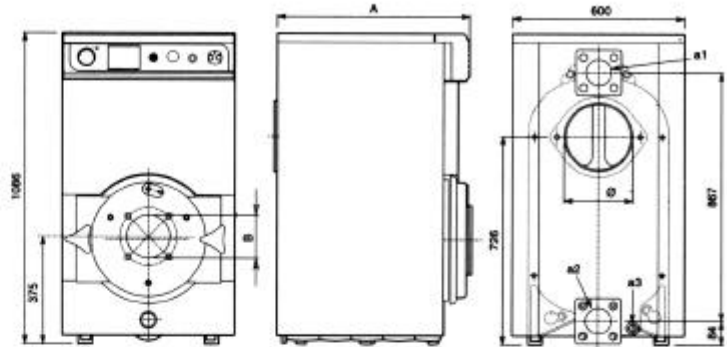


# MIKROTERM G SERIES BOILERS

## GENERAL DESCRIPTION

The G Series is available for pressure jet oil (28 or 35 sec) blown gas or dual fuel (35 sec oil and natural gas) with a range of burners for ON/OFF or high/low operation. All models are delivered to site fully assembled palletised and surrounded by a wooden frame with a protective plastic covering. The control panel and casings are supplied loose ready for site assembly. Unassembled versions can be supplied on request (subject to a nominal extra cost). On site assembly can be arranged. The boilers are designed for use with fully pumped indirect heating systems to a maximum working pressure of 4 bar and flow temperature of 85°C against  $\Delta 11^{\circ}\text{C}$ . The pre-wired control panel incorporates ON/OFF illuminated switch control and high/low thermostat, limit thermostat (manual re-set) thermometer and altitude gauge. For ease of maintenance all cleaning of the flueways is carried out from the front of the boiler which means that the side clearances are kept to a minimum making this boiler particularly suitable for modular installations. The electrical system and associated controls should be installed so that the burners are never allowed to fire when there is no demand for heat. Provision should also be made to dissipate residual heat on plant shutdown with the fitting of a pump overrun device. All Mikroterm boilers are CE marked and conforms to all the relevant European Standards.



## TECHNICAL DATA

BOILER MODEL	OUTPUT		DIMENSIONS (mm)			CONNECTIONS*			WATER CONTENT ltr	WEIGHT kg	No. OF SECTIONS	WATERSIDE PRESSURE Drop m/bar	
	kW	BTU (000)	A	B	Ø FLUE SIZE	a1	a2	a3				Δt 10°	Δt 20°
G100/GN2.05	94-105	321-358	670	130	180	3"	3"	3/4"	49	310	5	2.8	0.1
G125/GN2.06	107-125	365-426	780	130	180	3"	3"	3/4"	57	361	6	3.4	0.2
G145/GN2.07	126-145	430-495	890	130	180	3"	3"	3/4"	65	412	7	4.8	0.5
G165/GN2.08	146-165	498-563	1000	150	200	3"	3"	3/4"	73	463	8	6.5	0.8
G185/GN2.09	166-185	566-631	1110	150	200	3"	3"	3/4"	81	514	9	8.5	1.8
G205/GN2.10	186-205	635-700	1220	150	200	3"	3"	3/4"	89	565	10	11	2.2
G225/GN2.11	207-225	706-768	1330	150	200	3"	3"	3/4"	97	616	11	13	2.6
G245/GN2.12	226-245	774-836	1440	150	200	3"	3"	3/4"	105	670	12	16	3.2
G265/GN2.13	246-265	840-904	1550	150	200	3"	3"	3/4"	113	725	13	19	4.0
G285/GN2.14	267-285	911-973	1660	150	200	3"	3"	3/4"	121	780	14	23	4.5

The standard flow and return connections are 3" (ND80) for welding. Screwed flanges are available on request.

## MODULAR APPLICATIONS

This boiler series, is particularly suited for modular applications since all servicing and flue cleaning is carried out from the front, so that side clearances are kept to a minimum. For further details please contact Mikrofill Technical Dept. See separate literature "Modular Boiler Applications".

## BASE REQUIREMENTS

The boiler should stand on a load bearing non-combustible level base. Any plinth constructed must exceed the boiler plan area by not less than 80 mm overall.

## INSTALLATION REQUIREMENTS

All Mikroterm boilers should be installed in accordance with the relevant requirements of the building Regulations, Health and Safety Executive Regulation PMS, IEE Regulations and the Byelaws of the Local Authority and the local water company. Only Corgi registered installers should fit the GA Series.

### British Standard Codes of Practice

**CP341.300-307:** Central heating by low pressure hot water.

**CP341.342:** Part 2 Centralised hot water supply.

**CIBSE Guide:** Reference sections B7 B11 & B13.

**IGE/UP/2:** Gas Installation pipework boosters and compressors on Industrial and Commercial premises.

**BS6644:** Installation of gas fired hot water boilers rated inputs above 60 kW but not greater than 2 Mw.

**BS5410:** Part 2 oil-fired installation of 44 kW and above.

# MIKROTHERM G SERIES BOILERS

## TECHNICAL DATA

BOILER MODEL	100	125	145	165	185	200	225	245	265	285
Maximum kW Output	105	125	145	165	185	205	225	245	265	285
Flow Rate $\Delta t$ 11°C L/sec	2.3	2.7	3.1	3.6	4.0	4.4	4.8	5.3	5.7	6.1
Flow Rate $\Delta t$ 20°C L/sec	1.24	1.48	1.72	1.95	2.19	2.43	2.66	2.90	3.14	3.38
*Minimum Flow Rate at $\Delta t$ 30°C L/sec	0.83	0.99	1.15	1.30	1.46	1.62	1.78	1.94	2.09	2.25

## VENTILATION

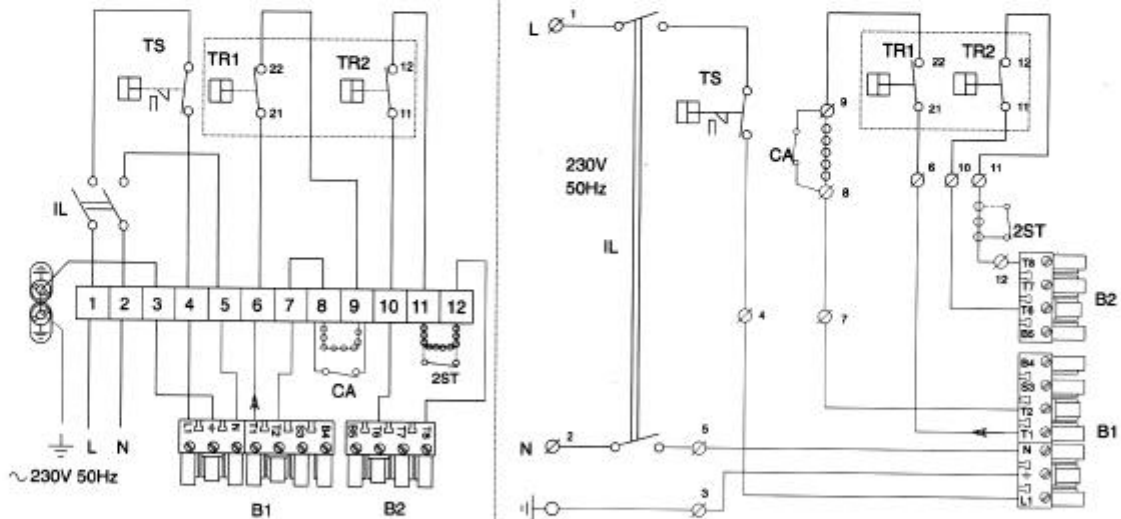
Safe, efficient, and trouble-free operation of boilers is vitally dependent on the provision of an adequate supply of fresh air to the room in which the appliance is installed. Ventilation by grilles communicating directly with the outside, air is required at both high and low levels. The minimum free areas of these grilles must be in accordance with the table below. The use of an extractor fan in the same room as the boiler (or in an adjacent room in communication) can, in certain conditions, adversely effect the safe operation of the boiler. Where such a fan is already fitted, or if an extractor fan is likely to be installed at a later date, then further advice should be obtained.

Total gross input rating of boilers	Position of Air vents	Air vent areas (Air direct from outside)
Up to 2MW	High Level	270 cm <sup>2</sup> plus 2.25 cm <sup>2</sup> per kW in excess of 60 kW total rated input
Up to 2MW	Low Level	540 cm <sup>2</sup> plus 4.5cm <sup>2</sup> per kW in excess of 60 kW total rated input

For further detailed recommendations consult BS5440 PART 2 AND BS6644

## ELECTRICAL DIAGRAM

- IL** ON/OFF switch
- CA** Auxiliary connection
- TR** 1 Control thermostat 1st stage
- TR2** Control thermostat 2nd stage
- TS** Limit thermostat manual re-set
- B1** Burner 1st stage
- B2** Burner 2nd stage
- 2ST** Contact 2nd stage



## WATER TREATMENT

Water contained in all heating and indirect hot water systems, particularly open vented systems, requires basic treatment. It is wrong to assume that because boilers are operating in conjunction with what is an apparently closed circuit, an open vented system will not under normal circumstances allow damage or loss of efficiency due to hardness salts and corrosion once the initial charge of water has been heated several times. One millimetre of lime reduces the heat conversion from flame via metal to water by 10%. In practice the accumulation of these salts is liable to cause noises from the boiler body or even premature boiler failure. Corrosion and the formation of black iron oxide sludge will ultimately result in premature radiator failure. Open vented systems are not completely sealed off from the atmosphere because it is necessary to provide a tank open to atmosphere if proper venting and expansion of system water is to be achieved. The same tank is used to fill the systems with water and it is through the cold feed pipe that system water expands into the tank when the boiler passes heat into the system. Conversely, when the system cools, water previously expanded is drawn back from the tank into the system together with a quantity of dissolved oxygen. Even if leakage from the heating and hot water system is eliminated there will be evaporation losses from the surface of the tank. Depending on ambient temperature these may be high enough to evaporate a large portion of the system water capacity over a full heating season. Corrosion will always occur within a heating/hot water system to a greater or lesser degree irrespective of water characteristics, unless the initial fill water from the mains is treated. Even the water in closed systems will promote corrosion unless treated.