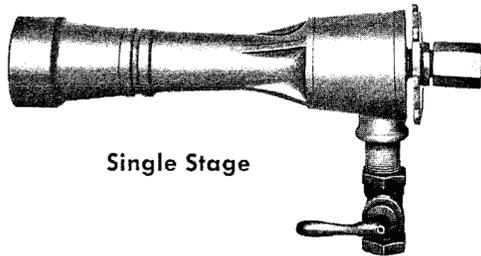
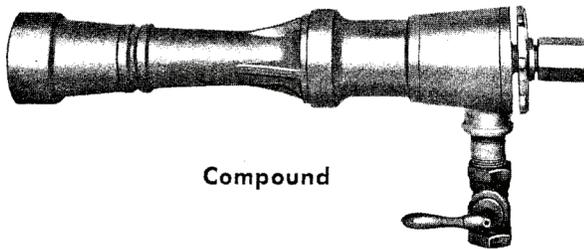


Eclipse Atmospheric Injectors

LOW PRESSURE INJECTORS

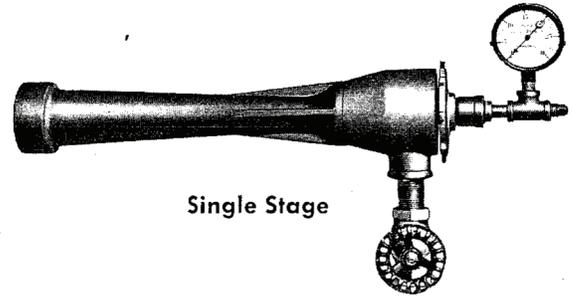


Single Stage

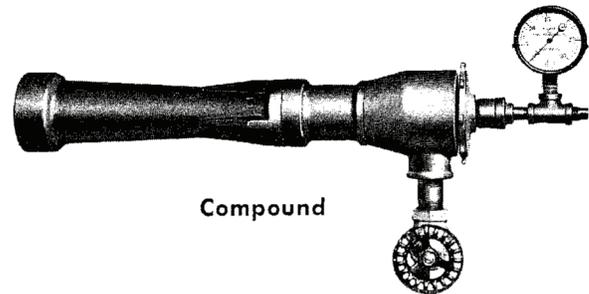


Compound

HIGH PRESSURE INJECTORS



Single Stage



Compound

Eclipse Atmospheric Injectors are simple, low cost, adjustable mixers designed to provide an air/gas mixture to one or more burners. Atmospheric injectors use the kinetic energy of a stream of gas to entrain part or all of the air required for combustion.

Two series of injectors are available; "Low Pressure", for use with gases up to 28" w.c. and "High Pressure", for gases from 1 psig to 30 psig. Both are available as either "Single Stage" or "Compound" units depending on the type of gas used. Compound Injectors employ an

additional sleeve which assists in entrainment for higher Btu gases.

Standard orifice spuds are made of brass, but steel or other material can also be furnished for use with gases containing sulphur or other corrosive gases. The orifices listed are standard sizes. However, they can be drilled to any desired size or furnished blank. To prevent delays in shipment, the customer should specify either the orifice size desired, or the type and pressure of the gas to be used. Orifice size will be determined by the factory if no size is specified by the customer.

Low Pressure Injectors (Up to 28"w.c.)

Low Pressure Injectors entrain 30 to 50% of the combustion air required (depending upon the type of system) but sufficient secondary air should be provided around the burner outlet to complete combustion. Low pressure, single stage injectors are suggested for use with low and medium Btu gases up to 1200 Btu.

These mixers feature an adjustable air shutter and an integral gas flow adjusting needle. They can be purchased with or without a gas shut-off cock. Single stage injectors are available in sizes from 1/2" to 5". Compound injectors can be purchased in sizes from 1" to 5".

For gases from 1200 Btu to 3300 Btu, a compound injector should be used.

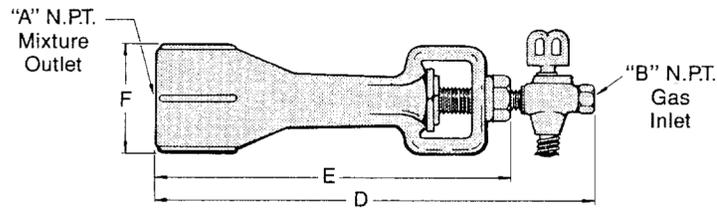
Low Pressure Injector Capacities, CFH

Mixture Outlet Size*	Configurator Model	Single Stage Injectors*		Compound Injectors**		
		Natural Gas, Btu/h	Standard Orifice Size	Propane & Butane, Btu/h	Standard Orifice Size	
					Propane	Butane
1/2	002	10,000	#55	-	-	-
3/4	03A	12,000	#54	-	-	-
3/4	003	16,000	#38	-	-	-
1	04A	20,000	#49	-	-	-
1	004	25,000	7/64"	27,000	#50	#53
1-1/4	005	40,000	9/64"	45,000	#42	#47
1-1/2	006	55,000	5/32"	62,000	#31	#37
2	008	90,000	13/64"	100,000	#29	#30
2-1/2	010	140,000	9/32"	155,000	#18	#27
3	012	200,000	3/8"	220,000	#9	#18
4	016	340,000	7/16"	375,000	1/4"	#3
5	020	540,000	9/16"	590,000	#1	15/64"

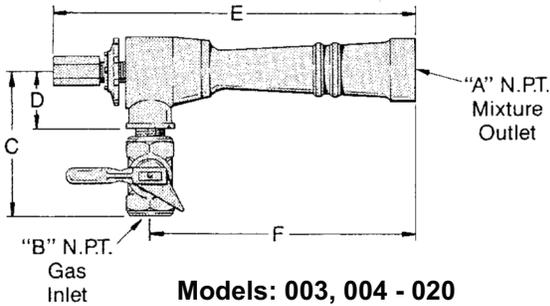
* For use with 1040 Btu natural gas, 0.65 specific gravity, 7" w.c. inlet pressure

** For use with 1.52 specific gravity propane at 11" w.c. inlet pressure or 1.95 specific gravity butane at 15" w.c. inlet pressure

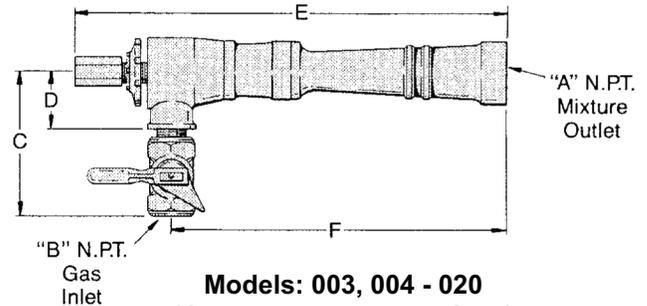
Low Pressure Injector Dimensions, inches



Models: 002, 03A, 04A



Models: 003, 004 - 020
(Single Stage Injectors Only)



Models: 003, 004 - 020
(Compound Injectors Only)

Configurator Model*	Dimensions in inches					
	A	B	C	D	E	F
Single Stage Injectors						
002	1/2	1/8	-	6-9/16	5-1/4	-
03A	3/4	1/4	-	8-1/4	6-3/4	1-7/8
003	3/4	3/8	3-1/2	1-3/8	8-15/16	7-3/8
04A	1	1/4	-	8-1/4	6-3/4	1-7/8
004	1	3/4	4-15/16	1-13/16	11-1/8	8-3/4
005	1-1/4	3/4	5-1/8	2	12-1/2	10-3/16
006	1-1/2	3/4	5-1/8	2	11-9/16	9-1/4
008	2	1	6-1/4	2-5/8	14-3/4	10-3/4
010	2-1/2	1	6-3/16	2-5/8	16-1/4	13-3/4
012	3	1-1/4	6-1/8	2-3/4	18-1/2	15-13/16
016	4	1-1/4	7	3-1/2	22-11/16	19-3/16
020	5	1-1/4	7-7/8	4-1/8	31-5/16	27-7/8
Compound Injectors						
004	1	3/4	5-7/16	1-13/16	13-1/8	10-3/4
005	1-1/4	3/4	5-5/8	2	14-7/8	12-9/16
006	1-1/2	3/4	5-5/8	2	14-7/16	12-1/8
008	2	1	7	2-5/8	16-1/4	13-3/4
010	2-1/2	1	6-15/16	2-5/8	20-5/16	17-13/16
012	3	1-1/4	6-5/8	2-3/4	23-5/16	20-5/8
016	4	1-1/4	7	3-1/2	27-5/8	24-1/8
020	5	1-1/4	7-7/8	4-1/8	38-13/16	34-3/4
*All sizes available with or without gas cock assembly						

High Pressure Injectors (1 to 30 psig)

Eclipse High Pressure Injectors are designed to entrain all or part of the air required for combustion and deliver the mixture to the burner or burner manifold at a high enough pressure to prevent backfiring. These mixers can maintain a constant air/gas ratio throughout a range of turndown. High pressure, single stage injectors can be used for low and medium Btu gases up to 1100 Btu. Either a single stage or compound injector can be used for gases from

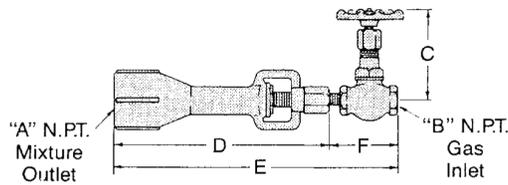
750 to 1100 Btu. For gases above 1100 Btu, a compound injector should be used.

Gas flow adjustment is provided by an external needle valve at the gas inlet. Air flow is adjusted by an integral air shutter. These mixers can be purchased with or without the gas adjusting valve and gas pressure gauge. Single stage injectors are available in sizes from 1/2" to 5". Compound injectors are available in sizes from 1" to 6".

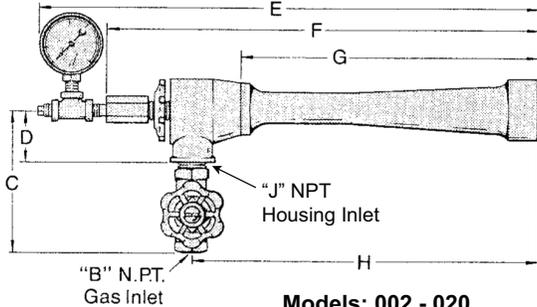
High Pressure Injector Capacities, CFH

Mixture Outlet Size	Configurator Model	Single Stage Injectors		Compound Injectors	
		Natural Gas**, CFH	Coke Oven Gas*, CFH	Natural Gas**, CFH	Propane***, CFH
1/2"	002	8.4	6.2	-	-
3/4"	3HA	8.4	6.2	-	-
3/4"	003	17	50	-	-
1"	4HA	8.4	6.2	-	-
1"	004	23	100	25	-
1-1/4"	005	90	175	100	25
1-1/2"	006	135	250	150	50
2"	008	225	550	250	100
2-1/2"	010	405	850	450	150
3"	012	585	1300	650	200
4"	016	1080	2500	1200	400
5"	016	1620	3500	1800	600
6"	24	5500	3600	4000	1000
<p>* 595 Btu Coke Oven Gas, 0.42 specific gravity at 10 psig inlet pressure. **1040 Btu Natural Gas, 0.65 specific gravity at 25 psig inlet pressure. ***2500 Btu Propane Gas, 1.55 specific gravity at 25 psig inlet pressure.</p>					

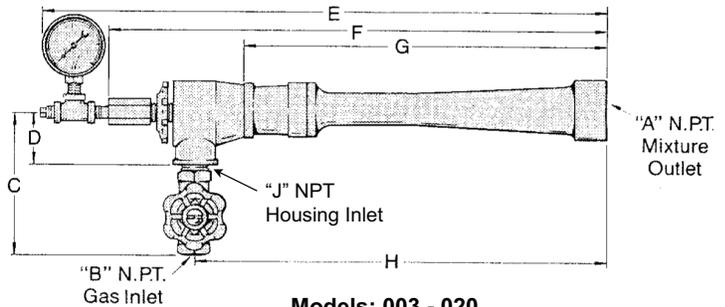
High Pressure Injector Dimensions, inches



**Models: 02H, 3HA, 4HA
(Single Stage Injectors Only)**



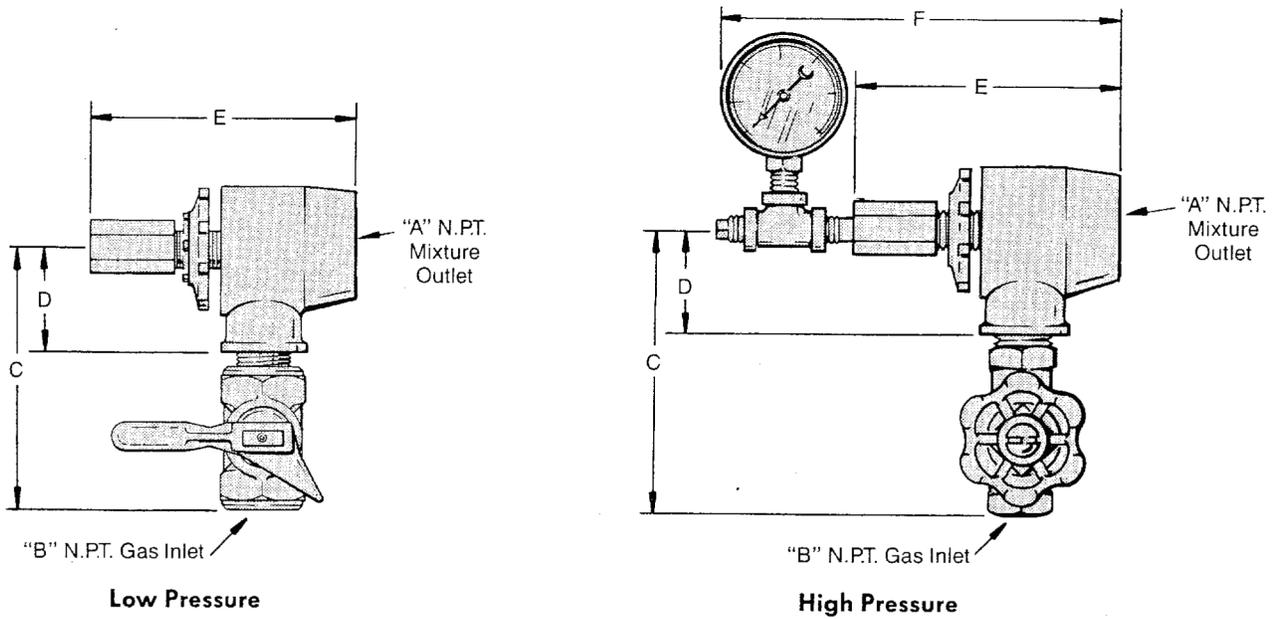
**Models: 002 - 020
(Single Stage Injectors Only)**



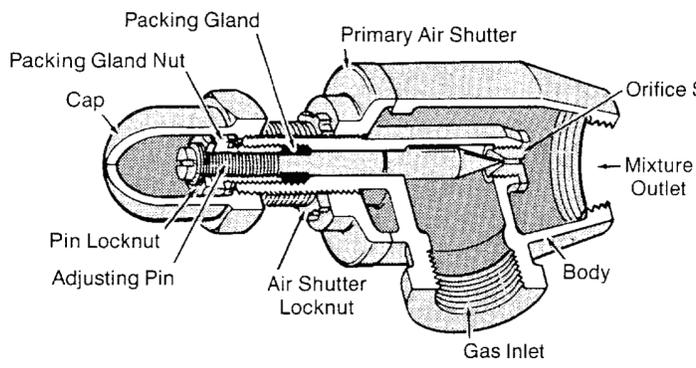
**Models: 003 - 020
(Compound Injectors Only)**

Configurator Model	Dimensions in inches								
	A	B	C	D	E	F	G	H	J
Single Stage Injectors									
002	1/2	1/8	-	6-9/16	-	5-1/4	-	5-1/4	-
02H*	3/4	1/8	2-3/8	6-3/4	9	2-1/4	-	-	-
003	3/4	3/8	4-3/4	1-3/8	11-3/8	8-5/16	6	7-3/8	3/8
3HA*	3/4	1/8	2-3/8	6-3/4	9	2-1/4	-	-	-
4HA*	1	1/8	2-3/8	6-3/4	9	2-1/4	-	-	-
004	1	3/4	4-7/8	1-13/16	14-3/4	11-1/4	7	7-7/8	3/4
005	1-1/4	3/4	5	2	17-7/8	14-1/4	10	11-15/16	3/4
006	1-1/2	3/4	5	2	20-1/4	16-3/4	12-1/4	14-7/16	3/4
008	2	3/4	5	2-5/8	21-1/4	18-1/8	13-1/4	15-5/8	1
010	2-1/2	1	5-5/8	2-5/8	26	22-1/2	17-1/4	20	1
012	3	1	5-5/8	2-3/4	31	28-1/2	22-3/8	26-13/16	1
016	4	1-1/4	5-3/4	3-1/2	35-3/4	32-11/16	26-1/4	29-3/16	1-1/4
020	5	1-1/4	6-1/2	4-1/8	42	38-7/8	31-1/2	34-13/16	1-1/4
Compound Injectors									
004	1	3/4	4-13/16	1-13/16	16-1/4	13-3/32	8-7/8	10-3/4	3/4
005	1-1/4	3/4	5	2	19-1/2	15-7/8	11-5/8	13-9/16	3/4
006	1-1/2	3/4	5	2	20-3/8	16-7/8	12-3/8	14-9/16	3/4
008	2	3/4	5	2	21-3/8	17-29/32	13-1/16	15-7/16	3/4
010	2-1/2	1	5-5/8	2-5/8	25-15/16	22-7/16	17-3/16	19-15/16	1
012	3	1	5-5/8	2-5/8	32-1/8	30	23-7/8	27-5/16	1
016	4	1-1/4	5-3/4	2-3/4	35-9/16	32-9/16	26-1/8	29-1/16	1-1/4
020	5	1-1/4	6-1/2	3-1/2	42-9/16	39-3/16	31-13/16	35-1/8	1-1/4
024	6	1-1/4	7-1/8	4-1/8	47	44	34	40	1-1/4
*All assemblies are available with our without valve and gauge assembly except 02H, 3HA, and 4HA, which are not available without the valve and gauge assembly.									

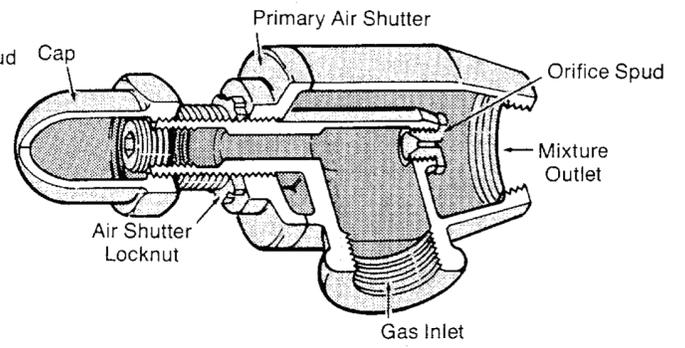
Mixer Heads



Configurator Model	Dimensions in inches					
	A	B	C	D	E	F
Low Pressure						
003	3/4	3/8	3-1/2	1-3/8	4	-
004	1	3/4	4-15/16	1-13/16	5-13/16	-
005	1-1/4	3/4	5-1/8	2	5-5/8	-
006	1-1/2	3/4	5-1/8	2	6	-
008	2	1	6-1/4	2-5/8	6-3/8	-
010	2-1/2	1	6-3/16	2-9/16	6-1/4	-
012	3	1-1/4	6-1/8	2-1/2	7-7/16	-
016	4	1-1/4	7	3-3/8	8-3/16	-
020	5	1-1/4	7-7/8	4-1/4	9-1/8	-
High Pressure						
003	3/4	3/8	4-3/4	1-7/8	3-3/8	5-3/8
004	1	3/4	4-7/8	1-7/8	5-1/4	8-3/4
005	1-1/4	3/4	5	2	5-1/4	8-7/8
006	1-1/2	3/4	5	2	4-7/8	7-3/4
008	2	1	5	2	5-3/4	9-1/4
010	2-1/2	1-1/4	5-5/8	2-5/8	6	9-1/2
012	3	1-1/4	5-5/8	2-5/8	6-1/4	8-3/4
016	4	1-1/4	5-3/4	2-3/4	7-3/8	10-7/8
020	5	1-1/4	6-1/2	3-1/2	7	10-1/4



Low Pressure



High Pressure

