

North American Gas Boosted Pilot Assemblies

Sheet 4014

 Ref: Bulletins 4384, 4795, 4796, 6795, 6819 6820, 6821
 Supplement 6795-2, Sheets 6795-3, 6796-1

Pilot Air and Gas Capacities, scfh
**Used on
Magna-Flame™ Burners**

4384	4820	6795
4795	4821	6796
4796	5795	6820
4819	5796	6821

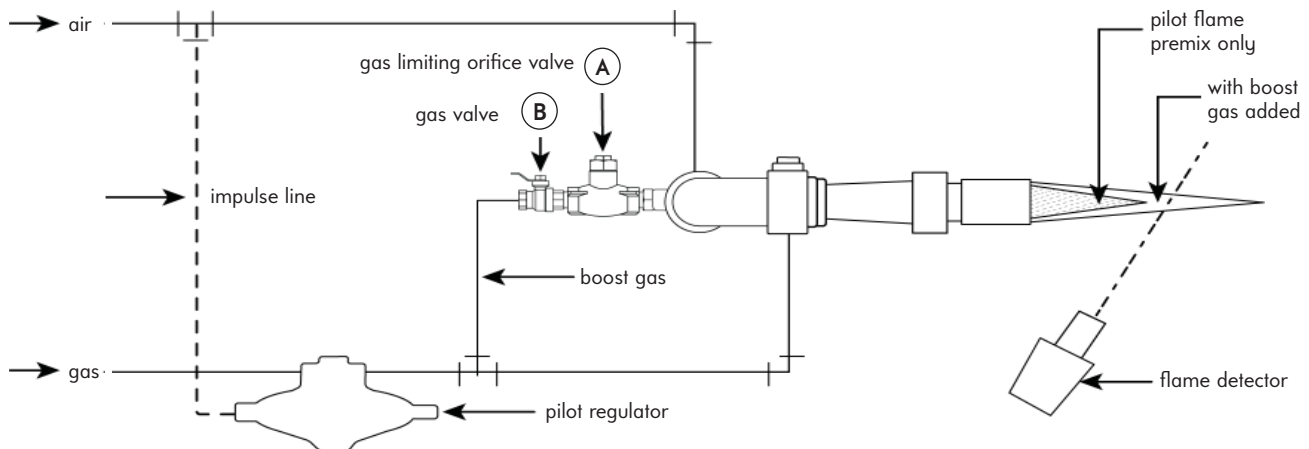
Pilot assembly designation	scfh air, 6 osi at mixer	Maximum scfh gas	Mixture press., "wc
4014-1-T	640	146	2.1
4014-2-T	900	234	2.9
4014-3-AT	1510	314	4.8
4014-3-BT	1750	765	8.2
4014-4-T	2760	860	6.0

Magna-Flame Burners use the 4014 gas boosted pilot assembly in the -9-A through -30 sizes. Raw gas is added to the standard pilot air/gas premix to provide sufficient signal strength for a UV flame detector.

The pilot would light the burner reliably without the raw gas boost, so satisfying the detector proves the pilot flame is adequate for main burner ignition.

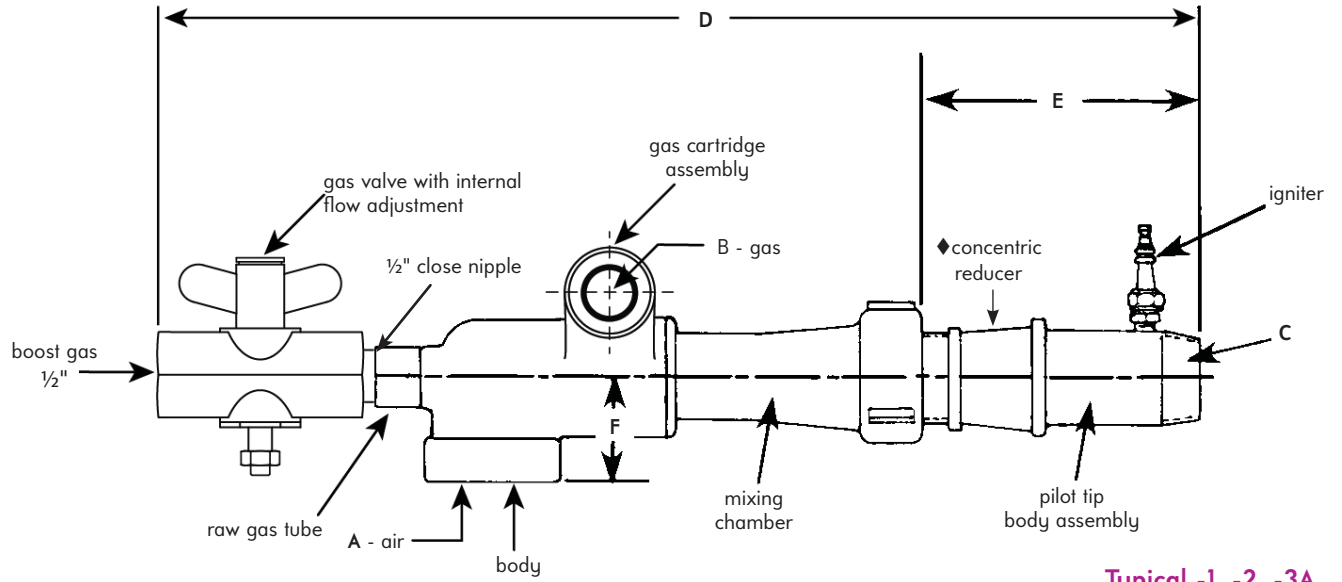
As with any industrial burner, an interrupted pilot is a safety prerequisite on all applications that use flame supervision.

Pilot assemblies consist of a Pilot Tip and Aspirator Mixer with a gas tube in its center, plus a plug cock controlling boost gas to the mixer. Pilot regulator must be cross-connected to pilot air line. Because relative positions of gas insert and pilot tip must be held, piping furnished between mixer and pilot tip cannot be changed.

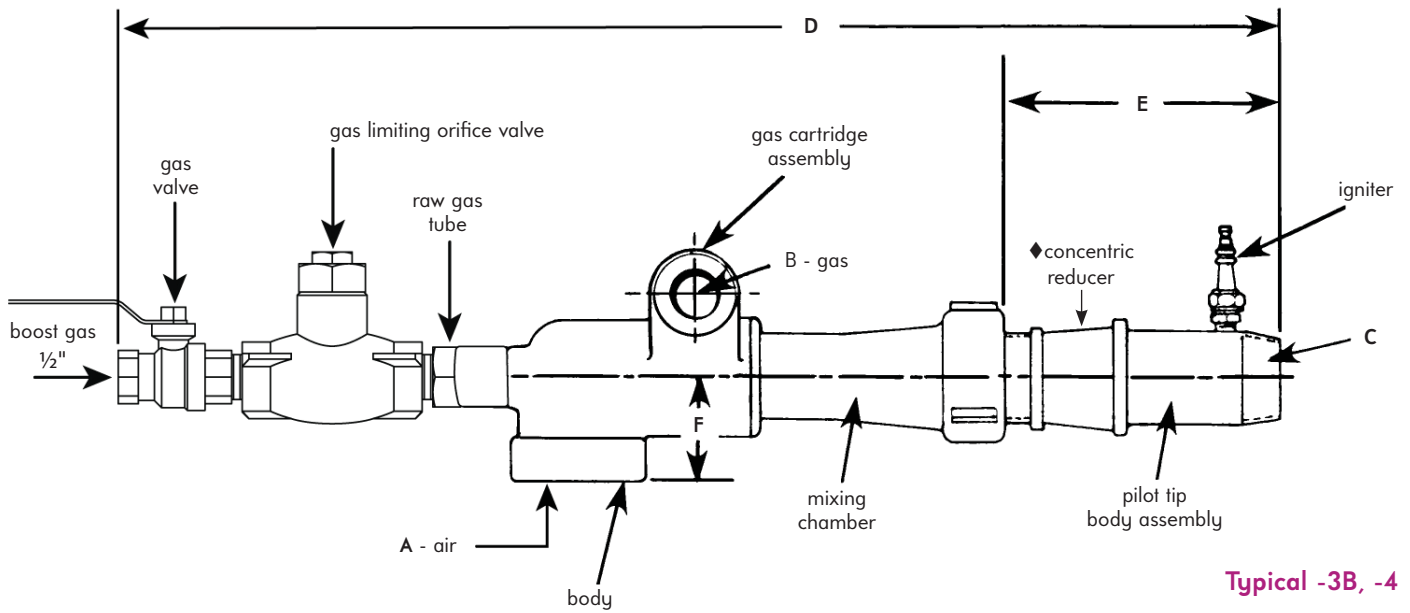
PIPING SCHEMATIC

Lighting Instructions

1. Close gas valve **B**. Using standard pilot lighting procedure, establish a strong, stable pilot flame. Recommended air pressure at mixer air inlet is 6 osi. Flame detector signal may be weak/inadequate.
2. On 4014-1-T through -3-AT assemblies, remove cap from handle of gas valve **B**. Close the internal port adjustment completely. Open gas valve. Open internal port adjustment to add boost gas to pilot flame until flame detector gives a strong signal. Pilot flame should be about twice its original length. Replace cap on gas valve.
3. On 4014-3-BT and -4-T assemblies, remove cap of gas limiting orifice valve **A**. Close the internal port adjustment completely. Open gas valve **B** and open internal port adjustment on gas limiting orifice valve **A** to add boost gas to pilot flame until flame detector gives a strong signal. Pilot flame should be about twice its original length. Replace cap on gas limiting orifice valve **A**.

DIMENSIONS



Typical -1, -2, -3A



Typical -3B, -4

◆Concentric reducer only used on 4014-3-AT and 4014-4-T

Dimensions in Inches

Pilot assembly designation	A	B	C	D	E	F	Weight, lb incl. fittings
4014-1-T	1	3/4	1 1/4	14 1/2	3 3/8	1 7/8	6 3/4
4014-2-T	1 1/4	1	1 1/2	17 1/4	3 3/8	2 1/32	8 3/4
4014-3-AT	1 1/2	1	2	21 3/4	7 1/4	2 5/32	12 1/8
4014-3-BT	2	1 1/4	2	24 7/8	3 3/8	2 5/8	14 3/8
4014-4-T	2	1 1/4	2 1/2	29	7 15/16	2 5/8	18 1/8

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

To order Pilot Assemblies, specify complete designation.
Example: 4014-3-AT Gas Boosted Pilot Set

Parts List

Part Name	4014-1-T	4014-2-T	4014-3-AT	4014-3-BT	4014-4-T
Body	4-0762-2	4-0787-2	4-0789-3	OA4-2946-1	OA4-2852-1
Pilot Tip Body Assembly	4-5242-1	4-3587-1	OA4-1602-1	OA4-1602-2	OA4-2517-2
Raw Gas Tube	OA4-2510-1	OA4-2488-1	OA4-2487-1	OA4-2947-1	OA4-2518-1
Gas Valve w/Internal Flow Adj.	1808-01	1808-01	1808-01	-	-
Gas Limiting Orifice Valve	-	-	-	1807-01	1807-01
Igniter	R240-2465	R240-2465	R240-2465	R240-2465	R240-2465
Mixing Chamber	4-0759-1	4-0788-1	4-0790-1	4-0792-1	4-0792-1
Gas Cartridge Assembly	4-6062-1	4-6062-2	4-6062-3	4-6062-4	4-6062-4
Gas Valve	-	-	-	1821B-01	1821B-01

WARNING: Situations dangerous to personnel and property may exist with the operation and maintenance of any 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 Combustion, Inc. urges compliance with National Safety Standards and Insurance Underwriters' recommendations, and care in operation.



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