



Operation Manual

AA4400A – Automatic Air Assisted Airless Spray Gun

Contents	Page
1 - Specification & Materials of construction	2
2 - SAFETY WARNINGS	4
3 - Model part numbers	5
4 - Airless tip selection chart (Order separately)	5
5 - Parts	6
5.1 Exploded view	6
5.2 Parts list	7
6 - Fluid connections and options	8
7 - Dimensions & connections	9
7.1 Air connection.....	10
8 - Spray set-up	10
9 - Gun section view	11
10 - Maintenance	12
10.1 Key to symbols	12
10.2 Spray head removal	12
10.3 Filter Removal	13
10.4 Head & body separation	13
10.5 Needle & seal removal	14
10.6 Piston removal.....	14
10.7 Spray head.....	15
10.8 Air cap, tip & indexing.....	15
10.9 Manifold.....	16
11 - Accessories	17
12 - Warranty	17



Operation Manual

AA4400A Automatic Air Assisted Airless Spraygun

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

1 - Specification & Materials of construction

	Thread	Pressure
Fluid inlet & fluid recirculation	1/4 NPS Female	Max 275 Bar / 4000 psi
Air inlet Pattern + Length	1/4 BSP Female	Max 10 Bar / 145 psi
Cylinder/trigger	M5 Female	4 to 10 bar / 60 to 145 psi
Maximum temperature in use	85° C / 185 °F	
Spray gun weight	897 g / 31.6 oz	
Materials of construction		
Gun body	Aluminium hard anodized	
Tip / Needle / Spray head/ Base plate	Stainless steel 303 / 17-4 & Tungsten Carbide	
Fluid seals	Viton Extreme, Polyethylene	

IMPORTANT: These Sprayguns are suitable for use with both waterbased and solvent based coating materials. These guns 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 Binks Distributor or Binks 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 and cup. The reaction can become violent and lead to an equipment explosion.

EC Declaration of Conformity

We, ITW Finishing UK, Ringwood Rd, Bournemouth, Dorset, BH11 9LH, UK, as the manufacturer of the **Spray gun model AA4400A** , 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, Vice President

3rd March 2008

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

2 - 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.

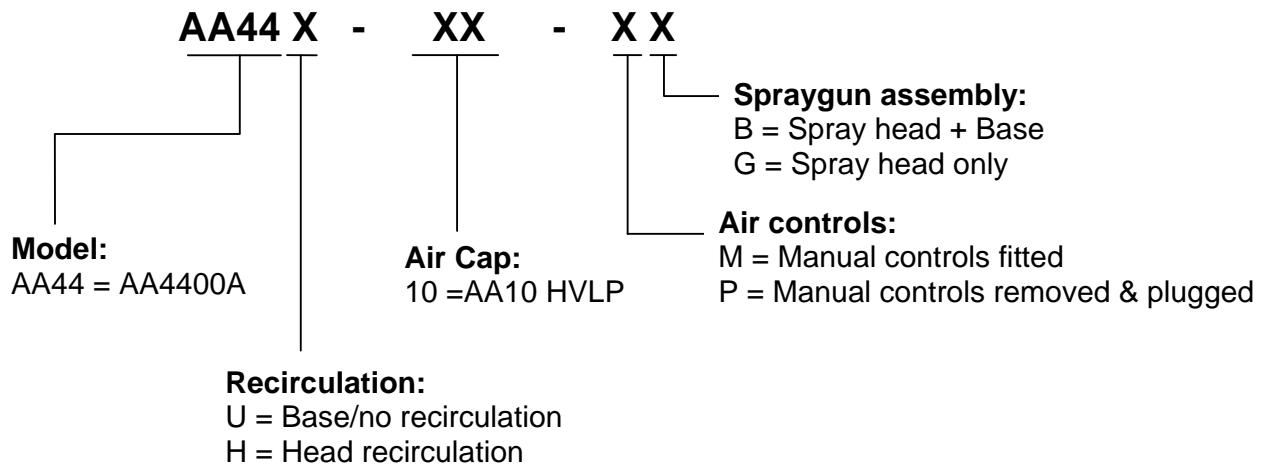
The product should be cleaned using a gun-washing machine. However, this equipment should not be left inside gun-washing machines for prolonged periods of time.

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.

3 - Model part numbers



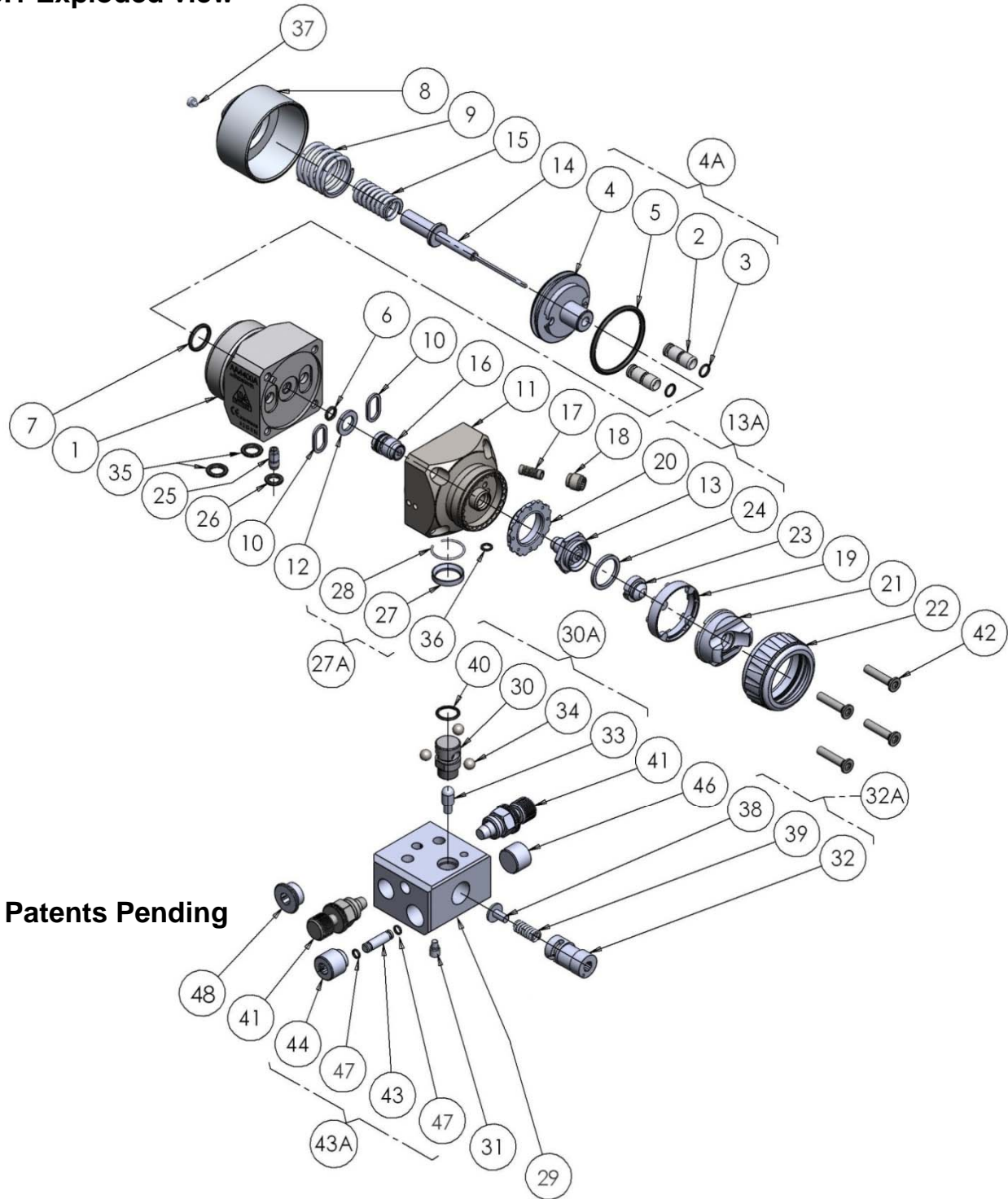
4 - Airless tip selection chart (Order separately)

PART NUMBER	ORIFICE		FAN LENGTH*		FLOW (WATER @ 500PSI/35 BAR)		PART NUMBER	ORIFICE		FAN LENGTH*		FLOW (WATER @ 500PSI/35 BAR)	
	INCH	MM	INCH	MM	US GPM	L/MIN		INCH	MM	INCH	MM	US GPM	L/MIN
114-00702	0.007	0.18	2	51	0.028	0.11	114-01706	0.017	0.43	6	152	0.160	0.61
114-00704	0.007	0.18	4	102	0.028	0.11	114-01708	0.017	0.43	8	203	0.160	0.61
114-00706	0.007	0.18	6	152	0.028	0.11	114-01710	0.017	0.43	10	254	0.160	0.61
114-00708	0.007	0.18	8	203	0.028	0.11	114-01712	0.017	0.43	12	305	0.160	0.61
114-00902	0.009	0.23	2	51	0.039	0.15	114-01714	0.017	0.43	14	356	0.160	0.61
114-00904	0.009	0.23	4	102	0.039	0.15	114-01716	0.017	0.43	16	406	0.160	0.61
114-00906	0.009	0.23	6	152	0.039	0.15	114-01718	0.017	0.43	18	457	0.160	0.61
114-00908	0.009	0.23	8	203	0.039	0.15	114-01906	0.019	0.48	6	152	0.190	0.72
114-00910	0.009	0.23	10	254	0.039	0.15	114-01908	0.019	0.48	8	203	0.190	0.72
114-00912	0.009	0.23	12	305	0.039	0.15	114-01910	0.019	0.48	10	254	0.190	0.72
114-01104	0.011	0.28	4	102	0.060	0.23	114-01912	0.019	0.48	12	305	0.190	0.72
114-01106	0.011	0.28	6	152	0.060	0.23	114-01914	0.019	0.48	14	356	0.190	0.72
114-01108	0.011	0.28	8	203	0.060	0.23	114-01916	0.019	0.48	16	406	0.190	0.72
114-01110	0.011	0.28	10	254	0.060	0.23	114-01918	0.019	0.48	18	457	0.190	0.72
114-01112	0.011	0.28	12	305	0.060	0.23	114-02110	0.021	0.53	10	254	0.240	0.91
114-01114	0.011	0.28	14	356	0.060	0.23	114-02112	0.021	0.53	12	305	0.240	0.91
114-01304	0.013	0.33	4	102	0.090	0.34	114-02114	0.021	0.53	14	356	0.240	0.91
114-01306	0.013	0.33	6	152	0.090	0.34	114-02116	0.021	0.53	16	406	0.240	0.91
114-01308	0.013	0.33	8	203	0.090	0.34	114-02118	0.021	0.53	18	457	0.240	0.91
114-01310	0.013	0.33	10	254	0.090	0.34	114-02410	0.024	0.61	10	254	0.310	1.17
114-01312	0.013	0.33	12	305	0.090	0.34	114-02412	0.024	0.61	12	305	0.310	1.17
114-01314	0.013	0.33	14	356	0.090	0.34	114-02414	0.024	0.61	14	356	0.310	1.17
114-01316	0.013	0.33	16	406	0.090	0.34	114-02416	0.024	0.61	16	406	0.310	1.17
114-01506	0.015	0.38	6	152	0.120	0.45	114-02418	0.024	0.61	18	457	0.310	1.17
114-01508	0.015	0.38	8	203	0.120	0.45	114-02710	0.027	0.69	10	254	0.385	1.46
114-01510	0.015	0.38	10	254	0.120	0.45	114-02712	0.027	0.69	12	305	0.385	1.46
114-01512	0.015	0.38	12	305	0.120	0.45	114-02714	0.027	0.69	14	356	0.385	1.46
114-01514	0.015	0.38	14	356	0.120	0.45	114-02716	0.027	0.69	16	406	0.385	1.46
114-01516	0.015	0.38	16	406	0.120	0.45	114-02718	0.027	0.69	18	457	0.385	1.46
114-01518	0.015	0.38	18	457	0.120	0.45							

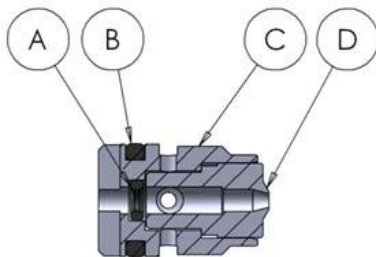
* FAN LENGTH BASED ON 1000 PSI/70 BAR WATER, ACTUAL RESULTS MAY VARY, DEPENDING ON MATERIAL VISCOSITY

5 - Parts

5.1 Exploded view



Patents Pending

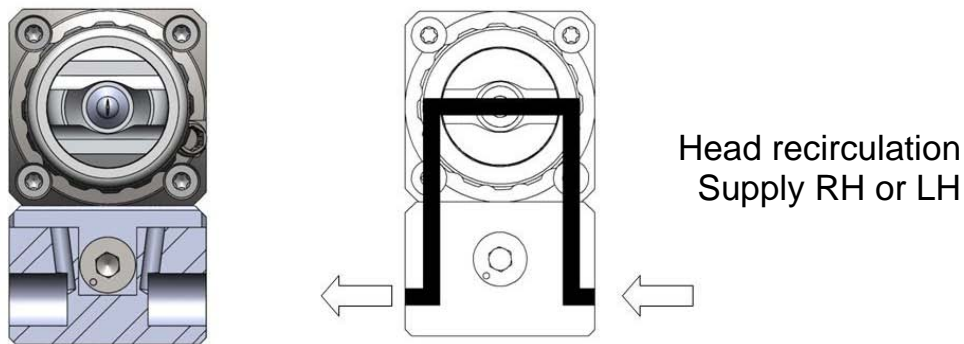
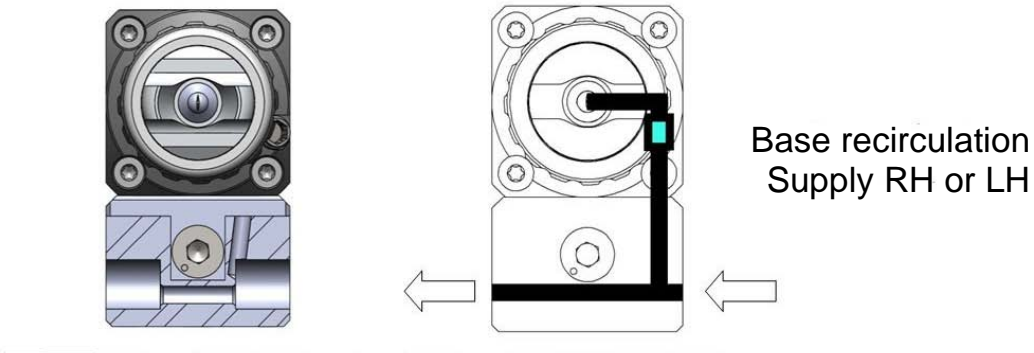
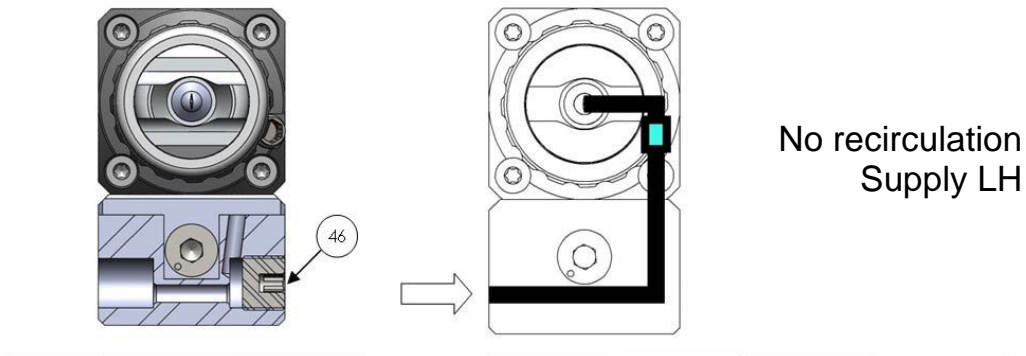
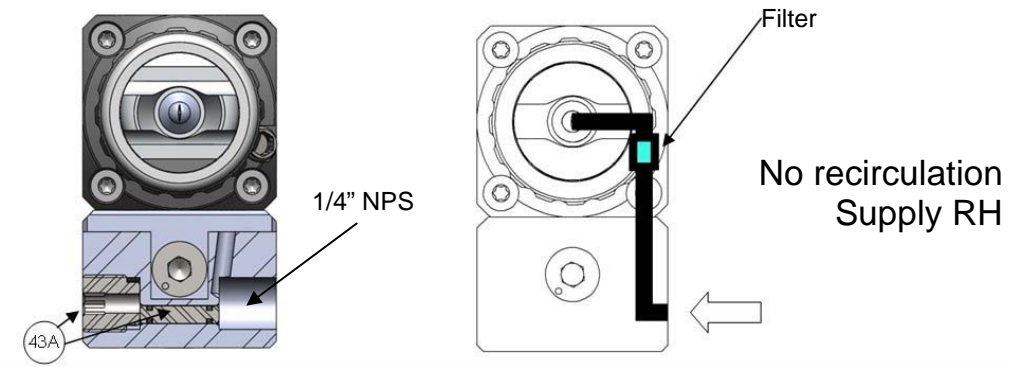


(16) SEAL CARTRIDGE SPA-76			
REF	PART NO.	DESCRIPTION	QTY
A	SPA-46X-K4	O-RING	1
B	SPA-29X-K4	O-RING	1
C	SPA-95	HOUSING	1
D	SPA-96-K4	SEAL	1

5.2 Parts list

REF.	PART NO.	DESCRIPTION	ASSEMBLY QTY	
			NO/BASE RECIRC	HEAD RECIRC
1	SPA-65	BODY	1	1
2		AIR VALVE PISTON	2	2
3	S-28224X-K4	O RING	2	2
4		PISTON	1	1
4A	SPA-68-K	PISTON ASSY (2(x2), 3(x2), 4 & 5)	1	1
5	SPA-45X-K2	O RING	1	1
6	S-28219X-K4	O RING	1	1
7	S-28220X-K2	O RING	1	1
8	SPA-67	END CAP	1	1
9	SPA-13	PISTON SPRING	1	1
10	SPA-53-K10	GASKET	2	2
11	SPA-64-K	SPRAYHEAD	1	0
	SPA-64H-K	SPRAYHEAD - RECIRC	0	1
12	SPA-97-K10	GASKET	1	1
13		NEEDLE SEAT	1	1
13A	SPA-69-K	SEAT ASSY (13, 20 & 24)	1	1
14	SPA-79	FLUID NEEDLE ASSY	1	1
15	SPA-77	NEEDLE SPRING	1	1
16	SPA-76	SEAL CARTRIDGE	1	1
17	SPA-73	FILTER (100µm)	1	1
18	SPA-72	FILTER CAP	1	1
19	SPA-70-k10	INDEX PLATE	1	1
20	SPA-71-K10	BAFFLE PLATE	1	1
21	54-5347	AA10 AIRCAP	1	1
22	SPA-99-K	RETAINING RING	1	1
23	114-xxxxx	CARBIDE TIP ASSEMBLY	1	1
24	SPA-98-K10	GASKET	1	1
25	SPA-52	AIR TUBE	1	1
26	S-28223X-K4	O RING	1	1
27		LOCKING SEAT	1	1
27A	SPA-74-K	SEAT & RING (27 & 28)	1	1
28		SNAP RING	1	1
29	SPA-66-K	MANIFOLD	1	0
	SPA-66H-K	MANIFOLD - HEAD RECIRC	0	1
30		CAGE	1	1
30A	SPA-80-K	CAGE ASSY (30, 33, 34(x3) & 40)	1	1
31	SPA-59	RETAINING SCREW	1	1
32		CAM	1	1
32A	SPA-83-K	CAM ASSY (32, 38 & 39)	1	1
33		PLUNGER	1	1
34	SPA-81-K6	STAINLESS STEEL BALL	3	3
35	SPA-29X-K4	O RING	2	2
36	SPA-44X-K4	O RING	1	2
37	SPA-54	VENT CAP	1	1
38		SPRING PLUG	1	1
39		CAM SPRING	1	1
40	SPA-47X-K2	O RING	1	1
41	AGG-403	CONTROL VALVE	2	2
42	S-14192-k4	TORX SCREW	4	4
ACCESSORIES				
43		RECIRCULATION BUNG	1	0
43A	SPA-93-K	BUNG+O-RINGS (47(x2), 43 & 44)	1	0
44		BUNG PLUG (FOR ITEM 43)	1	0
46	SPA-94	1/4" NPT PLUG	1	0
47	SPA-48X-K2	O RING	2	0
48	SPA-111-K2	PLUG FOR ITEM 41	2	2
SEAL KITS				
	SPK-119	DYNAMIC SEAL KIT (5, 3(x2), 7 & 6)		
	SPK-120	NEEDLE SEAL KIT (16, 10(x2) & 12)		
	SPK-121	MANIFOLD SEAL KIT (35(x2), 26 & 36(x2))		

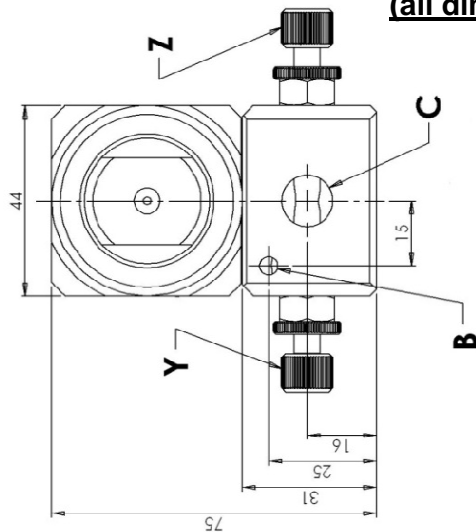
6 - Fluid connections and options



Important: Protective coatings have been used for storage protection. Flush the equipment with appropriate solvent before use.

7 - Dimensions & connections

(all dimensions in mm)

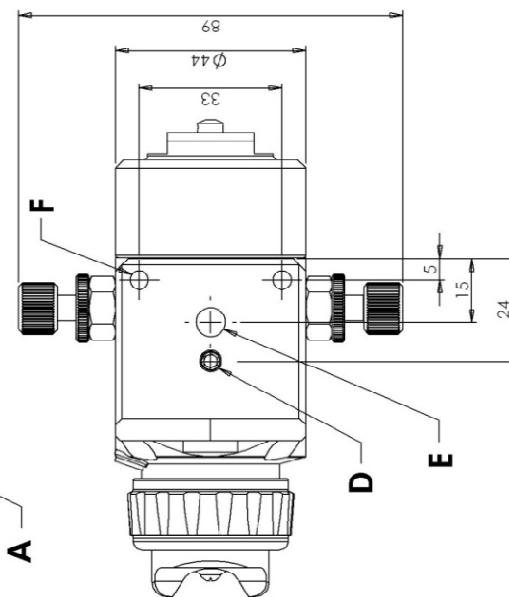
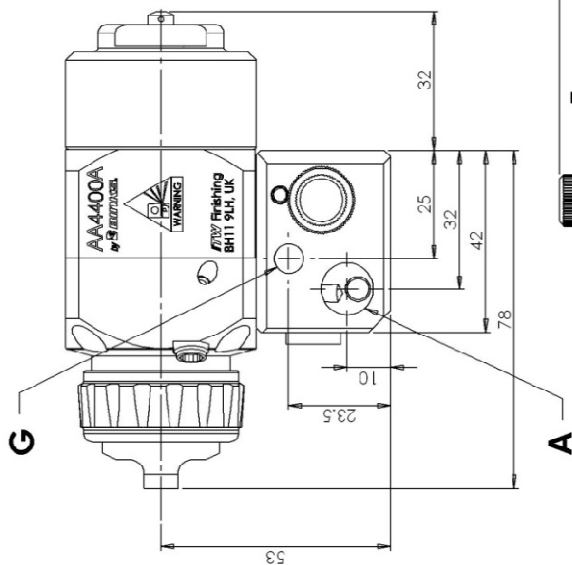


A – Fluid inlet 1/4" NPS (x2) (see fluid connections & options
275 Bar / 4000 psi Maximum

B – Trigger/Cylinder M5
4 to 10 Bar / 60 to 145 psi

C – Pattern & Length air supply 1/4" BSP

D – Location hole $\text{\O}5$ x 4 deep



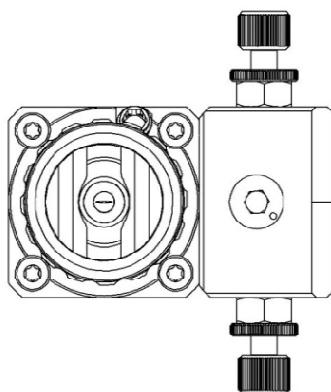
E – Mounting hole M8 x 7.5 deep

F – Mounting hole M5 x 9 deep (x2)

G – Mounting hole M8 x 10 deep (x2)

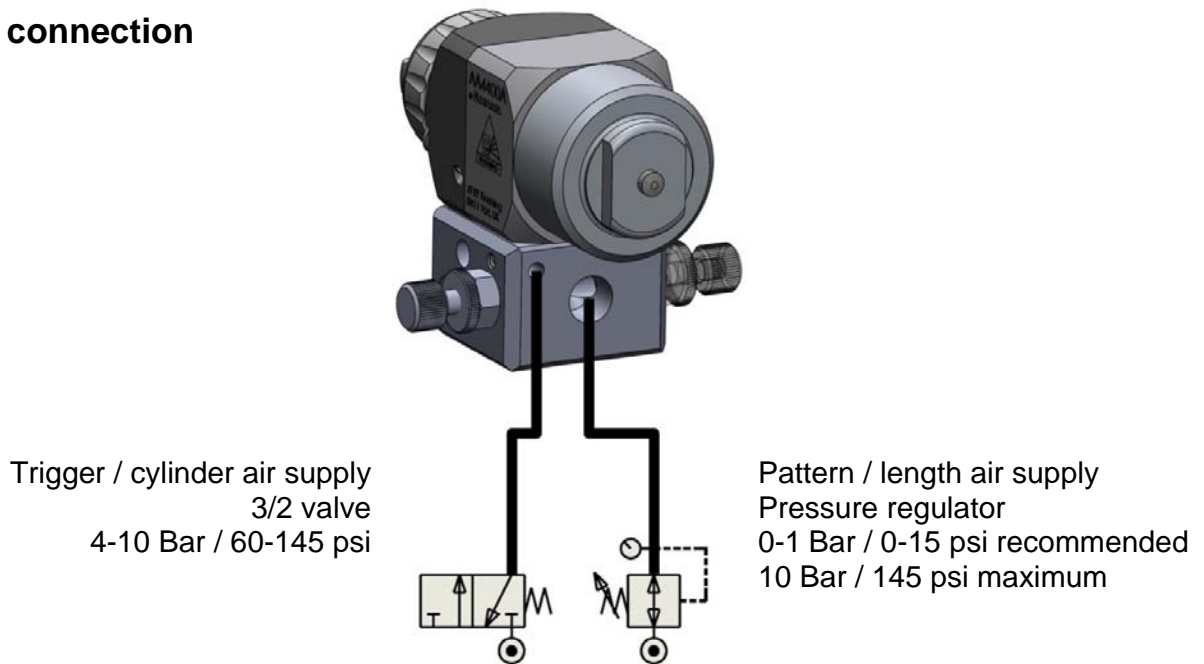
Y – Pattern control valve (if fitted)

Z – Length control valve (if fitted)



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

7.1 Air connection



8 - Spray set-up

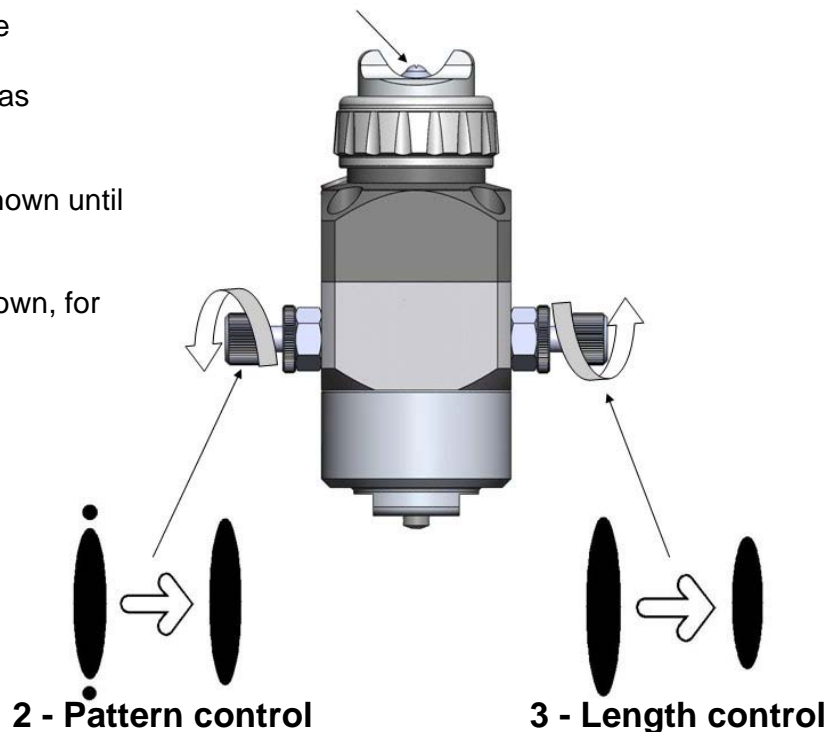
Screw pattern and length control knobs fully closed.

1 – Select airless tip size and angle to give pattern size, flow rate and atomisation. Adjust fluid pressure as required.

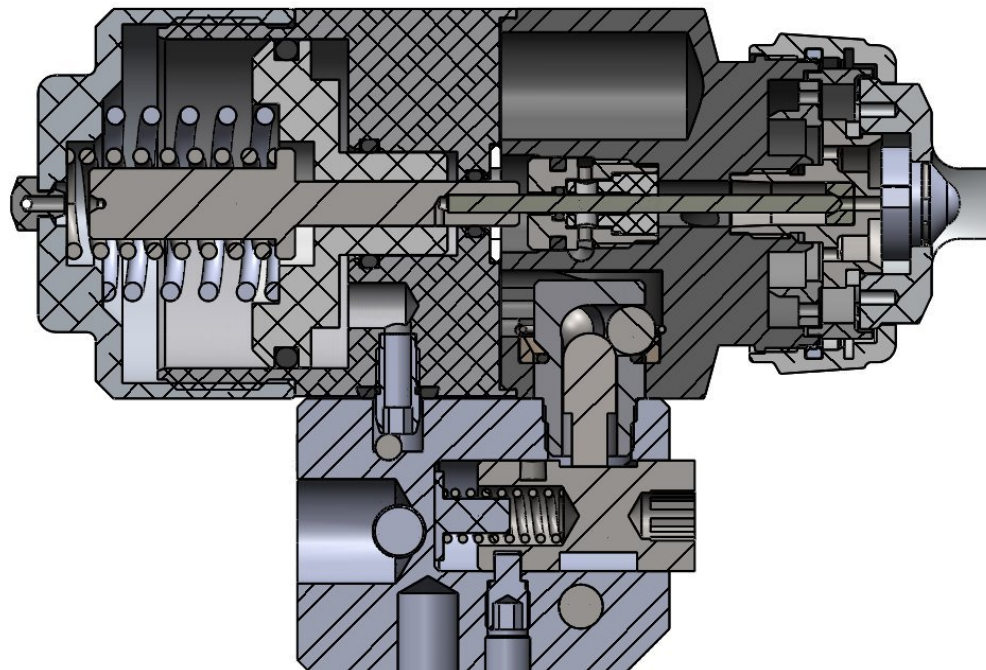
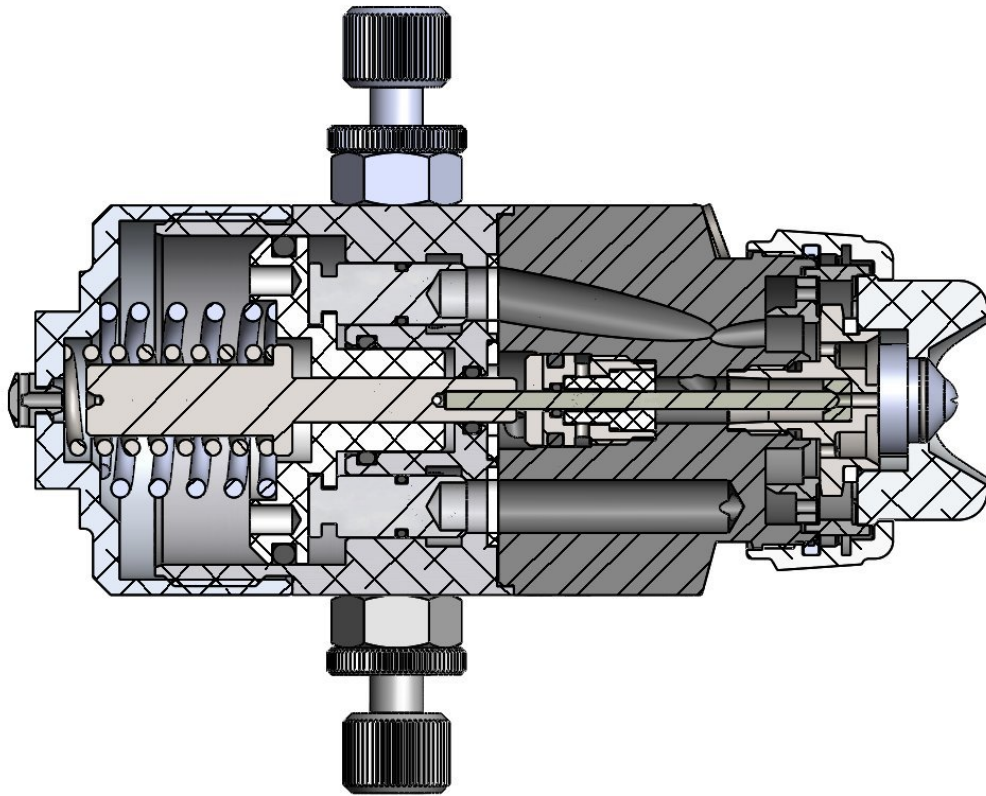
2 – Turn pattern control knob as shown until tails are removed from pattern.

3 – Turn length control knob as shown, for small adjustments to Pattern length

1- Airless tip






9 - Gun section view



10 - Maintenance

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

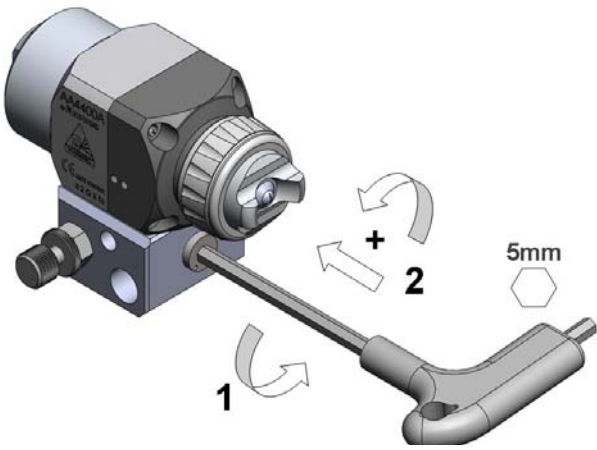
10.1 Key to symbols

Lubricate with Petroleum Jelly		Tool type and size required	
Tighten to specified torque	14-16 Nm 10-12 lbf.ft	Component direction arrow for dis-assembly and sequence number	

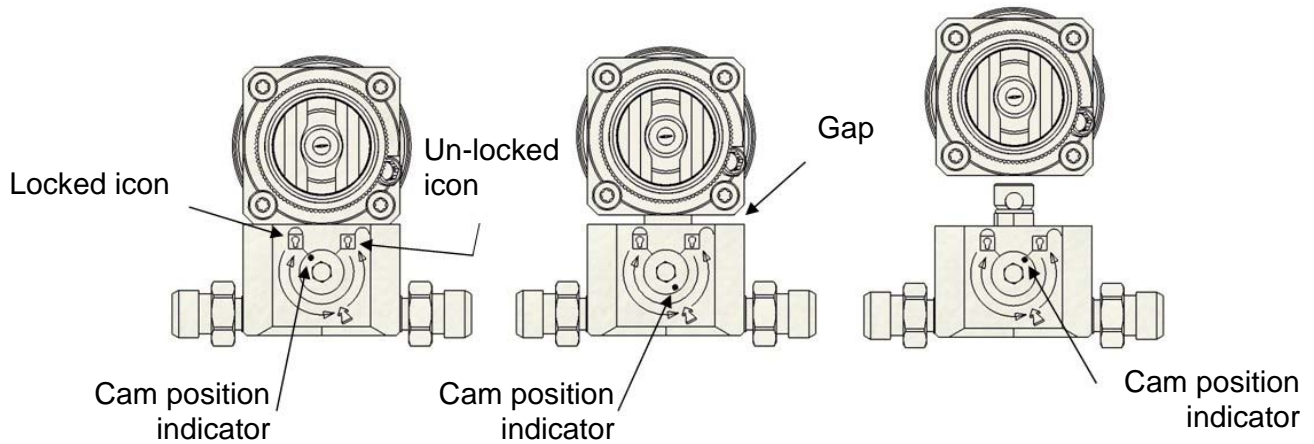
Note: reverse sequence to assemble

10.2 Spray head removal

Note: The spray head is released in 2 stages



The 3D diagram shows the spray head assembly with a handle. Step 1 is indicated by a curved arrow around the handle. Step 2 is indicated by a curved arrow around the spray head with a '+' sign. A 5mm hex key is shown next to the handle.



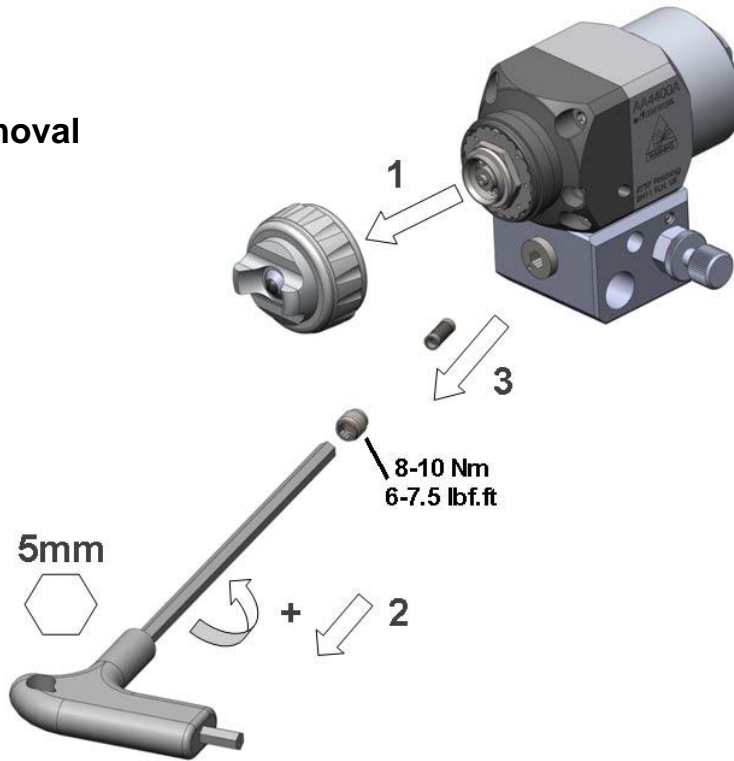
The 2D diagrams show the spray head in three stages:

- Stage 0 Locked:** Shows the 'Locked icon' and 'Un-locked icon' on the cam position indicator.
- Stage 1 Retained:** Shows a 'Gap' between the spray head and the body, with the cam position indicator.
- Stage 2 Un-locked:** Shows the spray head fully separated from the body, with the cam position indicator.

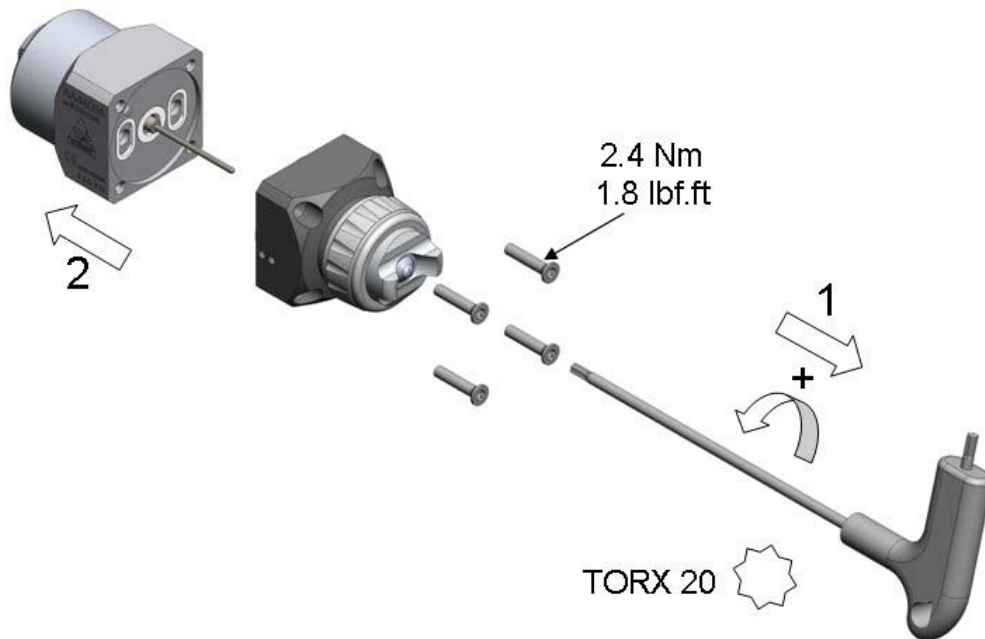
Labels for the 2D diagrams include: Locked icon, Un-locked icon, Gap, Cam position indicator, Stage 0 Locked, Stage 1 Retained, Stage 2 Un-locked.

MAINTENANCE

10.3 Filter Removal

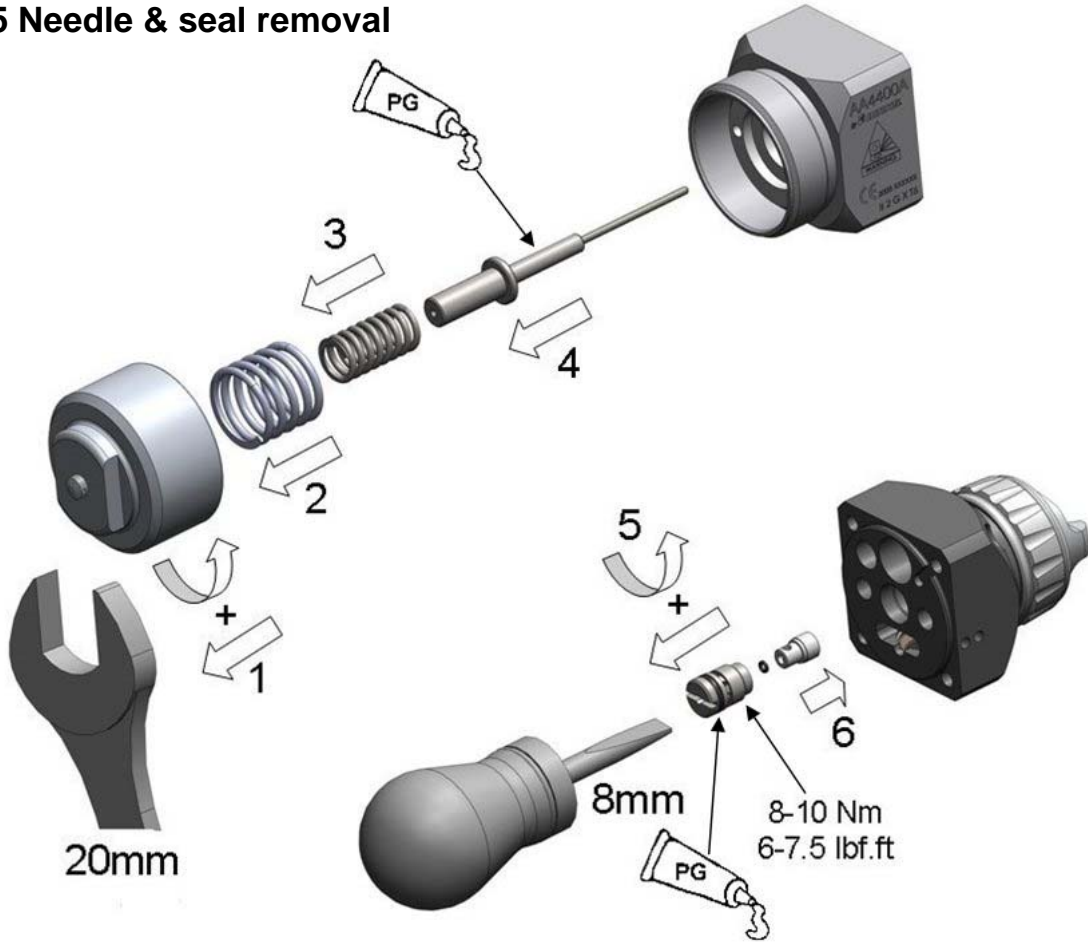


10.4 Head & body separation

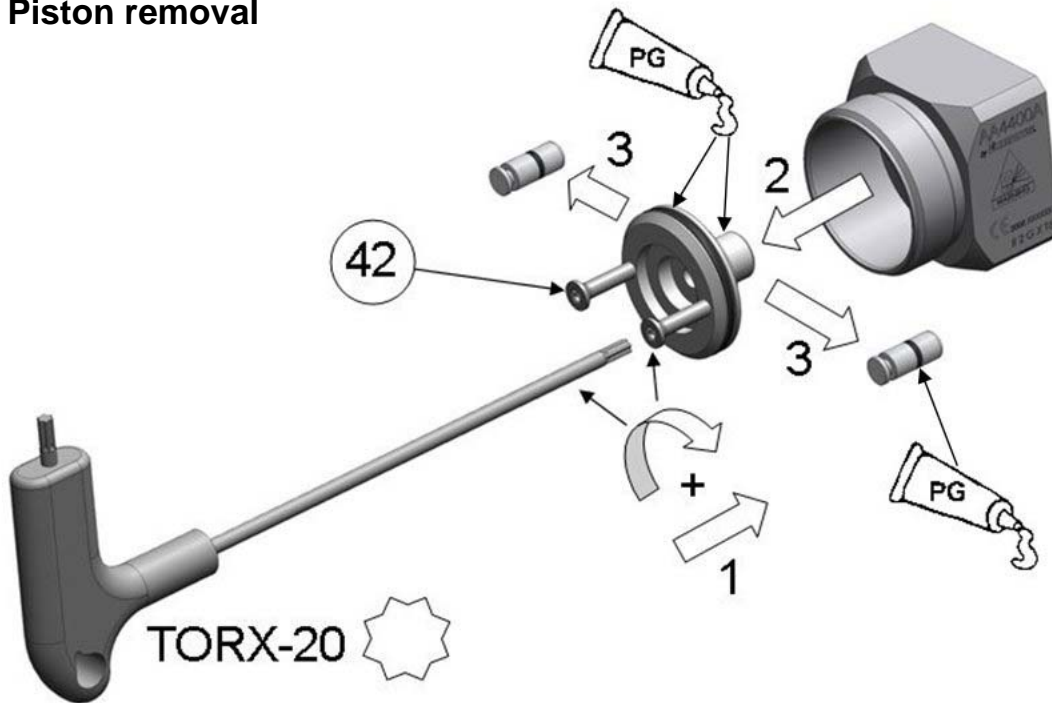


MAINTENANCE

10.5 Needle & seal removal

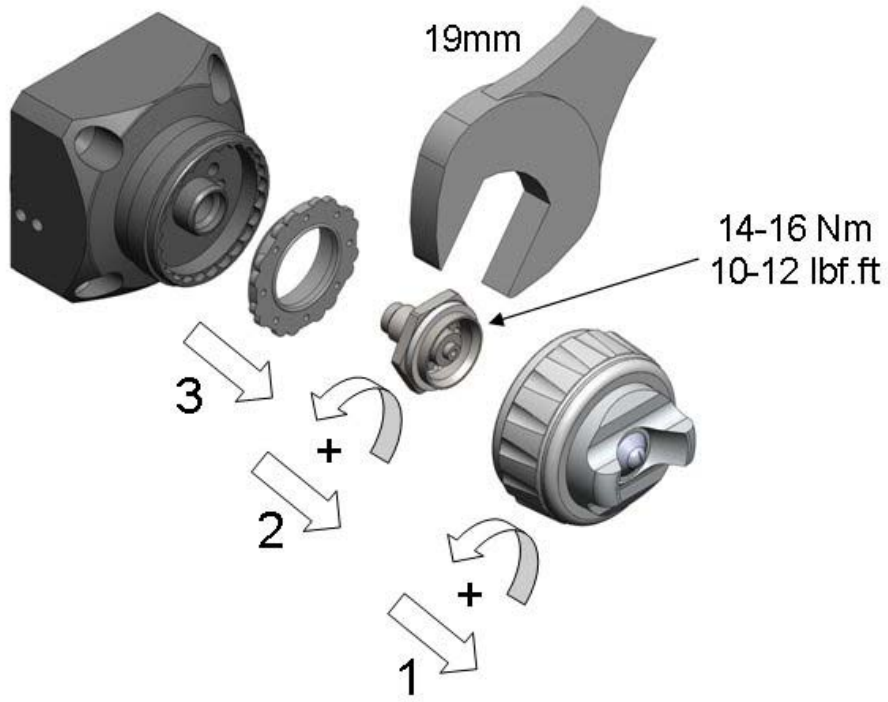


10.6 Piston removal



MAINTENANCE

10.7 Spray head

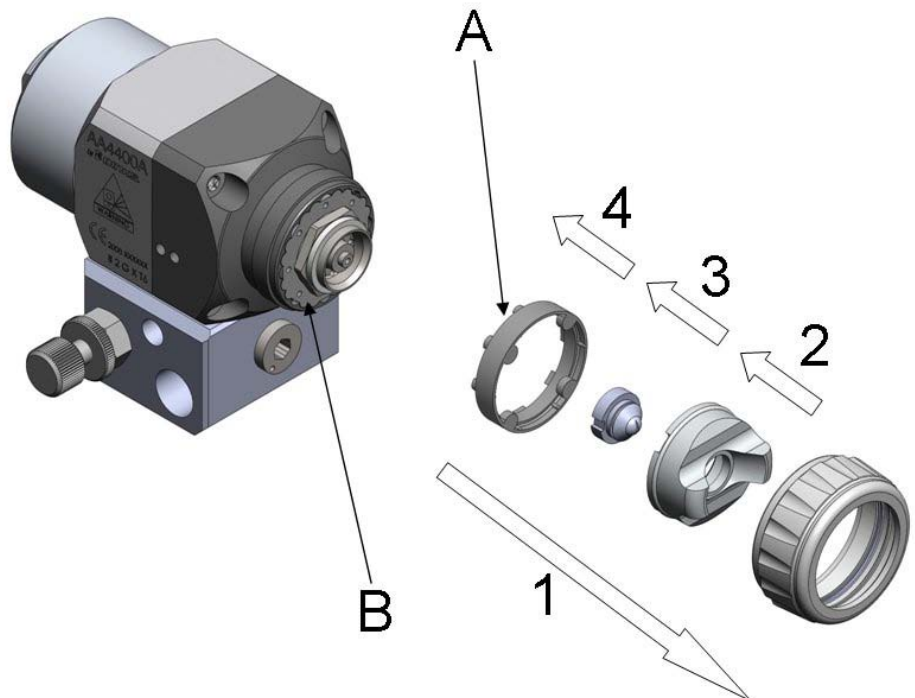


10.8 Air cap, tip & indexing

A – Air cap index ring allows the cap to be rotated at 45° intervals.

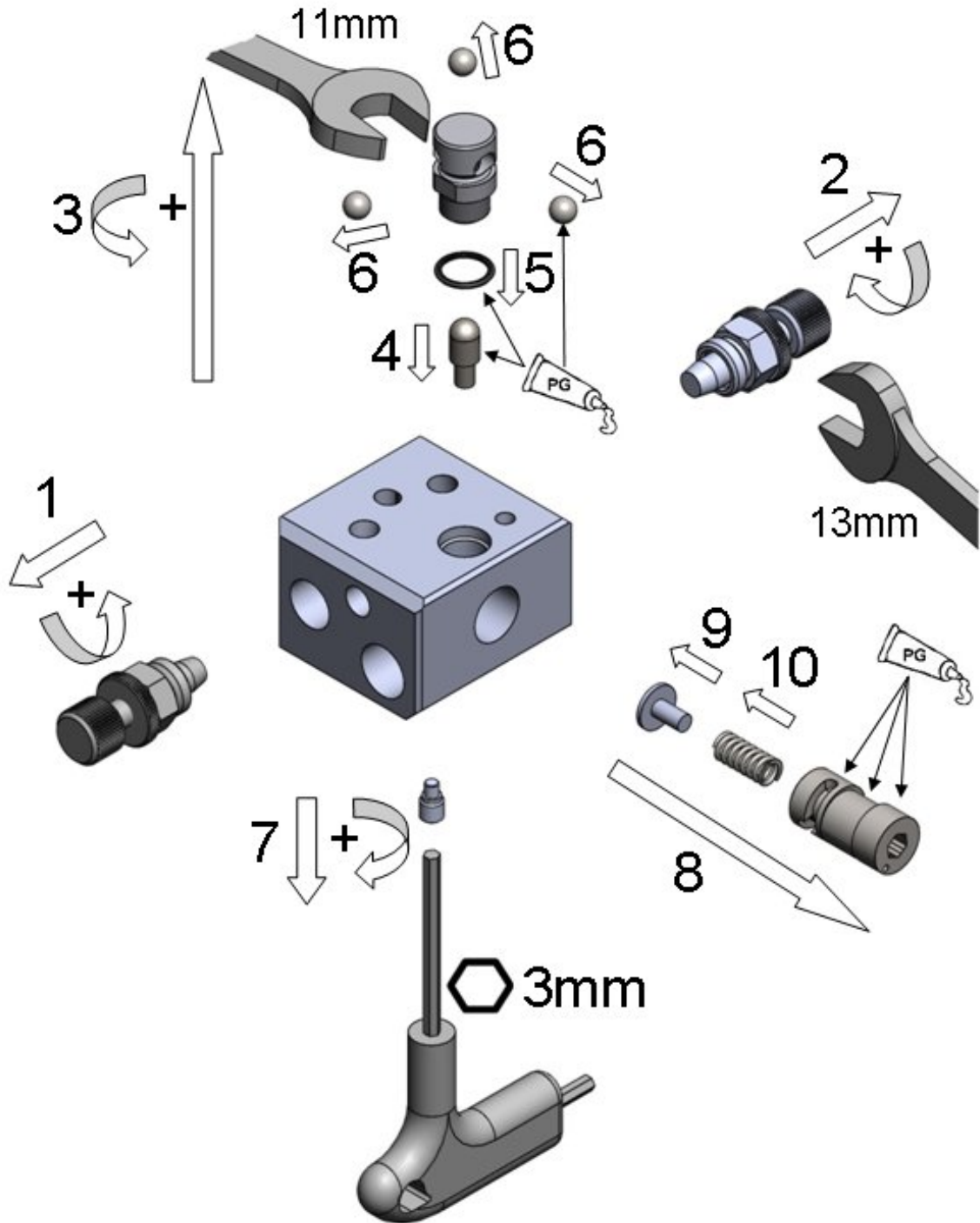
It can be removed and not used allowing free rotation.

B – Head index plate, can be rotated at 15° intervals.



MAINTENANCE

10.9 Manifold



11 - Accessories

	Cleaning Brush x 3 4900-5-1-K3		Tip cleaners x 12 DSG-4003
	Filter 1/4" NPS M-F 100 Micron 400 Bar Housing+filter - 54-3655 Filter element - 54-1835		Gun cleaning kit KK-4584
	Remote air adaptor x 2 Replaces AGG-403 SPA-22-K2		Airless hose 6.4mm bore 1/4 NPS F, 325 Bar MWP 7.5m - H-5818 10m - H-5819
	Airless hose 4.7mm bore 1/4 NPS F, 350 Bar MWP 1m - H-5811 7.5m - H-5813 10m - H-5813-10		Elbow 275 Bar MWP 1/4 NPT-NPS - SPA-115 1/4 NPT-BSP - SPA-116

12 – Warranty

This product is covered by ITW Finishing Systems and Products Limited one year warranty.

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

ITW Automotive Finishing UK
Anchorbrook Industrial Estate
Lockside
Aldridge,
Walsall, UK.
Tel. No. (01922) 423700
Telefax No. (01922) 423705,
Website
<http://www.itweuropeanfinishing.com>

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