

## **SPECIFICATION**

### **MARK 74 POWDER FLAME SPRAY SYSTEM**

#### **Item 1 Metallisation Mark 74 Powder Spray Pistol**

The Metallisation Mark 74 Powder Spray Pistol is designed to produce coatings from a large range of powders. This pistol can be both hand held and machine mounted. Powder delivery can be either gravity fed from a hopper or by a separate powder feed unit.

The pistol is designed for continuous use by the contract or production user who requires a pistol that is easy to maintain and will give long periods of trouble-free operation with minimum spares requirements.

A notable feature of this pistol is its rugged construction which is designed to meet all the requirements of the practical metal sprayer.

Finger tip operation of the trigger valve below the canister ensures instantaneous stop/start control of the powder feed.

The Mark 74 nozzle system provides an excellent flame stability and easy lighting. This design also ensures true axial alignment of the component parts and gives added safety features.

The spreader air cap provides a narrow spray pattern and densifies the coating. This is particularly necessary when spraying ceramics.

The main valve supplying fuel gas and oxygen to the gas head is of the multi diaphragm type, in which the sealing diaphragms are operated collectively by a pre-set cam. Internal leakage between fuel gas and oxygen ports is impossible.

The Mark 74 Pistol is recommended for numerous coating applications including, thermal barrier, wear resistance and as a dielectric. This pistol utilises an oxygen and acetylene fueled gas mixture to give a pistol that is capable of spraying ceramic coatings as well as all the full range of metal powders.

#### **Safety**

The equipment quoted will produce levels of noise and dust that will require safety measures to be taken by those using the equipment. It will use pressurised air and will also use flammable gases. Careful consideration should also be given to the positioning of this equipment. It is the responsibility of the user to ensure that all appropriate measures are taken to ensure safe operation in accordance with local requirements. Metallisation will be pleased to advise as appropriate.

**Weight** - complete, excluding supply hoses 1.85Kg (4lb)

**Dimensions**

Note these dimensions are for a pistol with gun mount; these being with the largest overall dimensions.

Length overall : 21.0 cm (8 $\frac{1}{4}$ " )  
Height overall : 33.5 cm (13 $\frac{1}{4}$ " )  
Width overall : 12.5 cm (5" )

**Item 2 Hoses**

A set of colour coded hoses are provided for gas services and compressed air supply as follows:-

Acetylene Hose - Red - 5 metres long  
Oxygen Hose - Blue - 5 metres long

for connection of services between short pistol hoses and flashback arrestors (or flowmeters if fitted)

Compressed Air Hose - Black - 5 metres long 3/8" BSP  
Vibrator Air Hose - Black - 5 metres long 1/4" BSP

**Item 3 Auto Drain Filter and Air Pressure Regulator**

Auto Drain Duplex Air Filter complete with mounting brackets fitted with connector block having two additional air outlets (supplied plugged). The Air Pressure Regulator is supplied with lockable pressure adjusting knob and a pressure gauge indicating regulated air pressure.

**Items 4 & 5 Multi-Stage Pressure Regulators (fuel gas and oxygen)**

Designed to withstand the rigours of hard daily use, the new 'TS' Series of 2-Stage Regulators are manufactured to a high standard of craftsmanship. Precision engineered, and using all-brass stampings, the regulators incorporate many features which improve reliability and extend service life. Along with the many in-built safety devices, these features afford maximum protection in the event of individual or operational abuse.

The 'TS' Series complies fully with the detailed specifications incorporated in the new British (BS EN 585) and International (ISO 2503) Standards.

### **Items 6 & 7 Flashback Arrestors (fuel gas and oxygen)**

Flame Arresting Safety Device Type 70 is designed to protect regulator/manifold gas supply from severe forms of flashback. The design features:-

- 1) A sintered metal frame arrestor to quench the flame front resulting from a flashback
- 2) A pressure relief valve to safely vent-off excess pressure and fumes
- 3) A pressure sensitive cut-off valve, incorporating a tamper proof reset mechanism, to prevent the re-ignition of unburnt gases after a flashback.

### **RECOMMENDED ADDITIONAL PARTS**

#### **Item 8 Flowmeters**

The Metallisation Flowmeter when used in conjunction with the Metallisation Powder Spray Pistols and Metallisation Pressure Regulators ensure that the correct mixture of fuel gas and oxygen is fed to the pistol in the correct quantities. Hence, the optimum flame for any particular application can be produced quickly, easily and with confidence.

Each flowmeter comprises two working parts; a tapered borosilicate glass tube with ceramic scale and a dynamically balanced float providing stability and accuracy.

The instruments are mounted in and protected by a sturdy steel case with a protective perspex cover which allows the unit to be wall mounted. Left hand threads are standard on the fuel gas fittings so that gas and oxygen hoses cannot be incorrectly fitted (see mounting instructions). The large floats, scale divisions and indicators enable the unit to be used at a distance and without recourse to mental arithmetic.

The Flowmeters are also valuable as fault finding aids because, where flows differ greatly from those given for a particular nozzle arrangement, a fault in this area is indicated. The relevant parts should then be examined.

#### **Item 9 Flowmeter Hoses**

One set of 3 metre long colour coded hoses for connection of flowmeters for multi-stage pressure regulators.

#### **Item 10 Pneumatic Vibrator**

One Pneumatic Vibrator to assist feed of non-free flowing powders. Supplied with a bolt to fit into the top of the pistol. An on/off valve is included for air supply. A black hose 5 metres long is supplied with Item 2 for attachment to air filter connector block part (Item 3) complete with mini-air pressure regulator.

### **Item 11 Powder Feed Attachment**

When powder feed is required remote from the pistol, the hopper can be replaced by this attachment which allows the connection of a powder feed hose (9550) to a powder feed unit (2007MF-PF)

### **Item 12 Powder Feeder 2007MF-PF**



- ✦ Mass flow control of carrier gas = repeatability
- ✦ Volumetric feed via hopper and rotating disc design
- ✦ Two disc variants to allow optimum feeding of a wide range of powders
- ✦ Parameters are displayed on the powder feeder and also relayed to the operator interface unit for display and logging
- ✦ Contains PLC for control and integration to operator interface unit
- ✦ Feed disc rotational speed is controlled via a closed loop AC inverter for improved feeding accuracy
- ✦ Control is on the powder feeder for stand-alone operation.
- ✦ Multiple power feeders can be integrated into the system

Description	Characteristics
Canister capacity	2,750cc
Electrical supply	220/240v 1ph
Weight	40kg
Dimensions (mm)	W-400 x D-400 x H-700