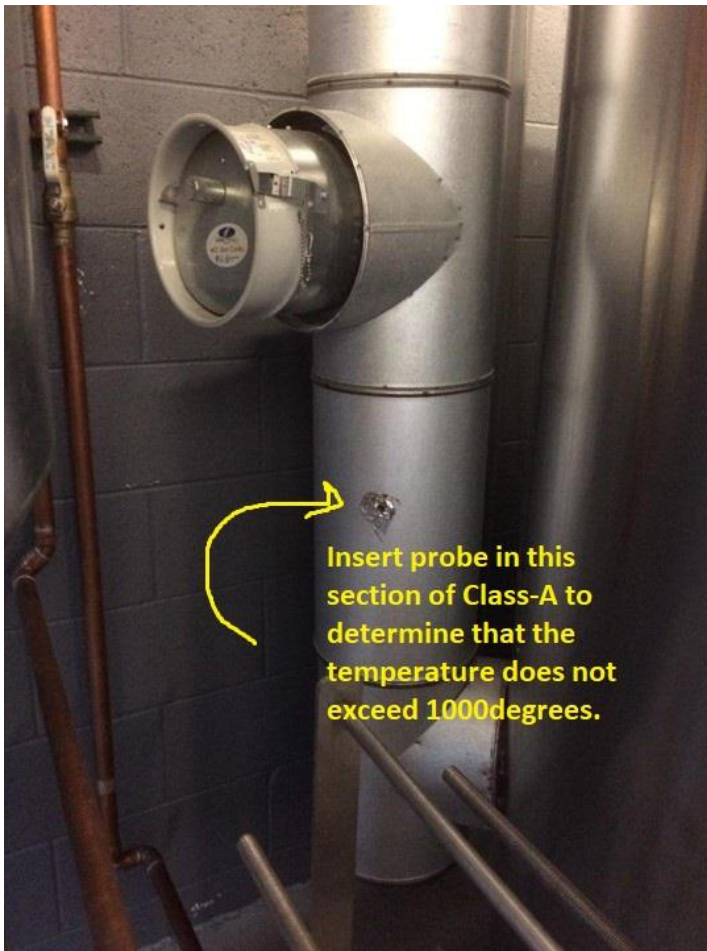


Gas Connection: The Gas connection on the burner is .75 NPT.

BURNER TESTING

When testing the burner for any needed adjustments, be sure to fill the Kettle or Hot Liquor Tank with at least 6”- 8” of water.

NOTE: With the installation of the burner, your HVAC Professional will absolutely need to test the temperature of the exhaust flue with a probe, in the first section of Class A Double-Walled Chimney between the exhaust exit and the Atmospheric Dampener. The flue temp must not exceed 1000 degrees, of which the Class A Chimney is rated for. The burner must be dialed in such that the exhaust temperature is correct, less than 1000degrees. The Atmospheric Dampener is required equipment (see details below in this document), incorporated usually after the first section of Class-A Double Walled Chimney. The Dampeners function is to cool the exhaust air, and thus increasing the efficiency of the heating of the kettle by slowing down the exhaust flow. The drawing of cooler air from the room through the Atmospheric Dampener will require sufficient make up air in the room. Make up air that is inadequate will create negative pressure in the room, and can contribute to issues with other appliances in the room, and carbon monoxide poisoning.



Burner Controller & Required Parts for Thermowell

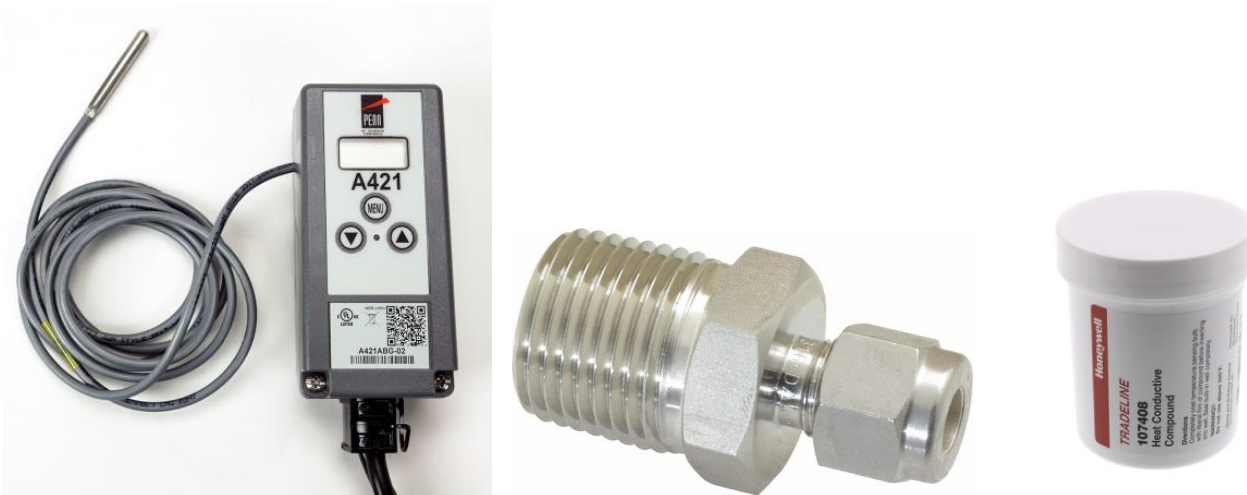
Many of our customer have chosen the Johnson A421 to control the burner. The Thermowells on our vessels are .5" FNPT, 7" Deep.

Johnson A421 Controller and Thermoprobe Link PDF:

http://www.johnsoncontrols.com/-/media/jci/be/united-states/refrigeration/commercial-refrigeration/files/be_cat_penn_sselectronictempcontrols.pdf

Controller and 7" Thermowell Parts

Note: The Johnson/Penn A421 Controller is used for the Midco Economite EC200, EC300 and the RE4700 only. The Midco 4700DS-HTD (High Turn Down Modulating Burner) requires a different controller, and if resourced through Forgeworks, it will utilize a ControlTec Controller. The ControlTec set up instructions will be provide via email by Forgeworks, and/or can be resourced on the Forgeworks website, under "Articles", "Support Documents".



-Qty 1 – A421ABC-02C Johnson Controls Temp Control. Suggested Supplier: HVAC Parts Warehouse
<https://www.hvacpw.com/johnson-controls-a421abg-02c-electronic-temperature-control-with-pre-wired-power-cords.html>

Or
https://www.supplyhouse.com/sh/control/product/~product_id=A421ABC-02C

-Qty 1 – ½” NPT to ¼” Tube adapter, Grade 316 Stainless Male. Suggested Supplier: MSC Direct.
Brand is Ham-Let. Mfg. Part #3001998, MSC Part #86760584
<https://www.mscdirect.com/product/details/86760584>

Alternative Supplier for the above fitting:
http://www.brewhardware.com/product_p/comp14tx12mnpt.htm

The above fitting is used to secure the thermoprobe in place. Install thermoprobe with Thermal Conductive Paste. Take caution not to wrench on the fitting too hard, or it may collapse the wiring.

-Qty 1 – Thermal Conductive Paste. We have used SKU Number 107408 from Supplyhouse.com before with good results.
<http://www.supplyhouse.com/Honeywell-107408-Heat-Conductive-Compound-4-ounces>

ELECTRIC FIRED HOT LIQUOR TANK

In the case of Electric Fired Kettles or Hot Liquor Tanks, determine your particular scenario of usage, and verify with your Electrician the required electrical power capacity, and type of immersion heater(s) needed.

Our customers have been successful sourcing Immersion Heater Elements from McMaster-Carr, however, there are less expensive alternatives. We recommend you shop.

630-833-0300

<https://www.mcmaster.com/>

Immersion Heaters Page

<https://www.mcmaster.com/#immersion-heaters/=122ss2k>

On this page, click on “more” under “About Immersion Heaters” to see charted information about minimum wattage required to Heat Water

Power Requirements for Electric Immersion Heaters

In General, any time you are taking your Liquor from tap temperature to strike temp or boil, you will need multiple immersion elements, and 3-Phase 480 Volt Power.

Example:

7bbl Hot Liquor Tank, at approximately 324 gallons

10bbl Hot Liquor Tank, at approximately 400 gallons

15bbl Hot Liquor Tank, at approximately 515 gallons

Gallons	Minimum Wattage Required to Heat Water (6-Hr. Warm-Up Time)						
	10° F Temp Rise	30° F Temp Rise	50° F Temp Rise	70° F Temp Rise	90° F Temp Rise	110° F Temp Rise	130° F Temp Rise
200	900	2700	4500	6300	8100	9900	11600
400	1800	5400	9000	12500	16100	19700	23300

Hot Liquor Tank Scenarios (3)

-Supplemental hot water from a Hot Water on Demand System (Tankless Water Heaters)

<https://www.rinnai.us/>

Have your Architect or HVAC Professional evaluate the Rinnai Model C199iN. Several of these units can be strung together, and retail for approximately \$2200. <https://www.rinnai.us/commercial-water-heating/catalog/tankless/hybrid/c199>

Whether you are single or double batching, this scenario assumes you are supplementing or filling your Hot Liquor Tank via a Hot Water on Demand System. To maintain or raise the temperature slightly for a single batch, this could be achieved with (1) Immersion Element, in which Single Phase Power may be acceptable, but 3-Phase, 240 Volt Power may be required. If double batching, and starting with heating your Liquor in your kettle, transferring to the Hot Liquor Tank, and supplementing with water from your On-Demand system, you may still be ok with (1) immersion heater. Make sure the Hot Water on Demand system you buy is designed to keep up with the scenario you will most likely be utilizing.

-Single Batch Brewing

This assumes you are heating your Liquor in your Direct Fire Kettle to just above strike temperature, then transferring to the Hot Liquor Tank. A single electric element is sufficient in this case to raise the temperature up, if needed, or maintain your target strike temperature. Single Phase Power may be acceptable, but 3-Phase, 240 Volt Power may be required.

-Double Batch Brewing

Double batching has two methods in which to have enough Liquor for two brews with close to a seamless transition between them. One option is to start the previous day with heating your Liquor in your kettle, then

transferring to the Hot Liquor Tank. Tap water is added to the HLT to make up the difference needed for a double brew day. One immersion element could do the job overnight to bring all the Liquor up to strike temperature overnight. Two elements may be required, depending on the size of your tank.

Option two is to fill the Hot Liquor Tank with tap water for the next day's double brew. Then using multiple (3-4) immersion elements, you heat the water over night. The power requirement for this scenario would be 3-Phase, 480 Volts.

NOTE: Whatever your scenario of usage, it is essential to keep at least (1) Electric Immersion Element on hand, as they do wear out. Do not dry fire, make sure each element is completely submerged in liquid before firing. In the case of a dry fire, the element will fail and need to be replaced.

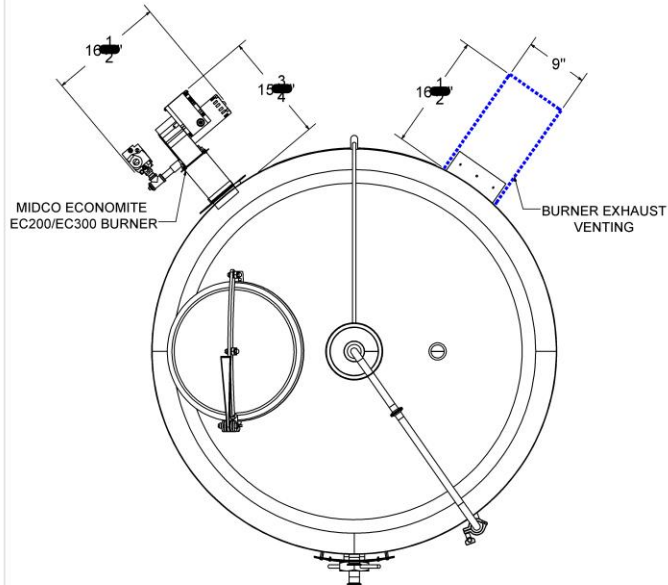
VENTING

Direct Fire Exhaust Venting

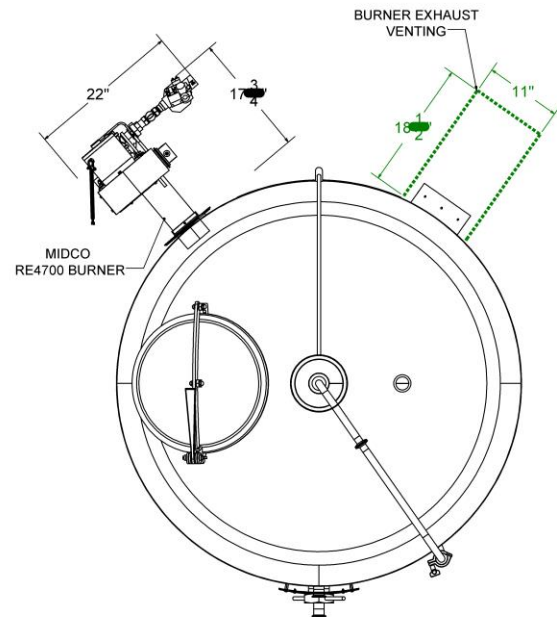
At a minimum, the venting from the Kettle or Hot Liquor Tank shall be comprised of insulated, Stainless Steel lined, Stainless Steel Outer, Class A chimney parts. A minimum of 2" of clearance must be maintained from walls and combustibles. Any needed wall supports or other supports by the manufacturer of your venting choice, provide at least 2" of clearance. The first two parts of the venting, the exhaust port adaptor and the Tee, will require 12" of width and 18.5" (for 3.5bbl-10bbl, and 16" by 20.5" for 15bbl) of length for appropriate clearance from walls and other obstacles (picture a 12" by 18.5", or 16" by 20.5" for 15bbl, rectangle jetting out from the kettle, on center from the location of the exhaust port).

FORGEWORKS
Crafted in Colorado

DIMENSIONS AND CLEARANCE REQUIREMENTS FOR DIRECT FIRE BURNERS & EXHAUST



3.5-10 BBL KETTLE, DIRECT FIRE HLT



15+ BBL KETTLE, DIRECT FIRE HLT

CURRENT REV: A			TOLERANCE INFORMATION		MATERIAL: 304 STAINLESS STEEL		SERIAL NUMBER	FORNAT	VOLUME	WEIGHT
REV/VER	DESCRIPTION	DATE	ALL DIMENSIONS ARE IN INCHES X.X ± 0.125 X.XX ± 0.060 X.XXX ± 0.030 X.XXXX ± 0.010 FRACTIONAL ± 1/16 DECIMAL ± 0.001		3RD UNITS ASM / PART / WELDMENT DESCRIPTION DIRECT FIRE KETTLE, INSULATED			15 B	467 GAL	39.62 LB
CUSTOMER NAME / COMPANY			WELDING INFORMATION		FORGEWORKS Crafted in Colorado		10BBL-KI ASM			
			WELDING INFORMATION WELD TYPE: WELDED WELDING METHOD: WELDED WELDING MATERIAL: WELDED WELDING CONDITION: WELDED		WARNING: PROPRIETARY AND CONFIDENTIAL INFORMATION. This document and the information contained herein are confidential and proprietary to FORGEWORKS. Confidentiality statement: This document is covered by Electronic Communications Privacy Act, 18 U.S.C. 8760-2001 and is intended only for use of person or entity to which it is addressed. If you are not the intended recipient or have received this message in error, you are prohibited from disseminating or otherwise using the information under the threat of legal action. If you are not the intended recipient, please notify the sender immediately. This document is confidential and will not be forwarded to any party without prior written consent from the sender.		FILENAME / PART NUMBER 10BBL-KI ASM		SHEET 1 of 1	

The Kettle or Hot Liquor Tank Exhaust port sizes are as follows:

3.5 - 10bbl: 8ID Collar"
15bbl & 20bbl: 12ID Collar"



Exhaust Chimney Parts

Many of our brewery customers have had success with Selkirk SuperVent, Selkirk MetalBest Ultra-Temp and Field Controls (draft control) products to equip the venting for both exhaust and steam venting. Your HVAC Professional may recommend a different brand, as well as different required parts. Mix and match use of different brands/models of chimney, even from the same manufacturer, may not interchangeable. Keep the brand and model of parts the same for the entire system. The brand Selkirk is just a suggestion. Here is a few more companies that offer quality venting products for your comparisons:

[Ameri-Vent](#)

[Dura-Vent](#)

[Metal-Fab](#)

In the case of the Selkirk SuperVent products, many of the parts you will need are commonly available in store or on-line at Lowe's or Menards. For the purposes of this document, we will detail the basic required parts, from the Exhaust exit to the wall exit or ceiling, with the brands suggested above.

<https://www.lowes.com/pl/Chimney-pipe-Chimney-pipe-accessories-Fireplaces-stoves-Heating-cooling/4294506739>

<https://www.menards.com/main/heating-cooling/venting/insulated-double-wall-stove-venting/c-6894.htm>

Selkirk MetalBest Ultra-Temp products are available at woodstovepro.com

For any consultation about these products, Contact Selkirk at 800-992-8368, sales@selkirkcinc.com.
<http://selkirkcorp.com/>

Selkirk makes the brands SuperVent (304SS inside, 430SS Outside), Ultra-Temp (304SS inside, 430SS Outside), and SuperPro (303SS inside and 304SS outside).

An engineer may decide to reduce the pipe size after the Draft Control, at their discretion. The 12" version of Venting for the 15 & 20bbl Kettle or Hot Liquor Tank are quite expensive. You may consider consulting your HVAC professional about reducing the Class A pipe diameter above the Draft Control.

Below is a general list of parts needed to vent the exhaust up to the ceiling. Consult your HVAC Professional on the required wall supports, and any additional parts or kits needed for various wall, ceiling, attic, and roof top configurations.

Initial Required Parts for Exhaust Vent (to the ceiling, or wall exit)

Below are the images of the parts you will need for the initial connections:

- (1) Adapter to connect from the exhaust port to a Tee
- (1) Tee with Plug used for initial exit from exhaust port, connects to adapter
- (1) Tee (without plug) for use with the draft control
- (1) Draft Control, inserted into the Tee

-Various quantities of straight 6", 9", 12", 24", or 36" Class A Piping Sections, with or without any needed 15° or 30° Elbow sections to route around ceiling obstacles, etc.

-Section Locking Bands

-Any needed Wall Supports (usually for use with Tees), and Wall Bands (secures piping to wall)



Generally, the fewer bends in the exhaust flue the better. The initial configuration of the exhaust venting is as follows: the flue exits the Kettle or Hot Liquor Tank via the adapter, turns 90° via a Tee & Plug, connecting to one straight section of 36” or 48” (if available in your selected brand) Class A chimney piping, connecting to a Tee (without plug) for the Draft Control. Then, ideally the flue continues

vertical, on up and through the roof. If turns are needed, 15° and 30° Kits are available. Because of the many different scenarios of wall exits or ceiling exits angles, piping through attics, and various roof line possibilities, for the purposes of this document, we do not detail any of those parts.

Vertical Support for the weight of the venting is required. Support under the initial Tee, and or via use of a Wall Support at the initial Tee or Tee with the Draft Control is recommended. Vertical stabilization for the chimney is also required. Check the manufacturers specifications for information on various types of supports, and required support intervals for your specific piping. Use of Unistrut products can be useful in weight support and bracing. This product can be found at Lowe’s or Menards. <http://www.unistrut.us/index.php>

8” Version SuperVent Part Codes for Exhaust Vent

Selkirk SuperVent Class A (check Lowe’s or Menards. Links are above)

PART	CODE	Lowest Price
Adapter	JSC8SE	\$27
Tee with Plug	JSC8SITS	\$110
Plug only	J811TPI	\$46
6” straight piping section	JSC8SA6	\$32
12” straight piping section	JSC8SA1	\$57
18” straight piping section	JSC8SA18	\$69
24” straight piping section	JSC8SA2	\$80
36” straight piping section	JSC8SA3	\$110
15° Elbow Kit	JSC8SEK	\$160
30° Elbow Kit	JSC8SE3K	\$223
Wall Band	JSC8WBM	\$16
Wall Support (for use with Tee)	JSC8AWS	\$48
Locking Band	JSC8SLBM	\$8
Field Control Draft Control	8-MG1	\$83

NOTE: There are Adjustable straight sections available. These sections must be used above a fixed length section, and not immediately above a support, tee or elbow.

Selkirk SuperVent Catalog & Installation Instructions

https://hw.menardc.com/main/items/media/SELKI001/Prod_Tech_Spec/superventproducttechspecs.pdf

12" Version Part Codes for Exhaust Vent

Selkirk MetalBest Ultra-Temp Class A

<https://woodstovepro.com/chimney-pipe-venting-pipe/wood-all-fuel-piping/>

PART	Product No. / Part No.	Lowest Found Price
Adapter	212240 / 12S-CPA	\$67
Tee with Plug	212100 / 12S-IT	\$681
Plug/Cap only	212102 / 12S-IP	\$88
6" straight piping section	212006U / 12U-6	\$187
9" straight piping section	212009U / 12U-9	\$212
12" straight piping section	212012U / 12U-12	\$196
18" straight piping section	212018U / 12U-18	\$250
24" straight piping section	212024U / 12U-24	\$260
36" straight piping section	212036U / 12U-36	\$488
15° Elbow Kit	212206 / 12S-EL15KIT	\$504
30° Elbow Kit	212211 / 12S-EL30KIT	\$598
Wall Band	212520 / 12S-WB	\$16
Wall Support (for use with tee)	212430 / 12S-WSK	\$58
Locking Band	212450 / 12S-LB	\$20
Field Control Draft Control	12" M+MG1	\$180

NOTE: There are Adjustable straight sections available. These sections must be used above a fixed length section, and not immediately above a support, tee or elbow.

Selkirk MetalBest Ultra-Temp Product Catalog

<http://selkirkcorp.com/sitecore/content/global-configuration/selkirk/products/chimney/ultra-temp>

Draft Control for Exhaust Vent

A draft control should be used in the exhaust stack to cool the gases and reduce the velocity of the exhaust charge. Typically, it is installed after a 36"- 48" single section of pipe above the initial Tee (90° transition to vertical) from the exhaust port on the side of the Kettle or Hot Liquor Tank.

The drawing of cooler air from the room through the Atmospheric Dampener will require sufficient make up air in the room. Make up air that is inadequate will create negative pressure in the room, and can contribute to issues with other appliances in the room, and carbon monoxide poisoning.

Many of our customers have had success with a draft control by Field Controls, LLC.

<http://www.fieldcontrols.com/>

252-522-3031

Field Controls Draft Controls can be found at SupplyHouse.com

<https://www.supplyhouse.com/>

800-757-4774

Parts

Draft Control Type MG-1 for the Selkirk SuperVent 8" Tee

8" MG-1

<https://www.supplyhouse.com/Field-Controls-8-MG1-8-Double-Acting-Gas-Draft-Regulator>

Draft Control Type M+MG2 for the Selkirk MetalBest Ultra-Temp 12" Tee

12" M+MG-2

<https://www.supplyhouse.com/Field-Controls-12M-MG2-12-Draft-Regulator-for-Oil-Gas-Wood-and-Coal>

Field Controls Draft Control links:

http://www.fieldcontrols.com/draft-control-1?page_id=95

<http://www.fieldcontrols.com/filebin/pdfs/4129DraftControlGuide.pdf>

<http://www.fieldcontrols.com/draft-1>



It is essential that your HVAC installer send a temperature probe into the exhaust vent both below and above the draft control and verify that the exhaust temperature is not exceeding the design specs of your chosen vent products. The burner can be tuned to adjust the exhaust temperature if necessary. The temperature of the flue gasses where they exit the kettle should be just under 1000° F. and the

temperature above the atmospheric damper should run around 500° F., but in either case shall not exceed the continuous temperature rating of your selected vent products.



Steam Vent

For the Steam Vent on your Kettle or Hot Liquor Tank, the sizes are as follows:

3.5:	6"
5, 7 & 10bbl:	8"
15bbl:	10"

This vent is single wall. The first section of vent needs to be Stainless Steel. The remainder can be aluminum. Be sure that your steam vent pipe has a crimped end on it so that it will fit inside the collar on the top of the Kettle or Hot Liquor Tank; if not it will allow fluid to leak through the joint and make a mess on the outside of the kettle. Use only stainless-steel screws attachment of sections, hood, etc. Do not use galvanized piping, the caustics and other chemicals used in the cleaning of the kettle will degrade galvanized, and introduce rust into the Kettle or Hot Liquor Tank. NOTE: Both the exhaust and the steam vent need their own exit route out of the building. These two systems cannot be merged.

Installation of the Forgeworks Slide Gate for the Steam Stack

If you ordered a Forgeworks Slide Gate for your steam stack, these are inserted at the Kettle's Steam vent exit, fitting over the Kettle's vent connection pipe, and feature a slot on the top side of the slide gate to insert your steam venting. No screws or clamps are required to install.

Particularly lengthy runs of the steam vent can cause draw issues. Also, very cold outside temperatures during the Winter season can contribute to draw issues. In these cases, it may be necessary to incorporate a non-corrosive in-line fan (aka duct booster) that can be switched on and off to establish a

draw. If your venting is straight (no curves), evaluate installing this in-line fan via a “Y” (45° branch) section, thus entering the straight section at an angle. This avoids having the fan in a position where condensation from the fan would drip straight down the pipe, back into your kettle (not flowing down the venting wall, which would be collected by the condensation ring on the kettle). If a “Y” (45° branch) is not achievable, or if you have a bend/jog in the piping routing, place the inline fan on the “jog” section, so that condensation will run down the wall of the piping.

Consult your engineer and/or HVAC Professional! Ask other local breweries who they have used. In addition to potential equipment performance issues, there are also serious safety hazards if the burner and venting is installed incorrectly, including fire and carbon monoxide poisoning.

Other Venting Product Resources

<http://www.lindemannchimneysupply.com/>

<https://www.ventingpipe.com/duravent-vent-pipe/c22>

https://www.ventingpipe.com/metalbest-class-a-chimney-pipe/c1035?source=gg_!165166862!a36579221927!k%20selkirk%20%20lass%20%20a!mb!p1o1!d!ng!f%3Fpage%3Dbrowse%3Acategory&cvo_src=ppc.google.%2Bselkirk%20%2Bclass%20%2Ba&cvo_cid=165166862&cvo_crid=96051171902&matchtype=b&cvo_adgroup=36579221927&gclid=EAIaIQobChMIrpPQg43x1wIVBsZkCh35xQdCEAMYASAAEgIAZfD_BwE

<https://woodstovepro.com/chimney-pipe-venting-pipe/wood-all-fuel-piping/>

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