

BIFURCATED AXIALS

Installation and Technical Specification



The bifurcated axial fan is a cylinder shaped unit with in line flanges for the flue connection, a pressure switch can be fitted to ensure safe operation.

CAPACITY AND RANGES

All bifurcated fans are individually sized and manufactured to suit a particular flue system, either dilution or induction. Please note that a drain plug may be fitted to the fan in manufacture if the fan is being installed within a condensing system. The fan will handle flue gases at up to 200 deg C with an average gas appliance working at 75% efficiency are 180 deg C with a CO₂ content 5%.

MOTOR

The motor is a single speed unit with class F windings that is totally enclosed and is available as single phase or 3 phase as required. The bearings are maintenance free sealed ball bearings with adequate lubrication to ensure reliable operation for many years.

SPEED CONTROL

This is an option which is suggested for use with modular boilers and is achieved by the use of an inverter. The inverter can be set up to alter the fan speed to suit high fire flow fire situations or when less modules are being used.

PITOT PORTS

We offer a bespoke service to install the pitot ports and pressure switch into the main body of the fan making it simple to fit which saves time and money on installation.

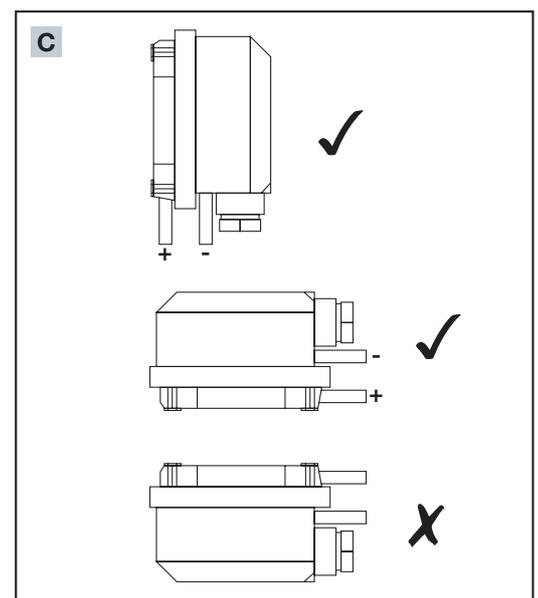
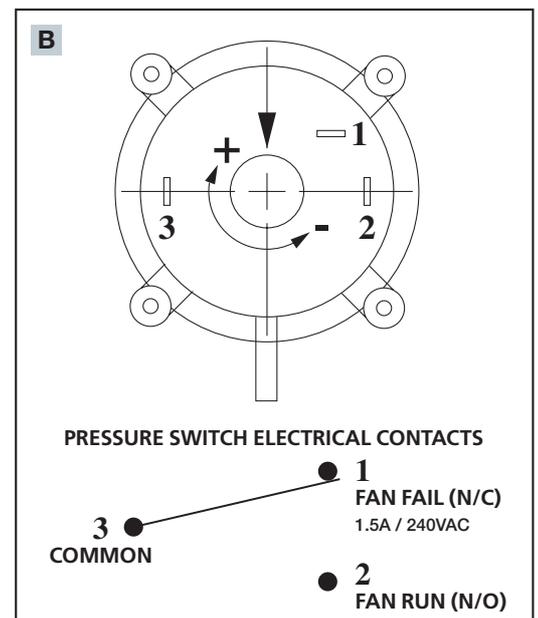
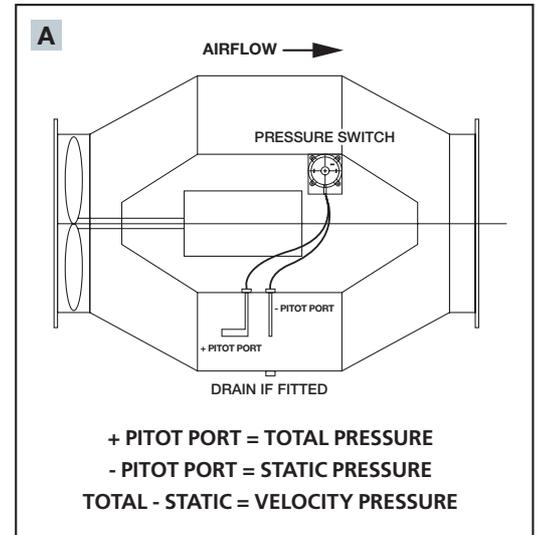
PRESSURE SWITCH

The pressure switch will require setting after installation, then checked that it ensures fail-safe operation which switches off the boiler if it detects inadequate flow in the duct. The pressure switch must be checked regularly. The pitot tube and silicone tubing must be kept clear at all times which may be achieved by blowing air through the tubes and/or replacement if they are showing signs of deterioration.

The pressure switch must be mounted in the vertical position with the connectors pointing downwards, this allows any condensate to drain out of the pressure switch (condensing boilers; high efficiency boilers and dilution systems).

The pressure switch may be mounted in the horizontal position with the electrical terminals pointing upward, in this position the switching values are approximately 20 pascals higher than the indicated scale.

The pressure switch must never be mounted upside down (as shown on diagram C).



ATMOSPHERIC GAS FIRED APPLIANCE

If the fan is fitted to a modular boiler system it is recommended that dampers are fitted within the flue system to balance out the draught, thereby preventing the fan drawing from the nearest riser.

NOTE: If this is not done then the appliance draught diverter furthest from the fan may spill.

HIGH EFFICIENCY GAS APPLIANCE

A problem which may occur on high efficiency gas appliances is that of condensation, which will be in the form of a dense plumes of condensation forming at the flue terminal. This will reduce as the flue system reaches working temperature. Should the problem persist it may be due to the fan being oversized and drawing to much free air into the flue system and causing the flue products to fall below the dew point. Problems may also occur within the flue system due to pools of condensation forming within that system, if this is envisaged at the time of design these problems may be reduced by installing condensate traps or the use of sealed insulated pipe.

OIL FIRED APPLIANCE

NOTE: That on all oil fired appliance installations, a draught stabiliser must be fitted to the flue system. The draught stabiliser must be fitted in the flue header. Failure to do so may make the flue fan inoperable, due to the flue fan being starved of air during the start up period. This problem may arise as oil fired appliances have no natural draught through the flue system on shut down; the draught stabiliser allows the flue fan to draw air into the flue system to trigger the pressure switch in the start-up period, thus allowing the flue fan to trigger the ignition of the oil boiler and to commence with the firing sequence.

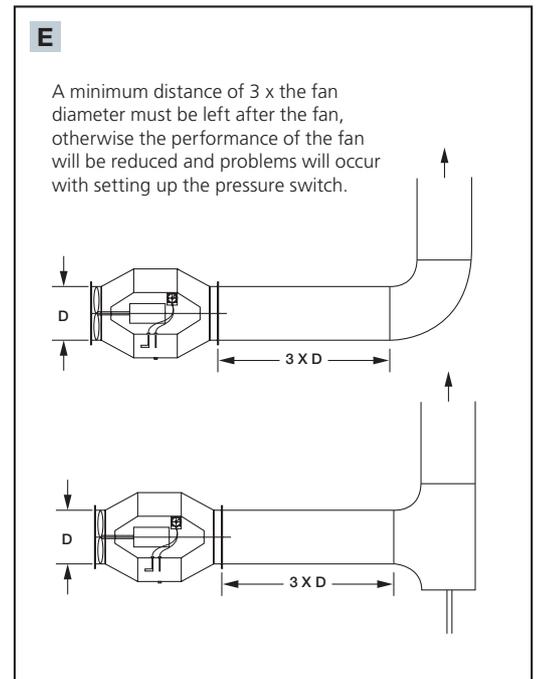
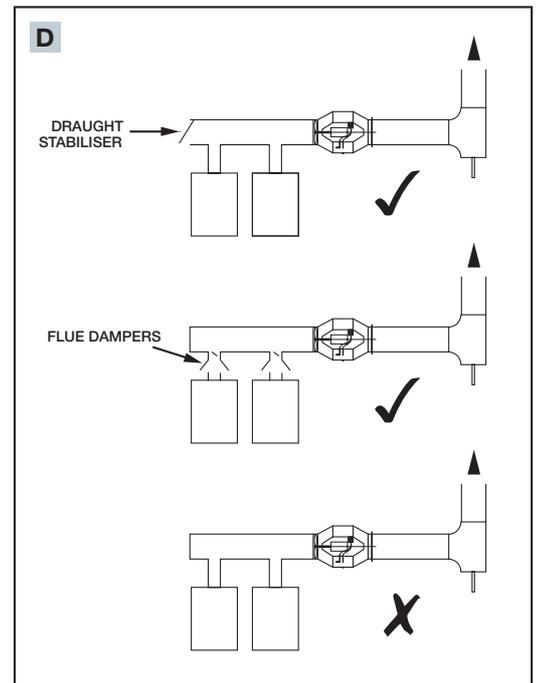
Oil fired appliance flue temperatures are in the region of 320/380 deg C. the use of a draught stabiliser will cause air to be entrained into the flue system and cool the flue products to below 300 deg C.

DILUTION SYSTEM

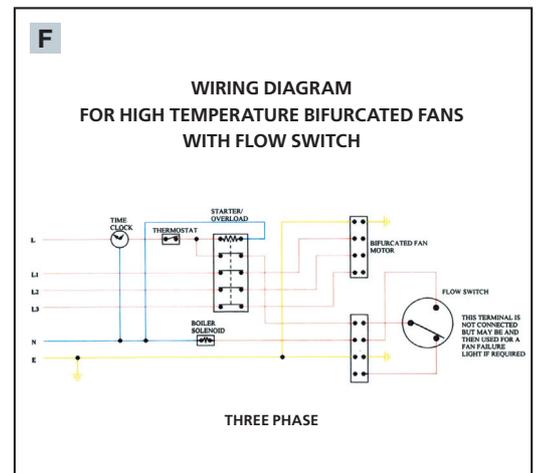
If the fan is being installed with more than one appliance (e.g. modular boilers) please check with the boiler manufacturer to ascertain whether it can be incorporated. The volume of air required for high fire on all boilers may be too much in a low fire situation and therefore interfere with the ignition process of the appliances. Please note all our fans are sized in accordance with IGE/UP/10 installation of flued appliances.

Ideally duct diameters should be selected to give a duct velocity between 6 and 8 m/s.

NOTE: In practice, condensing appliances and fan diluted systems lead to very high complaint levels and, as such, are not fitted together unless it can be assured that complaints will not become a nuisance.



A minimum distance of 3 x the fan diameter must be left after the fan, otherwise the performance of the fan will be reduced and problems will occur with setting up the pressure switch.



FLUE BOOST HELPLINE
01565 755599

