





SB-E-2-990 ISS.01

Operation Manual AGMDPRO – Automatic Spray Gun





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Important - Read and follow all instructions and Safety Precautions before using this equipment.

		Thread	Pressure
Fluid inlet	t & fluid recirculation	1/8" BSP	Max 15 Bar
Air inlet (Atom/Fan)	1/8" BSP	Max 12 Bar
Cylinder/t	rigger	1/8" BSP	3.5 to 6 Bar
Maximum	temperature in use	40° C	
Weights	Spray Gun	646 g	
	Spray Gun + Intermediate Plate	715 g	
g	Spray Gun + Intermediate Plate + Machine adaptor	960 g	
Materials of construction			
Gun body	1	Aluminium Anodised	
Tip / Need	lle / Head	Stainless steel 303, Acetal Needle Tip	
Fluid seal	S	Viton Extreme, Polyethylene	

Specification & Materials of construction

IMPORTANT: These Sprayguns are suitable for use with both water-based and solvent-based coating materials. They are not designed for use with highly corrosive and/or abrasive materials and if used with such materials it must be expected that the need for cleaning and/or replacement of parts will be increased.

If there is any doubt regarding the suitability of a specific material, contact your DeVilbiss Distributor or Finishing Brands UK direct.

NOTE: This gun is not to be used with halogenated hydrocarbon solvents or cleaning agents such as 1,1,1,-Trichloroethane or methylene chloride. These solvents can react with the aluminium components used in this gun. The reaction can become violent and lead to an equipment explosion.

EC Declaration of Conformity

We, Finishing Brands UK Limited, Ringwood Rd, Bournemouth, Dorset, BH11 9LH, UK, as the

manufacturer of the Spray gun model AGMDPRO, 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 T6.

D. Smith, General Manager 20th September 2012

Finishing Brands UK Limited reserves the right to modify equipment specification without prior notice.



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.

Injection Hazard – Spray from the gun, hose leaks or ruptured components can inject fluid through skin into the body and cause extremely serious injury including poisoning. GET IMMEDIATE MEDICAL ATTENTION. INFORM THE DOCTOR WHAT TYPE OF MATERIAL WAS INJECTED.

Do not put fingers or hand over the spray tip.

Replace all worn, damaged or loose parts immediately.

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 spraving.

Model part numbers



e.g. **AGMDPRO-TE30-12P** Where:-TE30 = Air Cap 12P = 1.2 Nozzle with Plastic tipped Needle

e.g. **AGMDPROU-TE30-12** Where:-U= Fluid Recirculation TE30 = Air Cap 12 = 1.2 Nozzle with Stainless Steel Needle

TABLE 1 - Air Cap Range

AIR CAP TYPE	AIR CAP PART NO.	TECHNOLOGY	MARKING ON CAP
TE30	AGMDPRO-102-TE30C-K	High Efficiency	TE30C
TE40	AGMDPRO-102-TE40C-K	High Efficiency	TE40C
TE50	AGMDPRO-102-TE50C-K	High Efficiency	TE50C

TABLE 2 - Fluid Nozzle and Needle Range

NOZZLE SIZE (MM)	FLUID NOZZLE PART No.	STANDARD PLASTIC TIP FLUID NEEDLE	STAINLESS STEEL FLUID NEEDLE
0.85	PRO-205-085-K		
1.0	PRO-205-10-K	AGMDPRO-301P-085-10-K	AGMDPRO-301-085-10-K
1.2	PRO-205-12-K		
1.4	PRO-205-14-K	AGMDPRO-301P-12-14-K	AGMDPRO-301-12-14-K



PARTS LIST			
REF	DESCRIPTION	PART NO.	QTY
1	AIR CAP & RING	SEE TABLE 1	1
2	RETAINING RING & SEALS	PRO-420-K	1
3	RETAINING RING	-	1
4	SHIM	-	1
5	RETAINING RING SEAL	-	1
6	AIR CAP	-	1
7	FLUID NOZZLE	SEE TABLE 2	1
8	INDEXING HEAD ASSY	AGMDPRO-11-K	1
9	INDEXING SPRAY HEAD	-	1
10	SPRAY HEAD GASKET	-	1
11	HEAD	AGMDPRO-1-K	
	HEAD - RECIRCULATION	AGMDPRO-1-U-K	1
12	O-RING (KIT OF 5)	AGMDPRO-29X-K5	5
13	HEAD GASKET (KIT OF 2)	AGMDPRO-9-K2	1
14	PACKING (KIT OF 5)	AGMDPRO-8-K5	1
15	BODY	-	1
*16	RETAINING SCREW	-	1
*17	CAM	-	1
18	CAP HEAD SCREWS (KIT OF 4)	AGMDPRO-10-K4	4
19	PISTON ASSEMBLY	AGMDPRO-404-K	1
20	O-RING	-	1
21	O-RING	-	1
22	PISTON	-	1
23	PISTON SPRING	-	1
24	FLUID NEEDLE	SEE TABLE 2	1
25	NEEDLE SPRING ASSEMBLY	AGMDPRO-405-K	1
26	NEEDLE SPRING	-	1
27	SPRING BUTTON	-	1
28	END PLATE	-	1
29	END CAP	AGMDPRO-13-K	1

SERVICE KITS			
CAM KIT (PARTS MARKED WITH * INCLUDED IN KIT)	AGMDPRO-406-K		

Dimensions (all dimensions in mm)







Important: The spray gun must be earthed to dissipate any electrostatic charges which may be created by fluid or air flows. This can be achieved through the spray gun mounting, or conductive air/fluid hoses. Electrical bond from the spray gun to earth should be checked with an Ohm meter. A resistance of less than 10⁶ Ohms is recommended

Connections



		inat
	Supply	Connection Size
Atom	Atom Air	1/8" x 8mm
Fan	Fan Air	1/8" x 8mm
CYL	Cylinder Air	1/8" X 6mm
Mat	Fluid	1/8" BSP

1/8" BSP

Mat R

Fluid Recirculation

OPERATION

Gun Removal and Gun Mount





5mm

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Indexing Air Cap 90°





MAINTENANCE

Warning – Check all air and fluid pressure is removed before starting maintenance.



Packing Removal



MAINTENANCE

Cam Removal



Piston and Spring Removal



Troubleshooting

Possible Problems in Operation			
CONDITION	CAUSE	CORRECTION	
Spray Pattern			
Heavy top or bottom pattern.	Horn holes plugged.	Clean with non-metallic point.	
	Obstruction on top or bottom of fluid nozzle.	Clean.	
	Cap and/or nozzle seat dirty.	Clean.	
	Left or right side horn holes plugged.	Clean with non-metallic point.	
Heavy right or left side pattern.	Dirt on left or right side of fluid nozzle.	Clean.	

Remedies for the top-heavy and bottom-heavy patterns:

1. Determine if the obstruction is on the air cap or the fluid nozzle. Do this by making a test spray pattern. Then, rotate the cap one-half turn and spray another pattern. If the defect is inverted, obstruction is on the air cap. Clean the air cap as previously instructed. Also check for dried paint just inside the cap centre hole opening; remove by washing with solvent.

2. If the defect is not inverted, it is on the fluid nozzle. Clean nozzle. If problem persists, renew nozzle.

Heavy centre pattern.	Fan Air pressure set too low.	Increase Fan Air pressure to achieve correct pattern.
	Material too thick.	Thin to correct consistency.
Split spray pattern.	Fluid Flow set too low.	Increase Fluid Flow to achieve correct pattern.
8	Fan Air pressure set too high.	Decrease Fan Air pressure to achieve correct pattern.
Jerky or fluttering spray.	Material level too low.	Refill.
Aller .	Obstruction in fluid passage.	Back flush with solvent.
	Inadequate material flow.	Increase Fluid Flow.
Fluid Starved spray pattern.		Change to larger fluid nozzle size.
		Check hose for blockage.

Possible Problems in Operation (cont.) Air pressure too high. Reduce air pressure. Excessive overspray. Gun too far from work surface. Adjust to correct target distance. Air pressure too high. Reduce air pressure. Gun too far from work surface. Adjust to correct distance. Dry spray. Gun motion too fast. Slow down. Fluid flow too low. Increase Fluid Flow or use larger nozzle size. Reduce Fluid Flow or change to Too much material flow. smaller fluid nozzle and fluid needle size. Runs and sags. Material too thin. Mix correctly or apply light coats. Motion too slow. Increase Gun Traverse speed. Leakages Fluid leaking from Packing or Fluid Needle worn. Replace. Packing. Fluid nozzle or fluid needle worn or Replace fluid nozzle and fluid damaged. needle. Foreign matter in fluid nozzle. Clean. Fluid leaking or dripping from front of gun. Fluid needle dirty or stuck in needle Clean. packing. Wrong size fluid needle or fluid Replace fluid nozzle and fluid nozzle. needle. Replace O-Rings using AGMDPRO-O-Rings damaged or missing. Fluid leaking between the Spray Gun 29X-K5. and the Intermediate Plate.

Assembly Faults

Spray Gun does not locate onto Intermediate Plate.	Locking Cam is not in the Unlock position	Turn Locking Cam to The Unlock position using a 5mm key.
Spray Gun is loose when assembled onto Intermediate Plate.	Locking Cam has not been tightened. Locking Cam has worn.	Turn Locking Cam fully to the lock position using a 5mm key. Replace using Cam service kit AGMDPRO-406-K
Spray Gun cannot be removed from Intermediate Plate.	Locking Cam is not in the Unlock position.	Turn Locking Cam to The Unlock position using a 5mm key.

Locking Cam not locked or worn.

Lock Cam or replace using

AGMDPRO-406-K.

ACCESSORIES

AGMDPRO-402-K

INTERMEDIATE PLATE

REF	DESCRIPTION	PART NO.	QTY
1	Intermediate Plate	-	1
2	* Locking Pin	-	1
3	Air Tube (Kit of 2)	AGMDPRO-52-K2	2
4	O-Rings (Kit of 5)	AGMDPRO-29X-K5	5
5	Screw	AGMD-142	3



AGMDPRO-403-K

MACHINE ADAPTOR

REF	DESCRIPTION	PART NO.	QTY
1	Machine Adaptor	-	1
2	Screw	SSF-2048	1
3	Air Connector 1/8" x 6	AGMD-126	1
4	Air Connector 1/8" x 8	AGMD-127	2



Note: Further Machine adaptors and Robot Mounted adaptors available on request.

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Warranty

This product is covered by Finishing Brands UK Limited one year warranty.

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