



## VENTURI MIXERS

Carlisle burners have several distinct types of flame. One type of flame is a surface mix flame, where the gases (gas and air, gas and oxygen) mix outside of the burner as they are being consumed by the flame. Another type of flame is a pre-mixed flame, where the gases mix in a chamber before exiting the burner. Some pre-mixed burners use mixing chambers that are internally built into the torch, while others use an external mixing device like the Carlisle Venturi Mixer.

The Venturi Mixer has inlets for both the fuel gas (natural gas, propane) and the air (and/or oxygen). Inside the mixer body, the Venturi Mixer mixes these gases properly and distributes them through the outlet. This mixing ratio is controlled by the sizing of the Jet and the Throat that are part of the mixer body.

When the higher pressure air or oxygen is brought into the mixer, it must pass through the Jet. By limiting the size of the Jet, the mixer controls the amount of air that is capable of entering the mixing chamber. The fuel gas enters through it's side inlet unrestricted into the mixing chamber. The pressure of the air pushing through the Jet mixes the gases together and forces them out through the Throat at the proper ratio. A zero governor regulator is recommended for this application.

The Carlisle Venturi Mixer is manufactured of brass hex for a sturdy construction. The standard Venturi Mixers come with the

### HOW TO ORDER

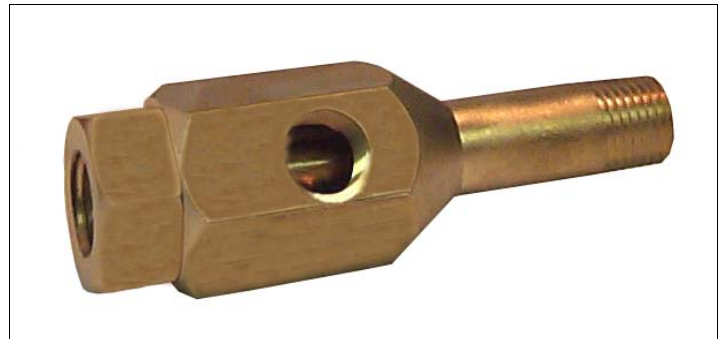
MODEL NUMBER

DRILLING  
0 = STANDARD  
1 = CUSTOM

17C000-0000

Example: A 14 venturi mixer with custom drilling would be:

17C007-0001



12 Venturi Mixer  
17C004-0000



15 Venturi Mixer  
17C009-0000

### BULLETIN REFERENCES

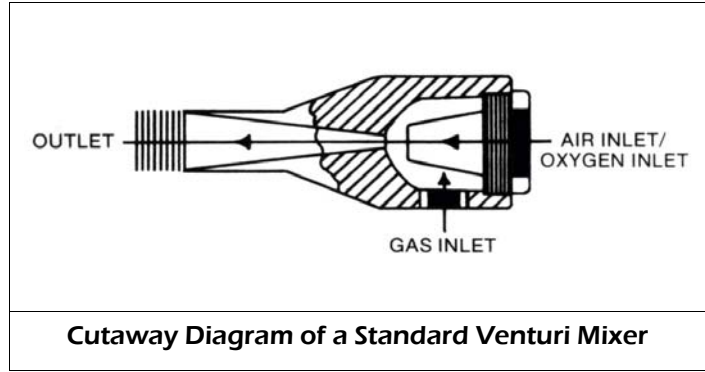
Controls-	16A, 16E
Safety-	18A, 18B
Other Mixer Types-	17D, 16E

**Carlisle Machine Works, Inc.,**  
**P.O. Box 746, 412 S. Wade Blvd., Bldg. #5, Millville, NJ 08332**  
**Phone: (800) 922 - 1167 Fax: (856) 825 - 5510**  
**Web Site: [www.carlislemachine.com](http://www.carlislemachine.com) E-Mail: [carlisle@carlislemachine.com](mailto:carlisle@carlislemachine.com)**



Venturi Mixer has a special design for use as a heavy industrial mixer. The 15 mixer has been precision built so that the inspirator cap and the body are held together by a vacuum.

Carlisle Venturi Mixers are available in both the standard drilling sizes indicated below, and custom drilling sizes dependant on the total port area of the burner(s) used. For sizing of these custom drilled mixers, your Carlisle Sales Representative will be happy to compute the Required Jet and Throat.



MODEL NUMBER	MIXER NUMBER	BODY SIZE	BODY LENGTH	AIR/OXY INLET	GAS INLET	MIX OUTLET	STD. JET	MAX JET	STD. THROAT	MAX THROAT
01	11	3/4" HEX	2 3/4"	1/8" NPTF	1/8" NPTF	1/8"	72 DS	55 DS	65 DS	35 DS
02	11-80-80	3/4" HEX	2 3/4"	1/8" NPTF	1/8" NPTF	1/8"	80 DS	N/A	80 DS	N/A
03	11-S	1" HEX	2 5/8"	1/8" NPTF	1/8" NPTF	1/4"	72 DS	55 DS	65 DS	35 DS
04	12	1" HEX	3 3/8"	1/4" NPTF	1/4" NPTF	1/4"	72 DS	25 DS	65 DS	"O"
05	12-S	1" HEX	3"	1/4" NPTF	1/4" NPTF	3/8"	55 DS	25 DS	5/64"	"O"
06	13	1" HEX	3 5/8"	3/8" NPTF	1/4" NPTF	3/8"	49 DS	25 DS	5/64"	"O"
07	14	1 1/4" HEX	4 3/8"	3/8" NPTF	3/8" NPTF	1/2"	50 DS	9/32"	43 DS	9/16"
08	15-S	1 3/4" HEX	4 3/16"	3/4" NPTF	1/2" NPTF	3/4"	30 DS	23/64"	36 DS	5/8"
09	15	2" HEX	4 9/16"	1" NPTF	1/2" NPTF	1" NPTM	"D"	23/64"	21 DS	5/8"

## 3-WAY SETUPS

There are some cases when an operator may need to mix together three types of gases. The most common example of this would be when fuel gas and air are combined with the option of bleeding in oxygen for a more intense flame. This can easily be accomplished with the Carlisle Venturi Mixer by ganging two of these together. The first mixer is used to combine the air and oxygen. It's mix outlet is then attached to the air inlet of the second mixer where the fuel gas is introduced. This is quite often referred to as a "piggyback" system. Your Carlisle Sales Representative can also size the custom drilling for these setups as well as the standard setup. Pre-assembled venturi and valve systems can be ordered to your specifications as well.

Carlisle also offers atmosphericly inspirated and high pressure inspirated mixers (Bulletin 17D).

**Carlisle Machine Works, Inc.,**  
**P.O. Box 746, 412 S. Wade Blvd., Bldg. #5, Millville, NJ 08332**  
**Phone: (800) 922 - 1167      Fax: (856) 825 - 5510**  
**Web Site: [www.carlislemachine.com](http://www.carlislemachine.com)      E-Mail: [carlisle@carlislemachine.com](mailto:carlisle@carlislemachine.com)**

