

## TECHNICAL DATA

# NATURAL DRAUGHT MEDIUM PRESSURE AIR OIL BURNERS

MODEL  
**SWIRLAMISER  
Z**

### SWIRLAMISER TYPE Z

Swirlamiser Medium Pressure Air, Natural Draught Burners Type Z are suitable for handling all the standard grades of fuel oil from the light distillate kerosenes to the extra heavy residuals. In operation the burner is simple and efficient, having no moving parts to fail and no fine jets to choke. Residual oils will need to be delivered to the burner via a heated oil ring main.

Waste oils of various types can be successfully burned for heat generation or incineration.

The superior atomizing power and the wide turn down capability of the medium pressure air atomizing burner makes the Swirlamiser Type Z oil burner the first choice for a wide range of industrial applications. These include kilns, furnaces, ovens, direct and indirect dryers and air heaters.

Where negative draught is not available a forced draught version of the Swirlamiser, Type CS, must be used.

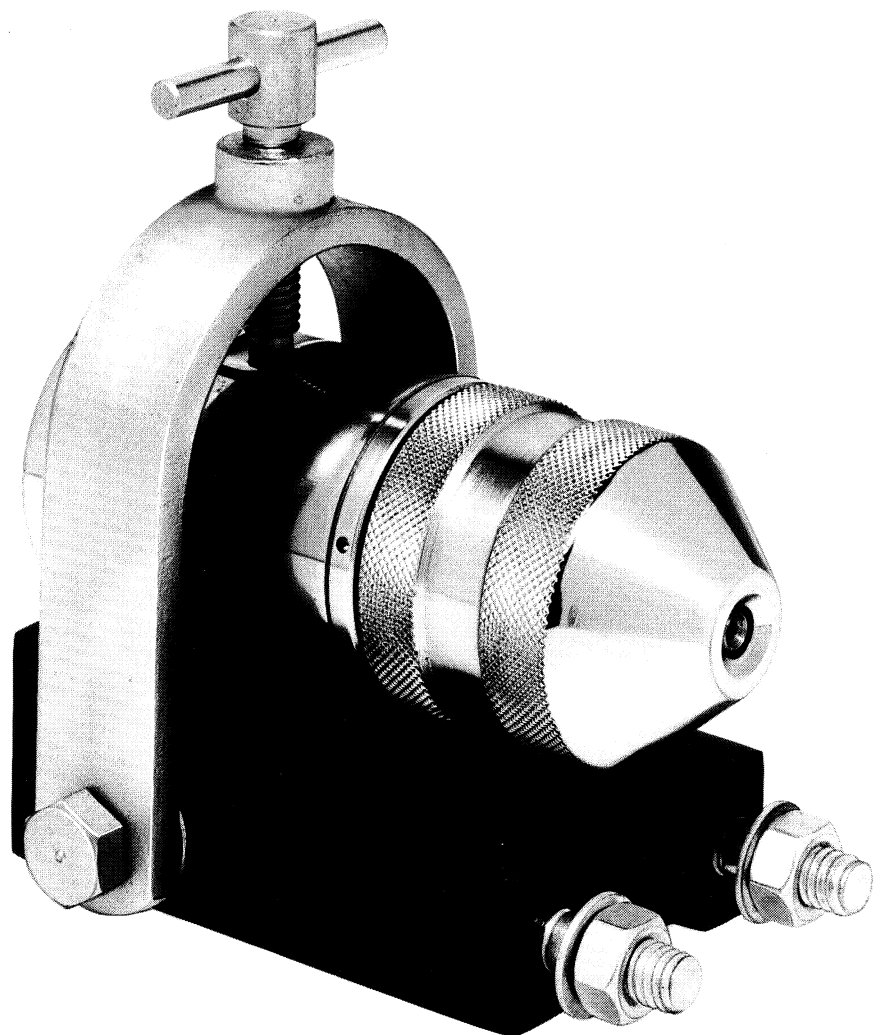
All Swirlamiser burners are suitable for a wide range of control systems including manual, semi-automatic and fully automatic with high/low or modulating control.

A range of sizes is available, all of which are interchangeable on the same mounting block, covering a range of capacities from 0.25 to 30 gallons per hour (1 to 136 litres/hr). For higher capacities, multiple burner assemblies are readily applied.

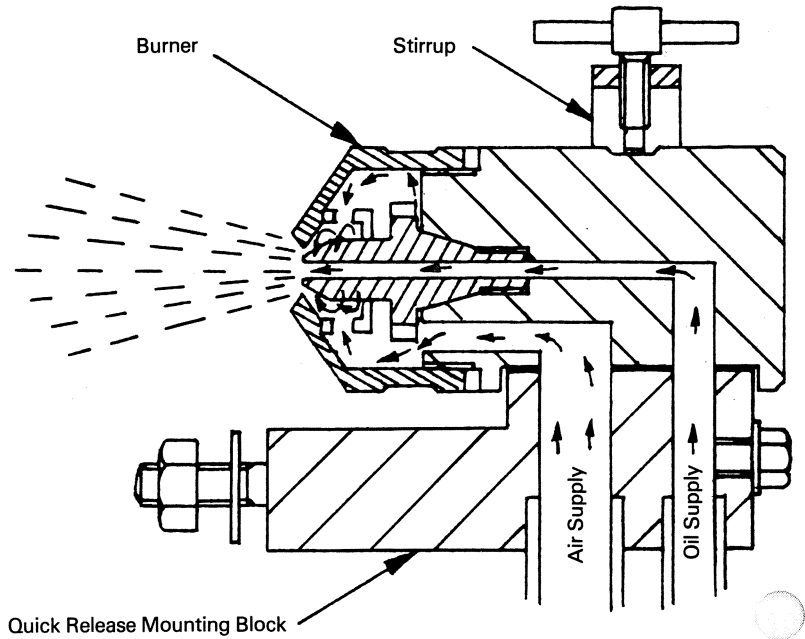
The table on the back page lists the sizes available, together with their range of capacities and the volume of primary atomizing air required. A range of compressors is available to provide the atomizing air at the correct volume and the required pressure of 5 to 15 psi (0.35 to 1 bar).

Careful attention must be paid to the fuel oil handling system to suit the grade of oil and the required method of control.

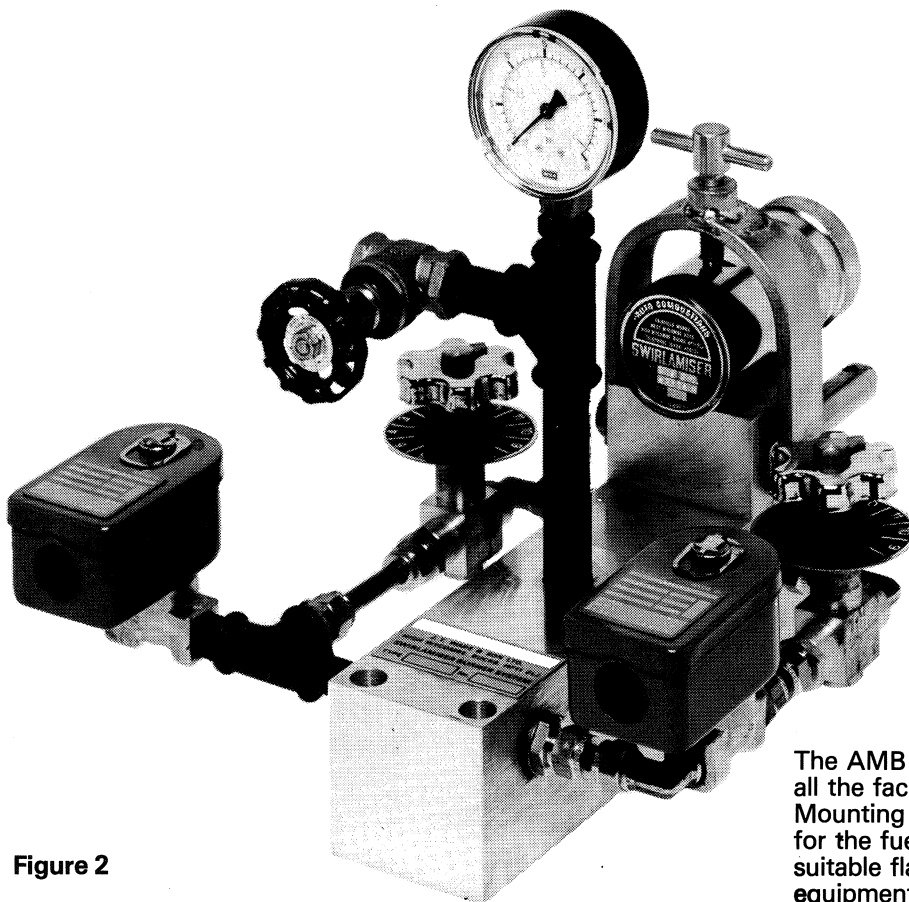
Our Technical Department will be pleased to provide information and advice on all aspects of a complete oil burning system.



The standard Quick Release Mounting Block, illustrated on the front cover and in Figure 1, provides rapid and easy removal of the burner for cleaning, and facilitates firm and accurate location of the burner on the furnace front with solid connections for the oil and atomizing air. The block is designed to accept all sizes of the Swirlamiser type Z burner, and all grades of fuel oil.



**Figure 1** Sectional Diagram of 'Swirlamiser' Burner and Quick Release Block



**Figure 2**

The AMB Control Block type 268 (Figure 2) provides all the facilities of the standard Quick Release Mounting Block plus automatic high/low/off control for the fuel oil flow when used in conjunction with suitable flame monitoring and temperature control equipment. The rate of flow of fuel is independently adjustable on high and low firing rates, and atomizing air pressure is manually adjustable with the facility of an adjacent air pressure gauge. The AMB block is suitable for light oils only.

The AMB Control Block type 273 (Figure 3) provides all the facilities of type 268 plus automatic control of the atomizing air pressure. As with the oil control, the air pressure is independently adjustable for high and low firing rates. These facilities improve the turn down ratio between the high and low firing rates. The AMB block is suitable for light oils only.

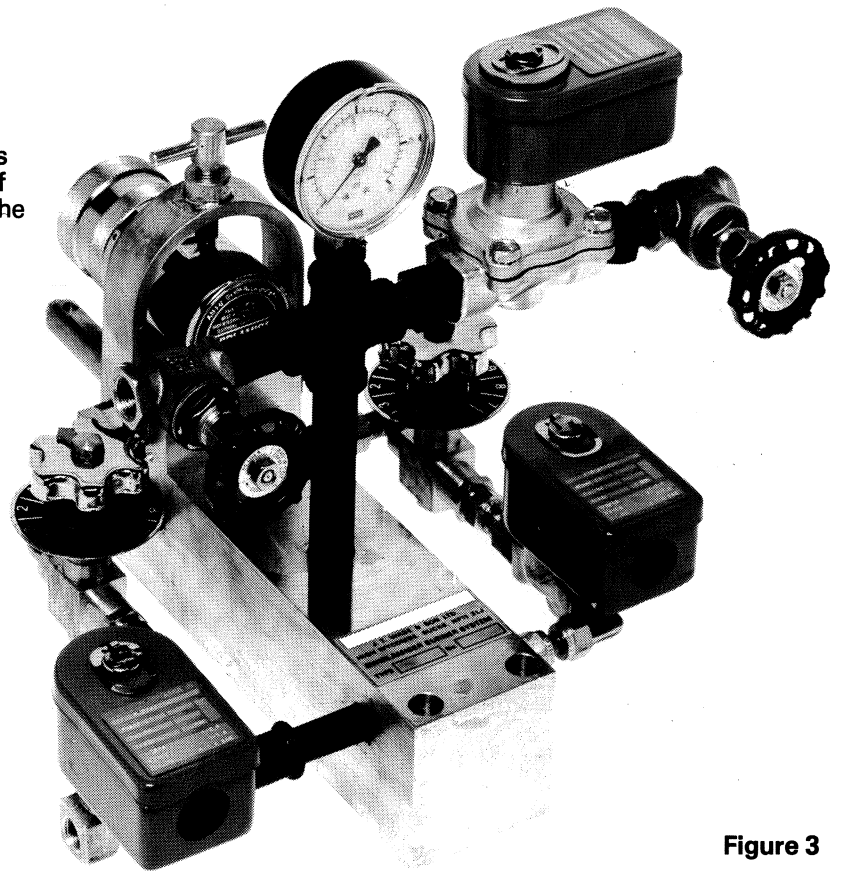


Figure 3

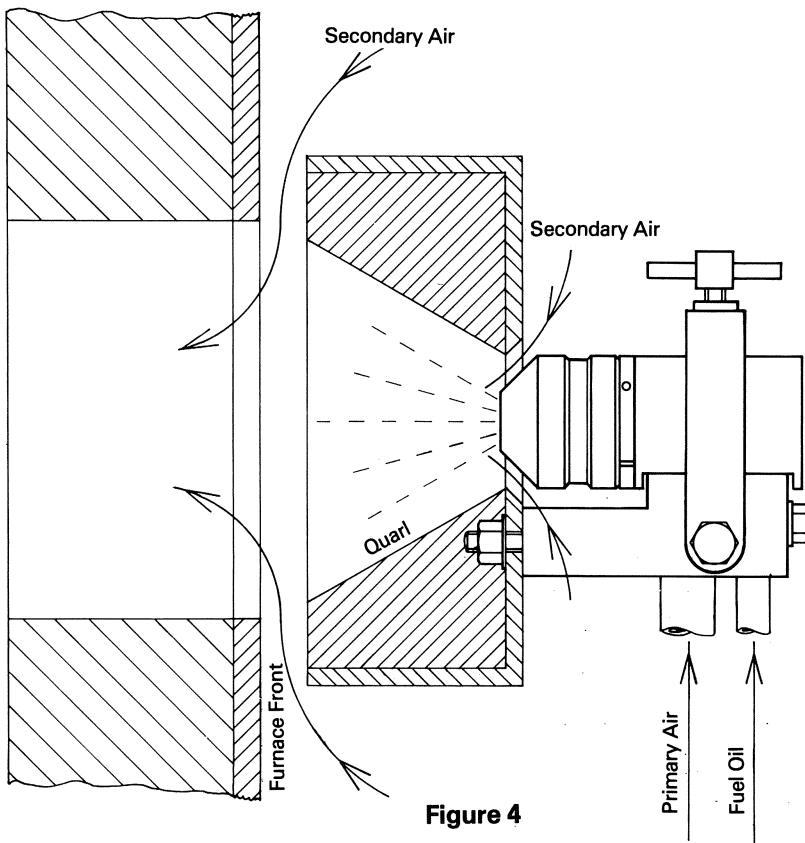


Figure 4

It is important to note that the primary atomizing air represents only 5% of the total air volume required for the complete combustion of the fuel and the remaining 95% must be induced by a negative combustion chamber pressure via a suitably designed burner quarl and air register. Figure 4 represents a typical arrangement.

## MODEL

# SWIRLAMISER Z

The range of capacities tabulated below are achieved by variation of the atomizing air pressure, usually between 5 and 15 psi (0.35 to 1 bar) and, in some cases, by variation of the burner shim setting.

To achieve the maximum capacity ratings, the combustion chamber must be of sufficient length to contain the flame.

The primary atomizing air volume requirements given are those for operating the burner at its maximum capacity with a pressure of 15 psi (1 bar).

Burner size designations commencing with the letter 'C' are particularly suited to high temperature applications, such as kilns and furnaces. Also as these produce a relatively narrow flame they are the best choice for tube firing applications.

Burner size designations commencing with the letter 'E' are for special purposes and only manufactured to order.

The table below should be used as a general guide only. Our Technical Department should be consulted for more detailed information and advice on the selection of burners and ancillaries for particular applications.

BURNER SIZE	CAPACITY				PRIMARY ATOMISING AIR	
	GALLONS PER HOUR		LITRES PER HOUR		FT. <sup>3</sup> /HR.	M. <sup>3</sup> /HR.
	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM		
AZ15	0.25	2.0	1.0	9.0	185	5.25
CZ15	0.25	2.0	1.0	9.0	185	5.25
CZ20	0.75	6.0	3.5	27.0	470	13.30
DZ20	0.75	6.0	3.5	27.0	470	13.30
EZ25	2.0	7.5	9.0	34.0	650	18.50
CZ35	2.5	12.0	11.5	54.0	750	21.25
DZ35	2.5	12.0	11.5	54.0	750	21.25
DZ40	4.0	20.0	18.0	91.0	1550	44.0
EZ45	7.0	25.0	32.0	114.0	2100	60.0
DZ47	7.0	30.0	32.0	136.0	2300	65.0
EZ49	10.0	35.0	45.5	159.0	3000	85.0



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