

DEVILBISS

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CE  II 2 G X

Operation Manual

Viper – Automatic Spray Gun



Read and follow all instructions and Safety Precautions before using this equipment

CHARACTERISTICS

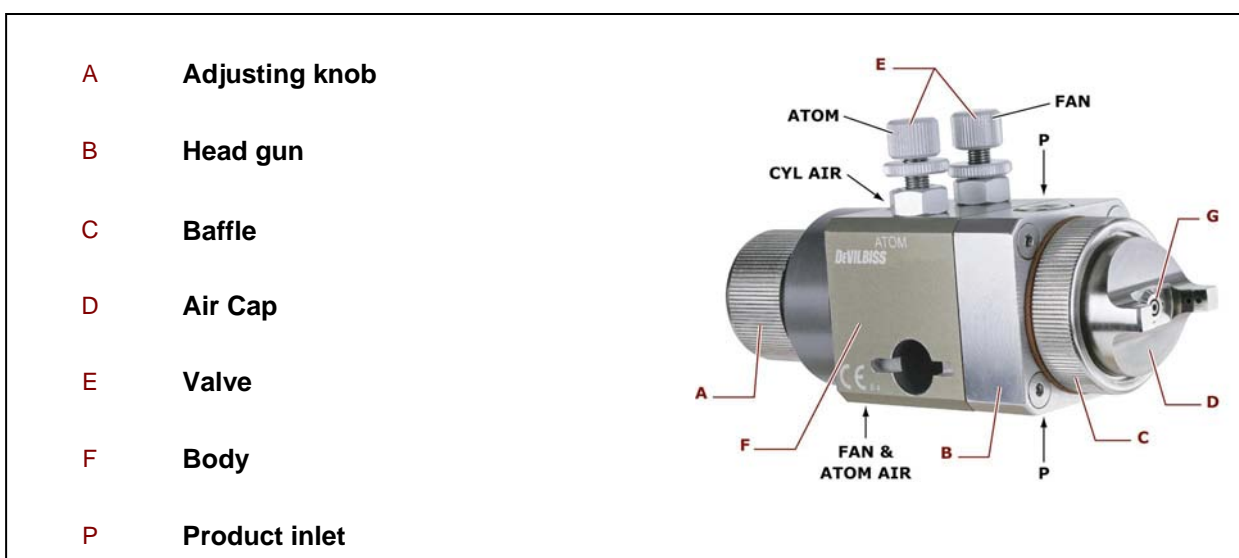
Automatic Spray gun for enamel application designed to give you the optimal production performance. This spray gun is answering the needs of the sanitary application, table ware and decorative application, pavement, tiles, electric domestic appliances and all others ceramic activities. The patent pending “Quick Up” ring will give you an easy and quick dissembling of the air cap and the tip. The patent pending bellows seal will give your needle long life. The needle adjustment knob has 18 ratchet positions, allows fine and accurate fluid flow control.

MATERIALS OF CONSTRUCTION

Gun body	Aluminium hard anodizing
Tip	Stainless steel 303.
With brass body assy	Stainless steel hardened HRC 58 & Nickel treated. Carbide.
Needle	Stainless steel 303 body & needle end Stainless steel body & needle end Steel hardened to HRC 58 Stainless steel body & carbide end. Stainless steel body & special PU end (Option only)
Spray head	Stainless steel

SPECIFICATIONS

	Thread	Pressure
Fluid inlet & Fluid Recirculation “P”	1/4 BSP	7b max
Air inlet (Atom+Fan) “A” “F”	1/4 BSP	7b max
Cylinder/trigger “Cyl”	1/8 BSP	4b min - 7b max
Maximum temperature in use	40° C	
Spray gun weight	620 gr	
Air consumption	E31	340 l/mn at 2.5 bar
	E63	450 l/mn at 3.5 bar
	E70	540 l/mn at 4 bar



SAFETY WARNINGS

Fire and explosion



Solvents and coating materials can be highly flammable or combustible when sprayed. **ALWAYS refer to the coating material supplier's instructions and COSHH sheets before using this equipment.**



Users must comply with all local and national codes of practice and insurance company requirements governing ventilation, fire precautions, operation and house-keeping of working areas.



This equipment, as supplied, is NOT suitable for use with Halogenated Hydrocarbons.



Static electricity can be generated by fluid and/or air passing through hoses, by the spraying process and by cleaning non-conductive parts with cloths. To prevent ignition sources from static discharges, earth continuity must be maintained to the spray gun and other metallic equipment used. It is essential to use conductive air and/or fluid hoses.



Personal Protective Equipment



*Toxic vapours – When sprayed, certain materials may be poisonous, create irritation or are otherwise harmful to health. Always read all labels, safety data sheets and follow any recommendations for the material before spraying. **If in doubt, contact your material supplier.***



The use of respiratory protective equipment is recommended at all times. The type of equipment must be compatible with the material being sprayed.



Always wear eye protection when spraying or cleaning the spray gun.



Gloves must be worn when spraying or cleaning the equipment.

Training – Personnel should be given adequate training in the safe use of spraying equipment.

Misuse

Never aim a spray gun at any part of the body.

Never exceed the max. Recommended safe working pressure for the equipment.

The fitting of non-recommended or non-original spares may create hazards.

Before cleaning or maintenance, all pressure must be isolated and relieved from the equipment.

The product should be cleaned using a gun-washing machine. However, this equipment should not be left inside gun-washing machines for prolonged periods of time.

Noise Levels



The A-weighted sound level of spray guns may exceed 85 dB (A) depending on the set-up being used. Details of actual noise levels are available on request. It is recommended that ear protection is worn at all times when spraying.

Operating

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



LIST OF SPARE PARTS

For the arrangement of the parts, refer the exploded view

Rep	Ref	Description	Qty
1	SPA-36	Retaining ring	1
2	SPA-17-K5	Gasket Polyurethane kit of 5	1
3	SPA-100-E63 SPA-100-E70 SPA-100-E31	"Conventional" air cap for tips Ø 1.8 & 2.0 "Conventional" air cap for tips Ø 2.2 & 2.8 "Transtech" air cap for tips Ø 1.2 to 2.0	1
4	SPA-16-K2	Gasket kit of 2	1
5	SPA-250H-XX SPA-250-XX SPA-254-XX	Tip assy with brass body (see chart p11 combination) Tip insert in Stainless steel (1,2 to 2,0) Tip insert steel hardened & Nickel plated (1.2 to 2.8B) Tip insert carbide (2,2 or 2,8)	1
6	S-14190-K4	Screw M4 x 25 kit of 4 Torx 20	1
7	S-28218-K5	O ring kit of 5	4
8	SPA-2	Spray head	1
9	SPA-11	Bellows (needle seal)	1
10	SPA-10	Sealing washer	1
11	S-28221-K10	Gasket kit of 10	2
12	SPA-1-VPR	Gun body	1
13	AGG-403	Air valve	2
14	S-28220-K5	Gasket kit of 5	1
15	SPA-6-1-K	Piston + Gaskets (14, 15a, 16)	1
15a	SPA-28225-K5	Gasket kit of 5	1
16	S-28219-K10	Gasket kit of 10	2
17	SPA-13	Piston Spring	1
18	SPA-350-DE SPA-351-DE SPA-351-DEH SPA-351-22 SPA-351-28B SPA-352	Needle, PU point for tips 1.2 to 2.0 Needle, hardened S Steel point, for tips 1.2 to 2.0 Needle, full 303 S. steel for tip SPA-250H-xx Needle, hardened S Steel point, for tip 2.2 Needle, hardened S Steel point, for tip 2.8B Needle, carbide point, for carbide tips 2.2 to 2.8	1
19	SPA-3	Housing	1
20	SPA-KK-1	Kit of ring and ball for ratchet	1
21			3
22	AGMD-110	Spring	1
23	AGMD-111	Spring	1
24	SPA-19	Washer	1
25	SPA-4	Adjusting knob	1
26*	SPA-7-K	Kit rear housing without adjustment (Option)	
27*	SPA-22-K2	Kit of air connector for remote control (Option)	
28*	AGGS-33	Shaft (Accessory)	
29*	SS-659-CD	Nut (Accessory)	
30	S-18226	Plug ¼ BSP for spray gun without fluid recirculation	1
31	S-1444-H	M5 hexagon socket head cap screw, length 8	2
32	SPA-25	Plug	1

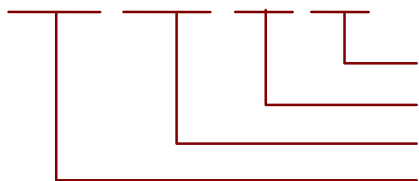
* Optional spare parts

POSSIBLE COMBINATIONS

Ø mm	Fluid Tip			Needle				Air Cap		
	Hardenerd Steel	Carbide	Stainless Steel	Point Pu	Point Steel	Point Carbide	Point Stainless Steel	E63	E70	E31
	SPA-250-XX	SPA-254-XX	SPA-250H-XX	SPA-350-XX	SPA-351-XX	SPA-352	SPA-351-XX	SPA-100-XXX		
0.85	085		085	DE	DE		DEH			
1.2	12		12	DE	DE		DEH	X		X
1.4	14		14	DE	DE		DEH	X		X
1.6	16		16	DE	DE		DEH	X		X
1.8	18		18	DE	DE		DEH	X	X	X
2.0	20		20	DE	DE		DEH	X		X
2.2	22	22	22		22	X			X	
2.8	28B	28			28B	X			X	

MODEL PART NUMBER

VPR - E70 - 28 C



C = Tip/Needle in carbide, H= Tip/Needle Stainless Steel
 Tip Ø (2.8 mm)
 Air cap number (E70)
 Spray gun type

OPÉRATION



Important : This spray gun is designed for water based application, solvent is prohibited, it will damage the seal inside the spray gun. To ensure that this equipment reaches you in first class condition, protective coatings have been used. Flush the equipment through with water before use. Connect the air and fluid supply, clean the fluid passage during 3 minutes and operate trigger piston 10 time at minimum.

SETTING

1. The « ATOM » air valve control the atomizing air pressure « FAN » reduces the spray pattern size. To increase the pressure turn clockwise & reverse to reduce turn counter-clockwise.
2. Fluid flow can be adjusted with the rear ratchet knob, fluid flow is increased when you turn the knob counter-clockwise.



Adjusting knob

STARTING-UP

1. Turn the needle adjusting knob clockwise until it.
2. Turn the “Fan” and “Atom air valves counter-clockwise to be full open.
3. Set the air pressure at the air regulator to achieve recommended pressures above.
4. Turn the adjusting knob counter clockwise to obtain the desired fluid flow.
5. Test spray. If the finish is too dry or fine, reduce airflow by reducing air inlet pressure or by the valve **(13 Atom)** screwing it in clockwise, or increase fluid flow using ratchet knob rotating counter clockwise.
6. If the finish is too wet, turn the needle adjusting knob **(25)** in clockwise to reduce the fluid flow, or reduce the fluid pressure. If the atomization is too coarse, increase inlet air pressure, or reduce fluid flow.
7. The pattern size can be reduced by turning adjusting valve “Fan” **(13)** clockwise.
8. The spray pattern will give the best results when perpendicular to the target.
9. The recommended spray distance is 150-220 mm (6” to 8”).
10. Spray edges first. Overlap each stroke a minimum of 50%. Move gun at a constant speed.
11. Always turn off air and fluid supply and relieve pressure and clean down when gun is not in us.

PREVENTIVE MAINTENANCE

Turn off air and coating supply and relieve pressure in the supply lines, before any maintenance operation.

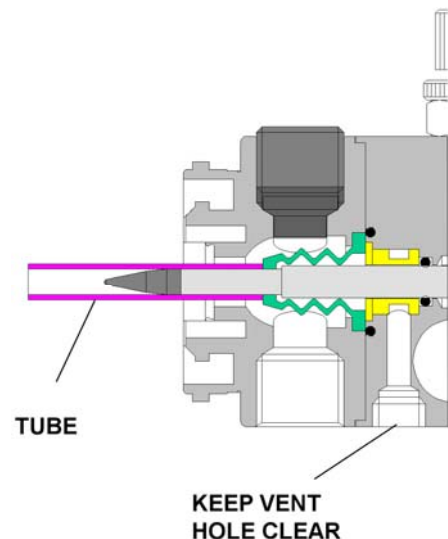
Tip (5) & needle (18)

Remove the air cap and its retaining ring by unscrewing by ¼ turn counter- clockwise **(Fig 1)**.

Remove the tip and its baffle **(5)** by unscrewing by ¼ turn counter- clockwise **(Fig 2)**. Unscrew the adjusting needle knob fully in counter-clockwise rotation and pull out the needle at the back.

Make sure the vent hole is clear as it can trap air and push the needle bellows forward, which may affect fluid flow.

After refitting the needle and before refitting the nozzle, push the bellows (with the tube supplied) back in order to put it in contact with the needle shoulder so as to make the product passage free.



The fluid tip and baffle are permanently fitted together. There is no possibility to separate them. The baffle will be damaged if you try to dismantle.



FIG 1



FIG 2

PACKING

Unscrew the 4 screws to disassemble the gun head. Remove the packing bellows seal. Clean or replace if the packing is damaged.

FAN & ATOM AIR VALVE (13)



Before assembling, check the air valve is in fully open position by unscrewing it counter-clockwise.

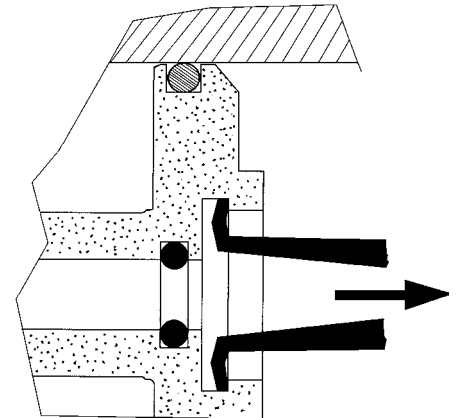
Piston (15), o ring (16) & (14)

Unscrew the rear housing (19) at the back of the gun body counter clockwise, pull out the needle (18).

Use bent nose pliers so to pull out the piston which has a 12mm internal groove for this purpose.

It's recommended to replace the o ring (14) into the gun body as soon you disassemble the Piston.

When replacing the piston, slightly lubricate all the O rings before fitting into the gun body.



PREVENTIVE MAINTENANCE

1. Turn off air and coating supply and relieve pressure in the supply lines, or disconnect from airline and fluid line.
2. Remove air cap and clean. If any of the holes in the cap are blocked with coating material use a toothpick to clean. Never use metal wire which could damage the cap and produce distorted spray patterns
3. Ensure the fluid tip of the nozzle is clean and free from damage especially the outside at the front diameter. Any build up of dried paint can distort the spray pattern.

EC Declaration of Conformity

We, **ITW Finishing UK, Ringwood Rd, Bournemouth, Dorset, BH11 9LH, UK**, as the manufacturer of the **Spray gun model VIPER**, declare, under our sole responsibility that the equipment to which this document relates is in conformity with the following standards or other normative documents:

BS EN 292-1 PARTS 1 & 2: 1991, BS EN 1953: 1999; and thereby conform to the protection requirements of Council Directive **98/37/EEC** relating to **Machinery Safety Directive**, and;

EN 13463-1:2001, council Directive **94/9/EC** relating to **Equipment and Protective Systems intended for use in Potentially Explosive Atmospheres protection level II 2 G X**.

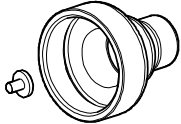
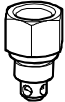
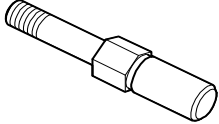

B. Holt, General Manager



24th April 2007

ITW Finishing Systems and Products reserve the right to modify equipment specification without prior notice.

OPTIONS

<p>Spray gun without needle adjustment</p>	
<p>Part number: SPA-7-K This kit includes the back piece and washer to replace the part items 19, 20, 21, 24, 25, on the exploded view.</p>	
<p>Spray gun with “Atom” & “fan” remote control</p>	
<p>Parts number: SPA-22-K2 This includes 2 connectors taking place of the two 2 air valves (13) on the exploded view.</p>	
<p>Spray gun shaft</p>	
<p>Part number: AGGS-33</p>	
<p>Nut for spray gun shaft</p>	
<p>Part number: SS-659-CD</p>	

ITW Finishing Systems and Products
Ringwood Road,
Bournemouth,
BH11 9LH,
England.
Tel. No. (01202) 571111
Telefax No. (01202) 581940,
Website address
<http://www.itweuropeanfinishing.com>

ITW Finishing Systems and Products is a Division of ITW Ltd. Reg. Office:
Admiral House,
St Leonard's Road,
Windsor,
Berkshire,
SL4 3BL,
UK
Registered in England: No 559693 Vat No 619 5461 24