

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, Bul 7350
 Bul 7218-7219A, Bul 7344 and Sheet 1400-1

The 4014 is a gas boosted pilot assembly. It is intended to light large Magna-Flame style burners (3 to 75+ million Btu/h HHV) with 1¼" to 2½" pilot connections. The pilot assembly features a central raw gas jet that is added to a conventional pilot air/gas premix nozzle to increase the size of the pilot flame. This provides sufficient signal strength for a UV flame detector attached to the burner.

Although a pilot without the raw gas boost would light the burner reliably, adding boost gas makes the pilot flame longer and wider. Satisfying the UV flame detector proves the pilot flame is adequate for main burner ignition. For conventional industrial burners with pilot ignition, an interrupted pilot is a safety prerequisite on all applications that use flame supervision.

The 4014 can be used with natural gas, propane or other clean gases (800 Btu/ft³ or more),

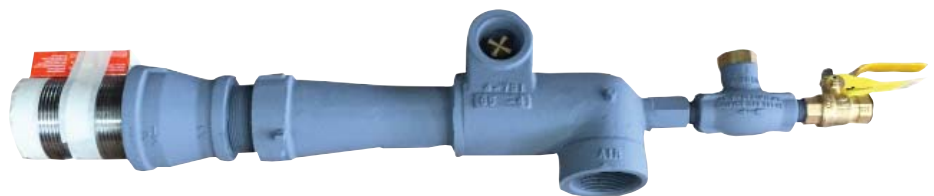
4014 Pilot assemblies consist of:

- A premix pilot tip
- A standard 10 mm spark plug (packaged separately)
- Aspirator mixer with a built-in gas limiting orifice valve
- Boost gas tube, with a limiting orifice and shut off valve to control the boost gas flow to the pilot nozzle.

A pilot regulator to control air/fuel ratio is recommended and ordered separately. It must be cross-connected to pilot air pressure. A main gas shut off valve, and an air adjustment valve are also recommended options. See the pilot accessories section on the last page of the bulletin.

It is important to maintain the relative positions of the raw gas boost tube, and the pilot tip. So, the piping furnished between mixer and pilot tip cannot be changed.

Used on		
Magna-Flame™ Burners		
4384	4820	6795
4795	4821	6796
4796	5795	6820
4819	5796	6821



4014-4-T prepared for shipping

Pilot Air and Gas Capacities

Pilot assembly designation	Air flow with 6 psi (10.4"w.c.) (26 mbar) mixer air pressure scfh (Nm ³ /h)	Maximum natural gas flow (premix gas + boost) scfh (Nm ³ /h)	Mixture pressure (mixer outlet) "w.c. (mbar)	Flame length# range inches
4014-1-T	640 (18.1)	146 (4.1)	2.1 (5.2)	6 - 20
4014-2-T	900 (25.5)	234 (6.6)	2.9 (7.2)	7 - 26
4014-3-AT	1510 (42.8)	314 (8.9)	4.8 (11.9)	9 - 32
4014-3-BT	1750 (49.6)	765 (21.6)	8.2 (20.4)	11 - 40
4014-4-T	2760 (78.2)	860 (24.3)	6.0 (14.9)	12 - 46

Flame lengths are highly dependent on local conditions inside the burner, premix air/fuel ratio and how much boost gas is used.