

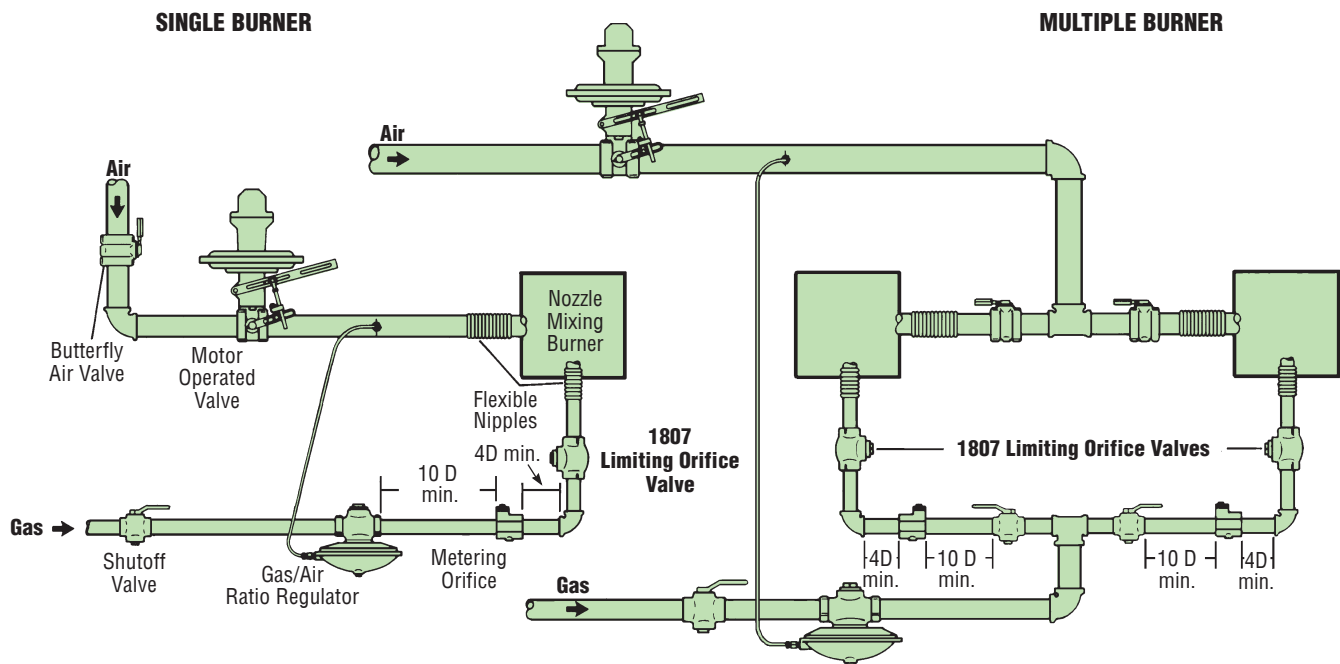
1807 Limiting Orifice Valves provide "fine tuning" for air/gas ratio adjustment.

An 1807 Limiting Orifice Valve is used to set air/gas ratio on a nozzle-mix burner. It has a V-port plug that can be adjusted sensitively and accurately with an Allen wrench. Turning the screw counterclockwise increases flow. A cap conceals the adjustment and discourages tampering with the setting. If an adjustment is needed, replace top cap on valve body to reduce air or gas leaks.

The V-port adjustment is in a removable gas cartridge assembly, simplifying inspection or replacement. 1807 Valves have brass internals; 1807- -K Valves have iron internals for coke gas and others corrosive to brass; 1807- -TK Valves are for hot gases.

**Limiting Orifice Valves are not designed for shutting off gas. Use an approved plug valve or cock.**

## TWO TYPICAL PIPING ARRANGEMENTS FOR LIMITING ORIFICE VALVES



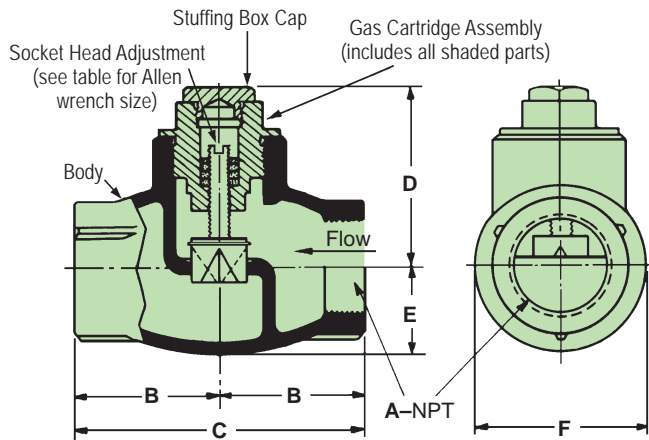
Install 1807 Valve as close as possible to burner. Normal practice is to select limiting orifice valve pipe size same as ratio regulator (North American #7218 or #7216), or as burner gas connection if several burners are fed by one regulator. There is no performance advantage in using the smallest possible 1807 for the flow and pressure drop available.

CAPACITIES: scfh Natural Gas (0.6 s.g.)

Capacity, scfh	Valve designation and pipe size								Specific Gravity	Capacity Factor
	1807-01 1/2"	1807-0 3/4"	1807-1 1"	1807-2 1 1/4"	1807-3 1 1/2"	1807-4 2"	1807-5 2 1/2"	1807-6 3"		
0.1	86	121	222	327	414	990	1 491	2 600	0.4	1.22
0.2	122	172	315	470	584	1400	2 110	3 675	0.6	1.00
0.3	149	210	386	564	715	1720	2 580	4 500	0.8	0.866
0.4	172	243	446	650	830	1980	2 982	5 200	1.5	0.632
0.5	192	272	500	730	925	2230	3 340	5 820	2.0	0.547
1.0	272	385	705	1030	1310	3150	4 720	8 220		
2.0	384	542	990	1460	1850	4450	6 660	11 590		
3.0	470	665	1210	1780	2270	5440	8 200	14 220		
4.0	544	770	1410	2060	2620	6300	9 440	16 440		
5.0	610	860	1580	2320	2930	7040	10 560	18 400		
6.0	666	940	1720	2550	3210	7700	11 570	20 150		

Capacities shown with 1 psi inlet pressure.  
Maximum Pressure: 25 psig

**DIMENSIONS**  
inches



Valve designation	dimensions in inches						Wt, lb	Allen wrench size
	A	B	C	D	E	F		
1807-01	1/2	1 11/16	3 3/8	2 11/32	7/8	1 3/4	1 1/2	3/32
1807-0	3/4	1 11/16	3 3/8	2 11/32	1	2	1 3/4	5/32
1807-1	1	2 1/8	4 1/4	2 21/32	1 5/32	2 5/16	2 3/4	5/32
1807-2	1 1/4	2 7/16	4 7/8	2 7/8	1 7/16	2 7/8	4 1/4	5/32
1807-3	1 1/2	2 5/8	5 1/4	3 3/16	1 5/8	3 1/4	5 1/2	5/32
1807-4	2	2 15/16	5 7/8	3 11/16	1 7/8	3 3/4	7 1/2	7/32
1807-5	2 1/2	3 7/8	7 3/4	4 7/32	2 7/16	4 7/8	12 1/2	7/32
1807-6	3	4 7/8	9 3/4	5 9/16	2 15/16	5 7/8	20	7/32

DIMENSIONS SHOWN ARE SUBJECT TO CHANGE. PLEASE OBTAIN CERTIFIED PRINTS FROM NORTH AMERICAN MFG. CO. IF SPACE LIMITATIONS OR OTHER CONSIDERATIONS MAKE EXACT DIMENSION(S) CRITICAL.

**1807 and 1807- -K (All Iron Valve) PARTS LIST**

Part Name	Valve designation							
	1807-01 1807-01-K	1807-0 1807-0-K	1807-1 1807-1-K	1807-2 1807-2-K	1807-3 1807-3-K	1807-4 1807-4-K	1807-5 1807-5-K	1807-6 1807-6-K
Body	2-3618-3	2-1676-3	2-1702-3	2-1677-3	2-1680-3	2-1682-3	2-3465-3	2-3468-3
Gas Cartridge Assem. ① (1807) (1807- -K)	4-6063-01 4-6064-01K	4-6063-0 4-6064-0K	4-6063-1 4-6064-1K	4-6063-2 4-6064-2K	4-6063-3 4-6064-3K	4-6063-4 4-6064-4K	4-6063-5 4-6064-5K	4-6063-6 4-6064-6K
Stuffing Box Cap ② (1807) (1807- -K)	4-6085-1 4-6085-2	4-6086-1 4-6086-2	4-6086-1 4-6086-2	4-6086-1 4-6086-2	4-6086-1 4-6086-2	4-6087-1 4-6087-2	4-6087-1 4-6087-2	4-6087-1 4-6087-2

① Recommended spare part.

② Included in Gas Cartridge Assembly, or can be ordered separately.

**TO ORDER COMPLETE VALVE, SPECIFY Valve designation**

Example: 1807-3 Valve

**TO ORDER PARTS, SPECIFY: Part number, part name, and valve designation**

Example: 4-6063-2 Gas Cartridge Assembly for 1807-2

**WARNING:** Situations dangerous to personnel and property may exist with the operation and maintenance of a combustion equipment. The presence of fuels, oxidants, hot and cold combustion products, hot surfaces, electrical power in control and ignition circuits, etc., are inherent with any combustion application. Parts of this product may exceed 160F in operation and present a contact hazard. Fives North American urges compliance with National Safety Standards and insurance Underwriters recommendations, and care in operation.

Fives North American Combustion, Inc., 4455 East 71st Street, Cleveland, OH 44105 USA, Phone 216.271.6000  
Fax 216.641.7852 email: fna.sales@fivesgroup.com • www.fivesgroup.com/fivesna