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P.O. Box 202

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The Pipe Heater

by Dudley Giberson

Updated September 10, 2023

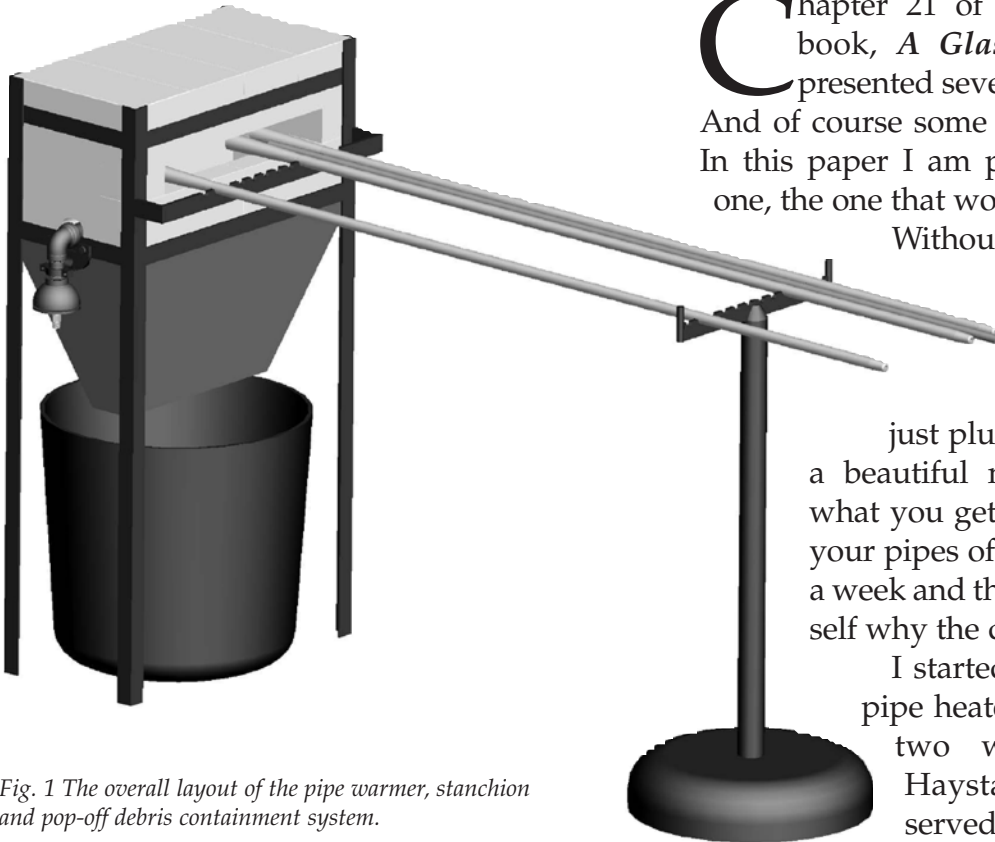


Fig. 1 The overall layout of the pipe warmer, stanchion and pop-off debris containment system.

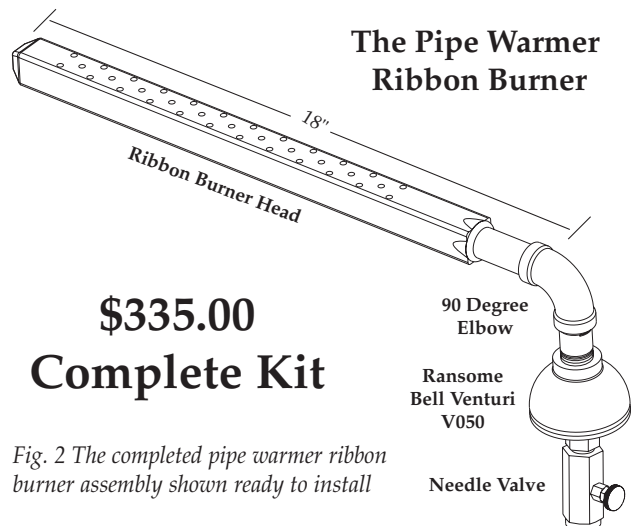
Chapter 21 of the first edition of my book, *A Glassblower's Companion*, presented several types of pipe heaters. And of course some work better than others. In this paper I am presenting you with just one, the one that works the best.

Without going into a long explanation as to why you would want a pipe pop-off area and pre-heater for your pipes, just plunge a nice cold pipe into a beautiful melt of crystal and see what you get. Or of equal merit blow your pipes off into your new glory for a week and then try to explain to yourself why the doors won't open.

I started making this version of pipe heater around 1981. The first two were installed in the Haystack School Studio and served us well for many years.

This versatile ribbon burner works with all gasses: Natural Gas, Butane, Propane, low pressure or high pressure.

Pipe Warmer Orifice Chart		6,000 to 20,000 Btu's
Low Pressure Natural Gas	6" WC	#48 Orifice
Low Pressure Propane	8"-11" WC	#54 Orifice
High Pressure Propane	1-2 psi	#65 Orifice
You will not need much pressure. Use needle valve to modulate gas flow.		



\$335.00
Complete Kit

Fig. 2 The completed pipe warmer ribbon burner assembly shown ready to install

The Pipe Warmer
Ribbon Burner

90 Degree Elbow
Ransome Bell Venturi V050
Needle Valve

The Kit Parts: The kit parts are shown in detail below. The ribbon burner head has 35 holes that are 3/16" in diameter. The head is an overall length of 18 inches. The head can be purchased separately (\$160.00).

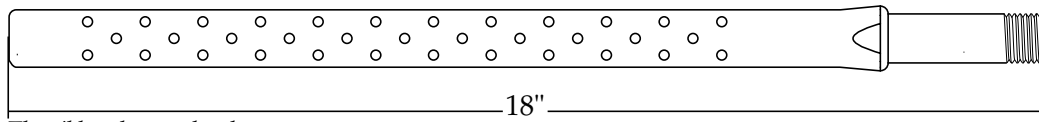


fig.3 The ribbon burner head

The image to the right depicts the mixer assembly: the V-050B venturi mixer (\$149.50) with needle valve (\$23.00). Also included are the 1/2" nipple, 90 degree elbow, the reducer bushing (1/4" to 1/8") to attach needle valve to spud as shown. The overall value of these parts is \$346.00, an estimated savings of \$11.00 as we offer this as a kit to you for \$335.00



fig.4 The mixer assembly

The Pipe Warmer Body

The overall brick pattern of the pipe warmer is based on the standard insulated soft brick (IFB) "straight brick" which measures 2.5" x 4.5" x 9". The frame is made using 1" x 3/16" angle iron or comparable strength dimension steel.

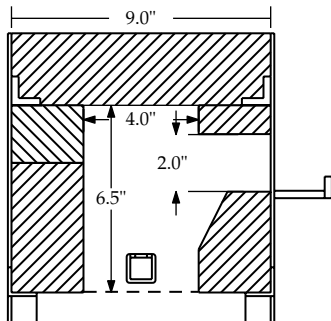


fig.5 Cross section showing door opening and burner position

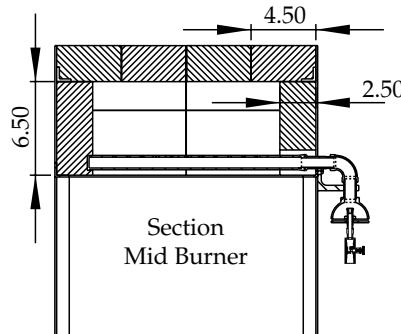


fig.6 Section through length of burner

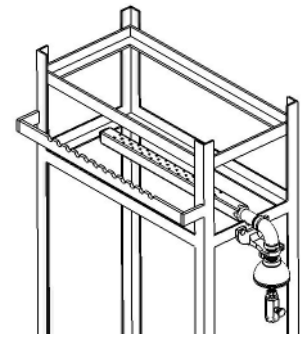


fig.7 View of frame with burner in place

This design is a good match for a one or two man shop in that the burner produces just what is needed to make this specific sized unit get to temperature. Notice in figure 5 there is a pocket of heated air in the roof. It is trapped by the 1" thick brick section over the door. This pocket helps keep the heat in the pipe warmer and lets it function with a lot less fuel use. Another item of interest—keep the door to the absolute minimum, especially in height. A two inch door is about the maximum I would recommend.

All in all this is a great piece of equipment, an absolute necessity for any serious glass studio.

Note: for information on the exact shape of each brick go to this link on the web:

http://www.joppaglass.com/pop_off/brick_seq.html

If you need a larger pipe warmer call Dudley at 603.456.3569.

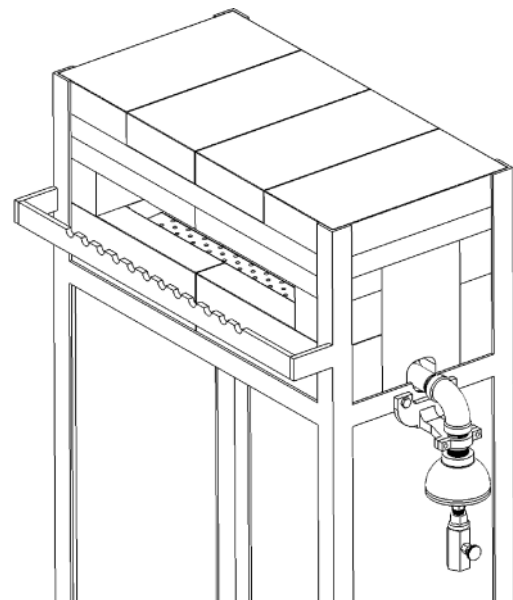
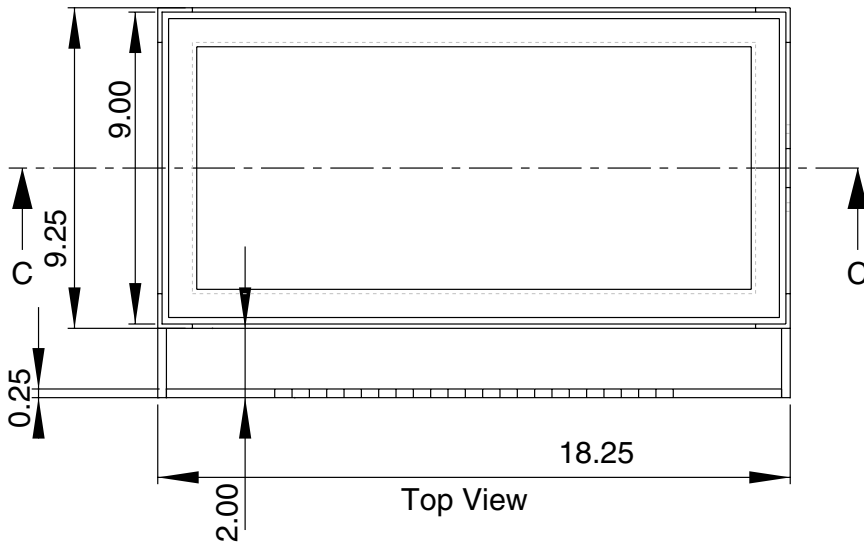


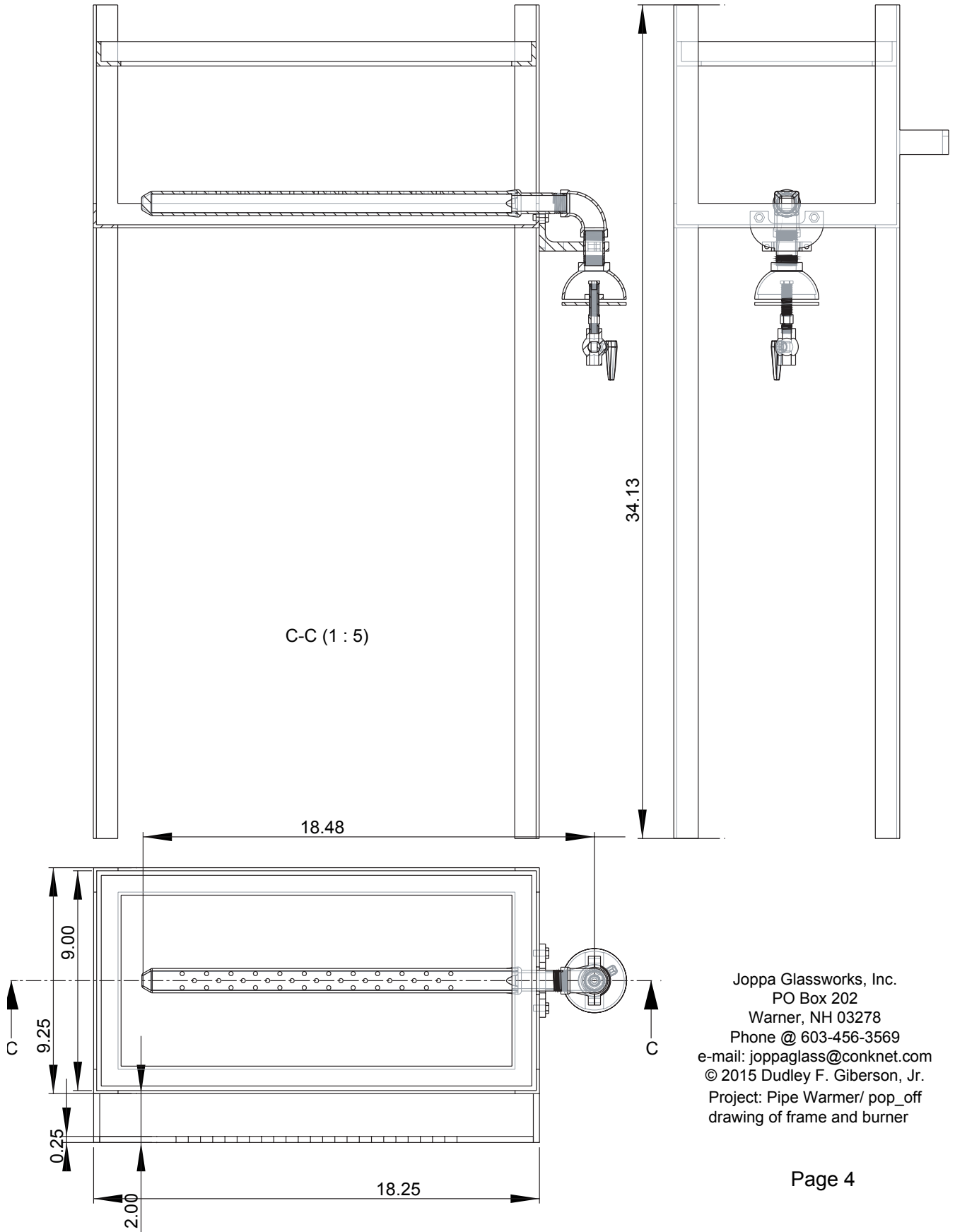
fig.8 View of bricks mortared in place with AP Green "Sairset."

Details of the frame



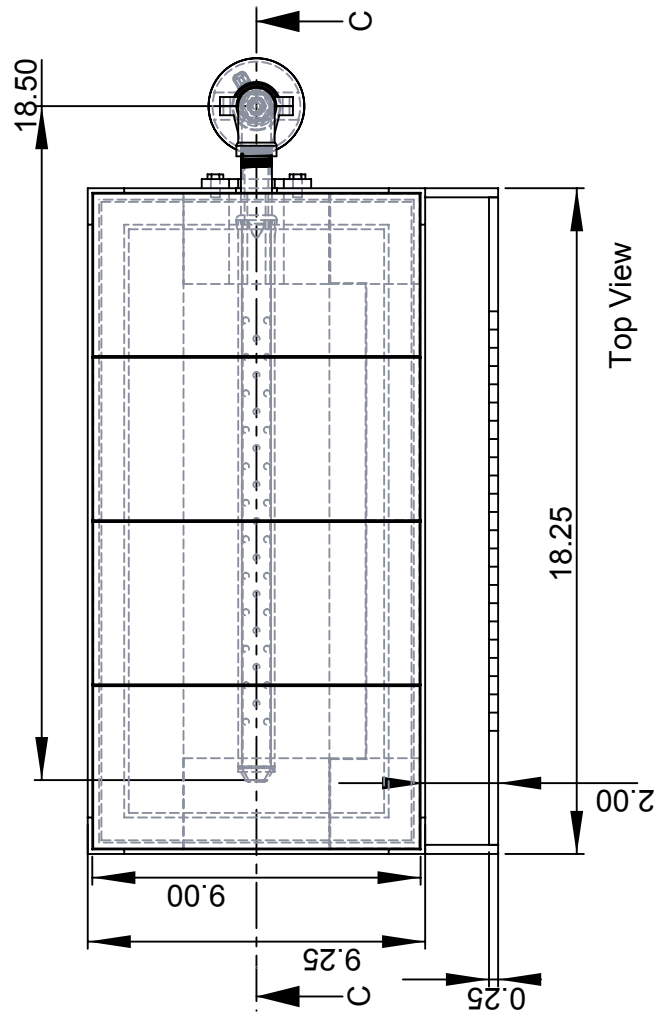
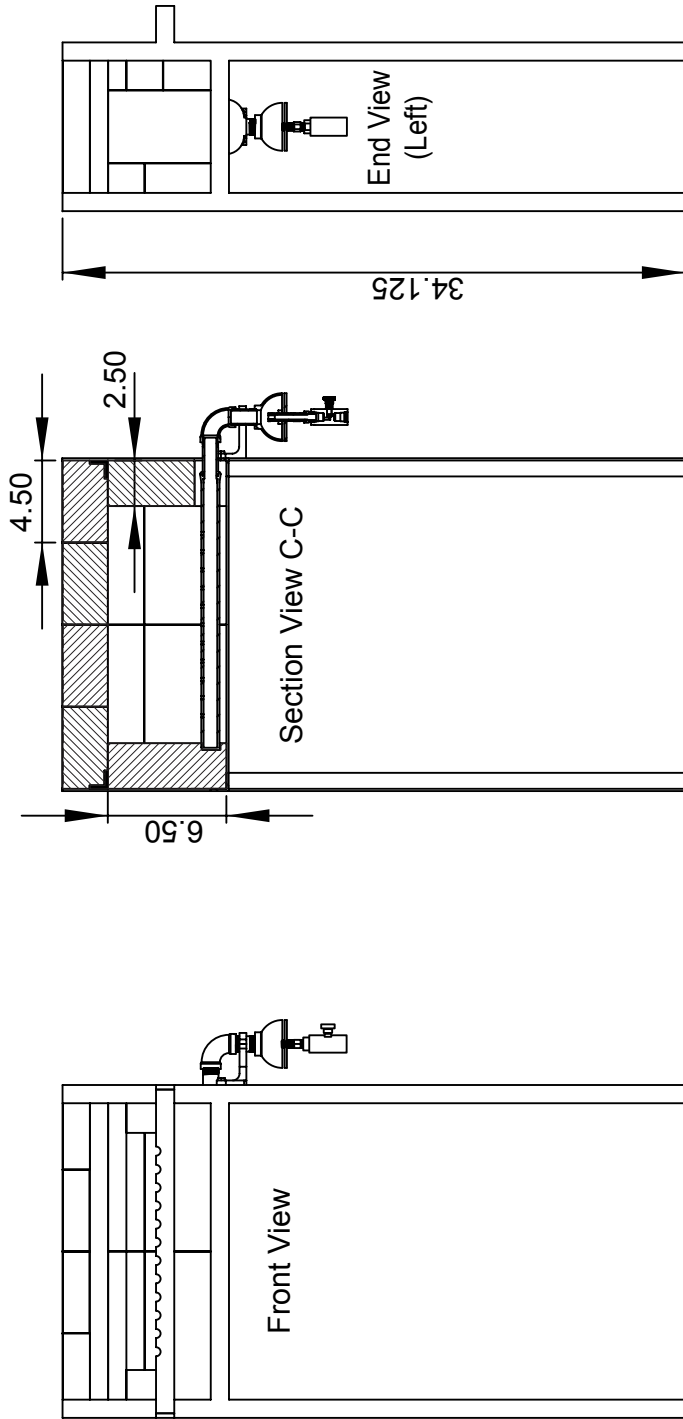
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Project: Pipe Warmer/ pop_off
drawing of frame only

Details of frame and burner



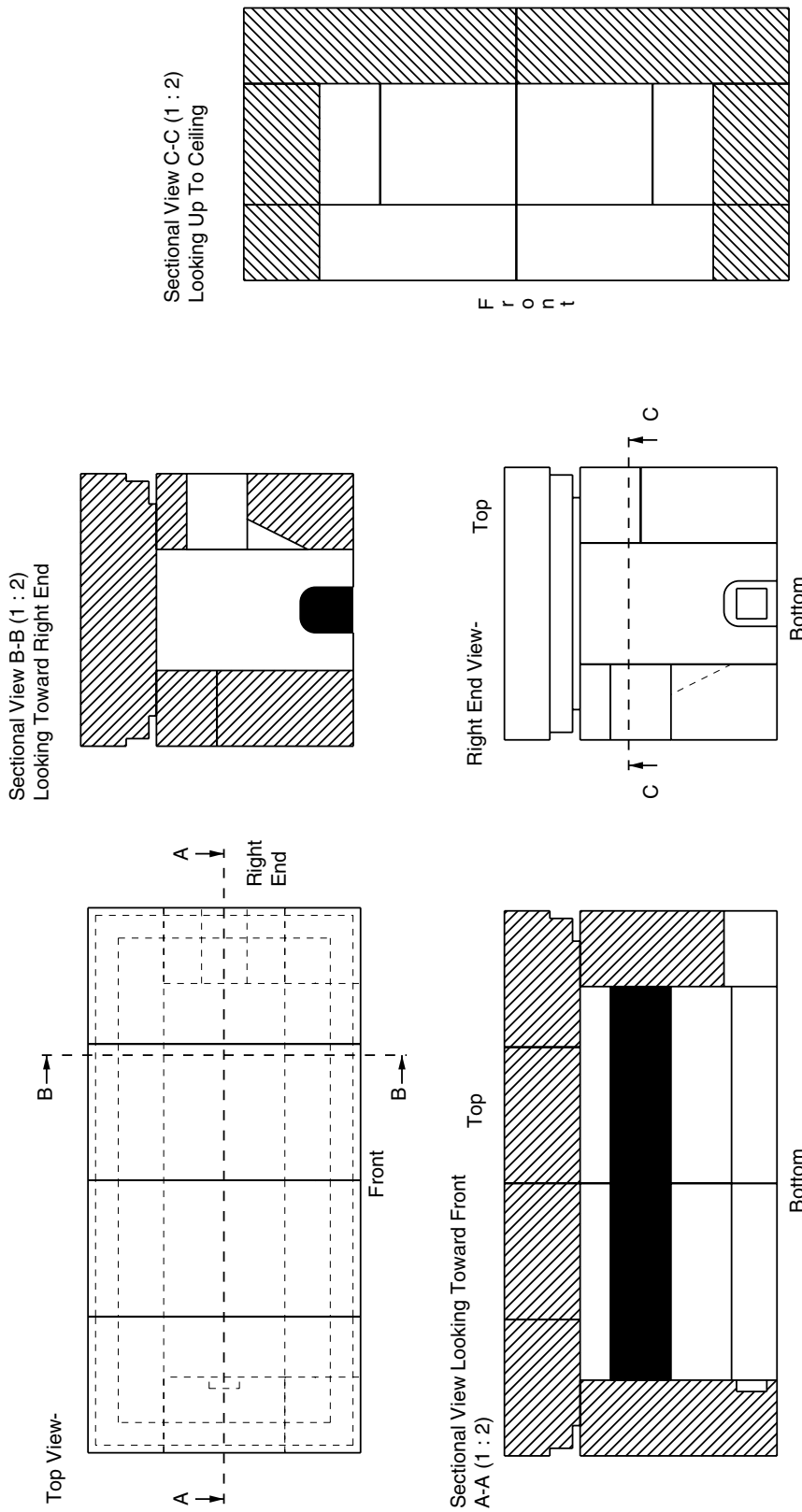
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 Project: Pipe Warmer/ pop_off
 drawing of frame and burner

Drawing of frame, bricks and burner placement.

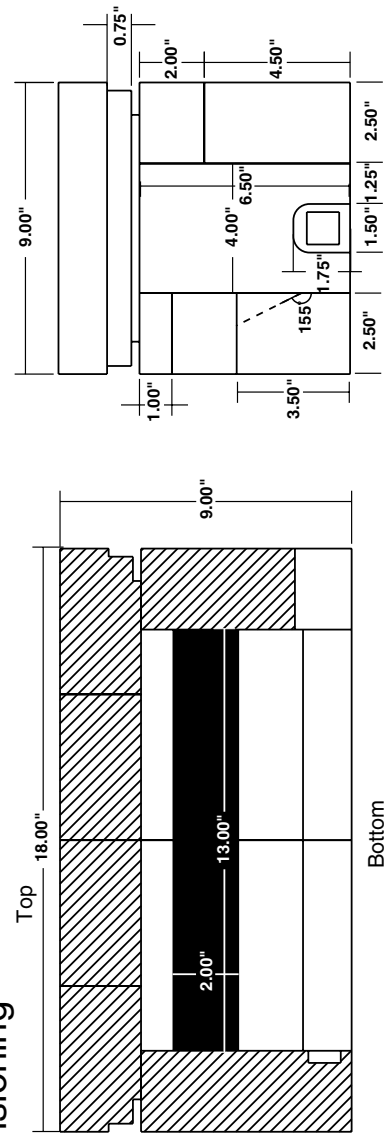


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 drawing of frame, bricks and burner

Positions of openings and brick shapes



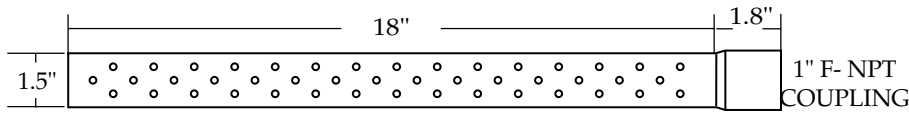
Dimensioning



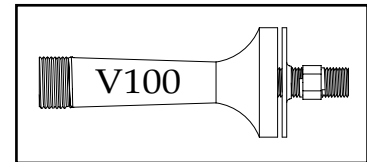
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3 Larger Pipe Heaters

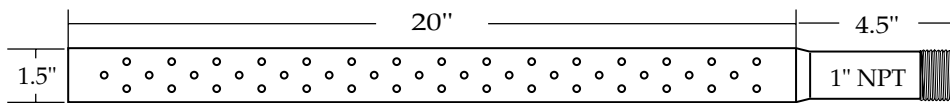
On several occasions during the recent past I have received requests for larger than standard sized pipe warmer burners. In response to these requests I have developed several burners made of larger stock which extend the possibilities for a good bit more heat and larger pipe warmer installations. Basically there are three larger models, the "SIGGY" which is about 20 inches long, the "OMAR" which is overall 24.5" long and the "GHOST PEPPER", which is 29" long. These are mated with the V100 Ransome venturi, for the first two and the V125 for the GHOST PEPPER. These burners have a great turn down ratio which supports larger pipe warmers with larger racks and size openings. The three burner head designs shown are from the "Top View" perspective defining the hole pattern and other features.



The "SIGGY", a 20" Ribbon Burner w coupling— \$195.00



The above image is the V100 Ransome Venturi which sells for \$199.50 and is a good match for the Siggy and Omar Pipe Warmer Heads.

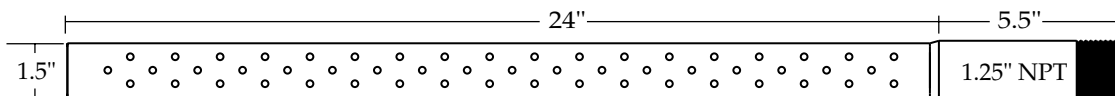


The "OMAR", a 24.5" Ribbon Burner Head— \$210.00

Large Pipe Warmer Orifice Chart <small>9,000 to 25,000 Btu's</small>		
Low Pressure Natural Gas	6" WC	#43 Orifice
Low Pressure Propane	8"-11" WC	#52 Orifice
High Pressure Propane	1-2 psi	#60-55 Orifice
You will not need much pressure. Use needle valve to modulate gas flow.		

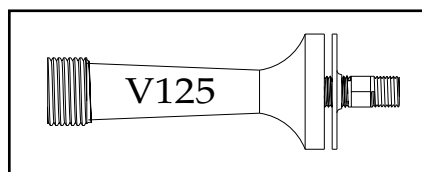
These ribbon burners work with all gasses: Natural Gas, Butane, Propane, low pressure or high pressure.

Our Newest Larger Pipe Heater: The Ghost Pepper



The "GHOST PEPPER", a 29.5" Ribbon Burner Head— \$245.00

The image to the right is the V125 Ransome Venturi which sells for \$230.00 and is a good match for our largest Pipe Warmer Head, the "Ghost Pepper."



The Ghost Pepper + the Ransome V125 Venturi are a great combination. Suggested Orifices with various gasses: (target 29,000 BTUs)

GAS TYPE	PRESSURE	ORIFICE SIZE
Low Pres. Nat. Gas	6" w.c.	#41
Low Pres. Propane	8" w.c.	#50
High Pres. Propane	1-2 psi.	#56