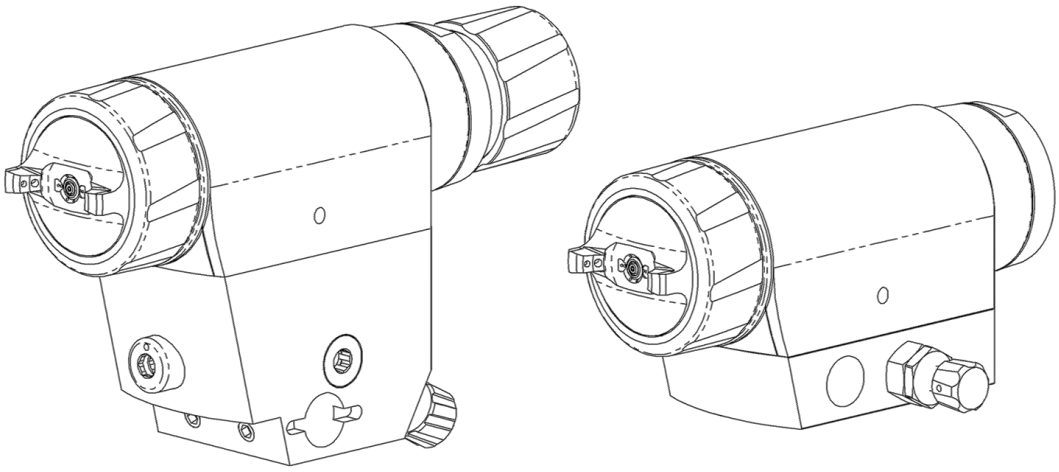
SERVICE MANUAL
EN

DVXA Low Pressure, Air Atomisation Automatic Spray Gun, with Lever or Screw Type Manifold

II 2 G X / Ex h II Gb X



IMPORTANT! DO NOT DESTROY

It is the Customer's responsibility to have all operators and service personnel read and understand this manual.

Contact your local Carlisle Fluid Technologies representative for additional copies of this manual.

READ ALL INSTRUCTIONS BEFORE OPERATING THIS PRODUCT.

FUNCTIONAL DESCRIPTION

The DVXP low pressure air atomising spray guns are designed to be fast changeover, modular construction applicators, for spray finishing on machines and fixed mountings.

They can be mounted on either a rear entry, lever operated, fast detachable manifold, or a screw attached, low profile manifold, dependant on the part number selected and mounting preference. They are intended for most types of general industrial coating and fine finishing operations, suitable for both water based and solvent based applications. The guns are designed as a flexible solution for the modern coating applicators, with multiple accessories available, to further optimise the process.

SPECIFICATIONS

FLUID AND AIR INLET PRESSURES	
P1= Max Air Input Pressure	7 Bar [102 psi]
P2= Max Fluid Input Pressure	7 Bar [102 psi]
P3= Cylinder Air Pressure	4 - 7 Bar [58 psi - 102 psi]

ENVIRONMENTAL	
P1= Max Ambient Operating Temperature	40°C Nominal [104°F]

MATERIALS OF CONSTRUCTION	
Gun Head and Fluid Passageways	Stainless Steel
Gun Body Material	Quickclean™ Coated Aluminium
Air Cap Material	Electroless Nickel Plated Brass
Fluid Tip and Needle Construction	Stainless Steel Nitride Coated Stainless Steel
Seals and O-Rings	HDPE, Viton Extreme, PTFE

MANIFOLD THREAD	LEVER TYPE	SCREW TYPE
P1= Air Inlet	1/8" NPSM	1/4" NPSM
P1= Fluid Inlet	1/4" BSP/NPSM*	1/4" NPSM
P1= Cylinder Air Inlet	1/8" NPSM	1/8" NPSM

* Dependant upon Region and gun model chosen. See Table 5 for additional information.

WEIGHT WITH MANIFOLD	LEVER TYPE	SCREW TYPE
WEIGHT	940g	850g

DIMENSIONS WITH MANIFOLD	LEVER TYPE	SCREW TYPE
L x H x W mm	127 x 97 x 44	127 x 64 x 89

Product Description / Object of Declaration:	DVXA
This Product is designed for use with:	Solvent & Waterbased Materials
Suitable for use in hazardous area:	Zone 1/Zone 2
Protection Level:	II 2 G X/Ex h II Gb X
Notified body details and role:	Element Materials Technology Rotterdam B.V. (2812) Lodging of ATEX Technical file
This Declaration of Conformity / Incorporation is issued under the sole responsibility of the manufacturer:	Carlisle Fluid Technologies UK Ltd, Ringwood Road, Bournemouth, BH11 9LH. UK
Representative authorised to compile the technical file	Sales and Marketing Director. CFT UK Ltd 1 Avenue de Lattre de Tassigny 94736 Nogent, Cedex. France

EU Declaration of Conformity

This Declaration of Conformity / Incorporation is issued under the sole responsibility of the manufacturer:

Machinery Directive 2006/42/EC
ATEX Directive 2014/34/EU
by complying with the following statutory documents and harmonised standards:
EN ISO 12100:2010 Safety of Machinery - General Principles for Design
BS EN 1953:2013 Atomizing and spraying equipment for coating materials - Safety requirements
EN ISO 80079-36:2016 Explosive Atmospheres- Part 36:Non Electrical equipment for explosive atmospheres-Basic methods and requirements.
EN ISO 80079-37:2016 Explosive Atmospheres- Part 37: Non Electrical equipment for explosive atmospheres - protection by methods "c", "b" and "k".
EN 1127-1:2019 Explosive atmospheres - Explosion prevention - Basic concepts
HVLP and High Efficiency products comply with the requirements of PG6 from the EPA guidelines and offer greater than 65% transfer efficiency.
High volume, low pressure (HVLP) sprayguns are designed to reduce overspray and provide maximum transfer efficiency by limiting air cap pressure to 0.69 bar (10 psi) (complies with rules issued by SCAQMD and other authorities).

Providing all conditions of safe use / installation stated within the product manuals have been complied with and also installed in accordance with any applicable local codes of practice.

Signed for and on behalf of Carlisle Fluid Technologies:

F. A. Sutter

Executive President: Engineering and Operations, Scottsdale, AZ, 85254. USA

20/8/24

Document Part No.

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This Declaration of Conformity / Incorporation is issued under the sole responsibility of the manufacturer:	Carlisle Fluid Technologies UK Ltd, Ringwood Road, Bournemouth, BH11 9LH. UK

UKCA Declaration of Conformity

This Declaration of Conformity / Incorporation is issued under the sole responsibility of the manufacturer:

Supply of Machinery (Safety) Regulations 2008
Equipment and Protective Systems Intended for use in Potentially Explosive Atmospheres Regulations 2016
by complying with the following statutory documents and designated standards:
BS EN ISO 12100:2010 Safety of Machinery - General Principles for Design
BS EN 1953:2013 Atomizing and spraying equipment for coating materials - Safety requirements
BS EN ISO 80079-36:2016 Explosive Atmospheres- Part 36:Non Electrical equipment for explosive atmospheres-Basic methods and requirements.
BS EN ISO 80079-37:2016 Explosive Atmospheres- Part 37: Non Electrical equipment for explosive atmospheres - protection by methods "c", "b" and "k".
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In this part sheet, the words WARNING, CAUTION and NOTE are used to emphasise important safety information as follows:

⚠ WARNING	⚠ CAUTION	NOTE
Hazards or unsafe practices which could result in severe personal injury, death or substantial property damage.	Hazards or unsafe practices which could result in minor personal injury, product or property damage.	Important installation, operation or maintenance information.

⚠ WARNING

Read the following warnings before using this equipment.

SOLVENTS AND COATING MATERIALS. Can be highly flammable or combustible when sprayed. Always refer to the coating material supplier's instructions and safety sheets before using this equipment.

READ THE MANUAL. Before operating finishing equipment, read and understand all safety, operation and maintenance information provided in the operation manual. 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.

FIRE AND EXPLOSION HAZARD. Never use 1,1,1-Trichloroethane, Methylene Chloride, other Halogenated Hydrocarbon solvents or fluids containing such solvents in equipment with aluminium wetted parts. Such use could result in a serious chemical reaction, with the posibility of explosion. Consult your fluid suppliers to ensure that the fluids being used are compatible with aluminium parts.

STATIC CHARGE. Fluid may develop a static charge that must be dissipated through proper grounding of the equipment, objects to be sprayed and all other electrically conductive objects in the dispensing area. Improper grounding or sparks can cause a hazardous condition and result in fire, explosion or elecrtic shock and other serious injury.

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

LOCK OUT / TAG-OUT. Failure to de-energise, disconnect, lock out and tag-out all power sources before performing equipment maintenance could cause serious injury or death.

NOISE LEVELS. The A-weighted sound level of pumping and spray equipment may exceed 85 dB(A) depending on equipment settings. Actual noise levels are available on request. It is recommended that ear protection is worn at all times while equipment is in use.

HIGH PRESSURE CONSIDERATION. High pressure can cause serious injury. Relieve all pressure before servicing. Spray from the gun, hose leaks or ruptured components can inject fluid into your body and cause extremely serious injury.

INSPECT THE EQUIPMENT DAILY. Inspect the equipment for worn or broken parts on a daily basis. Do not operate the equipment if you are uncertain about its condition.

EQUIPMENT MISUSE HAZARD. Equipment misuse can cause the equipment to rupture, malfunction or start unexpectedly and result in serious injury.

GLOVES. Must be worn when spraying or cleaning the equipment.

WEAR SAFETY GLASSES. Failure to wear safety glasses with side shields could result in serious eye injury or blindness.

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

NEVER MODIFY THE EQUIPMENT. Do not modify the equipment unless the manufacturer provides written approval.

PROJECTILE HAZARD. You may be injured by venting liquids or gases that are released under pressure, or flying debris.

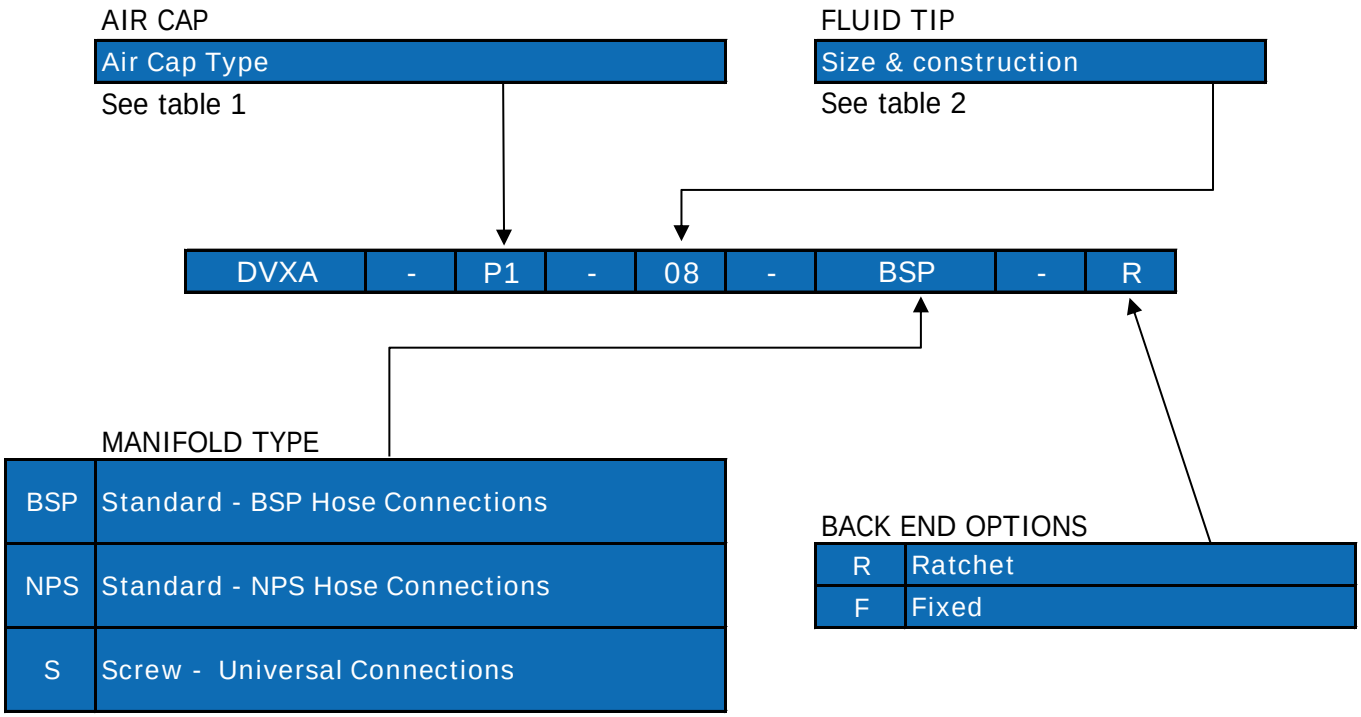
PRESSURE RELIEF PROCEDURE. Always follow the pressure relief procedure in the equipment instruction manual.

KNOW WHERE AND HOW TO SHUT OFF THE EQUIPMENT IN CASE OF AN EMERGENCY.

OPERATOR TRAINING. All personnel must be trained before operating finishing equipment.

IT IS THE RESPONSIBILITY OF THE EMPLOYER TO PROVIDE THIS INFORMATION TO THE OPERATOR OF THE EQUIPMENT.

DVXA GUN PART NUMBER FORMAT & PART SELECTION GUIDE



DVXA - PART SELECTION GUIDE

TABLE 1 - AIR CAP PERFORMANCE GUIDE

Part No.	Air Cap & Type		***Recommended Air Inlet Pressure	Air Consumption	**Typical Fan Pattern Size
DVXP-130-P1-K	P1	HVLP PLUS	2.0 bar [29 psi]	250 L/min [8.8 scfm]	330 mm [13 in]
DVXP-130-P2-K	P2	HVLP PLUS	2.0 bar [29 psi]	315 L/min [11.1 scfm]	350 mm [13.75 in]
DVXP-130-P3-K	P3	HVLP PLUS	2.0 bar [29 psi]	325 L/min [11.4 scfm]	380 mm [15 in]

** Typical Fan Pattern Size

*** Fan pattern size @ 200mm [8"] distance.

TABLE 2 - AIR CAP - FLUID NOZZLE/NEEDLE COMBINATIONS

Air Cap			Fluid Nozzle			Needle	
P1	P2	P3	Part No.	Fluid Nozzle Size	Marking	Part No.	Marking
✓	-	-	DVXP-230-08-K	0.8	DVXP-0.8	DVXA-340-08-10-12-K DVXA-340P-08-10-12-K	DVXA-340-08-10-12 DVXA-340P-08-10-12
✓	✓	-	DVXP-230-10-K	1.0	DVXP-1.0		
-	✓	-	DVXP-230-12-K	1.2	DVXP-1.2		
-	✓	-	DVXP-230-14-K	1.4	DVXP-1.4	DVXA-340-14-16-17-K DVXA-340P-14-16-17-K	DVXA-340-14-16-17 DVXA-340P-14-16-17
-	✓	-	DVXP-230-16-K	1.6	DVXP-1.6		
-	-	✓	DVXP-231-17-K	1.7	DVXP-1.7		
-	-	✓	DVXP-231-18-K	1.8	DVXP-1.8	DVXA-340-18-20-K	DVXA-340-18-20
-	-	✓	DVXP-231-20-K	2.0	DVXP-2.0	DVXA-340P-18-20-K	DVXA-340P-18-20
✓	-	-	DVXP-230N-08-K	0.8N	DVXP-0.8N	DVXA-340N-08-10-12-K	DVXA-340N-08-10-12
✓	✓	-	DVXP-230N-10-K	1.0N	DVXP-1.0N		
-	✓	-	DVXP-230N-12-K	1.2N	DVXP-1.2N		
-	✓	-	DVXP-230N-14-K	1.4N	DVXP-1.4N	DVXA-340N-14-16-17-K	DVXA-340N-14-16-17
-	✓	-	DVXP-230N-16-K	1.6N	DVXP-1.6N		
-	-	✓	DVXP-231N-17-K	1.7N	DVXP-1.7N		
-	-	✓	DVXP-231N-18-K	1.8N	DVXP-1.8N	DVXA-340N-18-20-K	DVXA-340N-18-20
-	-	✓	DVXP-231N-20-K	2.0N	DVXP-2.0N		

N = Nitride Coated

DVXA-340P-##-## Plastic Tipped Needle

⚠ CAUTION

IMPORTANT: This spraygun is suitable for use with both waterbased and solvent based coating materials.

- The gun is not designed for use with highly corrosive and/or abrasive materials including those containing Halogenated Hydrogcarbons

- Immersion of parts in aggressive cleaning solutions can cause colour fading and/or component degredation. Always wash in neutral cleaning solution (pH 6 to 8). Do not submerge the gun in cleaning liquid

- The gun and its components are not designed to be cleaned using an ultrasonic bath.

If there is any doubt regarding the suitability of a specific material, contact your Binks Distributor or Binks direct.

TYPICAL SETTING

1. The gun mounted ATOM air valve controls the atomising air pressure. The gun mounted FAN valve controls the spray pattern size. To increase the pressure, turn anti-clockwise and to reduce the pressure turn clockwise.

2. Fluid flow can be adjusted with the gun mounted needle adjustment knob, fluid flow is increased when you turn the knob anti-clockwise.

TYPICAL START-UP SEQUENCE

1. Make sure all hose connections for fluid and air are securely attached to the gun

2. Check that the fluid nozzle is secure and tight in the gun head

3. Check that the air cap is correctly orientated over the Index Baffle pin and tighten it down into position.

4. Check gun Cylinder/trigger pressure is >4 bar [58 psi]

5. Reduce fluid flow from the nozzle to zero using the supply pressure or fluid needle adjustment knob on the gun.

6. Set the FAN and ATOM air flow to a nominal start pressure using regulators or the gun mounted valves

7. Adjust gun position and angle to point it in the correect dirction and at the correct disatnce.

8. Trigger spray the gun in short bursts to reduce waste. Use the control valves or supply regulators to adjust the atomisation, pattern size and fluid flow to coat the component.

9. If the finish is too dry or thin, reduce the air flow by decreasing the air inlet regulator pressure or by screwing the valves in clockwise. Alternatively increase the fluid flow using the fluid supply pressure.

10. If the finish is too wet or heavy, increase the air flow by increasing the air inlet regulator pressure or by screwing the valves out anti-clockwise. Alternatively reduce the fluid flow using the fluid supply pressure.

11. Always aim to use air and fluid supply pressures to achive the flows needed. Use the gun mounted control valves only for fine tuning

12. A reduction in the spray fan may require a reduction in fluid flow.

13. Always try to keep the spray gun perpendicular to the target surface,although this may be difficult with some component shapes.

14. The recommended spray distance is normally 150-200mm [6-8"]

15. Always turn off air and fluid supply, relieve pressure and clean down when gun is not in use.

SPRAY GUN CLEANING

To clean air cap and fluid tip, brush exterior with a stiff bristle brush. If necesary to clean cap holes, use a broom straw or toothpick if possible. If a wire or hard instrument is used, extreme care must be taken to prevent scratching or burring of the holes which will cause a distorted spray pattern.

To clean the spray gun exterior brush and wipe depending upon the complexity of the area. It is recommended that the gun be partially dissassembled to aid easy access of surfaces.

To clean fluid passages, flush with a suitable cleaning liquid. Use of an air/liquid scrubbing system is recommended for rapid and effective cleaning. Partial dissassembly will aid easy access to critical areas.

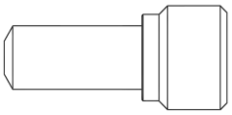
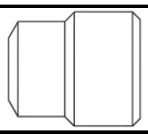
Completely dry inside and out before storage. Check that gun remains lubricated in its critical areas.

Use solvent or cleaning liquid compatible with and designed for the coating sprayed. This will increase ease of cleaning and decrease the time needed.

Never completely immerse in any solvent or cleaning solutions as this is detrimental to the lubricants and life of the spray gun.

FLUID RECIRCULATION ACCESSORIES

TABLE 4 - DVXA

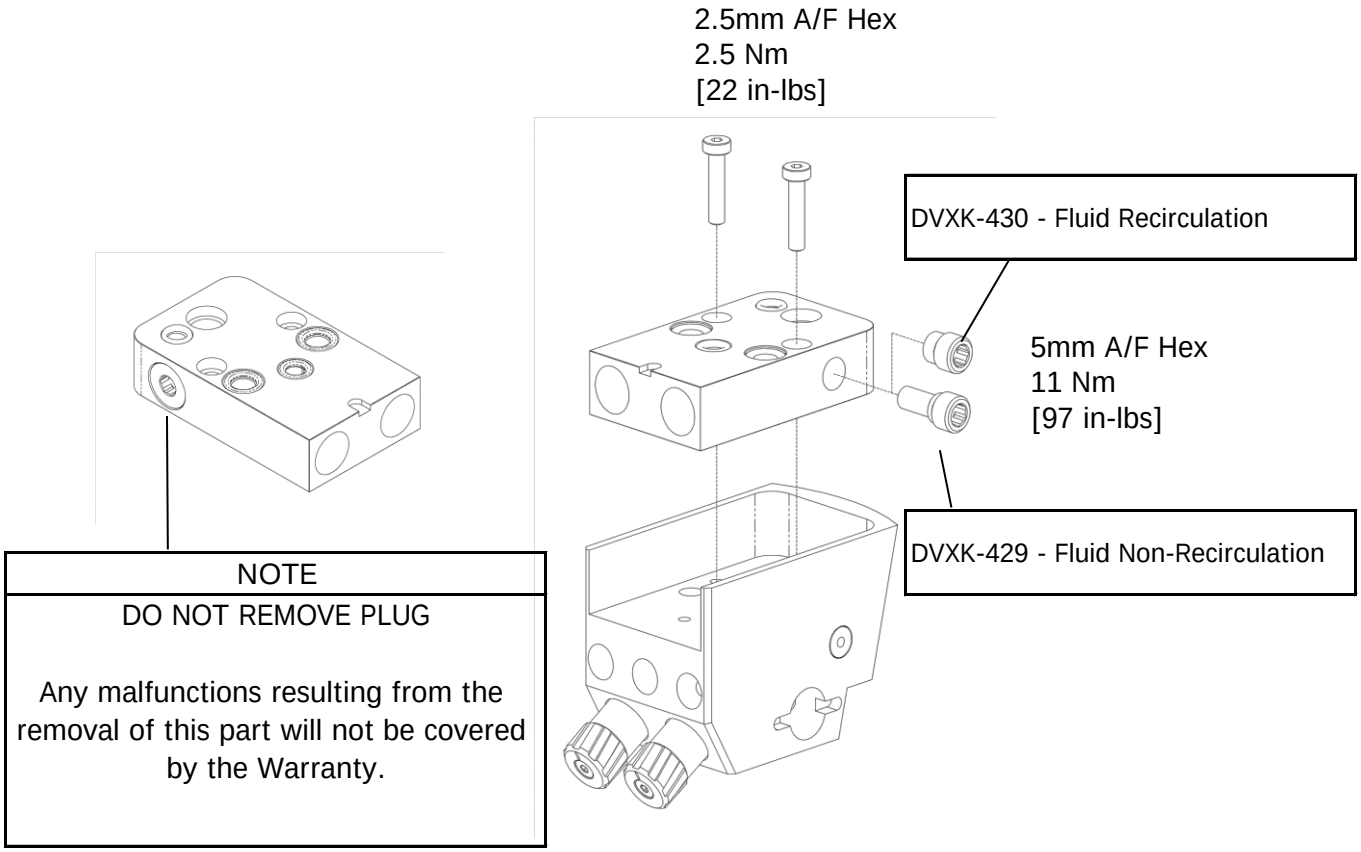
Part No.	Description	
DVXK-429	Long Fluid Recirculation Plug (Silver)	
DVXK-430	Short Recirculation Plug (Black)	
DVXK-444	Fluid Recirculation Bung	
	Fluid Recirculation Plug	

FLUID INLET SIZES

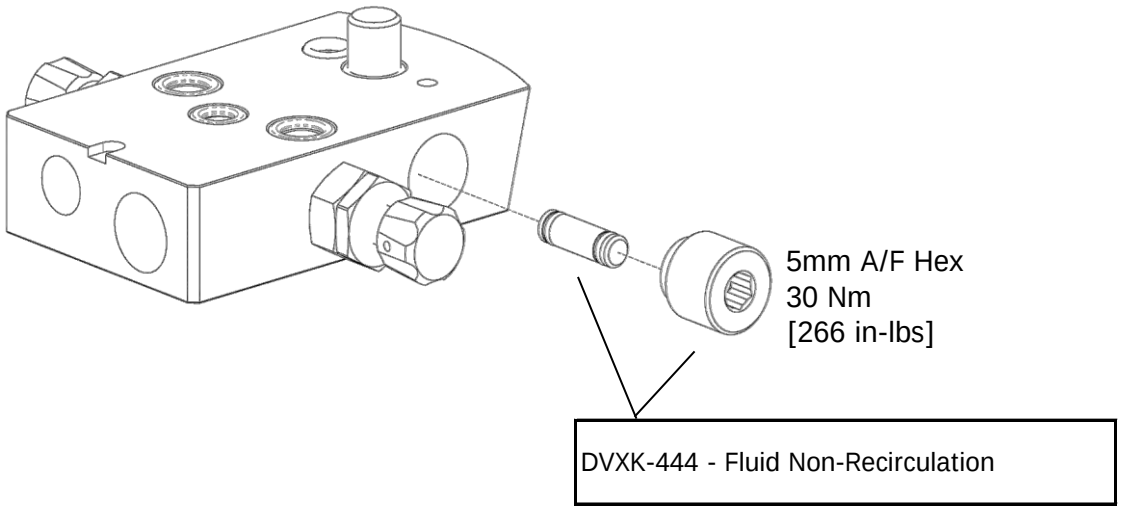
TABLE 5 - FLUID INLET THREAD TYPE

Part No.	Description	Manifold Thread Type
DVXA-XX-XX-BSP-X	DVXA Gun with Standard Manifold	1/4" BSP
DVXA-XX-XX-NPS-X		1/4" NPS
DVXA-XX-XX-S-X	DVXA Gun with Screw Manifold	1/4" BSP/NPS Universal

STANDARD MANIFOLD FLUID PLUG OPTIONS

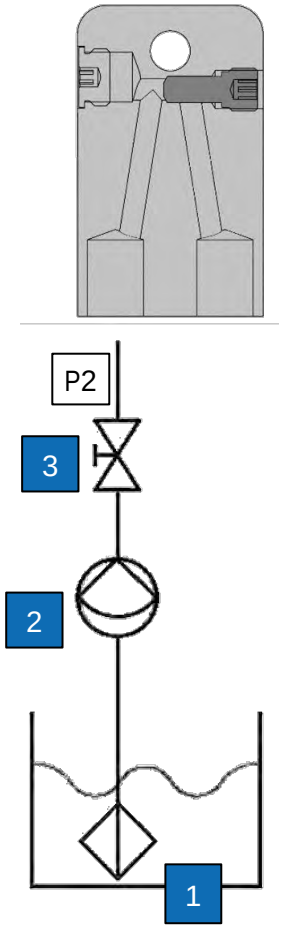


LOW PROFILE MANIFOLD FLUID PLUG OPTIONS

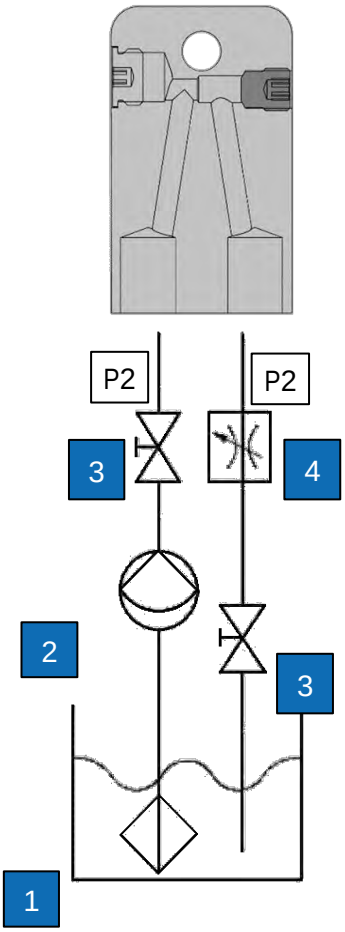


TYPICAL FLUID CONNECTION SCHEMATIC - STANDARD MANIFOLD

DVXK-429 - No Fluid Recirculation



DVXK-430 - Fluid Recirculation Through Base



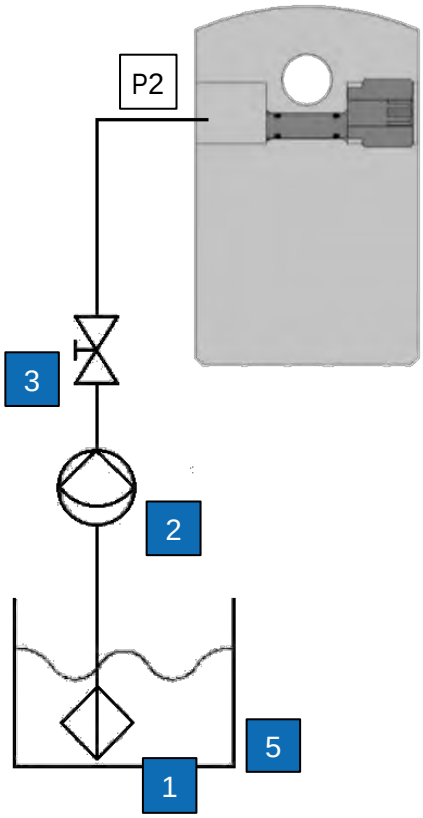
1	Fluid filter
2	Fluid supply
3	Shut-off valve
4	Fluid restrictor valve
5	Fluid reservoir
P2	Fluid - 1/4"

⚠ WARNING

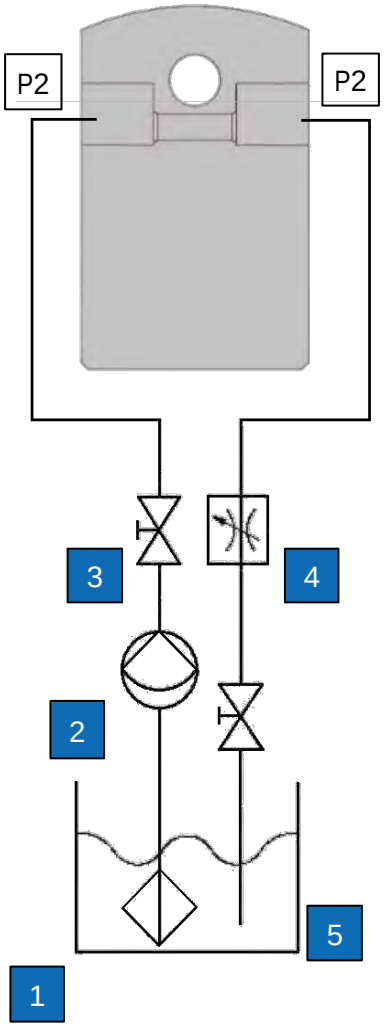
The spray gun must be earthed to dissipate any electrostatic charges which may be created by fluid or air flows. This can be achieved through the spray gun mounting, or conductive air/fluid hoses. Electrical bond from the spray gun to earth should be checked and a resistance of less than 10^6 Ohms is required.

TYPICAL FLUID CONNECTION SCHEMATIC - LOW PROFILE MANIFOLD

DVXK-444 - No Fluid Recirculation



Fluid Recirculation Through Base



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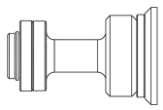
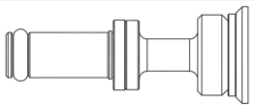
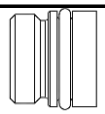
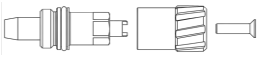
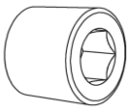
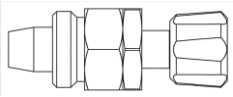
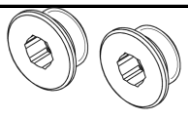
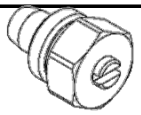
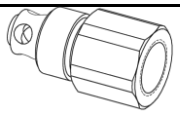
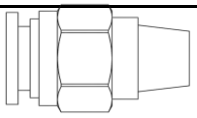
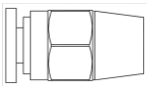
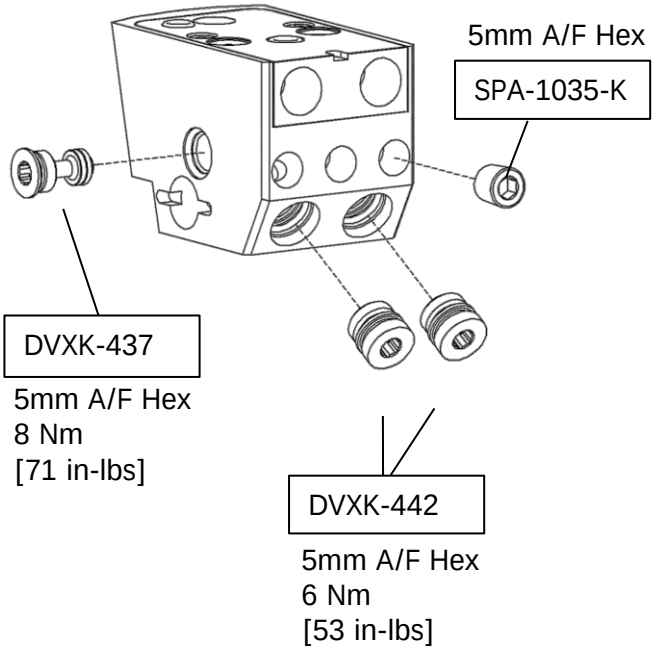
AIR CONTROL ACCESSORIES

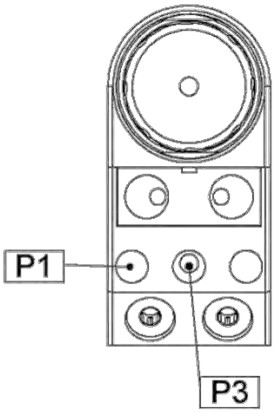
TABLE 6

Part No.	Description	
DVXK-437	Short Air Feed Plug (Silver)	
DVXK-436	Long Air Feed Plug (Black)	
DVXK-442	Air Control Plug	
DVXK-438	Air Control Valve	
DVXK-1035	1/8" Plug	
SPA-414-K	Air Control Valve	
SPA-111-K2	Air Control Plug	
SPA-423-K	Low Profile Control Valve	
DVXK-449	Remote Feed Adaptor	
DVXK-1037	8mm Air Fitting	
DVXK-1038	4mm Air Fitting	

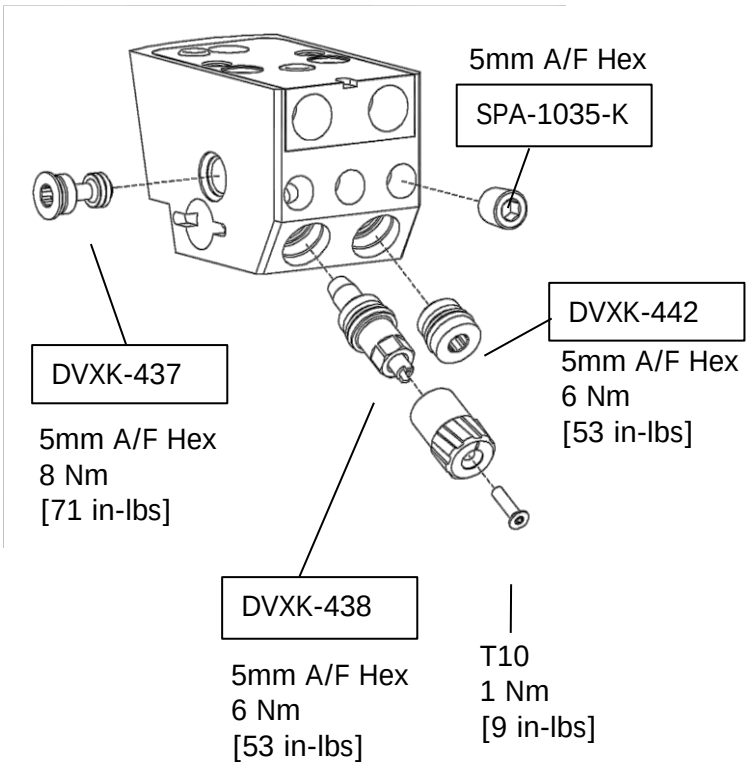
AIR FEED PORT CONFIGURATIONS - STANDARD MANIFOLD

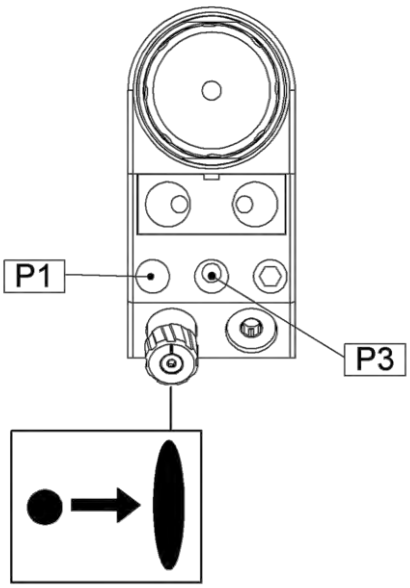
OPTION 1. SINGLE AIR SUPPLY - NO FAN OR ATOM CONTROL VALVES ON GUN



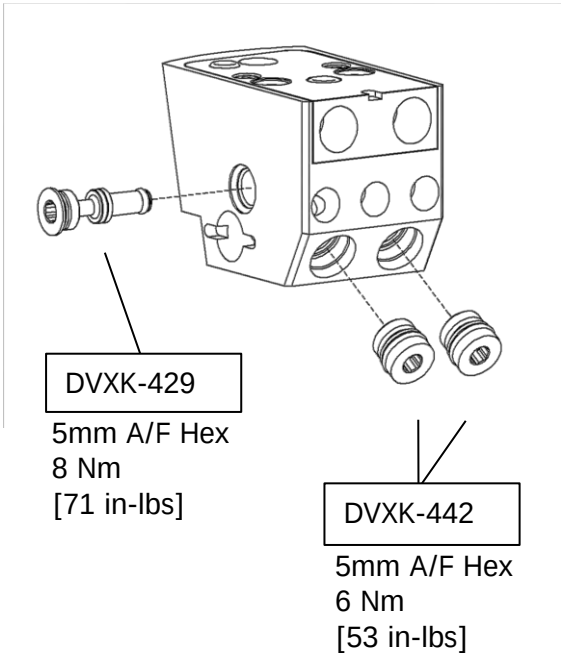


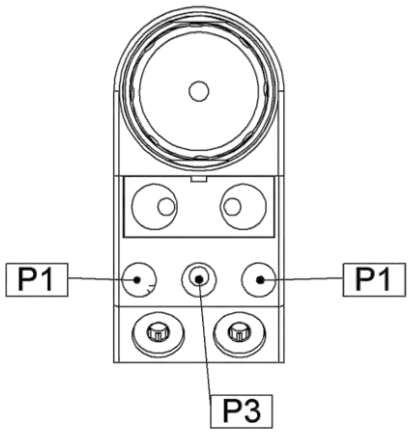
OPTION 2. SINGLE AIR SUPPLY - FAN CONTROL VALVE ON GUN



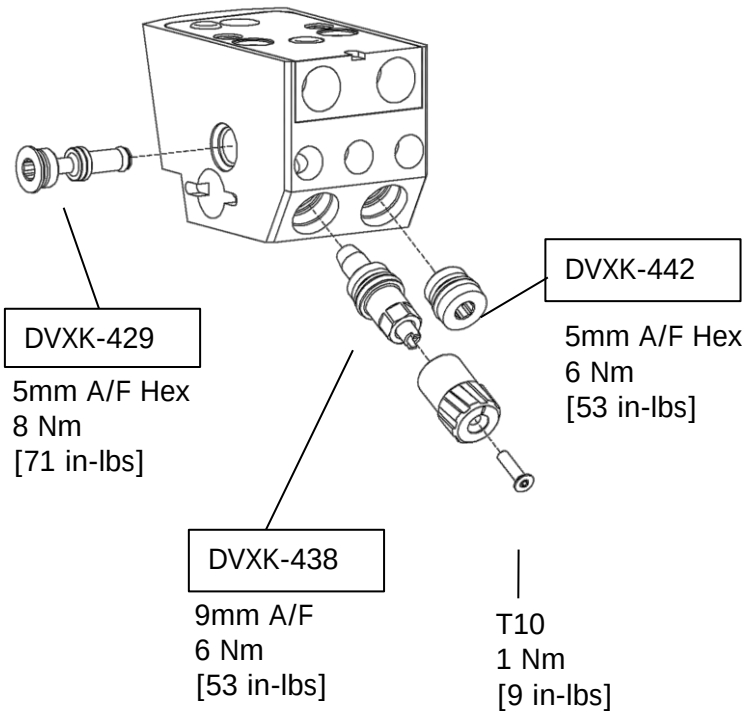


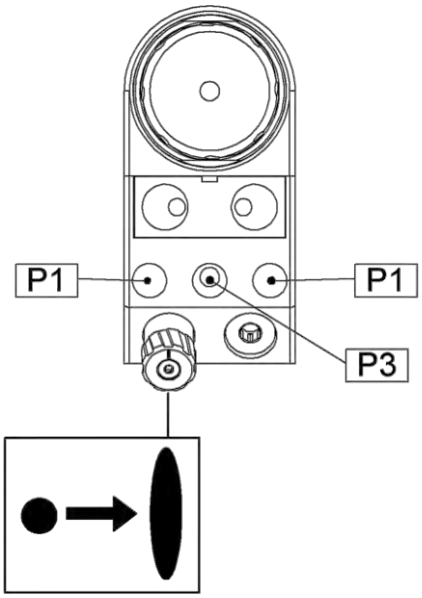
AIR FEED PORT CONFIGURATIONS - STANDARD MANIFOLD





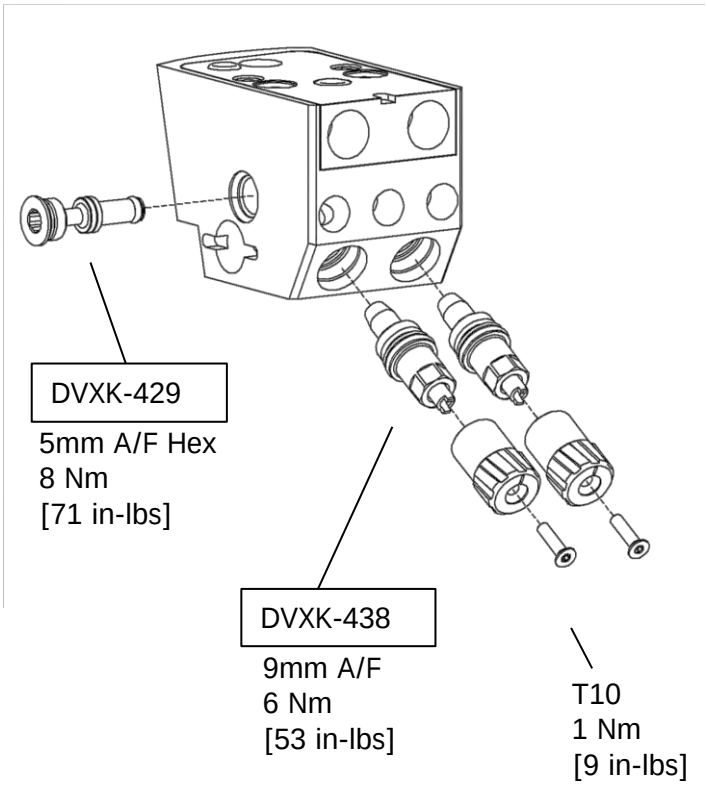
OPTION 4. SEPARATE AIR SUPPLIES - FAN CONTROL VALVE ON MANIFOLD





AIR FEED PORT CONFIGURATIONS - STANDARD MANIFOLD

OPTION 5. SEPARATE AIR SUPPLIES - FAN & ATOM CONTROL VALVES ON MANIFOLD



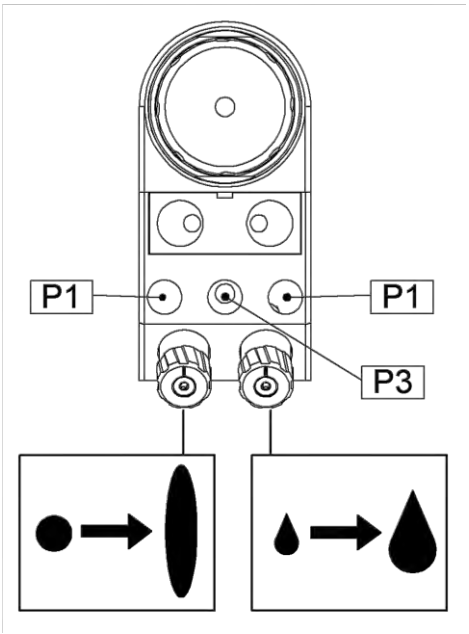


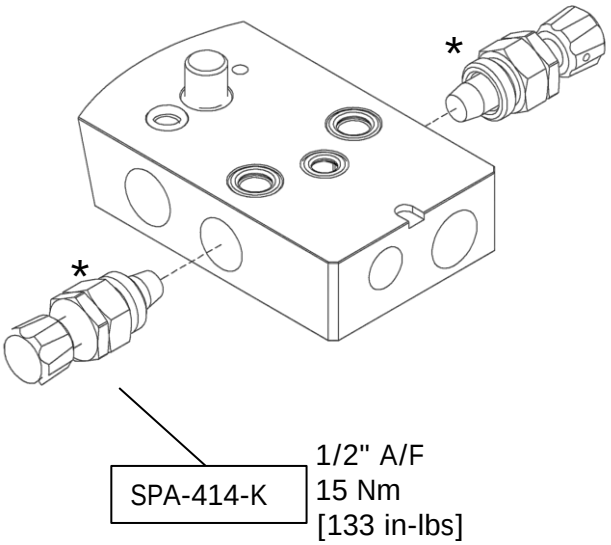
TABLE 7 - AIR INLET CONNECTION

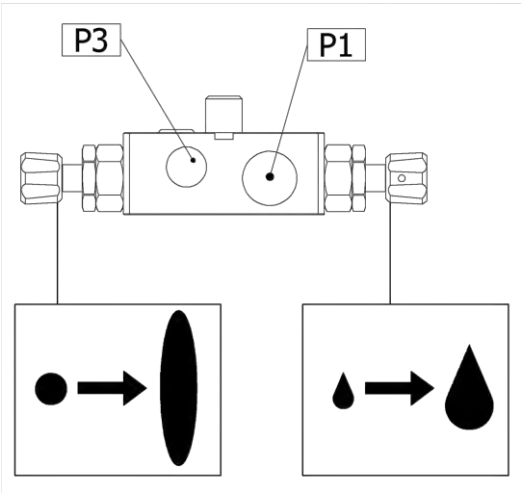
Part No.	Description	Manifold Thread Type	* Push-Fit Hose Connector
DVXA-XX-XX-BSP-X	DVXA Gun with Standard Manifold	1/8" Universal BSP & NPS	8mm Hose ATOM & FAN 4mm Push - Hose CYL
DVXA-XX-XX-NPS-X	DVXA Gun with Standard Manifold	1/8" Universal BSP & NPS	8mm Hose ATOM & FAN 4mm Push - Hose CYL
DVXA-XX-XX-S-X	DVXA Gun with Screw Manifold	1/8" Universal BSP & NPS	Not Supplied

* Contained in Gun Kit

AIR FEED PORT CONFIGURATIONS - LOW PROFILE MANIFOLD

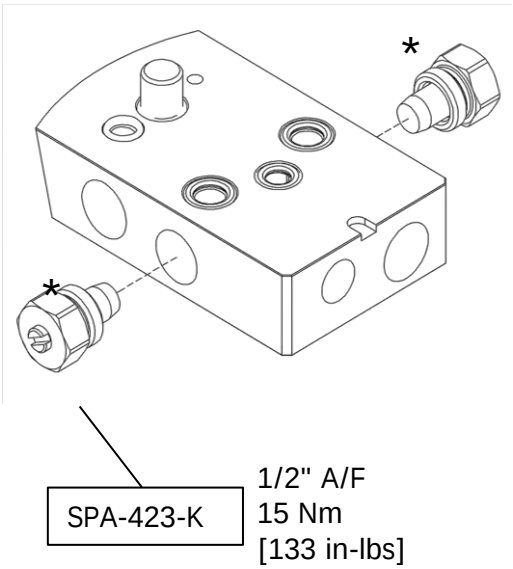
OPTION 1. SINGLE AIR SUPPLY - FAN & ATOM CONTROL VALVES ON MANIFOLD

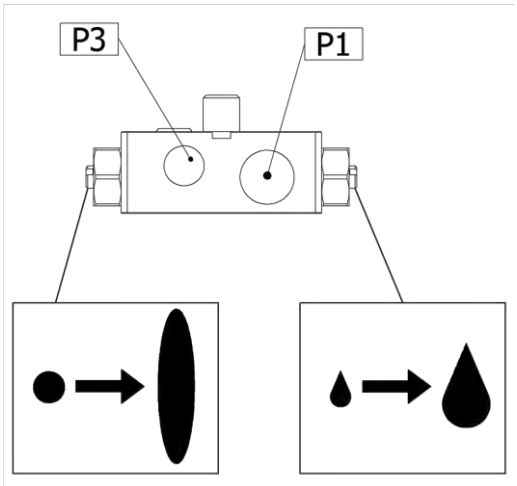




* Apply thread sealant to external threads.

OPTION 2. SINGLE AIR SUPPLY - LOW PROFILE FAN & ATOM CONTROL VALVES ON MANIFOLD

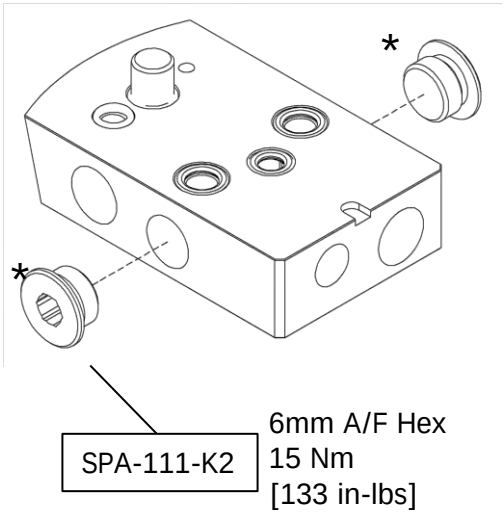


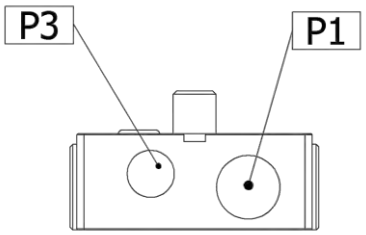


* Apply thread sealant to external threads.

AIR FEED PORT CONFIGURATIONS - LOW PROFILE MANIFOLD

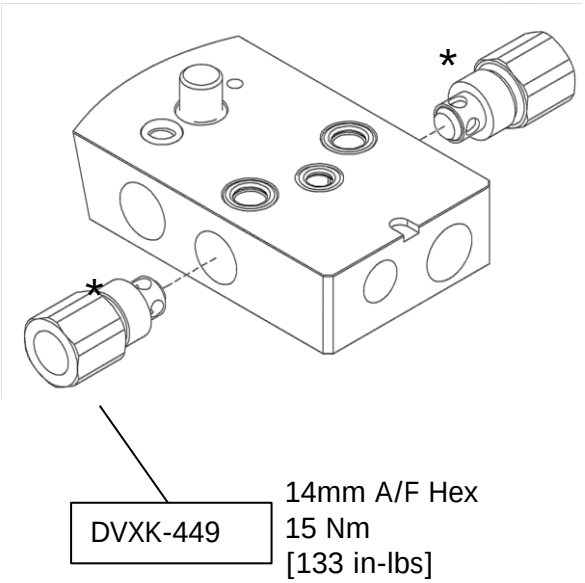
OPTION 3. SINGLE AIR SUPPLY - NO FAN OR ATOM CONTROL VALVES ON MANIFOLD

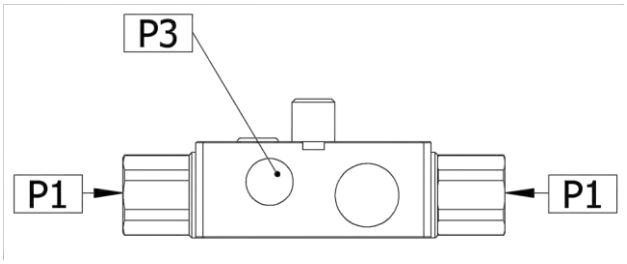




* Apply thread sealant to external threads.

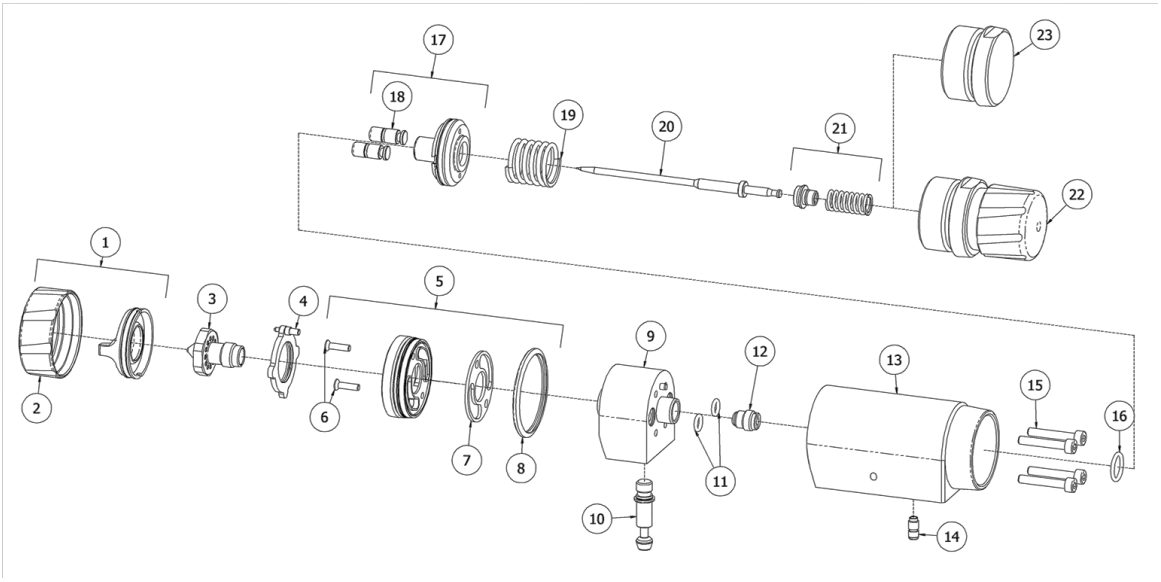
OPTION 4. SINGLE AIR SUPPLY - REMOTE FAN AND ATOM AIR CONTROL

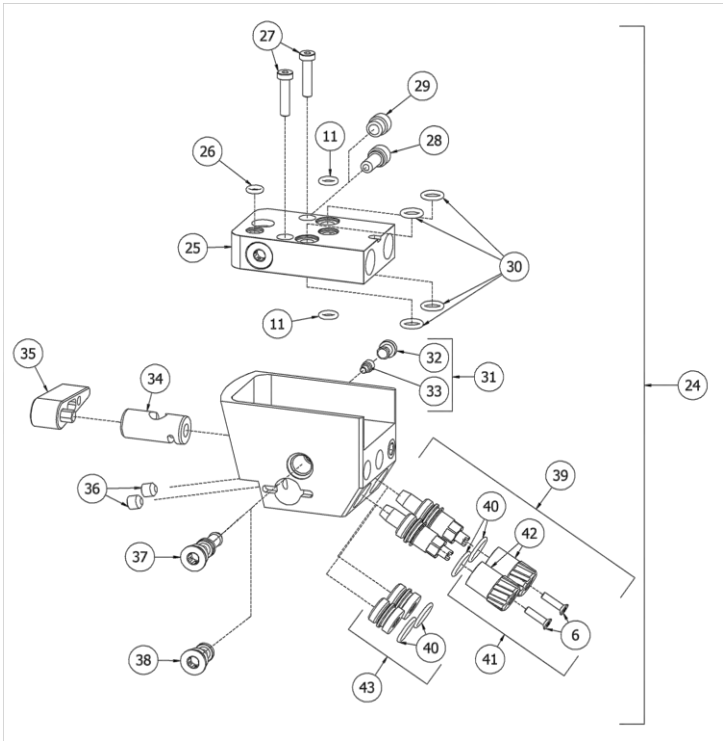


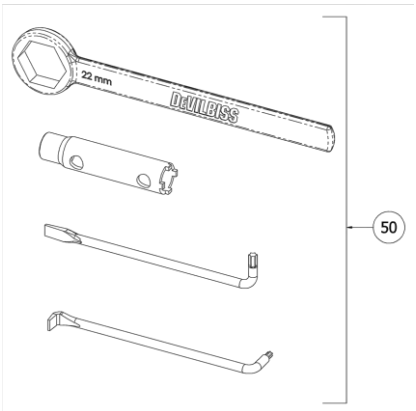


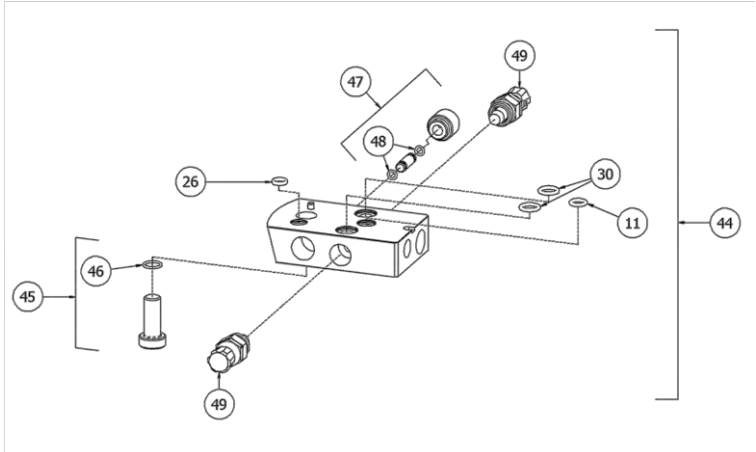
* Apply thread sealant to external threads.

EXPLODED VIEW









PARTS LIST

REF.	PART No.	DESCRIPTION	ASSEMBLY QTY.
1	SEE TABLE 1	AIR CAP & RETAINING RING	1
2	DVXK-400	RETAINING RING SUB ASSEMBLY	1
3	SEE TABLE 2	FLUID NOZZLE	1
4	DVXK-402	INDEXING BAFFLE PLATE	1
5	DVXK-411	SPRAY HEAD KIT	1
6 # + x	704403	SCREW (KIT OF 3)	4
	DVXK-412	SCREW (KIT OF 4)	
7 +	704401	GASKET (KIT OF 2)	1
8 +	DVXK-413	BUFFER SEAL	1
9	DVXK-414	HEAD	1
10	DVXK-415*	CAM PIN	1
11 # + x	S-28223X-K4	O RING (KIT OF 4)	2
12 +	DVXK-416	NEEDLE PACKING KIT	1
13	DVXK-417	BODY	1
14	DVXK-418	AIR TUBE	1
15 + x	DVXK-419	SCREW (KIT OF 4)	4
16	S-28220X-K2	O RING (KIT OF 2)	1
	S-28220X-K5	O RING (KIT OF 5)	
17 +	DVXK-420	PISTON & SEAL KIT	1
18	DVXK-421	AIR VALVE PISTON (KIT OF 2)	2
19 +	DVXK-422	PISTON SPRING	1
20	SEE TABLE 2	FLUID NEEDLE	1
21 + x	DVXK-423	NEEDLE SPRING KIT	1
22	DVXK-424	RATCHET ASSEMBLY	1
23	DVXK-425	FIXED REAR HOUSING	1
24	DVXK-426-BSP	BSP STANDARD MANIFOLD ASSEMBLY	1
	DVXK-426-NPS	NPS STANDARD MANIFOLD ASSEMBLY	
25	DVXK-427-BSP	BSP MANIFOLD FLUID INSERT	1
	DVXK-427-NPS	NPS MANIFOLD FLUID INSERT	
26 + x	SN-71X-K2	O RING (KIT OF 2)	1
27	DVXK-428	SCREW (KIT OF 2)	2
28	DVXK-429	LONG FLUID RECIRCULATION PLUG	1
29	DVXK-430	SHORT FLUID RECIRCULATION PLUG	1
30 + x	SPA-29X-K4	O RING (KIT OF 4)	4
31	DVXK-431	CAM SCREW KIT	1
32	DVXK-432	CAM SCREW COVER	1

* NOT USED WITH DVXK-443 SCREW MANIFOLD

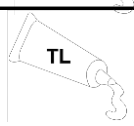
PARTS LIST (Continued)

REF.	PART No.	DESCRIPTION	ASSEMBLY QTY.
33	DVXK-433	RETAINING SCREW	1
34	DVXK-434	LOCKING CAM	1
35	DVXK-445	LEVER ADAPTOR	1
36	DVXK-435	SET SCREW (KIT OF 2)	2
37	DVXK-436	LONG AIR FEED PLUG	1
38	DVXK-437	SHORT AIR FEED PLUG	1
39	DVXK-438	AIR CONTROL VALVE ASSEMBLY (KIT OF 2)	2
40	DVXK-439	O RING (KIT OF 2)	4
41	DVXK-440	ADJUSTING KNOB	2
42	DVXK-441	BLANKING PLUG (KIT OF 2)	2
43	DVXK-442	BLANKING PLUG (KIT OF 2)	2
44	DVXK-443	SCREW MANIFOLD ASSEMBLY	1
45	SPA-161-K2	CLAMPING SCREW (KIT OF 2)	1
46	S-28224X-K4	O RING (KIT OF 4)	1
47	DVXK-444	FLUID BUNG KIT	1
48	SPA-48X-K2	O RING (KIT OF 2)	2
49	SPA-414-K	CONTROL VALVE	2
50	SPA-446-K	TOOL KIT	1

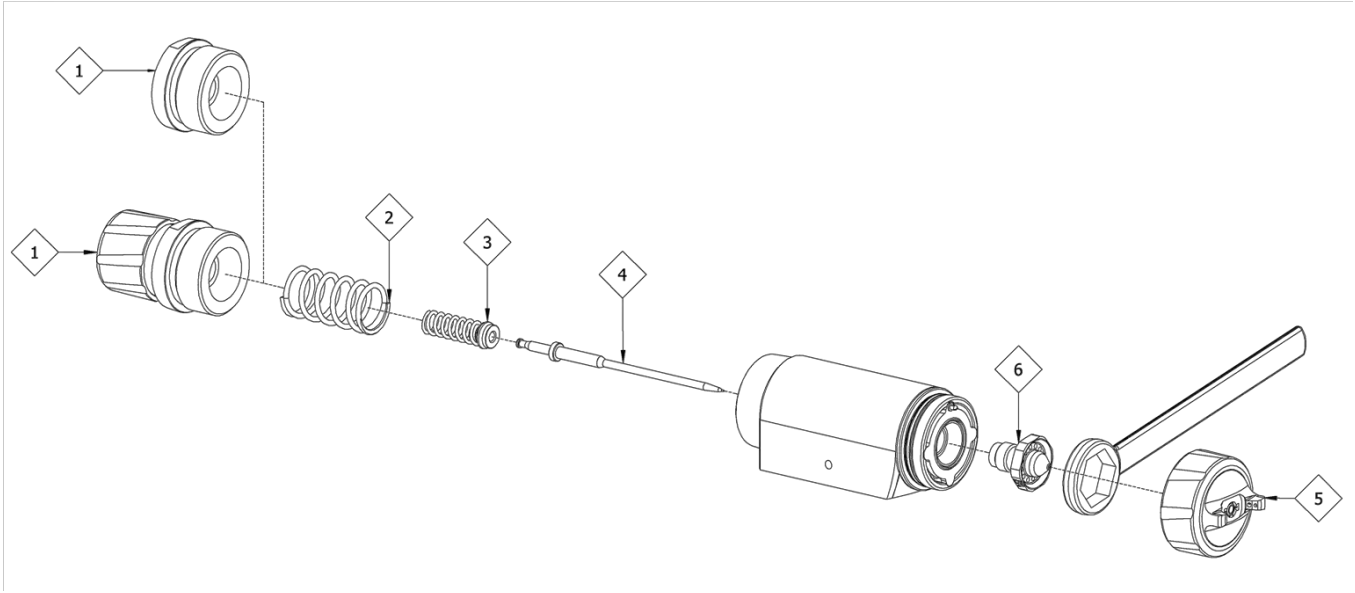
SERVICE PARTS

DVXK-446	MINOR SERVICE KIT	INCLUDES ITEMS MARKED #
DVXK-447	MAJOR SERVICE KIT	INCLUDES ITEMS MARKED +
DVXK-448	MISCELLANEOUS SERVICE KIT	INCLUDES ITEMS MARKED x

MAINTENANCE

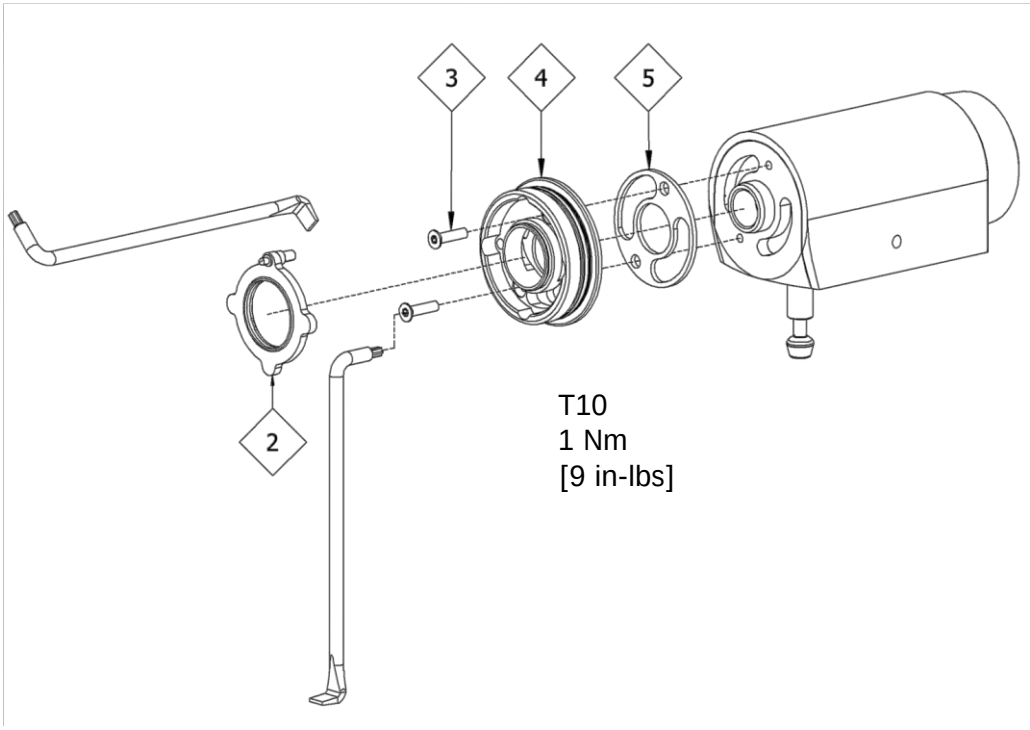
KEY - MAINTENANCE SYMBOLS	
	Order for disassembly *(Reverse for assembly)*
	Petroleum Grease/Jelly
	Thread Locker

FLUID NOZZLE & FLUID NEEDLE DISASSEMBLY

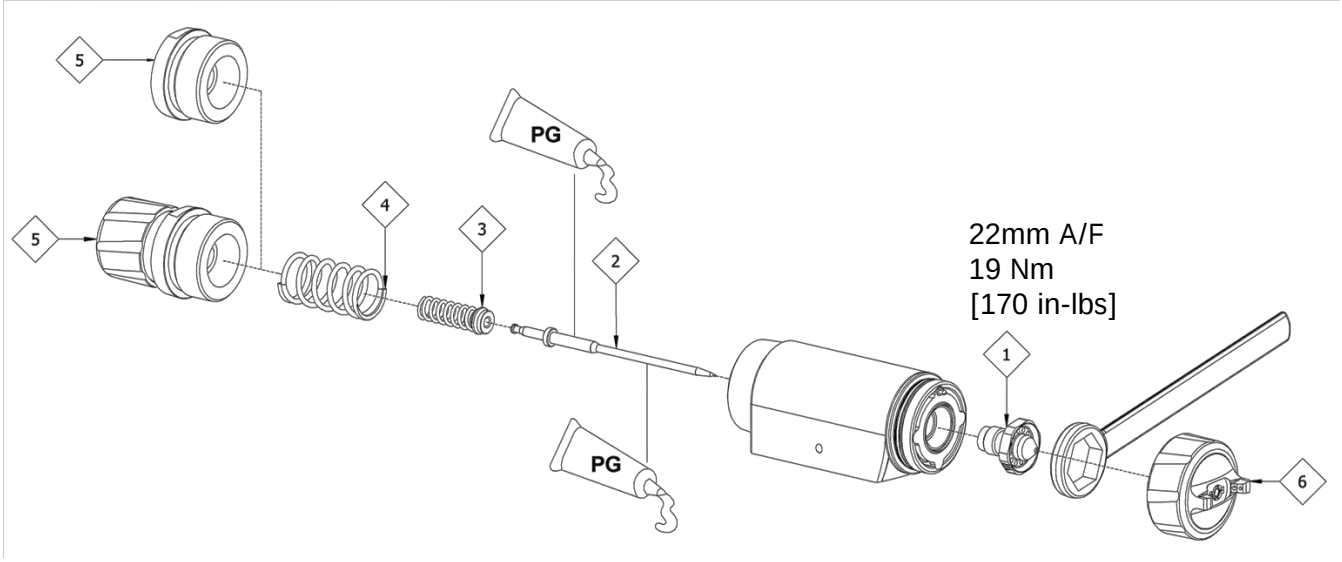


SPRAYHEAD DISASSEMBLY

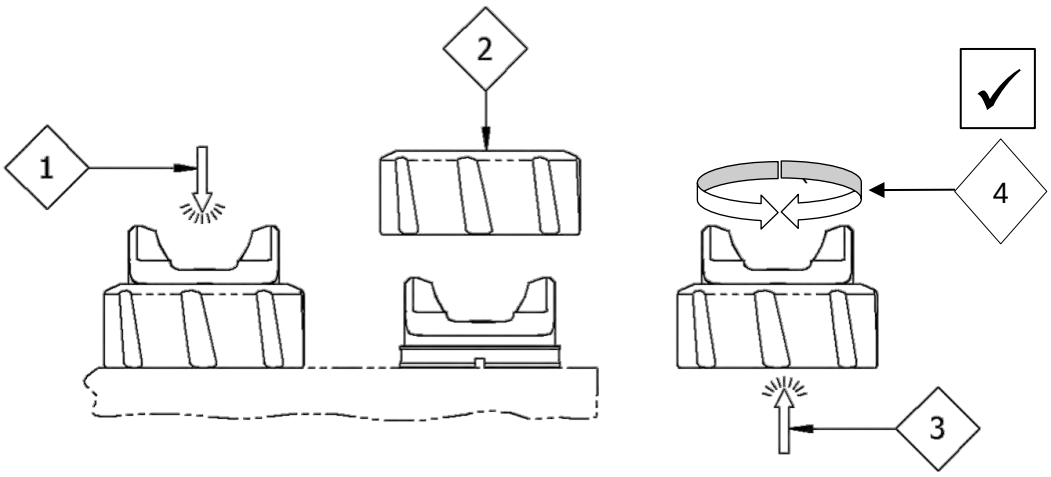
1 Follow steps from Fluid Nozzle & Needle Disassembly (Page 24)



FLUID NOZZLE & FLUID NEEDLE ASSEMBLY

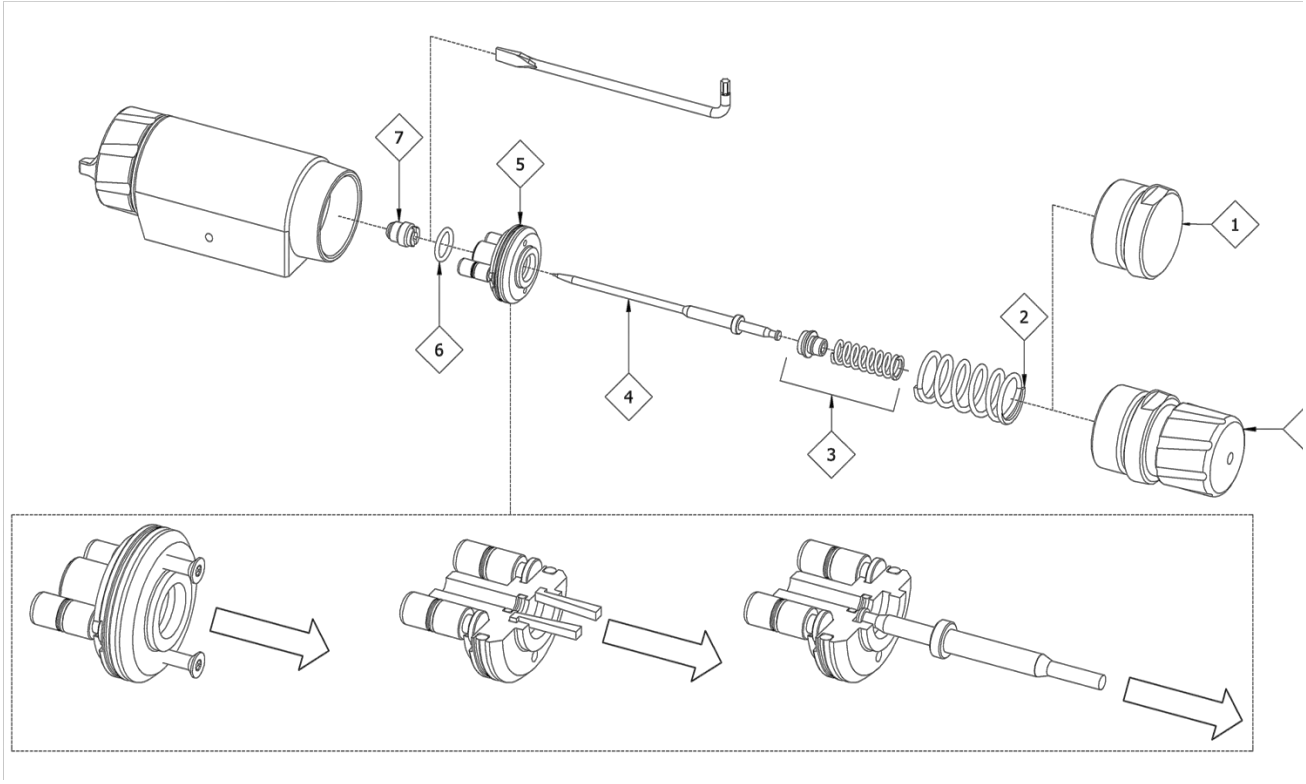


NOTE
When changing the fluid nozzle or fluid needle, replace nozzle, needle and fluid packing at the same time. Using worn parts can cause fluid leakage. Do not overtighten.



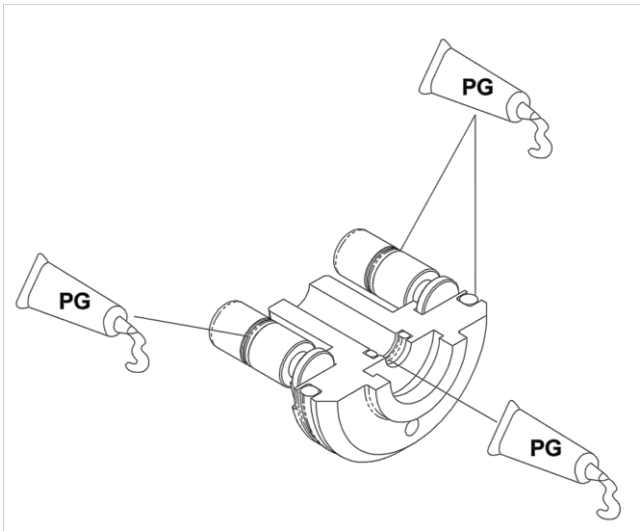
NOTE
When removing the air cap from the retaining ring, take care not to damage any plastic components also inside the ring. They are not available as separate spare parts. Simply wipe parts clean and reassemble with new or clean air cap.

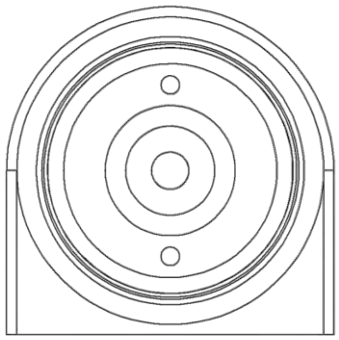
PISTON & NEEDLE PACKING - DISASSEMBLY



M3 SCREWS* PLIERS* FLUID NEEDLE*

*DIFFERENT METHODS TO REMOVE THE PISTON FROM THE GUN

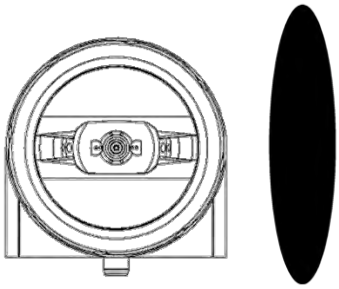




NOTE ORIENTATION OF M3 THREAD HOLES
WHEN REASSEMBLING PISTON

AIR CAP INDEXING ADJUSTMENT

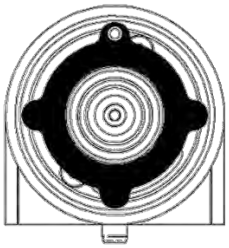
STEP 1.



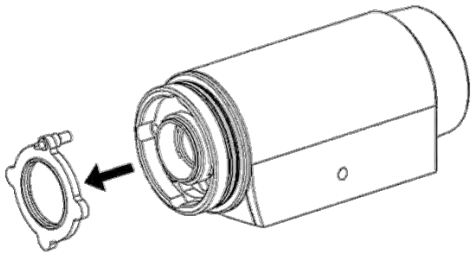
STEP 2.

FOLLOW STEPS FROM FLUID NOZZLE & FLUID NEEDLE DISASSEMBLY (PAGE 23)

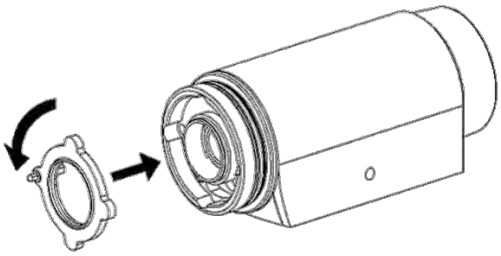
STEP 3.



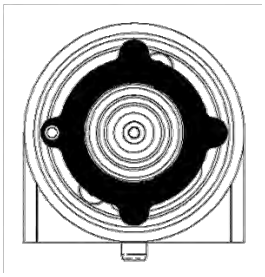
STEP 4.



STEP 5.



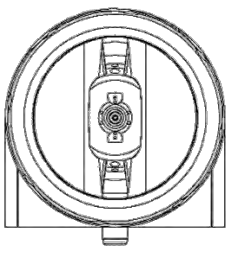
STEP 6.

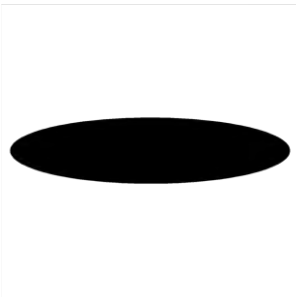


STEP 7.

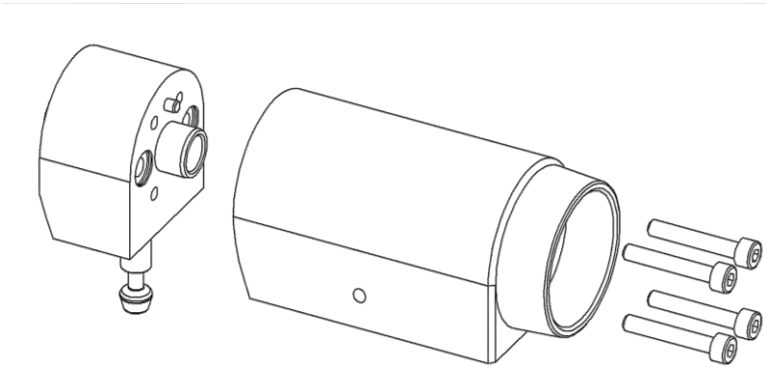
FOLLOW STEPS FROM FLUID NOZZLE & FLUID NEEDLE ASSEMBLY (PAGE 24)

STEP 8.





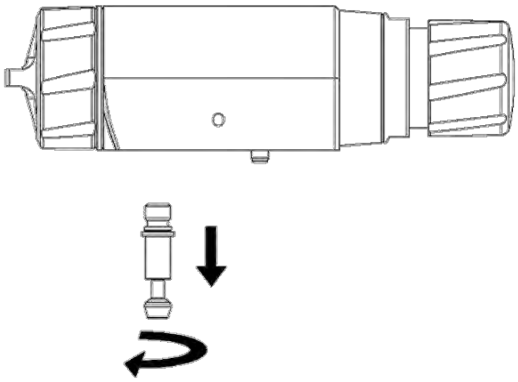
HEAD & BODY - DISASSEMBLY

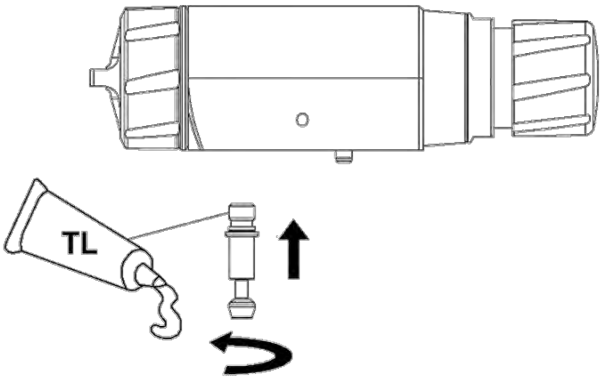


3mm A/F Hex
1 Nm
[8.9 in-lbs]

CAM PIN - DISASSEMBLY/ASSEMBLY

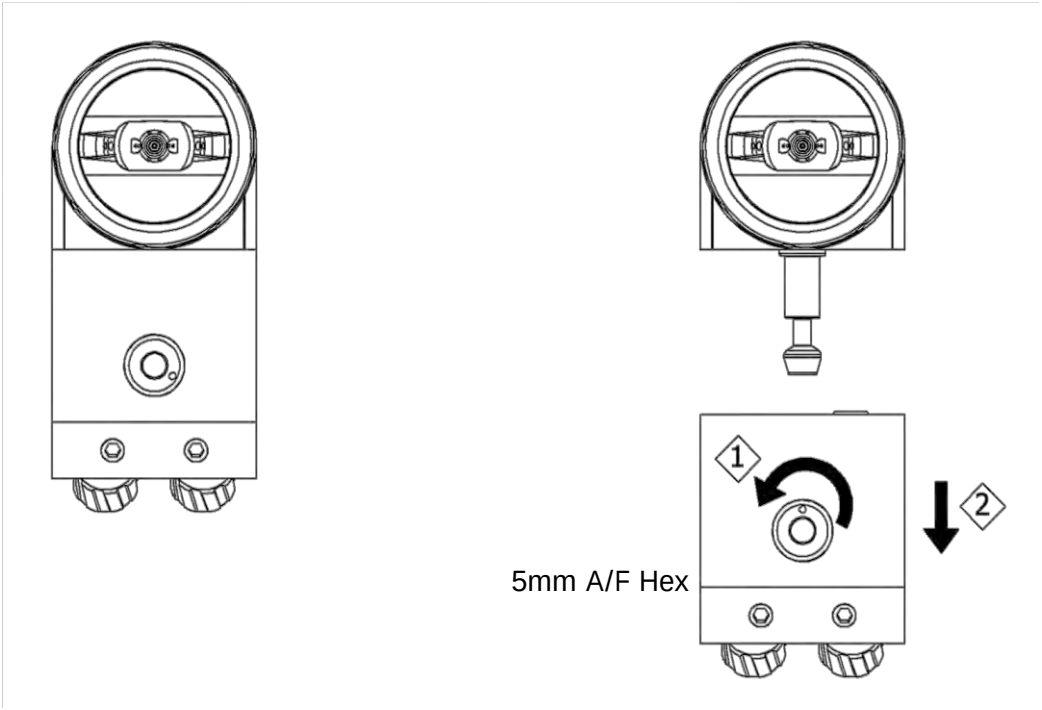
Cam pin is not used with the screw manifold.





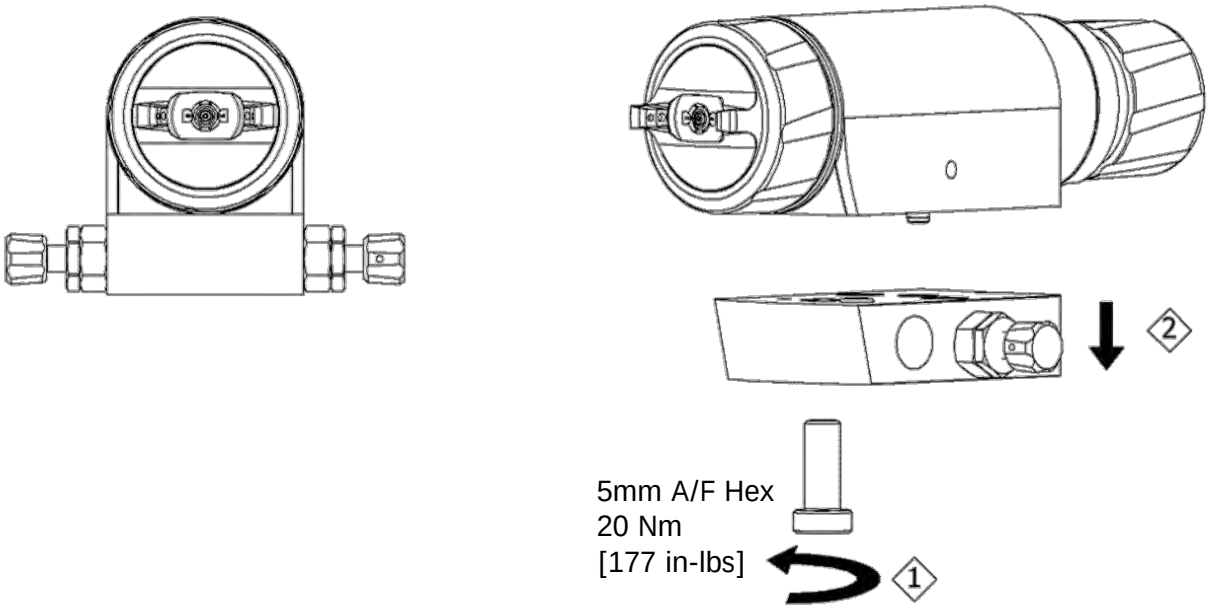
3mm A/F Hex
15 Nm
[133 in-lbs]

STANDARD MANIFOLD - REMOVAL

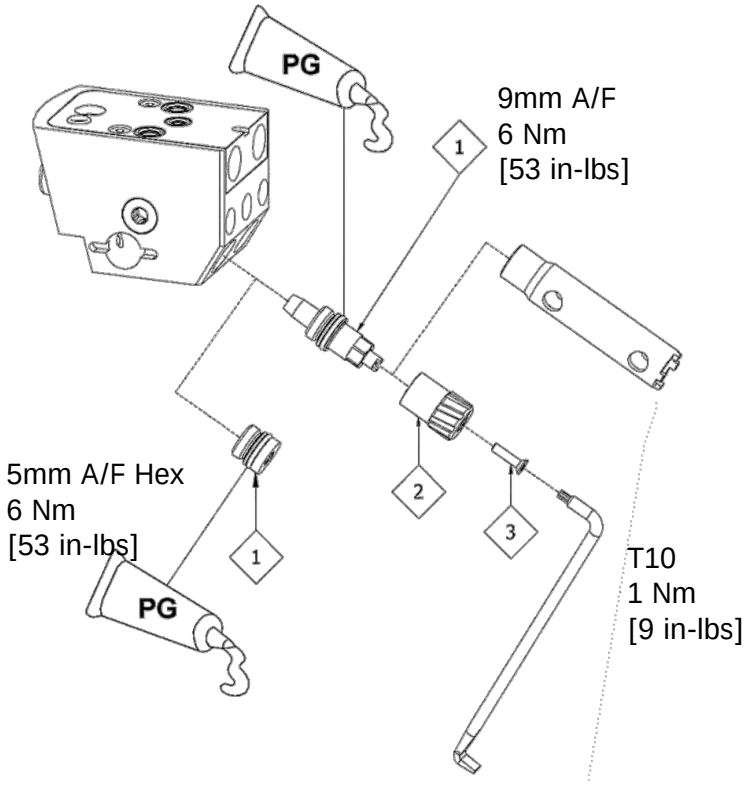


SCREW MANIFOLD - REMOVAL

Cam pin is not used with the screw manifold.



CONTROL VALVES / PLUGS - ASSEMBLY



TROUBLESHOOTING MECHANICAL PERFORMANCE

GENERAL FAULTS	CAUSE	CORRECTION
Will not spray.	No air pressure at gun.	Check all air supplies and hoses.
	Fluid needle not moving.	Check needle control knob position and Cylinder air pressure =>4 bar [58 psi]
Gun spits paint when triggering on and off.	Incorrect needle fitted to gun.	Check fluid nozzle/needle selection chart and fit correct item.
	Excessive needle wear.	Replace with new needle.
	Excessive fluid nozzle wear.	Replace with new fluid nozzle
Gun spits paint when triggering on due to paint build-up inside air cap between spraying operations.	Fluid nozzle not fitted correctly in gun head.	Check nozzle and head sealing surfaces for damage and/or tighten
	Fluid nozzle/needle leakage.	Check for damage or blockage.
Paint build-up on fluid nozzle	Fluid nozzle not fitted correctly in gun head.	Check nozzle and head sealing surfaces for damage and/or tighten
	Fluid nozzle/needle leakage.	Check for damage or blockage.
Paint build-up on air cap exterior	Damaged air cap holes.	Replace with new air cap.
	Gradual build-up of bounce-back on gun head.	Thoroughly clean air cap & check booth air flow
Unable to get round spray	Fluid nozzle or sprayhead incorrectly fitted.	Remove, check components for damage and refit correctly.

When removing the air cap from the retaining ring, take care not damage any plastic components also inside the ring. Simply wipe parts clean and reassemble with a new or clean air cap.

FLUID FAULTS	CAUSE	CORRECTION
Slow fluid leak from fluid tip and needle seat.	Fluid nozzle internal seat scored damaged or worn. Fluid needle external profile damaged or worn.	Replace.
	Contamination on needle or nozzle mating surfaces preventing good seal.	Thoroughly clean.
	Incorrect fluid nozzle for fluid needle fitted to gun.	Check nozzle/needle selection chart and fit correct item.
	Slow needle movement.	Remove and clean or replace Needle Packing. Check Needle spring for damage or breaking.
Major fluid leak or fluid jetting from fluid tip and needle seat.	Contamination on needle or nozzle mating surfaces preventing good seal.	Remove nozzle and needle and thoroughly clean.
	Incorrect fluid nozzle for fluid needle fitted to gun.	Check nozzle/needle selection chart and fit correct item.
Slow fluid leak from needle packing.	Fluid needle packing worn or incorrectly fitted.	Tighten or replace as necessary.

AIR FAULTS	CAUSE	CORRECTION
Small air leak from air cap when gun is not triggered.	Piston air valve seals not seating correctly	Remove Piston and thoroughly clean and lubricate or renew piston assembly.
	Piston seal damaged or missing.	Replace.

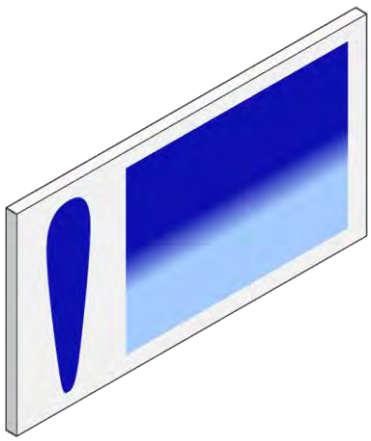
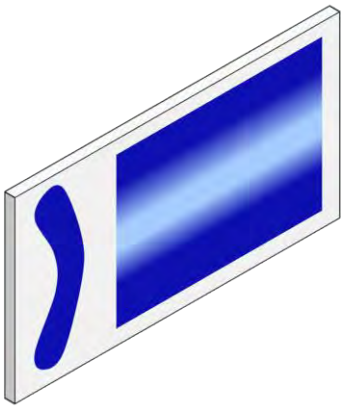
LEVER TYPE MANIFOLD FAULTS

ASSEMBLY FAULTS	CAUSE	CORRECTION
Spray gun does not locate onto manifold.	Locking cam is not in the unlock position.	Turn locking cam lever to unlock position on manifold.
Spray gun is loose when assembled onto manifold.	Locking cam has not been tightened.	Turn locking cam lever to lock position on manifold.
	Locking cam has worn.	Replace using locking cam kit SPA-424-K
Spray gun cannot be removed from manifold.	Locking cam is not in the unlock position.	Turn locking cam lever to unlock position on manifold.
Air or Fluid leak from between gun and manifold.	Worn, damaged or missing O rings	Replace damaged/missing items

SCREW TYPE MANIFOLD FAULTS

ASSEMBLY FAULTS	CAUSE	CORRECTION
Spray gun does not locate onto manifold.	Item 29 - locking pin still in place.	Remove item 29 - locking pin.
Spray gun is loose when assembled onto manifold.	Clamping screw has not been tightened.	Tighten screw.
	Clamping screw has worn.	Replace using clamping screw kit SPA-161-K2.
Spray gun cannot be removed from manifold.	Clamping screw still in place.	Remove clamping screw.
Air or Fluid leak from between gun and manifold	Worn, damaged or missing O rings	Replace damaged/missing items

TROUBLESHOOTING SPRAY PERFORMANCE

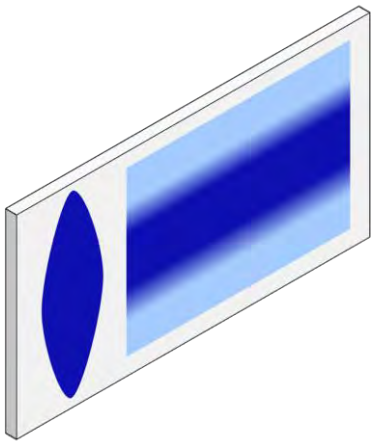
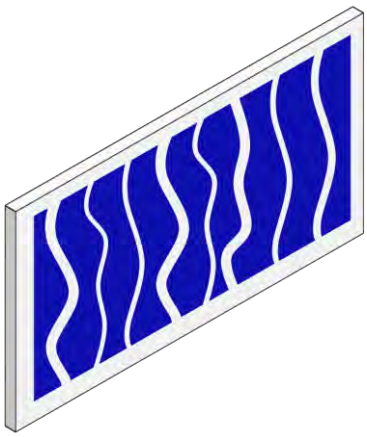
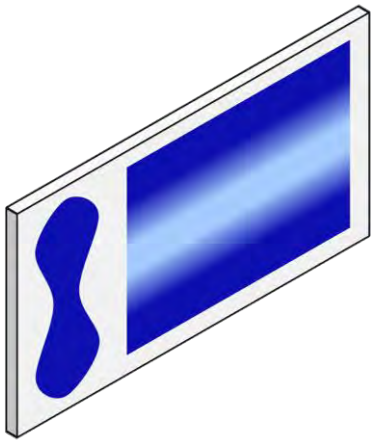
CONDITION	CAUSE	CORRECTION
Heavy top or bottom pattern. 	Contamination build-up on air cap, plugged horn holes, centre holes or jets.	Soak cap or nozzle in suitable cleaning liquid and thoroughly clean.
	Contamination build-up on fluid nozzle exterior or partially plugged fluid tip.	
	Fluid nozzle or cap dirty or damaged.	Replace fluid nozzle or air cap if necessary.
Heavy right or left side pattern. 	Left or right side holes plugged.	Soak cap or nozzle in suitable cleaning liquid and thoroughly clean.
	Dirt or damage on left or right side of fluid nozzle exterior.	Replace fluid nozzle or air cap if necessary.

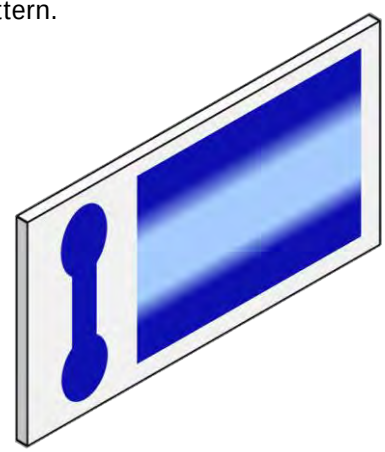
Checking procedure for top-heavy, bottom-heavy, right-heavy and left-heavy spray patterns.

Determine if the obstruction is on the air cap or the fluid nozzle. Do this by making a test spray pattern and 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 a suitable cleaning liquid..

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

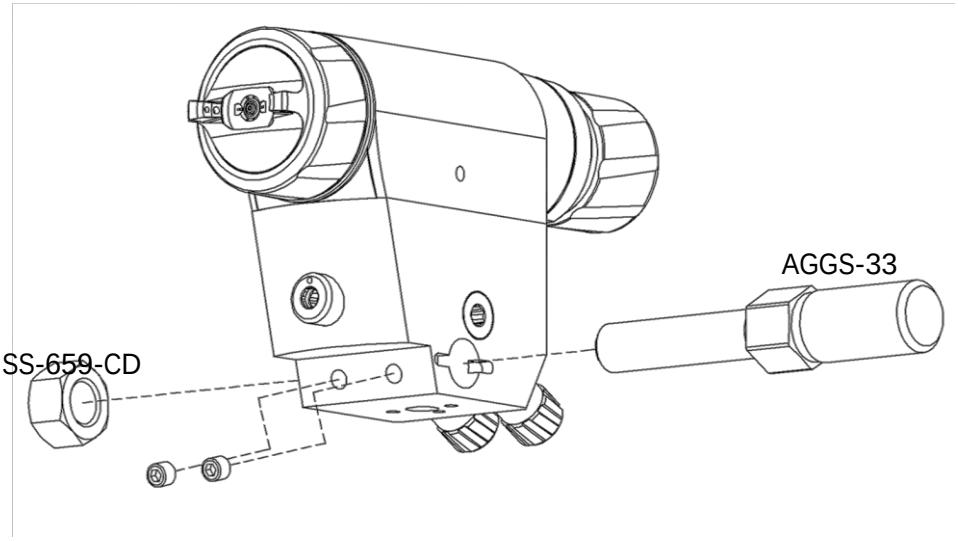
Also check for damage to critical air cap and fluid nozzle surfaces and all hole edges.

Heavy centre pattern. 	Pattern adjustment valve set too low.	Turn out counter clockwise to achieve correct pattern.
	Too much coating	Reduce fluid flow by turning fluid needle adjusting screw clockwise. Reduce fluid pressure.
	Coating too thick.	Thin to correct viscosity
	Atomising air pressure too low.	Increase air pressure.
Intermittent or 'fluttering' spray fan. 	Loose fluid tip.	Tighten.
	Fluid nozzle not seated correctly in gun head.	Remove fluid nozzle, clean components, check cone seating on tip and gun for damage or contamination.
	Partially obstructed fluid passage or fluid hose.	Clean or replace.
Split spray pattern 	Not enough coating flow.	Increase fluid flow by changing fluid nozzle size, opening needle control knob or increase fluid pressure on pressure feed container.
	Too high horn pressure.	Reduce pattern / Horn air pressure
	Too much air for fluid quanitity used.	Reduce input air pressure.

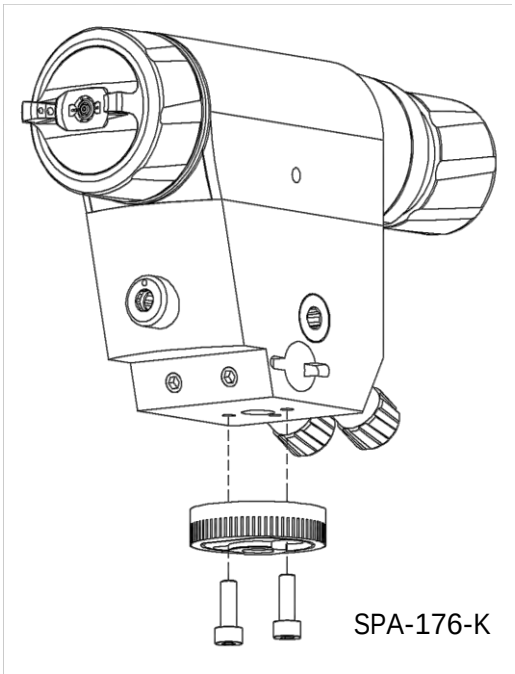
Ball end heavy pattern. 	Too much fluid flow.	Reduce fluid flow. Change fluid tip for smaller size or change air cap for different specification air cap.
Excessive bounce-back.	Too much atomisation air pressure.	Reduce air pressure.
	Gun too far from surface.	Check distance (normally 150-200mm).
Runs and sags.	Too much fluid flow.	Adjust gun or reduce fluid pressure.
	Material viscosity too low.	Mix properly or apply light coats/reduce fluid flow.
	Gun tilted at an angle.	Mount gun at right angle to work.
Thin, sandy coarse finish drying before it flows out.	Gun too far from surface.	Check distance.
	Too much air pressure.	Reduce air pressure and check spray pattern.
	Fluid flow too low.	Increase fluid flow by changing fluid tip size, supply pressure or turning needle control knob counter clockwise.

MOUNTING ADAPTOR OPTIONS - STANDARD MANIFOLD

SPK-110
Mounting bar.

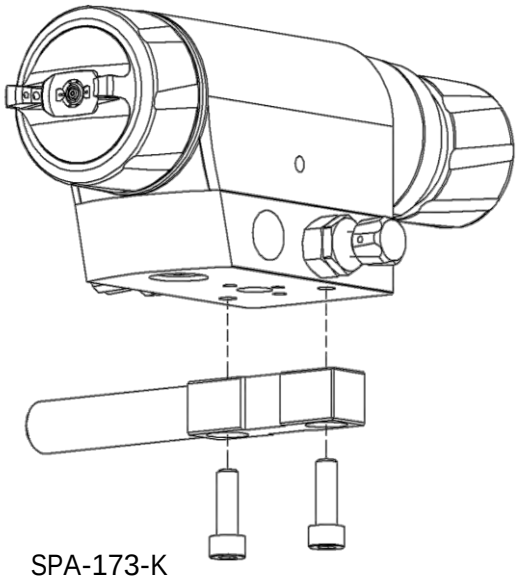


SPA-176-K
Index adjustment and screws



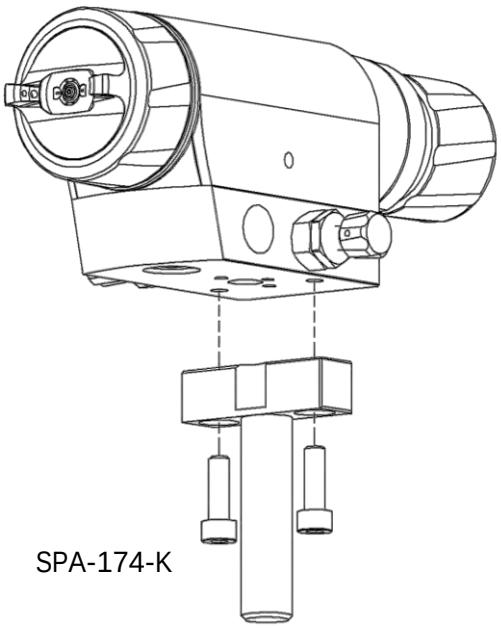
MOUNTING ADAPTOR OPTIONS - SCREW MANIFOLD

SPA-173-K
Horizontal mounting bar and screws.



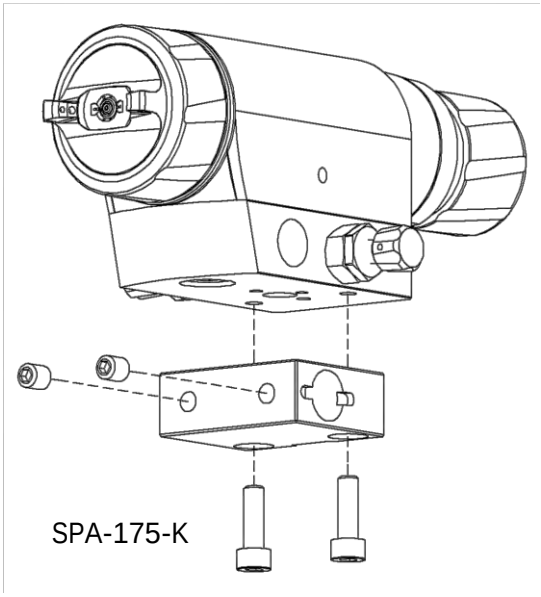
SPA-173-K

SPA-174-K
Vertical mounting bar and scerws.



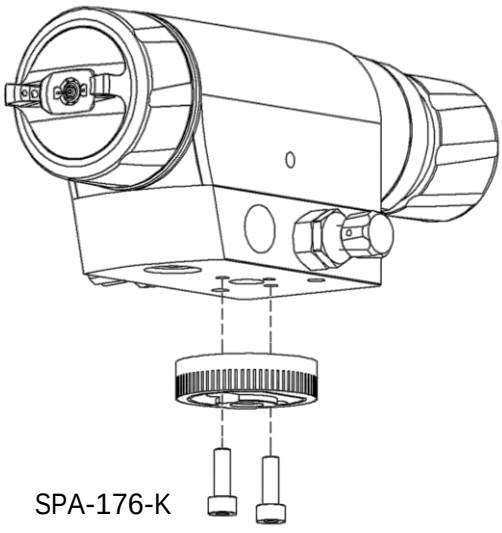
SPA-174-K

SPA-175-K
Mounting block and screws.



SPA-175-K

SPA-176-K
Index adjustment and screws.



SPA-176-K

ACCESSORIES

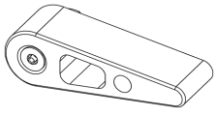
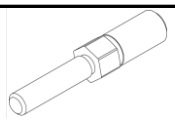
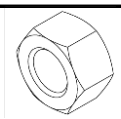
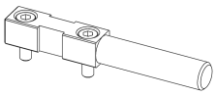
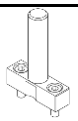
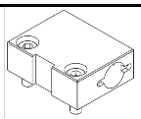
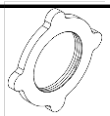
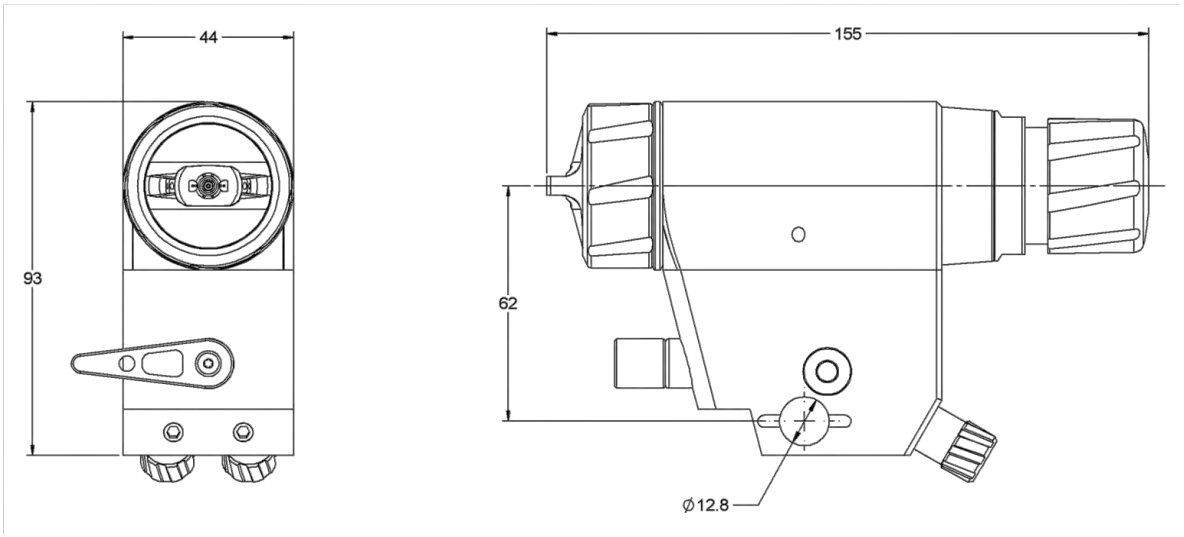
Part No.	Description	
DVXK-445	Lever Adaptor	
SPK-110	Mounting bar.	
	Mounting bar nut.	
SPA-173-K	Horizontal mounting bar and screws.	
SPA-174-K	Vertical mounting bar and scerws.	
SPA-175-K	Lever Adaptor	
SPA-176-K	Index adjustment and screws.	
DVXK-410	Non Indexing Baffle Plate	

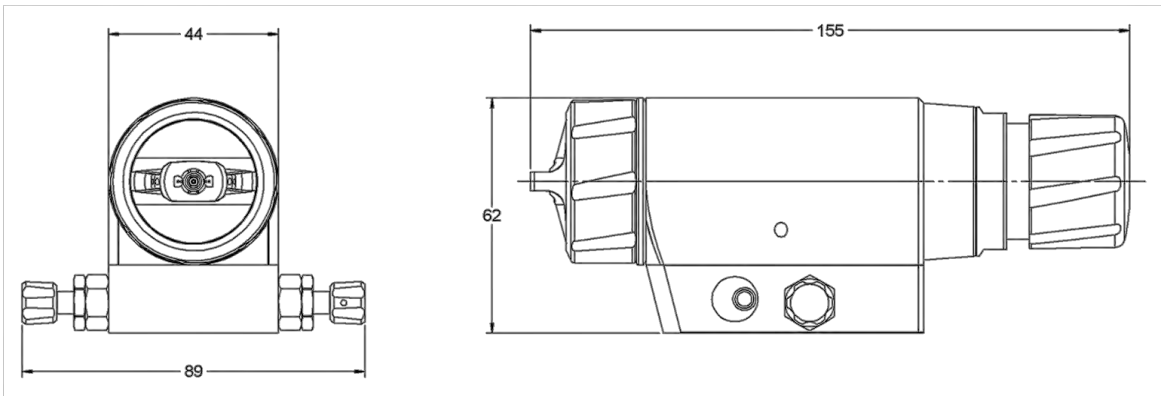
TABLE 8 - DVXA AIR CAP TEST KITS

Part No.	Air Cap & Type		*** Recommended Air Inlet Pressure	Atomisation Pressure
DVXK-P1T	P1	HVLP PLUS	2.0 bar [29 psi]	0.69 bar [10 psi]
DVXK-P2T	P2	HVLP PLUS	2.0 bar [29 psi]	0.69 bar [10 psi]
DVXK-P3T	P3	HVLP PLUS	2.0 bar [29 psi]	0.69 bar [10 psi]

*** (with gun fully triggered)

DIMENSIONS





NOTES

NOTES

WARRANTY POLICY

This product is covered by Carlisle Fluid Technologies' materials and workmanship limited warranty. The use of any parts or accessories, from a source other than Carlisle Fluid Technologies, will void all warranties. Failure to reasonably follow any maintenance guidance provided, may invalidate any warranty.

For specific warranty information please contact Carlisle Fluid Technologies.

For technical assistance or to locate an authorised distributor, contact one of our international sales and customer support locations below.

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Europe, Africa, Middle East, India	Tel: +44 (0)1202 571 111 Fax: +44 (0)1202 573 488	
China	Tel: +8621-3373 0108 Fax: +8621-3373 0308	
Japan	Tel: +81 45 785 6421 Fax: +81 45 785 6517	
Australia	Tel: +61 (0) 2 8525 7555 Fax: +61 (0) 2 8525 7575	

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