

# DEVILBISS

EN



SB-E-2-990 ISS.05

CE  II 2G T6

## Operation Manual

### AGMDPRO – Automatic Spray Gun



# AGMD Pro<sup>®</sup>

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

## Specification & Materials of construction

		Thread	Pressure
Fluid inlet & fluid recirculation		1/8" BSP	Max 15 Bar
Air inlet (Atom/Fan)		1/8" BSP	Max 12 Bar
Cylinder/trigger		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	
	Spray Gun + Intermediate Plate + Machine adaptor	960 g	
Materials of construction			
Gun body		Aluminium Anodised	
Tip / Needle / Head		Stainless steel 303, Acetal Needle Tip	
Fluid seals		Viton Extreme, Polyethylene	

**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 12100: 2010, BS EN 1953: 2013**; and thereby conform to the protection requirements of Council Directive **2006/42/EC** relating to **Machinery Safety Directive**, and;

**EN 13463-1:2009**, 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  
3rd December 2015

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



## 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.



**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 spraying.

## Model part numbers

**AGMDPRO # - ##### - ## #**

|  
Type of  
Gun

|  
Air Cap Type  
See Table 1

|  
None = Stainless Steel  
P = Plastic Tipped  
Needle

U = Fluid Recirculation

Fluid Nozzle Size  
See Table 2

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

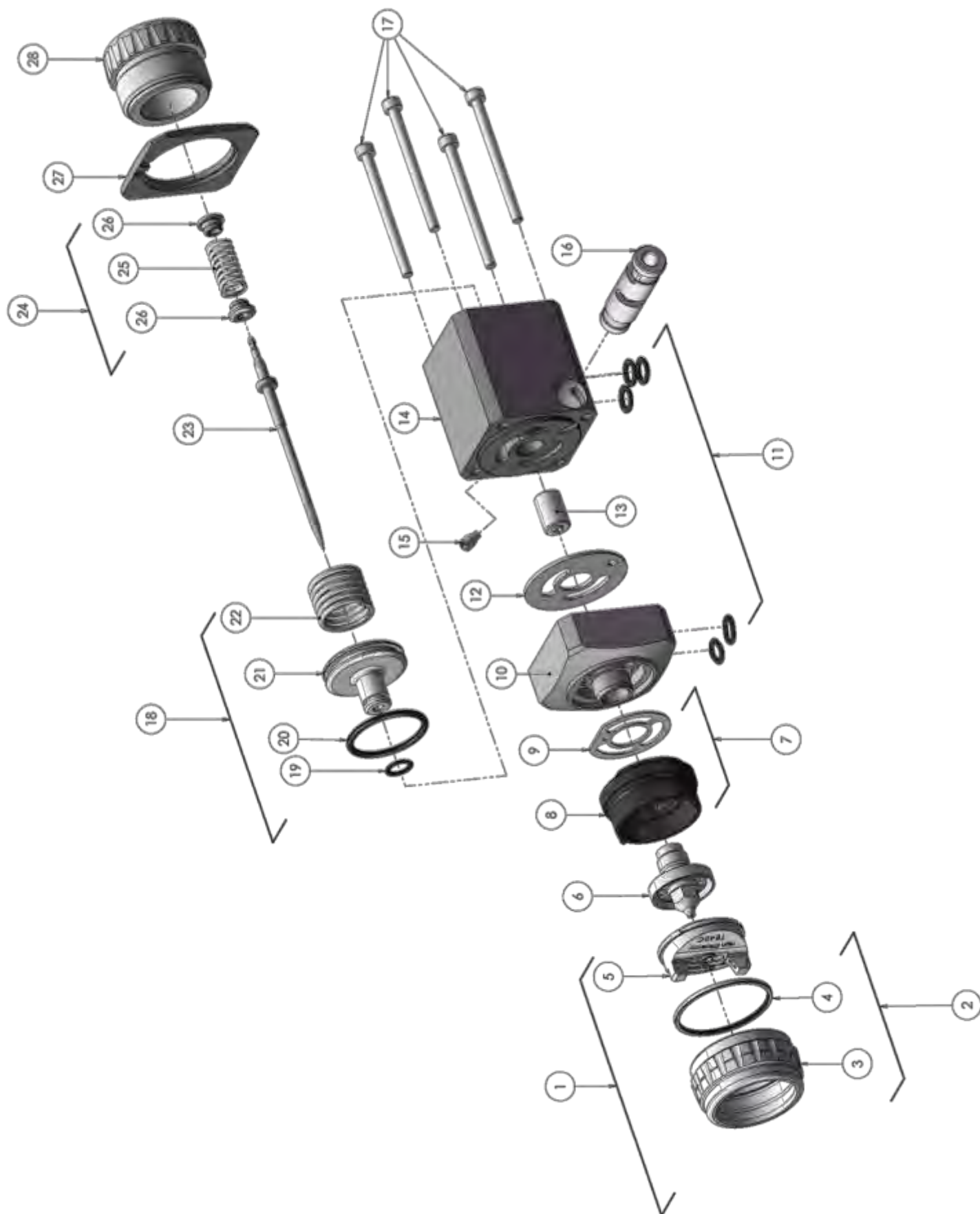
12 = 1.2 Nozzle with Stainless Steel Needle

**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
0.5	PRO-205-05-K	-	AGMDPRO-301-05-07-K
0.7	PRO-205-07-K		
0.85	PRO-205-085-K	AGMDPRO-301P-08510-K	AGMDPRO-301-085-10-K
1.0	PRO-205-10-K		
1.2	PRO-205-12-K	AGMDPRO-301P-12-14-K	AGMDPRO-301-12-14-K
1.4	PRO-205-14-K		
1.6	PRO-205-16-K	-	AGMDPRO-301-16-18-K
1.8	PRO-205-18-K		



## PARTS LIST

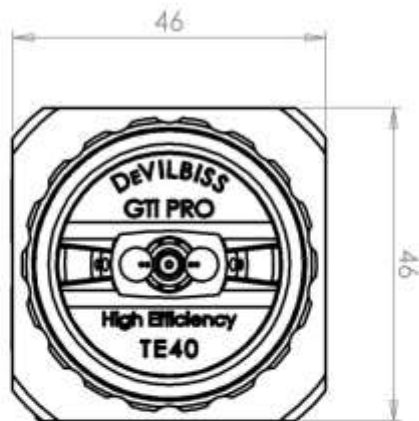
REF	DESCRIPTION	PART NO.	QTY
1	AIR CAP & RING	SEE TABLE 1	1
2	RETAINING RING & SEALS	AGMDPRO-408-K	1
3	RETAINING RING	-	1
4	RETAINING RING SEAL	-	1
5	AIR CAP	-	1
6	FLUID NOZZLE	SEE TABLE 2	1
7	INDEXING HEAD ASSY	AGMDPRO-11-1-K	1
8	INDEXING SPRAY HEAD	-	1
9	SPRAY HEAD GASKET	SN-98-K2	1
10	HEAD	AGMDPRO-1-1-K	1
	HEAD - RECIRCULATION	AGMDPRO-1-1-U-K	
11	O-RING (KIT OF 5)	AGMDPRO-29X-K5	5
12	HEAD GASKET (KIT OF 2)	AGMDPRO-9-K2	1
13	PACKING (KIT OF 5)	AGMDPRO-8-K5	1
14	BODY	-	1
*15	RETAINING SCREW	-	1
*16	CAM	-	1
17	CAP HEAD SCREWS (KIT OF 4)	AGMDPRO-10-K4	4
18	PISTON ASSEMBLY	AGMDPRO-404-K	1
19	O-RING	-	1
20	O-RING	-	1
21	PISTON	-	1
22	PISTON SPRING	-	1
23	FLUID NEEDLE	SEE TABLE 2	1
24	NEEDLE SPRING ASSEMBLY	AGMDPRO-405-K	1
25	NEEDLE SPRING	-	1
26	SPRING BUTTON	-	1
27	END PLATE	AGMDPRO-12-K	1
28	END CAP	AGMDPRO-13-K	1

## SERVICE KITS

	CAM KIT (PARTS MARKED WITH * INCLUDED IN KIT)	AGMDPRO-406-K
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## Dimensions

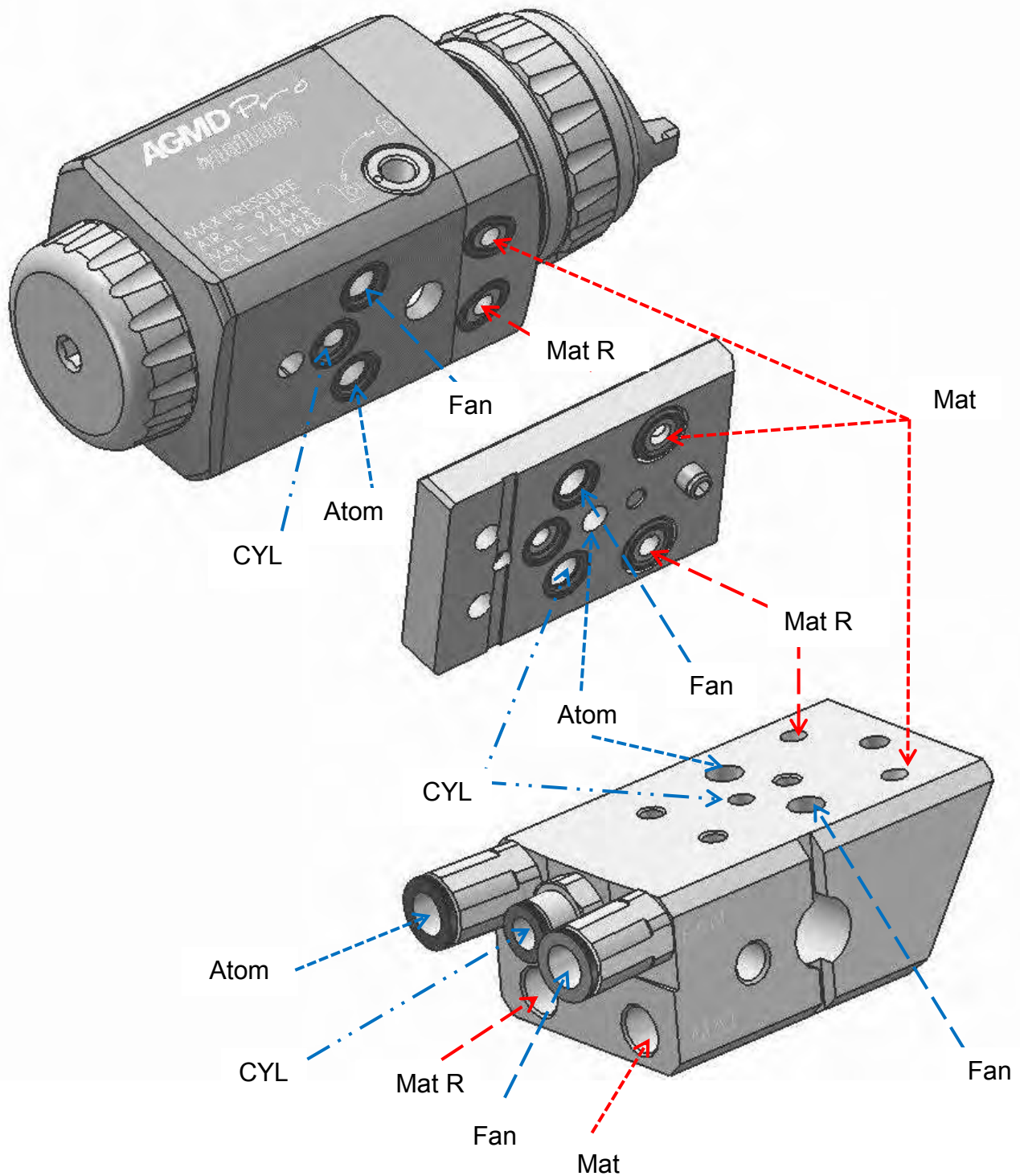
(all dimensions in mm)



**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  $10^6$  Ohms is recommended**



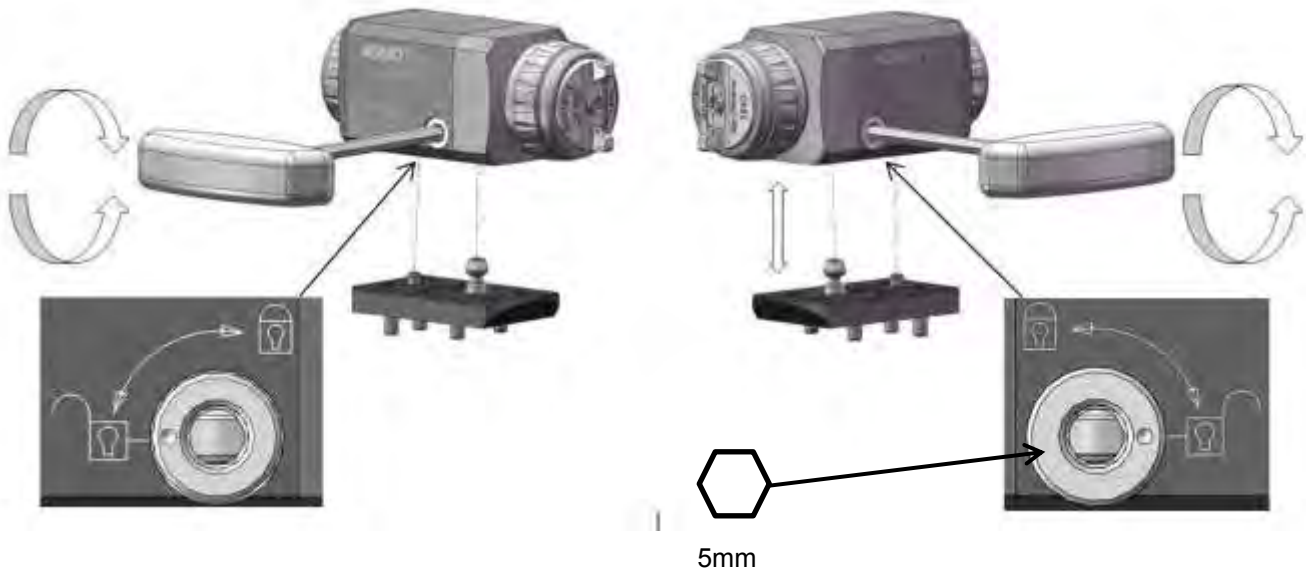
## Connections



	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
Mat R	Fluid Recirculation	1/8" BSP

# OPERATION

## Gun Removal and Gun Mount



## Indexing Air Cap 90°



Make sure indexing legs and slots are engaged before tightening the Air Cap ring.

# MAINTENANCE

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

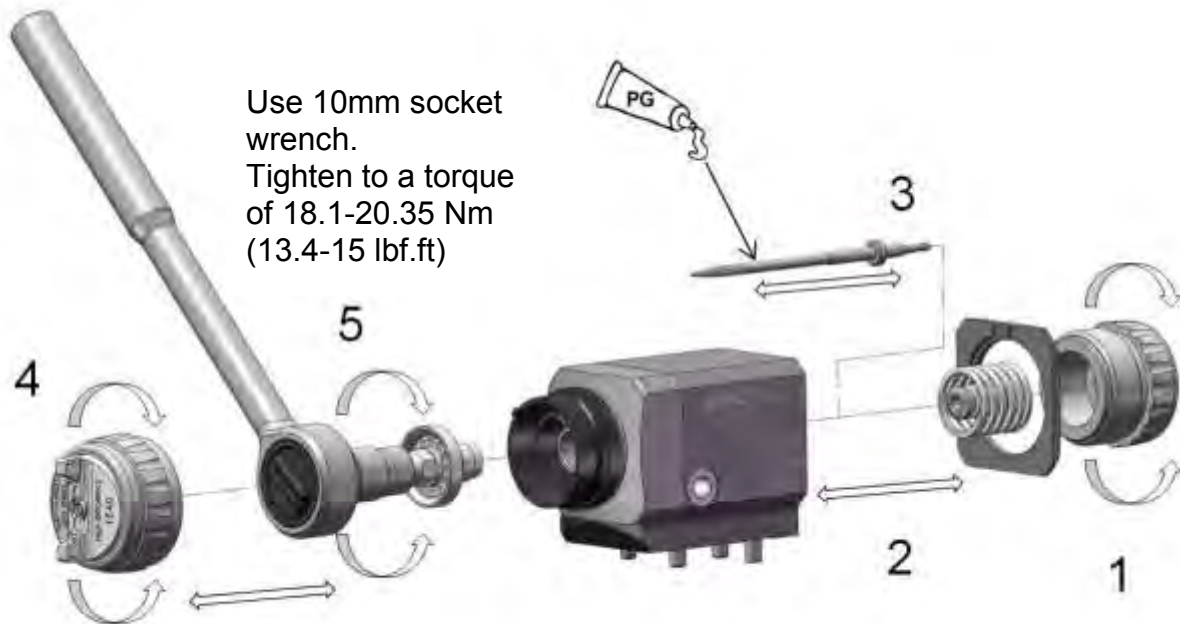


Lubricate with  
Grease  
AGMD-010

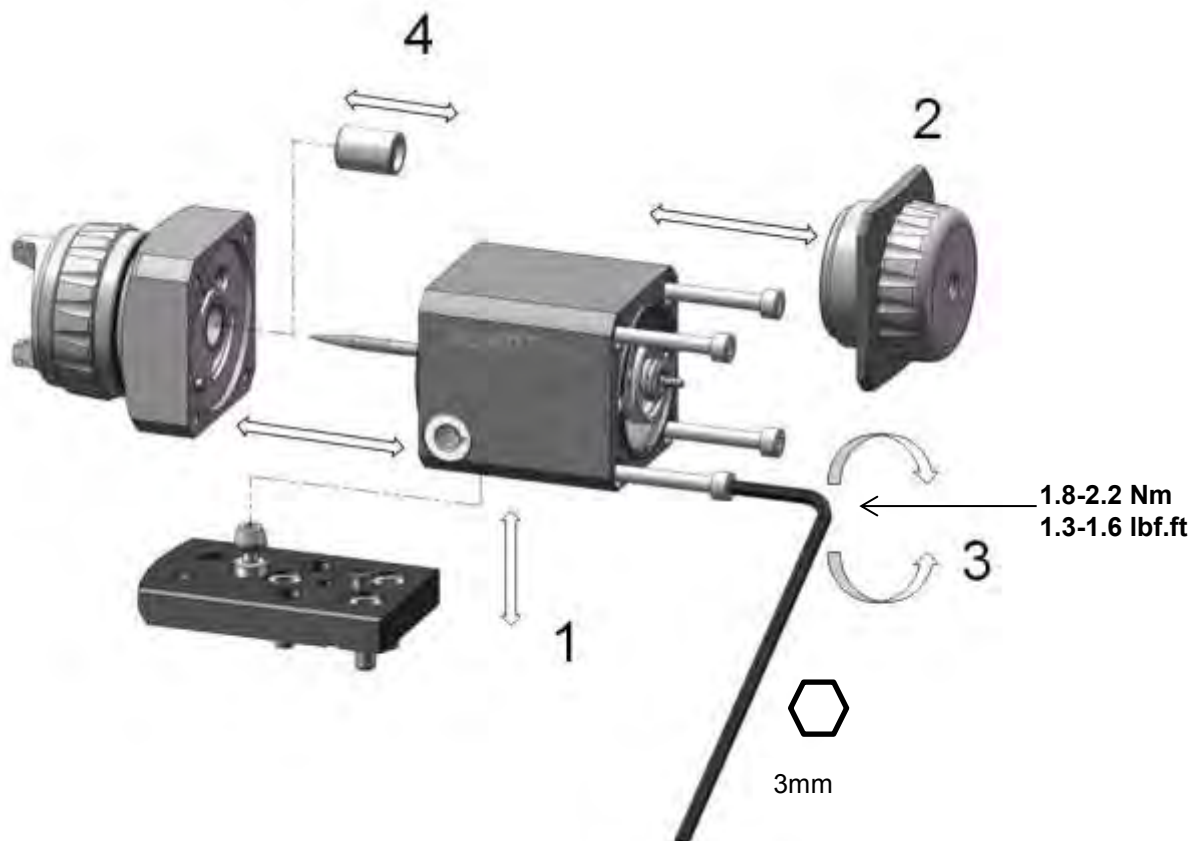
3

Component direction arrow for dis-assembly and sequence number.  
Note: Reverse sequence to assemble.

## Nozzle and Needle Removal

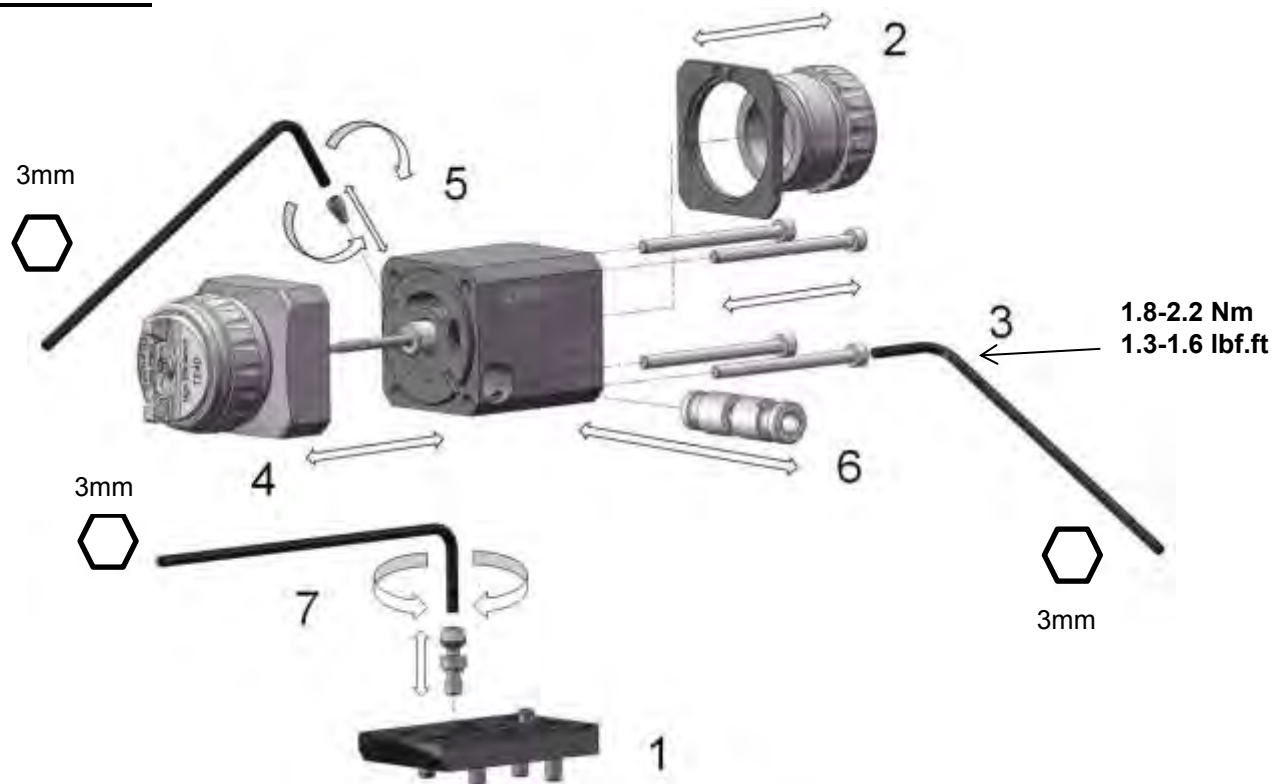


## Packing Removal

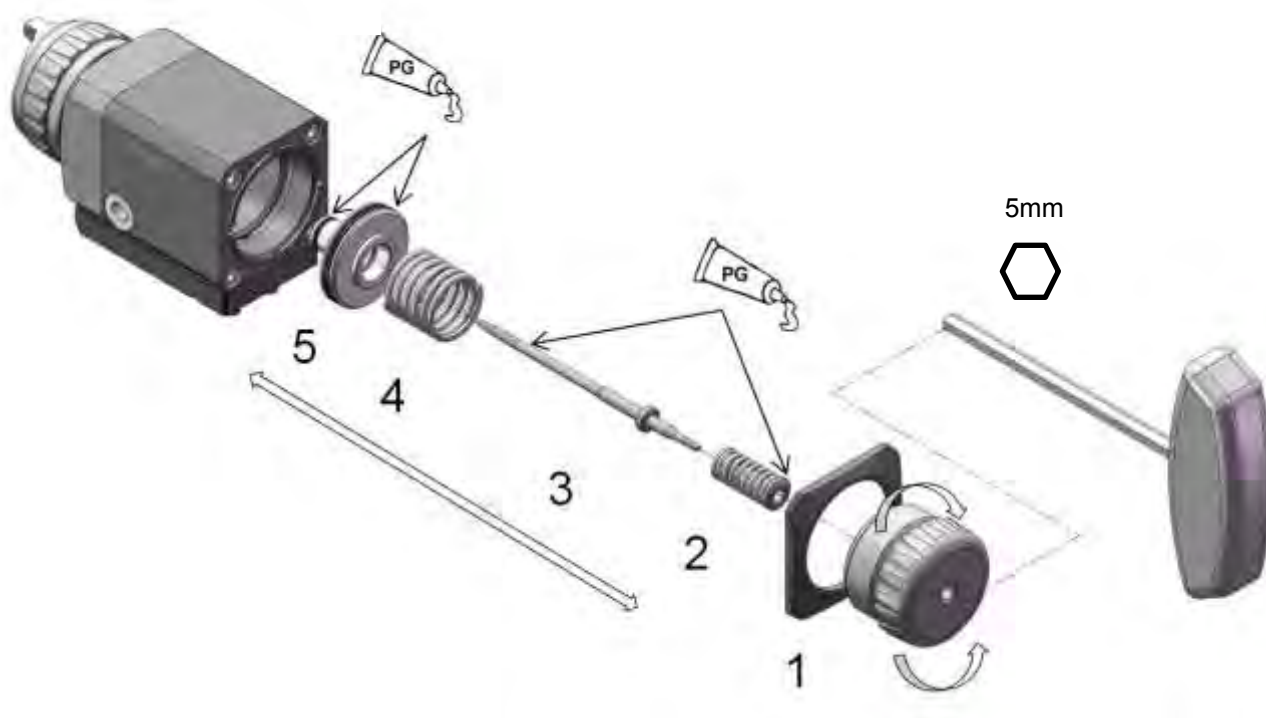


# MAINTENANCE



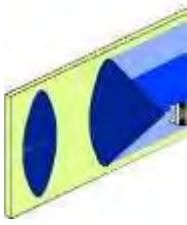
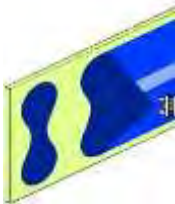

## Cam Removal



## Piston and Spring Removal



# Troubleshooting

Possible Problems in Operation		
CONDITION	CAUSE	CORRECTION
<b>Spray Pattern</b>		
<p>Heavy top or bottom pattern.</p>  <p>Heavy right or left side pattern.</p> 	<p>Horn holes plugged.</p> <p>Obstruction on top or bottom of fluid nozzle.</p> <p>Cap and/or nozzle seat dirty.</p> <p>Left or right side horn holes plugged.</p> <p>Dirt on left or right side of fluid nozzle.</p>	<p>Clean with non-metallic point.</p> <p>Clean.</p> <p>Clean.</p> <p>Clean with non-metallic point.</p> <p>Clean.</p>
<p><b>Remedies for the top-heavy and bottom-heavy patterns:</b></p> <p>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.</p> <p>2. If the defect is not inverted, it is on the fluid nozzle. Clean nozzle. If problem persists, renew nozzle.</p>		
<p>Heavy centre pattern.</p> 	<p>Fan Air pressure set too low.</p> <p>Material too thick.</p>	<p>Increase Fan Air pressure to achieve correct pattern.</p> <p>Thin to correct consistency.</p>
<p>Split spray pattern.</p> 	<p>Fluid Flow set too low.</p> <p>Fan Air pressure set too high.</p>	<p>Increase Fluid Flow to achieve correct pattern.</p> <p>Decrease Fan Air pressure to achieve correct pattern.</p>
<p>Jerky or fluttering spray.</p> 	<p>Material level too low.</p> <p>Obstruction in fluid passage.</p>	<p>Refill.</p> <p>Back flush with solvent.</p>
<p>Fluid Starved spray pattern.</p>	<p>Inadequate material flow.</p>	<p>Increase Fluid Flow.</p> <p>Change to larger fluid nozzle size.</p> <p>Check hose for blockage.</p>

## Possible Problems in Operation (cont.)

Excessive overspray.	Air pressure too high. Gun too far from work surface.	Reduce air pressure. Adjust to correct target distance.
Dry spray.	Air pressure too high. Gun too far from work surface. Gun motion too fast. Fluid flow too low.	Reduce air pressure. Adjust to correct distance. Slow down. Increase Fluid Flow or use larger nozzle size.
Runs and sags.	Too much material flow.  Material too thin. Motion too slow.	Reduce Fluid Flow or change to smaller fluid nozzle and fluid needle size.  Mix correctly or apply light coats. Increase Gun Traverse speed.
<b>Leakages</b>		
Fluid leaking from Packing.	Packing or Fluid Needle worn.	Replace.
Fluid leaking or dripping from front of gun.	Fluid nozzle or fluid needle worn or damaged. Foreign matter in fluid nozzle. Fluid needle dirty or stuck in needle packing. Wrong size fluid needle or fluid nozzle.	Replace fluid nozzle and fluid needle. Clean. Clean. Replace fluid nozzle and fluid needle.
Fluid leaking between the Spray Gun and the Intermediate Plate.	O-Rings damaged or missing.  Locking Cam not locked or worn.	Replace O-Rings using AGMDPRO-29X-K5.  Lock Cam or replace using AGMDPRO-406-K.
<b>Assembly Faults</b>		
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.



## ACCESSORIES

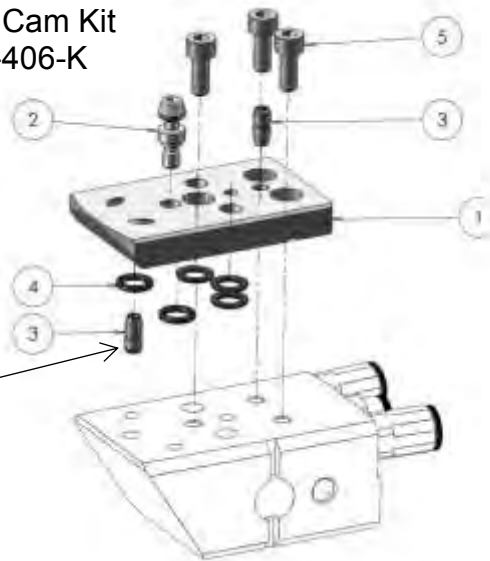
### AGMDPRO-402-K

### 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

\*Included in Cam Kit  
AGMDPRO-406-K

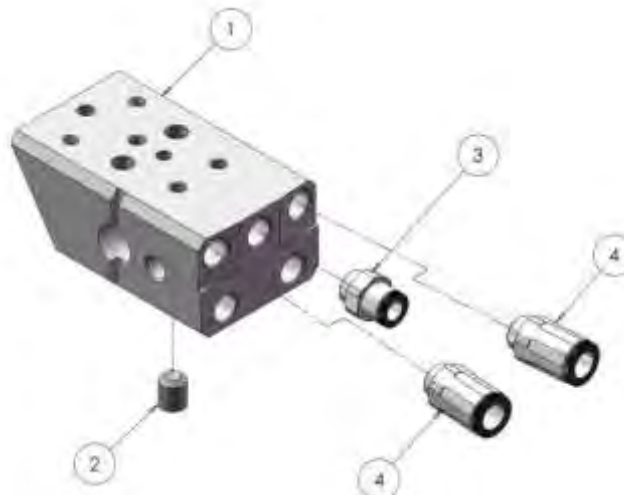
Removable location Pin –  
Can be removed so  
Intermediate Plate can be  
fitted to existing Special  
machine adaptors without  
modification.



### 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.

## **Warranty**

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

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