

# BINKS



SB-E-A1-2-8



## Operation Manual: MODEL 230 PRESSURE/SIPHON FEED HAND GUN

### Important:

Read and follow all instructions and SAFETY PRECAUTIONS  
before using this equipment

### DESCRIPTION

This is a production hand spray gun suitable for use with most solvent based coating materials. The performance of this gun is achieved by a range of air nozzles combined with large, smooth flowing air passages and an oversize air valve which gives a lower pressure drop. The gun is designed to be used with a siphon cup or material feed hose.

**IMPORTANT:** These guns are not designed for use with highly corrosive or highly abrasive coating material and if used with such materials it must be expected that the need for thorough cleaning and/or the necessity for replacement parts will be increased. If there is any doubt regarding the suitability of a specific material, advise what material is to be used and/or submit a sample for test.

### Chart 1 Ordering Information :

SPRAYGUN		MATERIAL NOZZLE			NEEDLE		AIR NOZZLE			GROUP
PART N <sup>o</sup>	THREAD	PART NO	CODE	BORE	PART NO	MAT <sup>L</sup>	PART NO	CODE	AIR CONS <sup>N</sup>	
100104	BSP	200316	71	0.071",1.8mm	180123	ST ST	200885	66SD1	(16.2) [27.5]	1
100114	BSP	200338	446	0.046",1.1mm	180100	NYLON	200850	63PB	(18.9) [32.1]	1
100124	BSP	200315	60	0.060",1.5mm	180124	ST ST	200885	66SD1	(16.2) [27.5]	1
100125	BSP	200338	446	0.046",1.1mm	180117	ST ST	200850	63PB	(18.9) [32.1]	1
100126	BSP	200315	60	0.060",1.5mm	180124	ST ST	200886	66S2	(6.3) [10.7]	1
100135	BSP	200315	60	0.060",1.5mm	180124	ST ST	200850	63PB	(18.9) [32.1]	1
100176	BSP	200328	2086V	0.086",2.2mm	180111	ST ST/ TUNG CARB	200865	67SA	(18.2) [30.1]	4
100188	BSP	200316	71	0.071",1.8mm	180123	ST ST	200885	66SD1	(16.2) [27.5]	1

#### GROUP 1

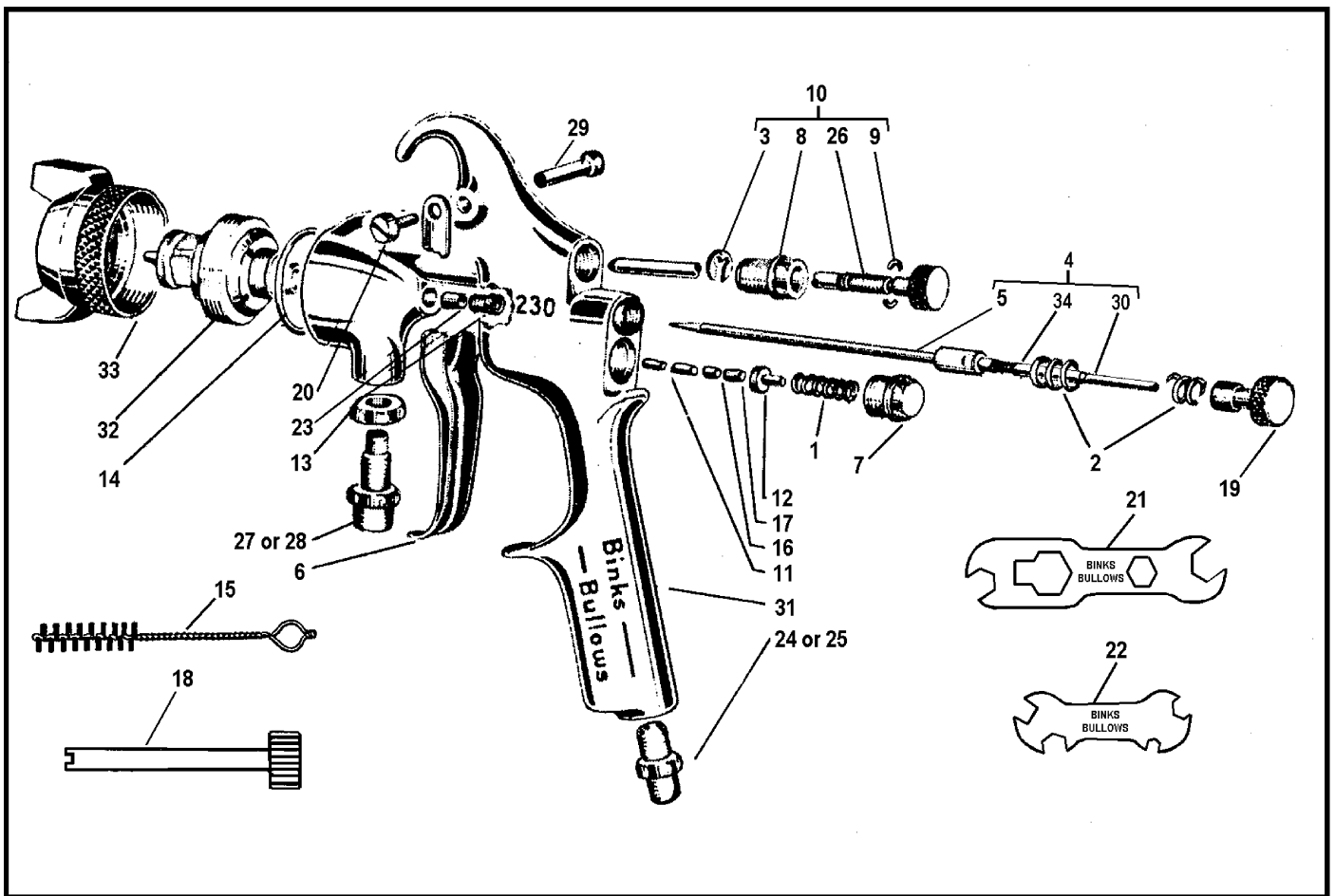
Normal range of finishing materials from thin spirits to heavy enamels.

#### GROUP 4

Vitreous enamel. N.B Air nozzle can only be used with mat. Nozzles of the same group. Suffix "V" denotes tungsten carbide tipped.

Figure in ( ) brackets is air consumption in c.f.m 63 psi

Figure in [ ] brackets is air consumption in m<sup>3</sup>/ hr at 63 psi



**Parts list**

Ref. No.	Order No.	Description	Qty.
1	16 00 00	AIR VALVE SPRING	1
2	16 00 01	MATERIAL SPRING	1
3	16 60 00	CIRCLIP	1
4	CHART 1	NEEDLE ASSEMBLY	1
5	CHART 2	MATERIAL NEEDLE VALVE	1
6	18 02 02	TRIGGER	1
7	18 02 04	AIR VALVE CAP	1
8	18 02 05	SIDE PORT CONTROL BODY	1
* 9	18 02 08	SEALING RING	1
10	18 02 09	SIDE PORT CONTROL COMPLETE	1
11	18 02 10	AIR VALVE STEM	1
* 12	18 02 11	VALVE HEAD	1
* 13	18 02 14	MATERIAL PACKING SCREW	1
* 14	18 02 15	MATERIAL NOZZLE GASKET	1
* 15	18 02 27	GUN BRUSH (NOT SHOWN)	1
* 16	18 02 16	AIR VALVE PACKING	1
* 17	18 02 17	AIR VALVE PACKING SCREW	1

Ref. No	Order No.	Description	Qty.
18	18 02 18	KEY (NOT SHOWN)	1
19	18 02 21	MATERIAL CONTROL SCREW	1
* 20	18 28 20	TRIGGER SCREW	1
21	18 02 25	GUN SPANNER (LARGE)	1
22	18 02 26	GUN SPANNER (SMALL)	1
* 23	18 02 28	PACKING	1
24	18 02 31	AIR CONNECTION (B.S.P)	1
25	18 03 10	AIR CONNECTION (N.P.S)	1
26	18 07 64	SIDE PORT CONTROL STEM ASS	1
27	18 39 80	FLUID CONNECTION (B.S.P)	1
28	18 20 20	FLUID CONNECTION (N.P.S)	1
* 29	18 28 27	TRIGGER STUD	1
* 30	18 50 19	NEEDLE LOCKING SCREW	1
31	20 00 03	GUN BODY	1
32	CHART 1	MATERIAL NOZZLE	1
33	CHART 1	AIR NOZZLE	1

Recommended spares kit with quantities based on 12 months supply with medium wear materials **25 00 03**.

**CHART 2**

Needle Assy.	Needle Stem
180123	180047
180111	180052
180124	180036
180100	180093
180117	180041

## SPECIFICATIONS

<b>Body:</b>	Aluminium alloy polished and anodised.
<b>Air Nozzle:</b>	Hard brass stamping, bright electroless nickel plated with taper location on material nozzle to ensure concentricity.
<b>Material Nozzle:</b>	Hardened steel, located in body and in air nozzle by tapers.
<b>Needle Valve:</b>	Stainless Steel or nylon with adjustable sleeve to compensate for wear "V" suffix has Tungsten Carbide tip.
<b>Trigger:</b>	Aluminium Stamping for strength and reduced weight.
<b>Air Valve:</b>	Nylon valve with stainless steel stem and adjustable seal.
<b>Springs:</b>	All springs are stainless steel.
<b>Connections:</b>	Air inlet connection is 1/4" BSP and fluid connection is 3/8" BSP (NPS available)(All 60° Cone).
<b>Finish:</b>	Gun body red anodised. Trigger highly polished, all brass parts are nickel plated.
<b>Weight:</b>	0.62 kg (1lb. 6 oz).
<b>Dimensions:</b>	Less Cup (17. 5 X 3.65 X19 cm) (6 7/8 long X 1 7/16 wide x 7 1/2" high).
<b>Max Working Pressure:</b>	Air & Fluid 10 bar (145 psi)
<b>Max Fluid Temp:</b>	50°C (122°F)

## OPERATION

### CONNECTING GUN TO AIR HOSE

Gun should be connected by a suitable length of  $5/16$ " (7.94 mm) bore air hose fitted with a connector with a 1/4" B.S.P union nut at gun end. It is recommended that the air supply be filtered to 50 microns maximum, however alternative air preparation may be required for special applications.

### CONTROLLING THE MATERIAL FLOW

The rate of flow is adjusted by the Material Valve Control Screw (19) which acts as an adjustable stop limiting the travel of the Material Needle Valve. Turning it clockwise will reduce the rate of flow and anti clockwise will increase flow. When used with a gravity cup an increase in air pressure will increase the rate of flow.

### ADJUSTMENT OF MATERIAL NEEDLE VALVE

The needle valve assembly is adjustable for length by means of the needle locking screw and needle end assembly. These should be adjusted so that when the trigger is in contact with the air valve stem there is about  $1/32$ " (.79 mm) clearance between the trigger and the needle assembly. In no circumstances must the needle valve open before the air valve.

### CONTROLLING THE FAN SPRAY

The fan spray is controlled by means of the Side Port Control (26) Turning this control clockwise until it is closed will give a round spray; turning it anti-clockwise will widen the spray into a fan shape. The fan spray can be turned anywhere through 360 by rotating the Air Nozzle (33) relative to the gun. To effect this - slacken retainer ring, position Nozzle (33) then tighten retainer ring.

### CONNECTING GUN TO MATERIAL HOSE

Gun should be connected by a suitable length of  $3/8$ " bore (9.5 mm) material hose fitted with a connector with a  $3/8$ " B.S.P union nut at the gun end  $1/4$ " (6.35 mm) bore hose is recommended for use with low viscosity materials. Fluid hoses of different materials are available for special fluids.

### CONNECTING GUN TO SYPHON CUPS

The union nut of the cup should be attached to the material connection of the gun and firmly tightened. It is important that there is no leakage at this point. The syphon pipe should be positioned at the front of the gun. i.e under the nozzles, and the vent hole in the cup lid positioned under the trigger.

# SAFETY WARNINGS

## FIRE AND EXPLOSION

Solvents and coating materials can be highly flammable or combustible, especially when sprayed.

- Work stations must be provided with adequate ventilation/exhaust to prevent the build-up of flammable vapours.
- Smoking and naked flames must not be allowed in the spraying or mixing areas.
- Fire extinguishing equipment must be provided in the spraying and mixing areas.

Users must comply with all local and national codes of practice and insurance company requirements governing ventilation, fire precautions, operation, maintenance and housekeeping of work stations.

HALOGENATED HYDROCARBON SOLVENTS - for example 1,1,1-Trichloroethane and Methylene Chloride can chemically react with aluminium and galvanised or zinc coated parts and cause an explosion hazard. Read the label and data sheet of the material you intend to spray.

DO NOT USE SOLVENTS OR COATING MATERIALS CONTAINING HALOGENATED HYDROCARBONS WITH THIS EQUIPMENT.

STATIC ELECTRICITY - is generated by fluid moving through pipes and hoses. A static spark, capable of igniting certain solvents and coating materials, could be produced by high fluid flow rates. To prevent the risk of fire or explosion, earth continuity to the spray equipment and object being sprayed should be maintained.

## PERSONAL PROTECTIVE EQUIPMENT

TOXIC VAPOURS - when sprayed, certain materials may be poisonous, create irritation or otherwise be harmful to health. Always read carefully all labels and safety/performance data for the material being sprayed and follow any recommendations. IF IN DOUBT, CONSULT THE MATERIAL SUPPLIER.

- The use of respiratory protective equipment is recommended at all times when spraying. The type of respiratory protective equipment used must be compatible with the material being sprayed and the level of concentration.
- Always wear eye protection when spraying or cleaning the equipment.
- Gloves must be worn for spraying or cleaning the equipment when certain coating materials and solvents are used.

## TRAINING

Personnel should be given adequate training in the safe use and maintenance of this equipment. Training courses on all aspects of the equipment are available. For details contact your local representative. The instructions and safety precautions contained in this literature and the literature supplied with the coating material should be read and understood before the equipment is used.

## MISUSE

- All spray guns project particles at high velocity and must never be aimed at any part of the body.
- Never exceed the recommended safe working pressures for any of the equipment used.
- The fitting of non-recommended or non-original accessories or spare parts may create hazardous conditions.
- Before dismantling the equipment for cleaning or maintenance, all pressures, air and material, must be isolated and released.

The disposal of non-metallic materials must be carried out in an approved manner. Burning may generate toxic fumes. The removal of waste solvents and coating materials should be carried out by an authorised local waste disposal service.

The materials used in the construction of this equipment are (bearing in mind the warning on Halogenated Hydrocarbons) solvent resistant enabling the equipment to be cleaned using gun washing machines. However, this equipment must not be left inside the gun washing machine for prolonged periods of time after the automatic cleaning cycle has been completed. The solvents used in the gun washing machine should be regularly checked to ensure that the equipment is not flushed through with contaminated material. Follow the recommendations of the machine manufacturer.

## NOISE LEVELS

The continuous A-weighted sound pressure level of this spray gun may exceed 85 dB(A) depending on the air cap/nozzle set-up being used. Sound levels are measured using an impulse sound level meter and analyser, when the gun is being used in a normal spraying application. Details of actual noise levels produced by the various air cap/nozzle set-ups are available on request.

## OPERATING

Spray equipment using high operating pressures may be subject to recoil forces, under certain circumstances such forces could result in repetitive strain injury to the operator

## **MAINTENANCE & FAULT FINDING**

### **CLEANING GUN USED WITH SYPHON CUP OR MATERIAL SUPPLY HOSE**

**CUP** - Unscrew the cup empty and rinse out carefully with thinners, place clean thinners in the cup and spray this through the gun until it is clean, then blow air through the gun to dry it.

**MODE** - Disconnect supply hose at Fluid Inlet, reconnect a supply of clean solvent. Spray through the gun until clean, then disconnect solvent and replace with an air supply and blow through until dry.

EVERY DAY AFTER CLEANING PLACE A DROP OF OIL IN THE FOLLOWING:

- 1) Trigger stud.
- 2) Material needle valve at material packing screw.
- 3) Air valve stem at gun body.
- 4) Material needle valve guide at gun body.

NEVER IMMERSER GUN IN SOLVENTS. DO NOT USE SILICONE OILS OR GREASES.

### **FAULTY SPRAY**

This can be caused by improper cleaning, dried material around the material nozzle tip or in the air nozzle. Soak these parts in thinners that will soften the dried material and remove with a brush or cloth.

NEVER USE METAL INSTRUMENTS TO CLEAN THE AIR OR MATERIAL NOZZLES. THESE PARTS ARE CAREFULLY MACHINED AND ANY DAMAGE TO THEM WILL CAUSE A FAULTY SPRAY.

If either the Air Nozzle (33) or Material Nozzle (32) are damaged, these parts must be replaced before a perfect spray can be obtained.

### **INTERMITTENT SPRAY.**

If the spray flutters, it is caused by one of the following faults: -

- 1) Insufficient material available. Check supply and replenish if necessary.
- 2) Loose Material Nozzle (32). Tighten but without using undue force. Replace Material Nozzle Gasket (14) if necessary.
- 3) Leakage at Material Needle Valve Packing (23). Tighten or replace Material Needle Valve Packing.
- 4) Cup connection insufficiently tight, or dirt on cone faces. Correct as necessary.
- 5) Air vent in cup lid blocked. Remove lid and clear obstruction. Replace lid.

### **AIR LEAK AT AIR VALVE STEM.**

This could be caused by a slack or worn Air Valve Packing (16) or a worn Air Valve Stem (11). Remove Air Valve Cap (7), Air Valve Spring (1) and Valve Head (12) leaving Air Valve Stem (11) in position. With Key (18) engage Air Packing Screw (17) and tighten until the Valve Stem is lightly gripped by the Air Valve Packing (16) but free to move easily. This will be easier to check if the trigger is removed. If this fails to cure the leak replace packing (16) and stem (11), adjust after replacement.

### **AIR LEAKING THROUGH THE GUN**

This can be caused by dirt on the air valve seat or worn air valve. To correct, remove Air Valve Cap (7) take out Air Valve Spring (1) and the Valve Head (12). Clean these parts and the seat in the body of the gun, replacing air valve (12) if worn.

### **PAINT LEAKING AT NEEDLE GLAND SEAL**

Tighten Material Packing Screw (13), do not overtighten as this may cause the needle to stick. To replace Seal unscrew Material Valve Control Screw (19), remove Material Spring (2) and Material Needle Valve (5). Unscrew Material Packing Screw (13) and take out old packing. Repack with Packing Washer (23) then replace material packing screw then adjust to seal correctly.

## ACCESSORIES

### AIR HOSE AND CONNECTIONS

17 00 04	5/16" Bore P.V.C Lined Terylene Reinforced Air Hose.- Specify Length required.
18 42 12	1/4" BSP(F) Hose Connector
19 16 68	QR Male Stem 1/4" BSP (F)
19 16 47	QR Male Stem 1/4" BSP (M)
19 16 46	QR Female 1/4" BSP (M)

### FLUID HOSE AND CONNECTIONS

17 00 74	3/8" Bore nylon lined branded rubber hose
18 42 03	3/8" BSP (F) Hose Connector
20 11 20	QR Male Stem 3/8" BSP (F) ST.ST
18 39 64	QR Female Body 3/8" BSP (M)

### CUPS

10 53 03	EZ2 SIPHON CUP (1 LITRE)
10 53 46	AS 105303 PLUS FILTER
10 53 04	PRESSURE CUP 2 QUART
10 53 08	PRESSURE CUP 2 LITRE C/W HOSES
10 53 60	PRESSURE CUP 2 LITRE REMOTE
10 53 62	PRESSURE CUP 1 1/2 LITRE CLASSIC ST.ST.
10 54 33	PRESSURE CUP ST.ST
10 54 28	PRESSURE CUP 2.2 QUART STEADI-GRIP

### AIR FILTER AND REDUCING VALVE

10 70 18	V5000 Filter Regulator 2 x 1/4" BSP outlet.
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### SPARES KIT

250003	See Parts List for included items shown by *
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### AIR FED VISORS

10 70 30	Visor and Carbon Filter/ Regulator complete with Breather tube.
10 70 29	As 107030 plus Coalescing Filter, Hoses and Spare Elements.

# NOTES

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***BINKS***

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