

## Pilot Capacities/Specifications

Maxon offers a wide range of gas pilots to meet the specific needs of each of its burner product lines. In most cases, the appropriate burner catalog section will provide the selection data needed to choose one

of the many pilots offered. Pages 9505 through 9508 are a summary of the additional component/accessory part numbers and performance data.

**Raw gas pilots** may be used for manual light-off and are not intended as permanent pilots. Do not use outdoors or in high draft or back pressure conditions where flame may be accidentally extinguished.

Pilot Assembly Number	Pilot Description	Pressures required to pilot mixer		Normal Capacity 1000's Btu/hr	Pilot Assembly Includes:			
		Natural Gas	Combustion Air		Pilot Mixer	Gas Adjustable		Spark Ignitor
						Orifice	Cock	
04640	Raw gas pilot	6-8" wc	---	15	---	---	18315	---
07310	Raw gas lighter torch						---	

**Pilots for premixed nozzles.** Series "SN" Sealed Nozzles and WIDE-RANGE® Burners may be fitted with either open-port or sealed-port pilots. STICKTITE™ Nozzles can accept all of these open-port pilots. MULTIFIRE® Burners can use any of these sealed-port pilots.

Pilot Assembly Number	Pilot Description	Pressures required to pilot mixer		Normal Capacity 1000's Btu/hr	Pilot Assembly Includes:						
		Natural Gas	Combustion Air		Pilot Mixer	Gas Adjustable		Spark Ignitor			
						Orifice	Cock				
04572	Open port atmospheric pilot	8-27" wc	---	30	12326	39294	---	---			
06868	Open port venturi pilot	4-6" wc		15				12457	18110		
06969											
10849	Open port atmospheric pilot	8-27" wc	---	30	12326	39294	---	---			
10901											
10904									18110		
13919		6-8" wc		25	12457						
18886	Open port venturi pilot	2-15 PSIG	---	30	18885	39295	---	---			
18887								18110			
09300	Open port pressure pilot	4-7" wc	8-16 oz.	20	11680	38579	---	---			
10237											
10895											18110
10899	Pressure pilot/spark ignited										
10240	Sealed port venturi pilot	2-5 PSIG	---	20	18885	39295	---	18110			
10243											
11681	Sealed port pressure pilot	4-7" wc	8-16 oz.	25	11680	38579	---	18110			
11684				40	11683						
18639		1" wc	6" wc		18638						
19299	Sealed port pressure pilot	4-7" wc	8-16 oz.	75	19298						

## Pilot Capacities/Specifications

### Pilots for VORTIFLARE® Burners

Pilot Assembly Number	Pilot Description	Pressures required to pilot mixer		Normal Capacity 1000's Btu/hr	Pilot Assembly Includes:			
		Natural Gas	Combustion Air		Pilot Mixer	Gas Adjustable		Spark Ignitor
						Orifice	Cock	
32844	Pilot assembly	2" wc	11" wc	25	---	---	15726	18110
33974	Pilot assembly 1-1/2" VORTIFLARE				11683	38579	---	

### Side-mounted pilots for Style A & B LINOFLAME® Burners

Pilot Assembly Number	Pilot Description	Pressures required to pilot mixer		Normal Capacity 1000's Btu/hr	Pilot Assembly Includes:			
		Natural Gas	Combustion Air		Pilot Mixer	Gas Adjustable		Spark Ignitor
						Orifice	Cock	
05140	Fresh air type LINOFLAME® pilot	8-27" wc	---	30	12326	39294	---	18118
10847	Fresh air type (with vane)				33107	---	15726	
12150	Recirculating type (with vane)				11680	38579	---	
10848	Pressure type pilot (with vane)	4-7" wc	8-16 oz.	15	11680	38579	---	

### End-mounted LINOPAK Pilots for Style A & B LINOFLAME® Burners

Pilot Assembly Number	Pilot Description	Pressures required to pilot mixer		Normal Capacity 1000's Btu/hr	Pilot Assembly Includes:			
		Natural Gas	Combustion Air		Pilot Mixer	Gas Adjustable		Spark Ignitor
						Orifice	Cock	
15214	Inert air LINOPAK pilot	8-27" wc	---	30	33107	---	15726	18118
15216	Fresh air LINOPAK pilot				12326	39294	---	
15218	Fresh air LINOPAK pilot (w/vane)				33107	---	15726	
15220	Inert air LINOPAK pilot (w/vane)				11680	38579	---	
15215	Pressure type LINOPAK pilot	4-7" wc	8-16 oz.	15	11680	38579	---	
15219	Pressure type LINOPAK (w/vane)							

**Pilot for INFRAWAVE® Burner** is normally supplied as a sub-assembly within a complete INFRAWAVE® Burner pilot section.

Pilot Assembly Number	Pilot Description	Pressures required to pilot mixer		Normal Capacity 1000's Btu/hr	Pilot Assembly Includes:			
		Natural Gas	Combustion Air		Pilot Mixer	Gas Adjustable		Spark Ignitor
						Orifice	Cock	
25906	Pilot assembly "constant pilot"	4-7" wc	8-16" oz	15	11680	38579	---	18110

## Pilot Capacities/Specifications

### End-mounted pilots for “VF” LINOFLAME® Burners

Pilot Assembly Number	Pilot Description	Pressures required to pilot mixer		Normal Capacity 1000's Btu/hr	Pilot Assembly Includes:			
		Natural Gas	Combustion Air		Pilot Mixer	Gas Adjustable Orifice	Cock	Spark Ignitor
23218	VFH LINOPAK pilot assembly	4-7" wc	---	20	23229	---	18118	
23219		1-2 PSIG		30	23230			
23997		4-7" wc		20	23229			
24101	VFL LINOPAK pilot assembly	1-2 PSIG		30	23230	---		
24102		4-7" wc		20	23229			
24289				20	23229			
22737	VFH LINOPAK pilot assembly	4-7" wc	4-16 oz.	25	11680	38579		
23995								
24100	VFL LINOPAK pilot assembly			4-16 oz.	75	25006	38577	
24287								
27708	LINOPAK pilot assembly HP-VFL	1-2 PSIG			4-16 oz.	75	25006	38577
27709	LINOPAK pilot assembly HP-VFH							
28240	LINOPAK HP-VFH (ext. eye)							
28241	LINOPAK HP-VFL (ext. eye)							

### Series “66” AIRFLO® Burner pilots

Pilot Assembly Number	Description	Spark Ignitor included	With optional Pilot Mixer	Adjustable Orifice included	Natural gas pressure required at pilot	Combustion air pressure required at pilot	Capacity 1000's Btu/hr
19084	AIRFLO-PAK Pilot Set (direct mounted)	18075	12326	39294	8-27" wc	---	25
			16948	---			
			17082	38579	4-7" wc	6 oz.	40
19193	Built-in Pilot End Plate Set (direct mounted)	18075	12326	39294	8-27" wc	---	25
			16948	---			
			17082	38579	4-7" wc	6 oz.	40
36504	AIRFLO-PAK Pilot Set (external mounted)	---	12326	39294	8-27" wc	---	25
			16948	---			
			17082	38579	4-7" wc	6 oz.	40
36497	Built-in Pilot End Plate Set (external mounted)	---	12326	39294	8-27" wc	---	25
			16948	---			
			17082	38579	4-7" wc	6 oz.	40

## Pilot Capacities/Specifications

### Series NP/RG AIRFLO® pilots

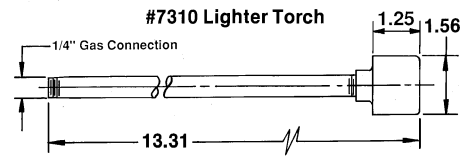
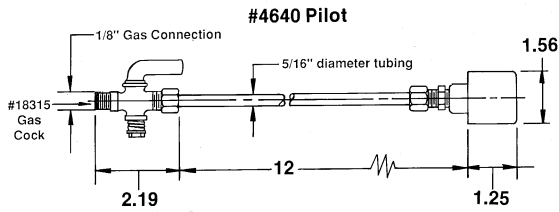
Pilot Assembly Number	Description	Spark Ignitor included	Adjustable Orifice included	Natural gas differential pressure required at pilot	Capacity 1000's Btu/hr
20883	NPF - 1-1/4 - FR - SI 2 pc. pilot set with spark ignitor	23739	---	0.1" wc	20
21654	RGF - 1-1/4 - FR - SI 2 pc. pilot set with spark ignitor				
23183	RG-PAK pilot set with spark ignitor				
23184	NP-PAK pilot set with spark ignitor				
23185	NP-PAK pilot assembly		38577	10	
23186	NP-PAK pilot assembly with tubing				
23187	RG-PAK pilot assembly				
23188	RG-PAK pilot assembly with tubing		---	0.1" wc	20
24874	6" section with pilot NP-1-6P				
24875	6" section with pilot RG-IV-6P				
26670	6" section with pilot NP-II-6P				
26671	6" section with pilot NP-III-6P		0.7" wc	30	
28365	RGF - 1-1/4 end inlet flange set with spark ignitor				
36711	NP - EC - FR - SI 1 pc. end close set with spark ignitor				
36712	NPF - 1-1/4 - FR - SI 1 pc. pilot set with spark ignitor		0.5" wc	20	
37004	NP - EC - SI 3/4 UV 1 pc. pilot set with spark ignitor				
51029	RG-PAK pilot set with spark ignitor				
51030	NP-PAK pilot set with spark ignitor		38577	10	
51031	NP-PAK pilot assembly				
51032	RG-PAK pilot assembly				

### COMBUSTIFUME® Burner pilots

Pilot Type	Pilot End Plate assembly number	Description	Spark Ignitor included	Pilot Mixer	Adjustable Orifice included	Pressures required:		Maximum Capacity 1000's Btu/hr
						Natural Gas	Combustion Air	
Built-in Raw Gas Pilots	26049	4CF B.I. pilot end plate set, FR/SI	18075	---	---	8-27" wc	---	30
	26050	5CF B.I. pilot end plate set, FR/SI						
	26081	4CF B.I. pilot end plate set, FR/SI	---					
	26082	5CF B.I. pilot end plate set, FR/SI						
Atmospheric Pilots	23894	4CF AIRFLO-PAK pilot set, FR/SI	18075	20103	---	4-8" wc	---	15-35
	23893		---					
	23986	5CF AIRFLO-PAK pilot set, FR/SI						
Pressure Pilots	23894	4CF AIRFLO-PAK pilot set, FR/SI	18075	11680	38579	4-8" wc	6 oz.	30-40
	23893		---					
	23986	5CF AIRFLO-PAK pilot set, FR/SI						

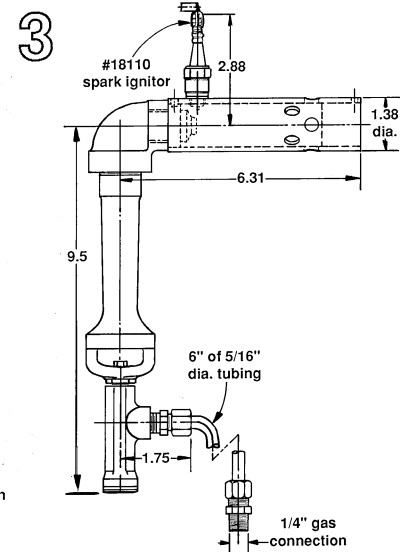
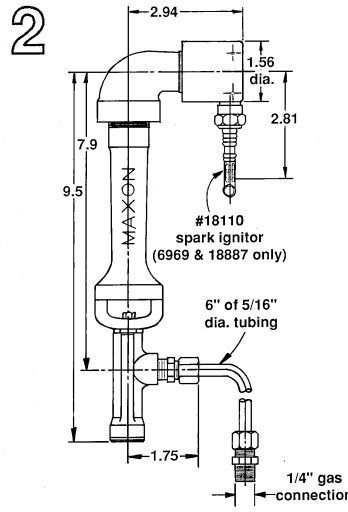
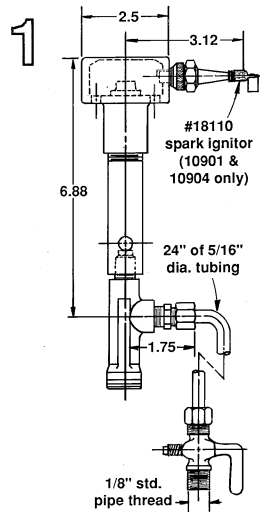
# Dimensions (in inches)

## General Purpose Raw Gas Pilots



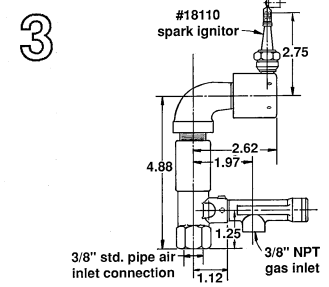
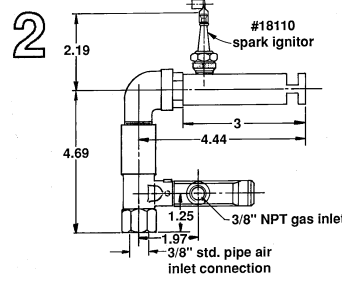
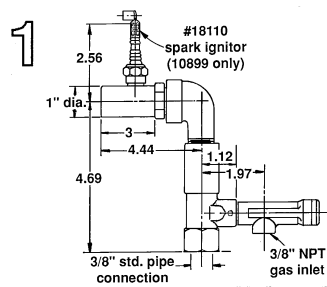
## Open-Port Atmospheric Pilots (for STICKTITE® Nozzles and Sealed Nozzles)

Assembly Number	Sketch
04572	1
06868	2
06969	3
10849	1
10901	1
10904	1
13919	3
18886	2
18887	2

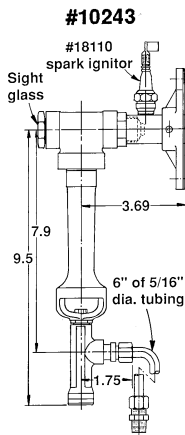
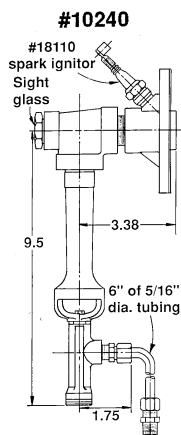


## Open-Port Pressure Pilots (for STICKTITE® Nozzles)

Assembly Number	Sketch
09300	1
10237	2
10895	3
10899	1

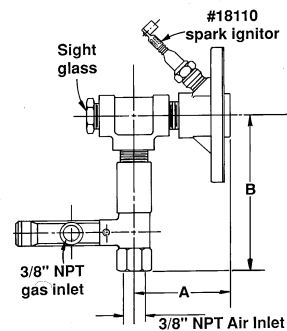


## Sealed-Port Pilots (for Sealed Nozzles, WIDE-RANGE® & MULTIFIRE® Burners)



⇐ Atmospheric-type

Pressure-type ⇒

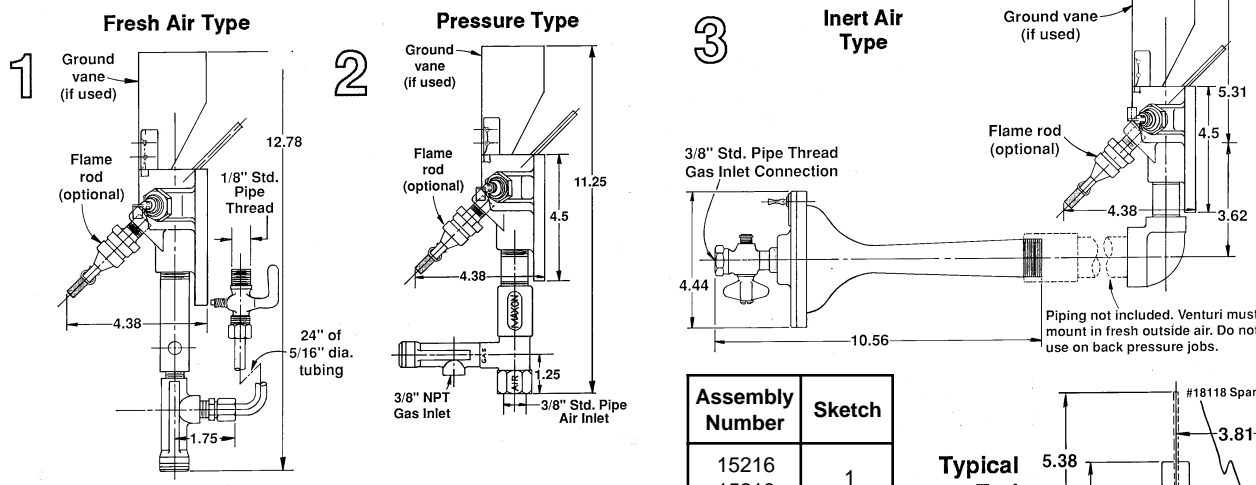


Pilot	A	B
11681	3.19	4.88
11684	3.19	4.88
18639	3.38	5

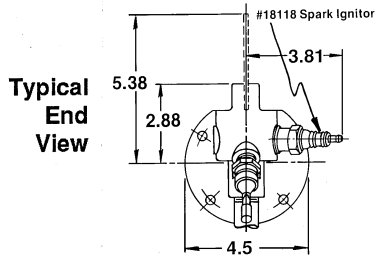
Pipe threads on this page conform to ANSI Standard B2.1

# Dimensions (in inches)

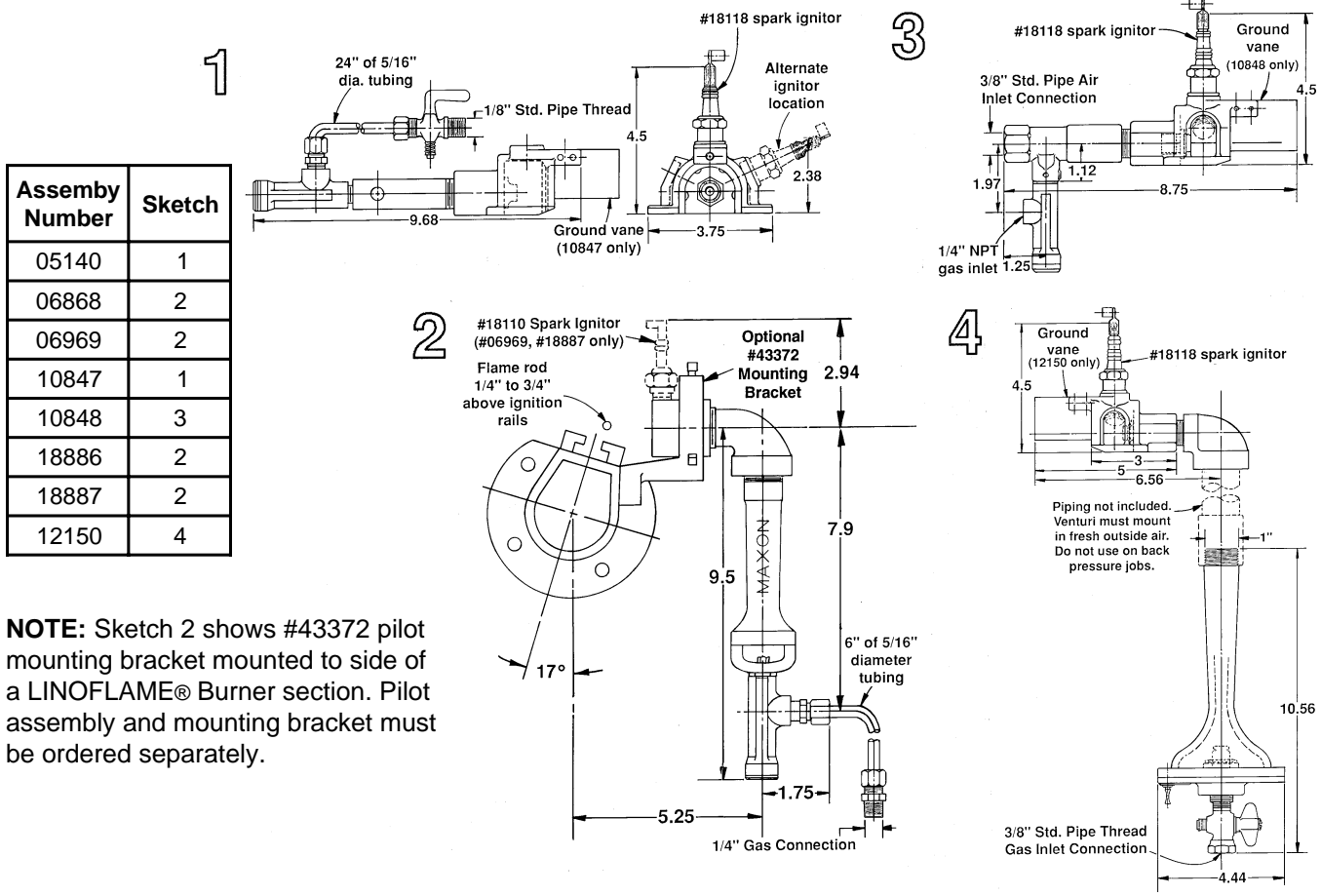
## End-mounted LINOPAK Pilots (for "A & B" LINOFLAME® Burners)



Assembly Number	Sketch
15216 15218	1
15215 15219	2
15214 15220	3



## Side-mounted "Patch-on" Pilots (for "A & B" LINOFLAME® Burners)



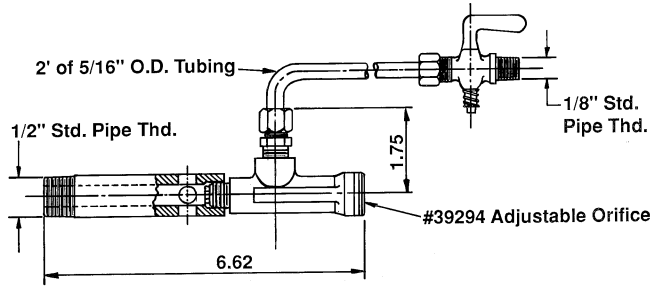
Assembly Number	Sketch
05140	1
06868	2
06969	2
10847	1
10848	3
18886	2
18887	2
12150	4

**NOTE:** Sketch 2 shows #43372 pilot mounting bracket mounted to side of a LINOFLAME® Burner section. Pilot assembly and mounting bracket must be ordered separately.

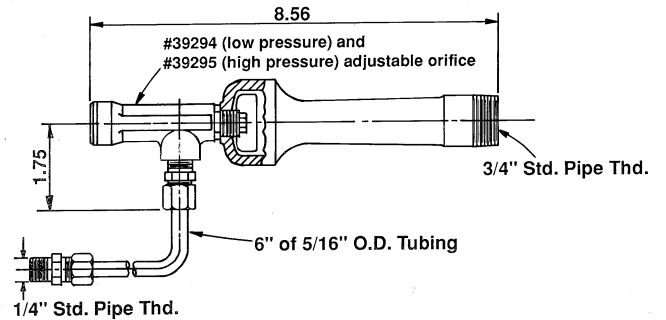
# Dimensions (in inches)

## Air-Gas Pilot Mixers – Atmospheric Type

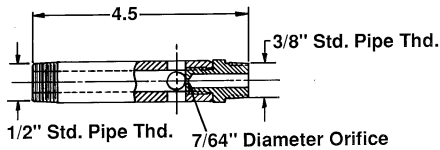
#12326



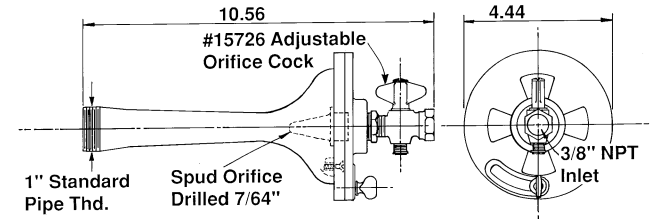
#12457 (low pressure) & #18885 (high pressure)



#16948 & #20103

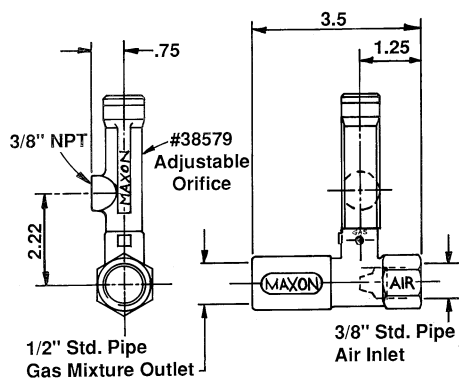


#33107

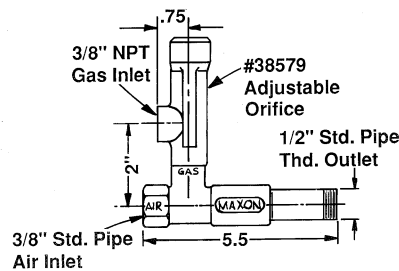


## Air-Gas Pilot Mixers – Pressure Type

#11680, #11683,  
& #19298

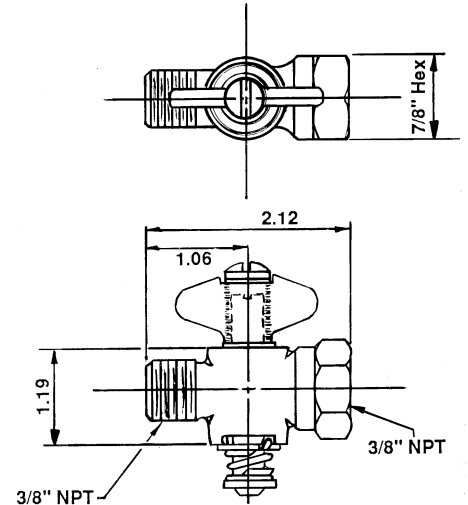


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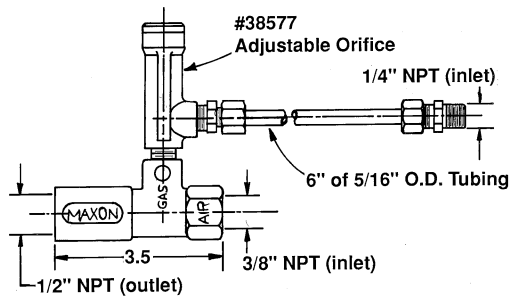


## Adjustable Orifice Cock

#15726



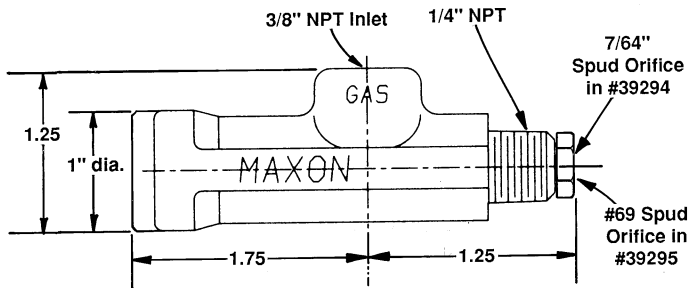
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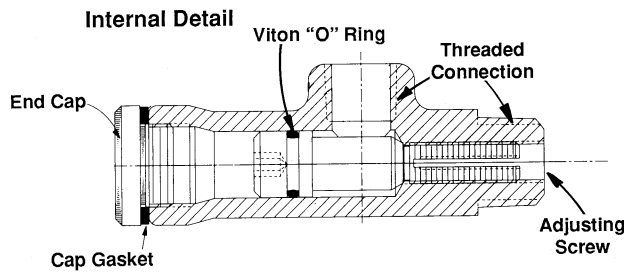
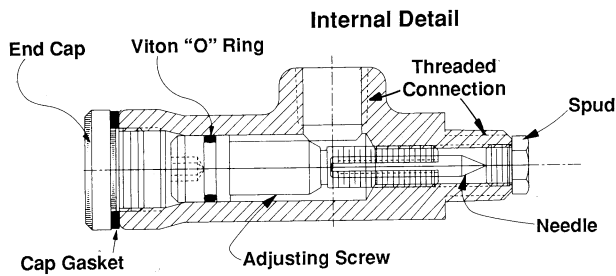
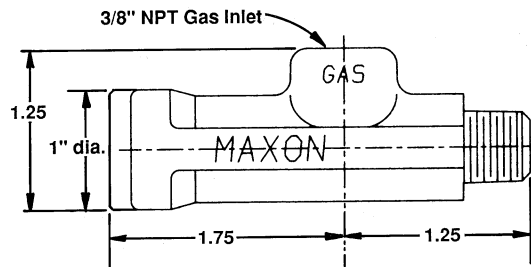
# Dimensions (in inches)

## Adjustable Orifices

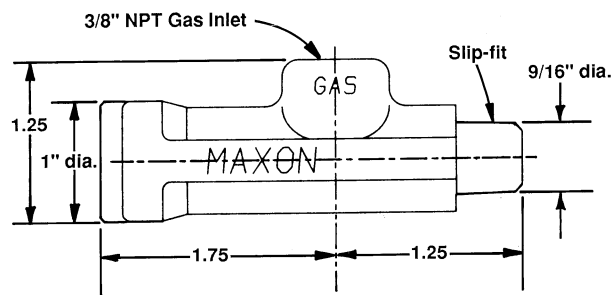
**#39294 & #39295**



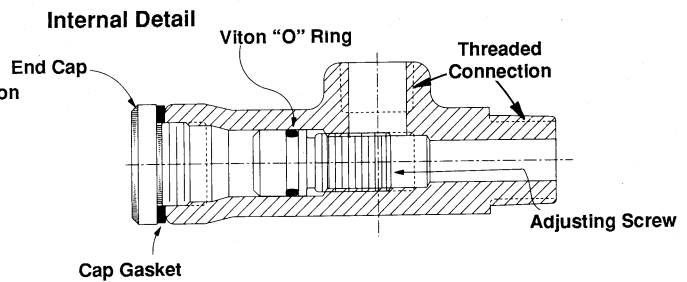
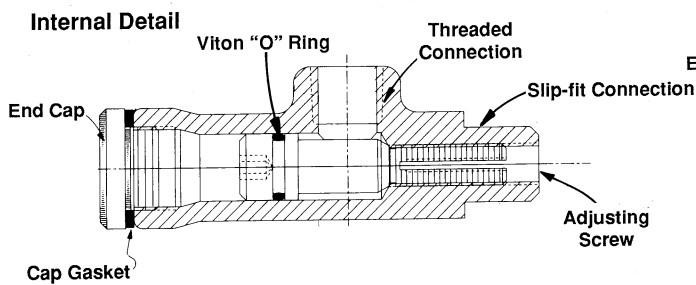
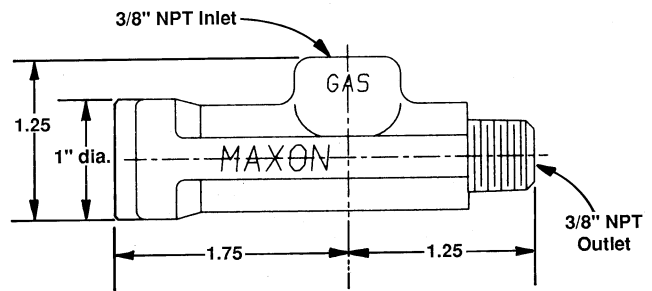
**#38009 - 3/8" NPT outlet  
#38577 - 1/4" NPT outlet**



**#38579**



**#50431**

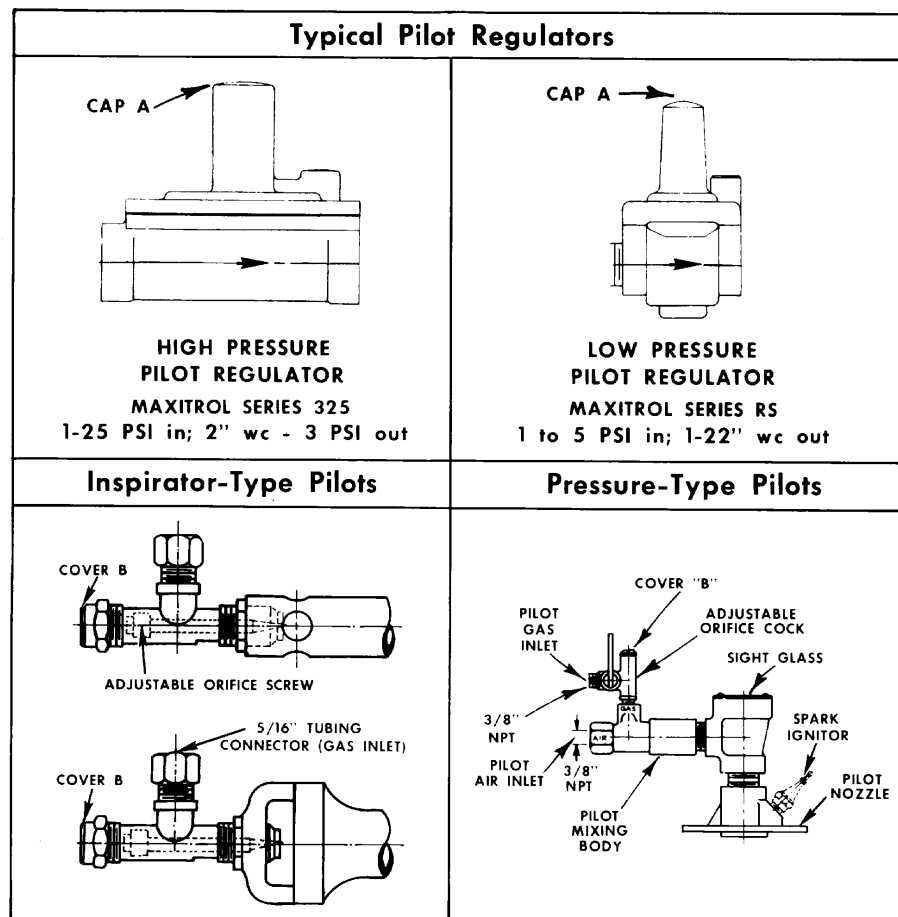




## Installation/Start-up Instructions

Maxon supplies a broad range of pilots and pilot pipe train components. Typical items are shown below indicating the nomenclature used in the following installation and start-up instructions.

1. **Check the bill of material** to be sure that all items of a complete pilot system (pilot nozzle, spark electrode, mixing body, shut-off cock with or without adjustable orifice, gas pressure regulator and pilot solenoid valve) are present, or their absence justified.
2. **Install the pilot** as indicated by main burner installation instructions, keeping pilot piping (including regulator and solenoid valve) as close to the pilot as possible. Pilot take-off from the main burner gas line should be made upstream of the main gas regulator.
3. **Connect the gas supply** with regulators installed for proper flow direction and piping turns kept to a minimum.
4. **Connect pilot air** supply line (where required), again using a minimum of turns and oversize piping where necessary to assure adequate flow. In cases where the pilot is "interrupted," the pilot air solenoid valve should be installed to operate simultaneously with the pilot gas solenoid.
5. **Set gap** on 10 mm or 18 mm spark ignitors (where used) for .05" to .06" then connect lead from ignition transformer to ignitor.
6. **Purge** the entire unit with gas supply off. This means opening main burner air control valve to full-open position and running all fans and blowers long enough to give full system purge. Return main burner air control to minimum position after purge is complete.
7. **Bleed gas line** following main burner start-up instructions or those of local gas company representative. Note that the small pilot flow cannot quickly bleed long runs of long gas piping.



## Installation/Start-up (cont'd.)

8. **Preadjust pilot regulator** by removing cap "A" and turning setting screw *counter-clockwise* to its uppermost or top position.
9. **Preadjust adjustable orifice** by removing cover "B" and turning the adjusting screw *clockwise* until seated (closed position).
10. **Light and adjust pilot** by energizing spark ignitor (or holding small flame to pilot) and opening pilot gas cock. Turn adjustable orifice screw counter-clockwise slowly until ignition occurs (this may take several seconds). If you do not get ignition, close the gas cock and check out these potential problem areas:
  - A. *Lack of spark*. Recheck gap, inspect for cracked porcelain or bad transformer and correct any problems found.
  - B. *Lack of gas*. Check for closed gas cock, air in gas line, regulator in line backwards or insufficient gas pressure, then correct as necessary.
  - C. *Too much gas*. Close adjustable orifice and reopen slowly while attempting ignition.

Note that the first several turns of the adjustable orifice screw comprise most of the available adjustment. Pilot regulators work best when the adjustable screw is near the top of its range. Increase pilot gas pressure by turning downward (clockwise) only if required under point "B" above.

Pilot flame should normally be blue and stable. A very light blue coloration indicates a lean condition (not enough gas) while a green center and/or luminous tips generally indicate a rich flame (too much gas). Normal adjustment procedure would involve adjusting the flame slightly rich and reducing the amount of pilot gas just until the green disappears and a deep blue predominates.

11. **Replace** regulator cap "A" and adjustable orifice cover "B" *then proceed with lighting and adjusting main burner in accordance with instructions supplied for it.*