Guidelines for Building a Pipe Burner Using the HPGX-1 Venturi

You need to drill enough holes in the pipe so that the total area of the drilled holes is at least 80% of the cross sectional area of the internal diameter of the pipe you are using.

The formula used is $3.1416 \times \text{the internal radius squared} - \text{Area} = \pi \times r^2 (A=\pi r^2)$

Suggested minimum # of 1/8" holes for 3/4" black pipe is 32
Suggested minimum # of 1/8" holes for 1" black pipe is 50
Suggested minimum # of 1/8" holes for 1-1/4" black pipe is 80
Suggested minimum # of 1/8" holes for 1-1/2" black pipe is 115
Suggested minimum # of 1/8" holes for 2" black pipe is 205

Pipe must be capped on one end and must be straight - no 45's or 90's. The pipe's length is important only in the length of flame area you need. A 3/4" pipe will provide only about 16" of flame following the hole guidelines above.

You may require more inches of flame for your application, requiring more drilled holes or a bigger pipe diameter.

BTU will depend on gas pressure. Example: A burner with 100 1/8" holes using propane gas set @ 11" water column will provide about 30,000 BTU.

Also consider these factors when determining the length of the pipe.
- Start first hole about 4" away from Venturi
- Space holes 1/2" or less if you want the flame to jump from hole to hole

Your pipe burner must be supplied with a method for fresh air to enter and exhaust air to exit the device you install it in.