

# TECHNICAL BULLETIN

## PRODUCT: GREENSTAR NATURAL GAS Ri & i SYSTEM BOILERS.

### GAS PIPE SIZING.

#### Updated information regarding gas pipe sizing for our Greenstar Ri & i System models up to 24kw;

The installation manuals currently advise that the gas supply pipe must not be less than 22mm diameter for the 18kW & 24kW models.

However, it is possible that a short run of 15mm pipe with little or no change of direction will be suitable providing the correct gas pressure & rate can be achieved.

When sizing gas pipes you must ensure the discharge rates stated below are available at the boiler connection, and that no other appliances are affected by the boiler operating at full rate.

Providing the correct gas pressure and gas rate can be achieved then it may be possible to use a gas supply pipe of 15mm diameter.

For further clarification, please refer to BS6891.

Natural gas				
Allowed mbar pressure drop				
Meter/regulator	Across pipework	Boiler inlet	Across boiler	Gas control valve
19 - 23	1	18 - 22	1.5	16.5 - 20.5
L.P.G				
32 - 45	2.5	29.5 - 42.5	1.5	28 - 41
mbar range				

Table 1. Allowed pressure drop

Description	UNIT	Natural Gas				LPG			
		12kW	15kW	18kW	24kW	12kW	15kW	18kW	24kW
<b>Gas flow rate - max. 10 minutes from lighting</b>									
Natural Gas G20	m <sup>3</sup> /h	1.3	1.63	1.96	2.6				
Propane Gas (LPG)	kg/h					0.96	1.2	1.44	1.91

Table 2. Required gas flow rates at the appliance

Length of copper tube (Meters)							
3	6	9	12	15	20	25	30
Discharge rate for 15mm diameter copper tube (m <sup>3</sup> /h)							
2.9	1.9	1.5	1.3	1.1	0.95	0.92	0.88

Table 3, Gas discharge rates for 15mm copper tube with no elbows, tees or bends