



The SPB gas pilots are designed to offer an efficient and reliable means of igniting a wide range of industrial gas, oil or dual fuel burners. All the pilots operate on a “blast” type principle, using low pressure air and gas, premixed prior to ignition.

The SPB is designed to operate on the single electrode principle, where the pilot is spark ignited and the ignition electrode is also used as the flame detection device (flame ionisation method). The SPB can be used for many types of burner and also as a small burner unit in its own right, for a variety of heating applications. Versions are available with heat inputs up to 20kW.

General Construction Details

The SPB series of pilots have a variable length flame tube – the “E” dimension – which must be specified when ordering. A gland coupling with standard BSP thread is provided on the flame tube such that in service, the penetration of the flame tube can be set and the coupling locked to the flame tube. In this way, the position of the pilot can be accurately reproduced after removal for servicing.

All pilots are provided with a venturi jet mixer body and the capacities are based on an air pressure into the jet of 38 mbar. However, the SPB 5 and SPB 20 can operate at 75 mbar when a “harder” flame is required.

Three standard capacities are available – see table overleaf – and all have three nozzle / tip options to suit the application:

- The “standard” configuration has stainless steel flame tubes and nozzles which is suitable for most applications (Designation: SPB 1, 5 & 20).
- For high temperature applications or continuous operation, the pilots would be fitted with Inconel nozzles and flame tips (Designation: SPB 81, 85 & 820).

SPB – Features

- Available in two options, according to the application temperature
- Single rod for spark ignition and flame ionisation sensing
- Sharp, stable flame
- Capacities up to 20 kW
- High temperature stainless steel nozzles
- Low gas and air pressures
- Variable flame tube length to suit application

Special versions are available with cranked or right angle flame tube or extended flame tube types and further details are available from FivesNA.

When using LPG or high pressure Natural Gas, a high pressure pilot option is available which uses a smaller gas spud and finer adjustment to facilitate the pilot set-up.

Spark Igniters

The FivesNA SZI direct spark igniters are designed for use on burners where there is either no provision for a pilot or where the burner has been specifically designed for direct spark ignition.

The SZI spark igniters are designed to work with either 5,000 or 8,000 volt ignition transformers and can be used on many nozzle mix or similar burners.

Specifications and Capacities

Capacities and specifications (common to all pilots)

Model No.	SPB1	SPB5	SPB20
Nominal capacity (kW)	1.5	6	20
Air pressure (mbar) - not firing *	30	30	30
Air pressure (mbar) - firing *	38	38	38
Gas pressure – standard (mbar) +	0.03	12.7	10
Gas pressure – high pressure option (mbar) ++	38	38	38
Flame length at nominal capacity (mm)	100	150	200
Recommended Gas Flexible Size (BSP)	1/4"	3/8"	3/8"
Recommended Air Flexible Size (BSP)	3/8"	1/2"	3/4"

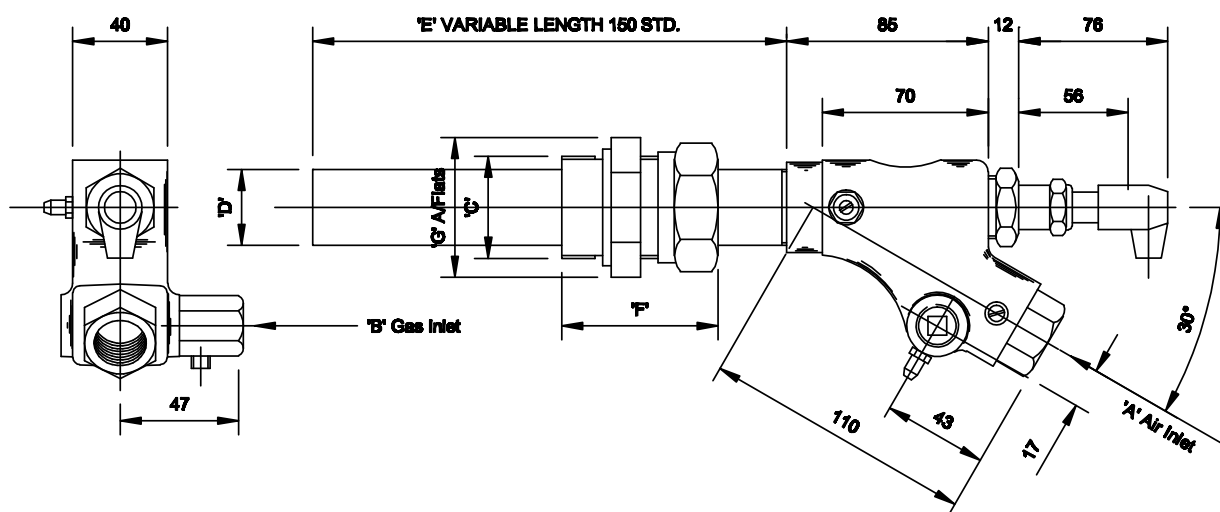
Notes: The above data is based on Natural gas net CV 8320 kcal/Nm³ – refer to FivesNA for operation on other fuels.

* The air pressure on inlet to the venturi jet on the pilot body (separate test point required to measure this).

+ The gas pressure on the bottom of the pilot body.

++ The gas pressure on the inlet to the venturi jet on the pilot body (separate test point required to measure this).

PB Series Spark Ignited Pilot Burners



Model No.	Dimensions (mm)						Part No. (Standard)	Part No. (Hi Temp)	Part No. (Hi Pressure)	Weight (kg)
	A	B	C	D	F	G				
SPB.1	Rp3/8"	Rp1/4"	Rs1/2"	16	44	27	2.05.001	2.05.104	2.05.001.H	0.9
SPB.5	Rp1/2"	Rp1/4"	Rs3/4"	20	53	32	2.05.002	2.05.105	2.05.002.H	1.0
SPB.20	Rp1/2"	Rp3/8"	Rs11/4"	31	54	52	2.05.004	2.05.106	2.05.004.H	1.5

WARNING: The data outlined is for information only and does not form part of any contract. Our policy is one of continuous improvement and we therefore reserve the right to modify specifications or dimensions without prior warning. Situations dangerous to personnel and property can develop from incorrect installation and operation of combustion equipment. Fives North American Combustion UK, Ltd urges compliance with International, National and Local Safety Standards and that installation is carried out by properly qualified personnel.

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FivesNA 01/2014 SPB