



Airnesco



Airnesco Bore Cleaning System

For barrels 20mm upwards

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SAFETY INSTRUCTIONS

Read all instructions carefully. Failure to follow all instructions listed could result in serious injury or equipment damage.

NB : "Ferret" – pneumatic tool contained within the system.

WORK AREA

This equipment is portable and can be used within the workshop or in the field, be aware that the immediate work area can vary.

- a) **Keep work area clean and well lit.** Cluttered and dark areas invite accidents.
- b) **Keep children and bystanders away whilst operating the system.** Distractions can cause you to lose control.

PERSONAL SAFETY

- a) **Stay alert, watch what you are doing and use common sense when operating a pneumatic tool.** Do not use the system while you are tired or under the influence of drugs, alcohol or medication. A moment of inattention whilst operating a pneumatic tool may result in a serious personal injury.
- b) **Use safety equipment.**



Safety equipment such as dust mask, non-skid safety shoes or hard hat used for appropriate conditions will reduce personal injuries. Final decisions on the level of protection appropriate should be the subject of a local risk assessment. The decibel levels of both sound pressure and power sound developed by the Ferret will depend on the location and method of use. When operated as intended the tool should be run only in a barrel and not represent a noise hazard of any magnitude. The noise levels given below were measured with the Ferret running in the open and would require the use of ear protection.

The vibration levels measured below reflects the level felt when holding a running Ferret in the open. Users should be aware of the potential hazard and conduct a local risk assessment which reflects their methods of utilization.

	Sound Pressure Level dB(A) at 1 metre	Sound Power Level dB(A)	ahw Weighted Vibration Acceleration m/s ²				
			Hose held 300mm from Ferret, measured on Ferret	Hose held 300mm from Ferret, measured at hand position	Ferret Hand-held horizontally	Ferret Hand-held vertically	Y-Piece hand-held horizontally, measured at hand position
F701C/F70	95	07	-	-	3.0	4.7	-
F901C/F90	89	101	23 (@ 4 bar)	30.8 (@ 6 bar)	33.2 (@ 4 bar)	7.5 (@ 4 bar)	-
F1066C/F125	92	104	50.9 (@ 5 bar)	-	-	-	-
F1081C/F150	93	105	95.1 (@ 5 bar)	58.6 (@ 6 bar)	83.6 (@ 5 bar)	44 (@ 5 bar)	44.9 (@ 6 bar)
F150 with anti-vibration handle	-	-	-	-	32.1 (@ 5 bar)	54.5 (@ 5 bar)	-
F2082C/F2000	92	105	110	72.0 (@ 6 bar)	95.8 (@ 3 bar) 101.2 (@ 4 bar)	60.7 (@ 3 bar) 80.6 (@ 4 bar)	56.2 (@ 6 bar)
F2000 with anti-vibration handle	-	-	-	-	82.3 (@ 3 bar) 56.0 (@ 4 bar)	60.6 (@ 3 bar) 83.4 (@ 4 bar)	-

The drip feed of Oil (H19) to the Ferret will generate a light oil mist. The concentration in the working area will depend on the rate of feed of the oil, the ventilation and size of work area and the running time of the tool. Adjust the lubricator according to the requirements below;

	F701C/F70	F901/F90	F1066C/F125	F1081C/F150	F2082C/F2000
Flow Rate (drops/second)	1 in 10	1 in 5	1 in 10	1 in 10	1 in 5

It is ideal to use slightly more oil for the first running hour for a new Ferret. H19 is a synthetic oil classified as non-hazardous and no occupational exposure standard has been established for such oil mist. Standard industrial hygiene should be applied in the use of this oil and a local risk assessment carried out by the end user. Substitute oils should only be used under the express guidance and with the appropriate approval from Airnesco®. Any other lubricant will invalidate the warranty.

- c) **Avoid accidental starting.** Ensure all air valves are in the off position and that all connections are secure before attempting to start the system.
- d) **Never engage in horseplay with the system.** It is not a toy – do not use it like one.
- e) **Do not overreach.** Keep proper footing and balance at all times. This enables better control of the Ferret in unexpected situations.
- f) **Dress properly. Do not wear loose clothing or jewellery (jewelry). Keep your hair, clothing and gloves away from moving parts.** Loose clothes, jewellery or long hair can be caught in moving parts.
- g) **Do not hand hold the Ferret.** The nature of this tool and the design function are such that high levels of vibration are generated. Short runs to set oil feed or to establish correct function should be carried out with the Ferret held clear of the ground by the hose by an operator wearing heavy duty gloves.

- h) **Do not leave the Ferret running from one barrel to the next.** Using the Foot Valve or Hand Valve turn the Ferret off in between barrels. The Ferret should only be running inside a barrel.
- i) **The Ferret will draw the hose into the bore and expel it at considerable speed.** The operator and any others **MUST** stand clear of the hose coils to avoid entanglement. The hose should only be guided keeping hands well clear of the bore entrance.

EQUIPMENT USE AND CARE

- a) **The system must be used only for the purposes for which it was designed.** NEVER throw the components on the floor, strike the housing in any way or use the parts as a hammer to knock material into place. Any hard blow to the cylindrical section of the Ferret body can distort the bore to the extent that the piston will seize and will need returning to the manufacturer for repair.
- b) **The Ferret must never be run without an oil supply.** Lack of oil will result in accelerated piston and bore wear and in extreme cases seizure of the piston. ALWAYS ensure the lubricator is full before starting cleaning operations and that oil is flowing when the Ferret is running.
- c) **This tool operates from an air supply and the Standard Safe Working Practices** for low pressure air systems must be applied and operators be conversant with these practices.
- d) **Store idle equipment out of the reach of children** and do not allow persons unfamiliar with the tools or these instructions to operate them
- e) **Disconnect the Ferret when not in use.** Always disconnect the Ferret from the air line when it is not in use, when you leave the work area or when moving the Ferret to a new location. The Ferret must never be left unattended because people who are unfamiliar with it might handle it and injure themselves or others.
- f) **Inspect the Ferret for proper operation.** Clean the Ferret after every use and lubricate it well. Never operate a malfunctioning Ferret. Foreign object ingress can not be tolerated by the Ferret. ALWAYS follow the purging procedure when assembling the system and ensure that all quick release connections are clean before connecting.
- g) **Use only Airnesco® recommended parts and accessories.** Using unauthorised parts and accessories can create dangerous situations. Always replace all missing warning labels.
- h) **Do not use the system to clean any other size barrel than the size it states it is for.** The brush could become stuck.
- i) **Always transport the equipment using the case or bag provided.** Some kits are heavy, take care when lifting and moving the equipment. All peli cases are equipped with wheels for safe transportation, if they are not being wheeled a two-man lift is necessary for all kits. Bags weigh no more than 25kg.

SYSTEM DESCRIPTION

AIRNESCO® BARREL CLEANING SYSTEM

The main component of the cleaning system is the Ferret, this is a pneumatically powered tool which when operated produces a linear motion. It is specifically designed to clean and aid in protecting the barrels of military weapons systems with a bore of 12.7mm to 155mm.

The Ferret can be fitted with a range of brushes and is powered by an 80-100PSI air supply which is connected to the tool via a wire braided hose. The air supply is controlled by a foot operated valve and the supply pressure is maintained by an adjustable FRL unit.

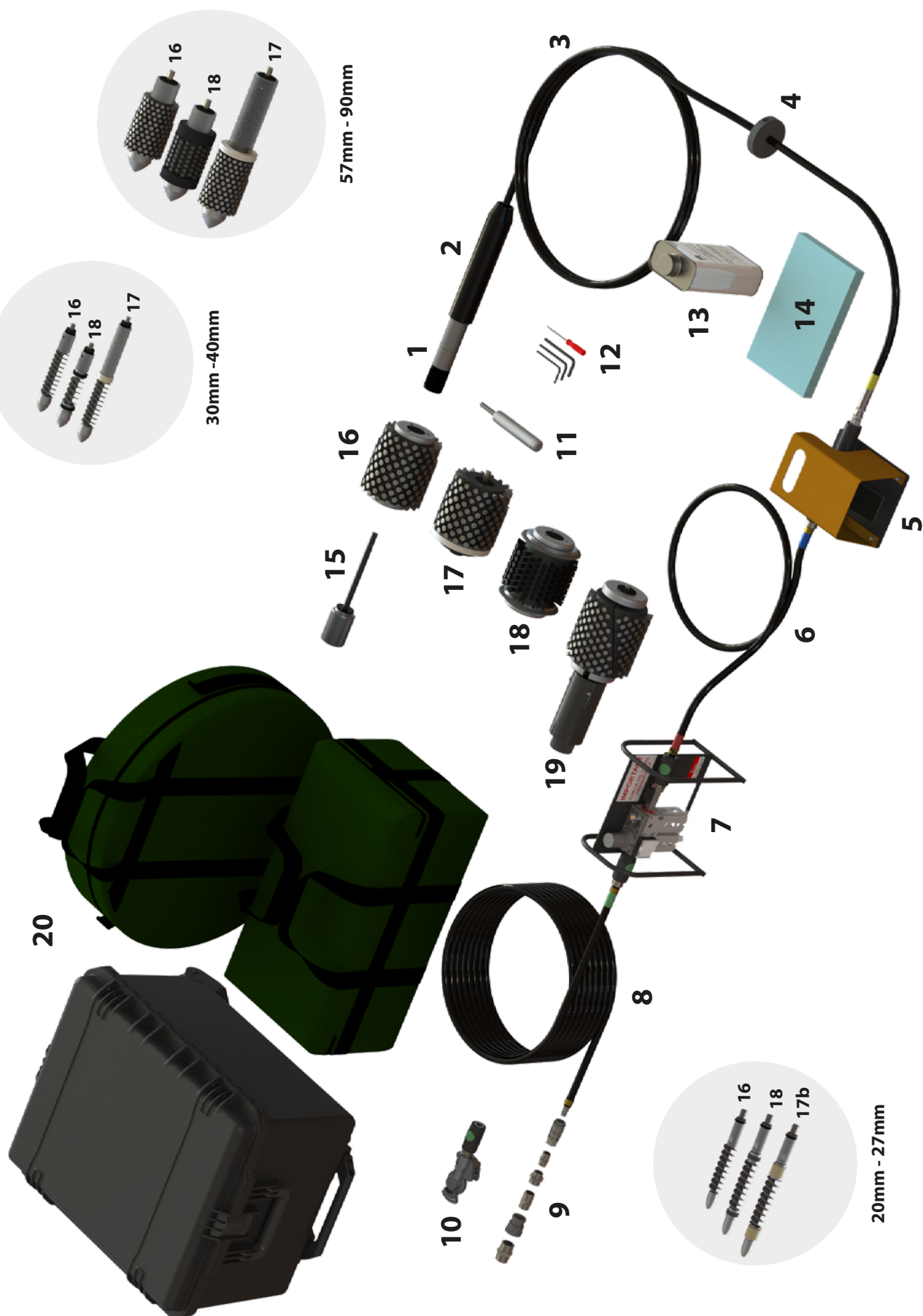
The tool has two functions depending on which type of brush is attached:

1. To drive an attached brush through a barrel to clean or dry the bore of the barrel.
2. As above and to pass oil or cleaning solution from a pressurised brush chamber to the bore of the barrel via a wetted felt disc.

The system can be used in the workshop using a mains air supply or in the field using the air supply from a vehicle. The weapon can be cleaned from the breach or muzzle end.

The Ferret is designed exclusively to be fitted to Airnesco brushes suitable for the size of the barrel you wish to clean, oil and dry.

SYSTEM COMPONENTS ILLUSTRATION



Main illustration shows brushes available for systems 100mm+

SYSTEM COMPONENTS

1. FERRET

The AIRNESCO® Ferret, the heart of our system, is available in five sizes. The Ferret and Wire Braided Hose (3) are supplied as an assembly. Do NOT exceed the recommended air pressure.

MPN	For barrels ...	Ferret Diameter	Ferret Diameter with shroud (2)	Air pressure required	Air volume required	NATO/NSN
F701C/F70	20mm-40mm	18mm (0.7")	N/A	100 psi/7 bar	13 - 15 cfm	NATO: 1025-99-846-1593
F901C/F90	25mm-35mm	23mm (0.9")	N/A	80 psi/6 bar	13 - 15 cfm	NATO: 1010-99-226-6462
F1066C */F125	37mm-40mm	32mm (1.23")	N/A	100 psi/7 bar	16 - 20 cfm	NATO: 1010-99-147-7175
F1081C/F150	57mm-140mm	38mm (1.5")	50mm (1.97")	100 psi/7 bar	23 - 25 cfm	NATO: 1015-99-770-7493
F2082C/F2000	120mm +	50mm (1.97")	70mm (2.75")	80 psi/6 bar	25 - 28 cfm	NATO: 1090-99-319-7022

For air powered tools to work their best, the air supply system must be properly installed and maintained regularly giving good quality dry air. It is recommended that a safety excess flow valve is installed at the source of the air supply to reduce pressure in case of hose failure.

The Ferret is marked with a serial number which uses the following key;



All Ferrets are manufactured in the UK by Airnesco® and are CE and UKCA certified.

2. SHROUD

An optional permanent or removable shroud is available for dust protection and protection of the Ferret.

The Ferret and Shroud are supplied as an assembly.

MPN	Description	NATO/NSN
H124	F1081C/F150 Shroud, Black, Permanent	NATO: 1010-99-391-3501
H16	F1081C/F150 Shroud, White, Removable	NATO: 1015-99-109-9770
H125	F2082C/F2000 Shroud, Black, Permanent	NATO: 1010-99-669-0700
H161	F2082C/F2000 Shroud, White, Removable	

3. AIR HOSE (FERRET to FOOT VALVE or FILTER LUBRICATOR)

Wire Braided Hoses are provided in two sizes, ¼" for smaller systems using an F701C or F901C ferret and ¾" for all other systems. If a small and large system are being integrated together there will occasionally be a mixture of the two. Available in different lengths.

MPN	Description	NATO/NSN
A92/5	5m x ¼" Single Wire Braided Hose used to connect Ferret to Filter Lubricator (for use with F70/F90)	NATO: 4720-99-126-8624
A92/6	6m x ¼" Single Wire Braided Hose used to connect Ferret to Filter Lubricator (for use with F70/F90)	
A141/12	12m x ¾" Single Wire Braided Hose used to connect Ferret to Foot Valve	NATO: 4720-99-365-6507
A142/12	12m x ¾" Single Wire Braided Hose used to connect Ferret to Foot Valve TESTED & CERTIFIED	

4. HOSE STOP

Hose Stops can be fitted onto the Ferret hose if required to stop the brush reaching the end of the barrel when there is an obstacle such as firing pins.

MPN	Description	NATO/NSN
K64	150mm Hose Stop	
K65	70mm Hose Stop	NATO: 4930-99-553-3012
K66	30mm Hose Stop	

5. FOOT VALVE

The Foot Valve is used for the user to control the air supply to the Ferret and MUST be operated by the person that is guiding the Ferret.

MPN	Description	NATO/NSN
Y161	Foot Valve	NATO: 4820-99-347-1450
Y21	US Foot Valve (Fail Safe)	
Y22	Safety Foot Valve to replace above models (Fail Safe with Guard)	

6. AIR HOSE (FOOT VALVE TO FILTER LUBRICATOR)

If the system has a foot valve (5) there will be a hose to connect it to the Filter Lubricator (7). Available in different lengths.

MPN	Description	NATO/NSN
A121/10	10m x 3/8" Air Hose used to connect Foot Valve to Filter Lubricator	NATO: 4720-99-582-5538
A121/5	5m x 3/8" Air Hose used to connect Foot Valve to Filter Lubricator	NATO: 4720-99-996-7361
A122/5	5m x 3/8" Single Wire Braided Hose used to connect Foot Valve to Filter Lubricator TESTED & CERTIFIED	

7. FILTER LUBRICATOR

The Filter, Regulator, Lubricator is designed to filter, lubricate and regulate the air supply.

MPN	Description	NATO/NSN
L21	Freestanding Filter Lubricator Unit	NATO: 4930-99-555-0847

Any condensate and particles filtered out of the supply air are collected in a bowl under the regulator. These are held in the bowl until the system is shut down and all pressure is exhausted when the valve will open allowing the bowl contents to drain out. The bowl may be drained with the system pressurized by manually depressing the drain assembly button which protrudes from the lowest point of the bowl (D).

IT IS IMPERATIVE THAT THE FERRET HAS A CONSTANT SUPPLY OF OIL. FAILURE TO ENSURE THIS HAPPENS COULD RESULT IN TOOL FAILURE

A. PRESSURE REGULATOR

Pull up and turn; Clockwise to INCREASE, anti-clockwise to DECREASE.

F701C, F1066C/F1067C, F1081C . . . 7 bar/100psi

F901C, F2082C 6 bar/80psi

Exceeding the above pressure setting for anything but a short period of time will result in tool damage and possible failure.

B. OIL FLOW RATE ADJUSTMENT

Clockwise to REDUCE, anti-clockwise to INCREASE. Under normal operating conditions it is recommended to set;

F901/F2082 1 drip every 5 seconds

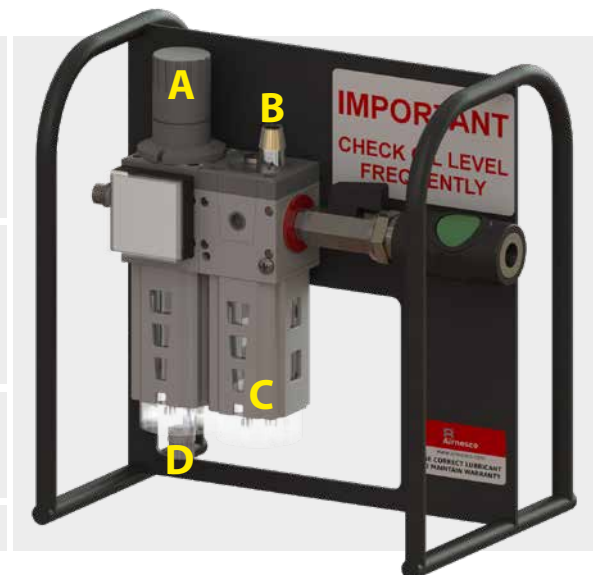
F701/F1066/F1081 1 drip every 10 seconds

C. OIL FILL BOWL with SIGHT GLASS

Push up and twist anti-clockwise to remove. Fill 3/4 full with H19.

Disconnect from air supply to fill.

D. AUTO MOISTURE DRAIN



8. AIR HOSE (FILTER LUBRICATOR TO AIR SUPPLY)

All systems will have a hose to connect the filter lubricator (7) to the air supply. Available in different lengths.

MPN	Description	NATO/NSN
A71/10	10m x 1/4" Air Hose used to connect Filter Lubricator to Air Supply	NATO:4720-99-246-1978
A13/10	10m x 3/8" Air Hose used to connect Filter Lubricator to Air Supply	NATO:4720-99-303-3210
A13/3	3m x 3/8" Air Hose used to connect Filter Lubricator to Air Supply	NATO:4720-99-164-4540
A132/10	10m x 3/8" Single Wire Braided Hose used to connect Filter Lubricator to Air Supply TESTED & CERTIFIED	

9. AIR CONNECTION ADAPTER

This is to aid the user in finding a suitable connection from our hose to the user's air supply.

MPN	Description	NATO/NSN
X161	3/8" Air Connection Adapter - USA	
Y161	3/8" Air Connection Adapter	NATO: 1015-99-324-9883

10. PALM CONNECTOR

Allows for connection to a vehicle's air supply.

MPN	Description	NATO/NSN
K50	Palm Connector	NATO: 4730-99-840-8047

11. TOMMY BAR

A Tommy Bar is provided to help ease the brush bolt from the brushes if over tightening should ever occur.

MPN	Description	NATO/NSN
T19	Tommy Bar	NATO: 1015-99-510-0590

12. TOOL KIT

For adjusting the filter lubricator and changing consumables on the brushes.

MPN	Description	NATO/NSN
T29	Mini Tool Kit (3,4 & 5mm Allen Key + mini screwdriver (for filter lubricator)	NATO: 5120-99-000-6218

13. OX24 LUBRICATING/PRESERVATION OIL

Specially designed for use with Airnesco® equipment and in addition can be used a preservative in gun barrels.

MPN	Description	NATO/NSN
H19	1ltr/35oz. Air Tool Oil/Barrel Preservation Oil	NATO: 9150-99-414-6509

For customers that would like to source their own oil for use in the Filter Lubricator unit to supply the necessary lubrication to the Ferret, please take note of these primary specifications;

Good quality AIR TOOL oil, which is FULLY SYNTHETIC and has a VISCOCITY of approximately SAE10.

Use of other oils may invalidate your warranty if found to have damaged the tool or caused the tool to malfunction because it was not suitable.

14. ANTEC DRYING CLOTH

Antec cleaning cloth is a highly absorbent lint free cloth designed to dry gun barrels. It does not break down in strong solvents and fluids. The Antec cloth can be used after cleaning or oiling to remove any remaining residue in the barrel.

MPN	Description		NATO/NSN
X941	Antec Cloth Small Roll	20-37mm	NATO: 7920-99-848-2866
X9411	Antec Cloth Pack (200 sheets)	20-27mm	
X9412	Antec Cloth Pack (200 sheets)	30-40mm	
X9413	Antec Cloth Pack (200 sheets)	57mm	
X9414	Antec Cloth Pack (200 sheets)	73-90mm	
X94	Antec Cloth Roll (100mm – 155mm and mortars)	100-155mm and 60mm, 70mm and 81mm	NATO: 1015-99-573-7009
X9401	Antec Cloth Pack (200 sheets)	60,70 and 81mm	
X9402	Antec Cloth Pack (200 sheets)	100-130mm	
X9403	Antec Cloth Pack (200 sheets)	155mm	
X94021	Antec Cloth (100 sheets)	100-130mm	
X94031	Antec Cloth (100 sheets)	152-203mm	

It should only be wrapped around the cleaning or distribution brush **ONE** time only. The cloth may overlap slightly, but should not overlap by any more than half again. The brush is inserted into the barrel and used as normal.

15. BRUSH BOLT

A Brush Bolt is inserted through larger gauge brushes (100mm upwards) and screwed into the Ferret end to secure them onto the Ferret.

MPN	Description	NATO/NSN
T20	Brush Bolt for 100mm – 139mm	NATO: 1015-99-276-1593
T36	Brush Bolt for 140mm upwards	NATO: 1025-99-871-5910

Smaller calibres up to 100mm do not require a brush bolt, the brush simply screws into the Ferret end.

16. CLEANING BRUSH

A number of different types of brushes are available, depending on the application, size of barrel, metallurgy and profile. If you cannot identify your brush please contact us. The Cleaning Brush typically has stainless steel bristles and is used for general cleaning of lightly rusted or contaminated barrels. Brushes are also available in nylon, phosphor bronze or a mixture.

17. DISTRIBUTION BRUSH

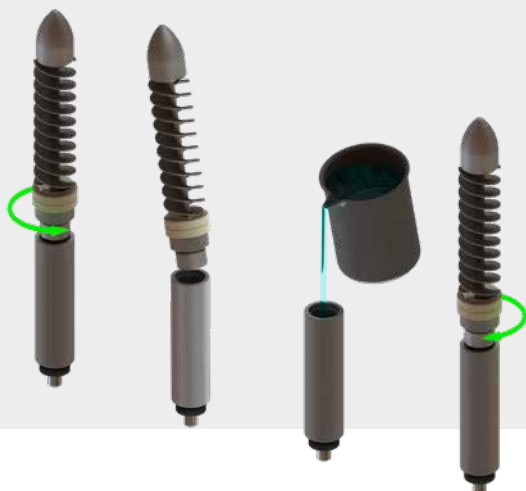
The Distribution Brush, depending on the specification of the supplied kit, is used to apply larger amounts of cleaning oil or other cleaning solutions. It is important that only clean, non contaminated fluids with a low viscosity are used, as the reservoir contains a complex control valve that could be blocked by fluids containing foreign objects or that are too thick. Upon completion of the clean, loosen (BUT DO NOT REMOVE) the screwcap to release the pressure.



FILLING THE DISTRIBUTION BRUSH

30mm-90mm

The distribution brush is fitted with a neoprene sealing ring at the reservoir joint. It is important NOT to over tighten the reservoir when re-connection to brush as it is unnecessary and could lead to difficulty when next refilling.



100mm-203mm

Ensure there is no residue pressure in airline. Disconnect Brush from the Ferret before filling.



17b. OILING BRUSH

The Oiling brush is used for depositing a light coating of cleaning fluid/oil along the barrel. Pour a small quantity of approved cleaning fluid/oil over the felt rings on the brush, before running in the barrel.

For systems over 30mm, the oiling brush has been largely replaced by the distribution brush for a more efficient way to distribute fluids along the barrel. It is not illustrated on the larger systems as this brush is largely obsolete, except for systems under 30mm.

18. SQUEEGEE BRUSH

The Squeegee Brush is used for removing any oil deposits in the barrel prior to firing. This brush should only be used on oiled barrels; it may operate slowly or even stop on a dry barrel. If this brush is forced to operate in a dry barrel the squeegee blades will be damaged and may be pulled from their carriers by the force and the brush could become stuck.

REPLACING SQUEEGEE BLADES, DISTRIBUTION AND OILING FELTS



OILING BRUSH



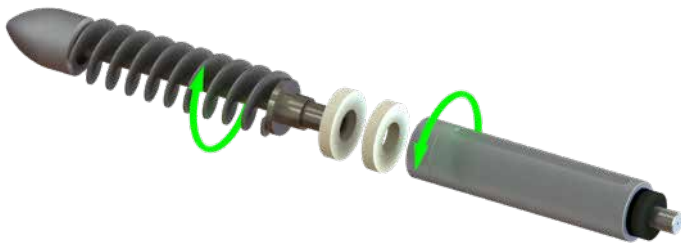
SQUEEGEE BRUSH

20mm – 90mm Oiling/Squeegee Brush



It is recommended to apply a little Loctite 243 or equivalent to the threads when re-assembling – hand-tighten only.

30mm – 50mm Distribution Brush



It is recommended to apply a little Loctite 243 or equivalent to the threads when re-assembling – **hand-tighten only**.

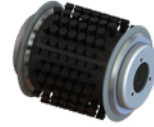
57mm-90mm Distribution Brush; remove the bullet end and brush core to access the felts.



OILING BRUSH



SQUEEGEE BRUSH



BLADE TYPE SQUEEGEE BRUSH

100mm – 155mm Oiling/Squeegee Brush



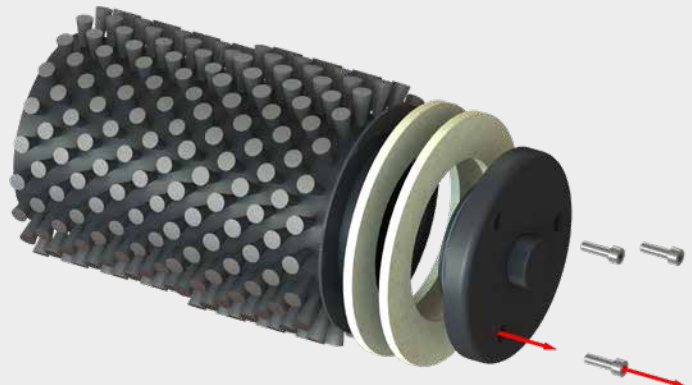
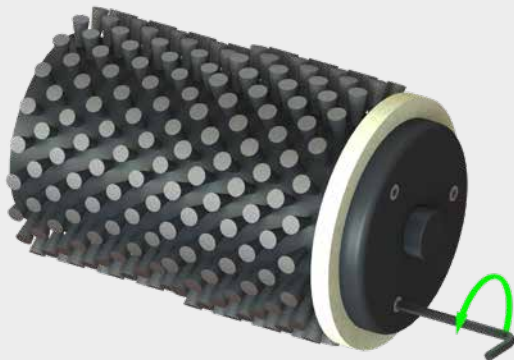
It is recommended to use a little grease or anti-seize compound on the screws when re-assembling.

120mm – 155mm Blade Type Squeegee Brush



It is recommended to use a little grease or anti-seize compound on the screws when re-assembling.

100mm – 155mm Distribution Brush



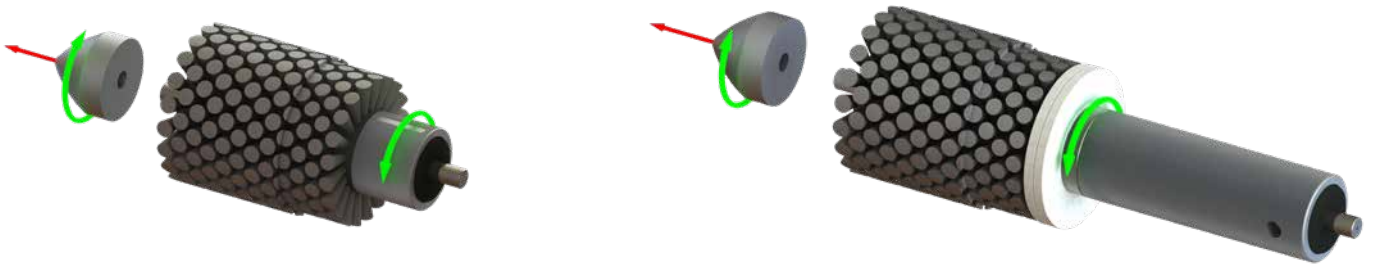
REPLACING THE COMPRESSION WASHERS

Use a suitable, good quality adhesive to rebond the compression washer is necessary. Ensure that any old adhesive is removed from the end cap and abraided the new washer using suitable abrasive paper. The washer can be held in place to assemble the system and does not have to be permanently bonded if it becomes loose.



REPLACING THE BRUSH CORE

57mm – 90mm Cleaning, Oiling Squeegee and Distribution Brushes



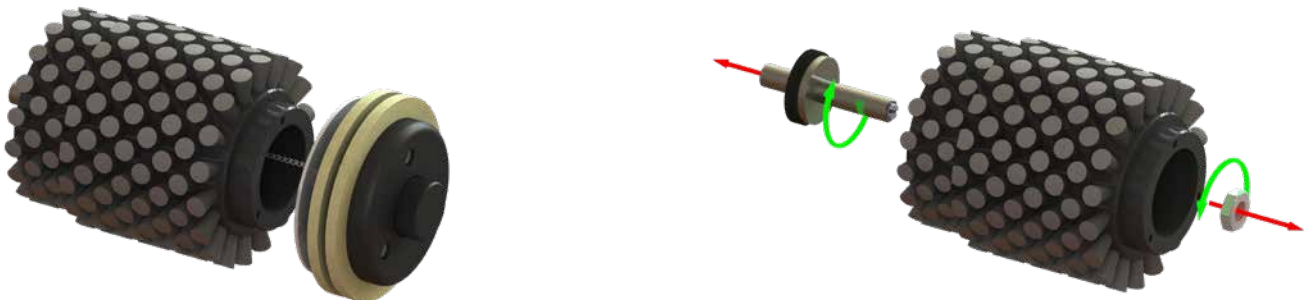
It is recommended to apply a little Loctite 243 or equivalent to the threads when re-assembling – **hand-tighten only**.

100mm – 155mm Cleaning, Oiling & Squeegee Brushes



100mm – 155mm Distribution Brushes

TYPE 1 (Slotted Lid)



1. Remove three M6 cap head screws from the end cap and remove the complete end cap assembly, felts and support disc.

2. Using a 19mm socket and extension bar, turn the locknut located inside the brush core chamber in a counter clockwise direction and remove it. Grip the brush stud in the **protected jaws** of a suitable vice and rotate the brush core in a counter clockwise direction, take care not to damage the stud threads.

BRUSHES & BRUSH CONSUMABLES

Brush Size	Brush Number	Replacement Brush Core	Replacement Distribution Chamber	Compression Washer (1) or (2) per brush	Oiling/Distribution Felts & Squeegee Blades/Discs (2 per brush unless otherwise stated)
20mm SPIRAL	SP341 (Cleaning) NATO: 1010-99-217-8177	Not available		G231 (1) NATO: 5310-99-665-2108	
	SP342 (Oiling) NATO: 1010-99-848-2867				G175 (6 per brush) NATO: 1010-99-564-6210
	SP343 (Squeegee) NATO: 1010-99-983-7122				G445 NATO: 1010-99-229-8148
25mm SPIRAL	SP331 (Cleaning) NATO: 1010-99-126-8621	Not available		G23 (1) NATO: 1005-99-860-1487	
	SP521 (Oiling) NATO: 1010-99-318-7593				G17 (6 per brush) NATO: 1010-99-436-3371
	SP461 (Squeegee) NATO: 1010-99-217-8176				G44 NATO: 1010-99-848-2868
27mm SPIRAL	SP335 (Cleaning)	Not available		G23 (1) NATO: 1005-99-860-1487	
	SP525 (Oiling)				G30 (6 per brush)
	SP465 (Squeegee)				G305
30mm SPIRAL	SP301 (Cleaning) NATO: 1005-99-258-3359	Not available		G23 (1) NATO: 1005-99-860-1487	
	SP106 (Oiling)				G29 (6 per brush) NATO: 1005-99-990-0327
	SP1061 (Squeegee) NATO: 1005-99-669-9989		Z101		G40 NATO: 1005-99-893-0197
	SP303 (Distribution) NATO: 1005-99-367-2228				G291
35mm SPIRAL	SP791 (Cleaning)	Not available		G23 (1) NATO: 1005-99-860-1487	
	SP792 (Oiling)				G52 (6 per brush)
	SP793 (Squeegee)		Z101		G58
	SP794 (Distribution)				G521
37mm SPIRAL	SP1660 (Cleaning)	Not available		G23 (1) NATO: 1005-99-860-1487	
	SP1666 (Oiling)				G52 (6 per brush)
	SP1667 (Squeegee)		Z101		G59
	SP1665 (Distribution)				G521
40mm SPIRAL	SP111 (S/S Cleaning)	Not available		G23 (1) NATO: 1005-99-860-1487	
	SP112 (Oiling) NATO: 1010-99-153-8935				G43 (6 per brush) NATO: 5330-99-216-3961
	SP113 (Squeegee) NATO: 1010-99-891-1145		Z101		G50 NATO: 7920-99-840-6558
	SP114 (Distribution) NATO: 101-99-156-8935				G522
50mm	SP635 (Cleaning)	Not available		G22 (1) NATO: 1015-99-589-8290	
57mm	SP641 (Cleaning) NATO: 1010-99-666-0546	SB523 NATO: 1010-99-501-0678		G22 (1) NATO: 1015-99-589-8290	
	SP644 (Heavy Duty Clg) NATO: 1010-99-856-3905	SB418			
	SP642 (Oiling) NATO: 1010-99-679-8215	SB524 NATO: 1010-99-340-8800			G51 (6 per brush) NATO: 5330-99-147-7344
	SP643 (Squeegee) NATO: 1010-99-358-5747	SB524 NATO: 1010-99-340-8800	G53 NATO: 1015-99-212-6527		
	SP645 (Distribution)	SB523 NATO: 1010-99-501-0678	Z103		G51 NATO: 5330-99-147-7344
60mm Mortar	SP1395 (S/S Cleaning)	Not available		G22 (1) NATO: 1015-99-589-8290	
	SP1396 (Nylon Cleaning)				
70mm Launcher	SP1241 (S/S Cleaning) NATO: 20-99-888-7168	Not available		G22 (1) NATO: 1015-99-589-8290	
	SP691 (Nylon Cleaning) NATO: 7920-99-133-6618				
73mm	SP39 (Cleaning) NATO: 1015-99-580-3881	SB5125		G22 (1) NATO: 1015-99-589-8290	
	SP391 (Oiling)	SB512			G34 (6 per brush)
	SP392 (Squeegee)	SB512			G285
	SP394 (Distribution)	SB5125	Z103		G34
76mm	SP402 (Cleaning)	SB5221 NATO: 1020-99-918-9179		G22 (1) NATO: 1015-99-589-8290	
	SP311 (Oiling) NATO: 1015-99-212-5900	SB4321 NATO: 101-99-687-3338			G37 (6 per brush) NATO: 5330-99-471-3145
	SP451 (Squeegee) NATO: 1015-99-227-6386	SB4321 NATO: 101-99-687-3338			G42 NATO: 1015-99-743-0433
	SP163 (Distribution) NATO: 1015-99-435-2917	SB5221 NATO: 1020-99-918-9179	Z103		G37 NATO: 5330-99-471-3145
81mm Mortar	SP117 (Cleaning) NATO: 1015-99-741-6968	Not available		G22 (1) NATO: 1015-99-589-8290	
84mm Mortar	SP119 (Cleaning)	Not available		G22 (1) NATO: 1015-99-589-8290	

Brush Size	Brush Number	Replacement Brush Core	Replacement Distribution Chamber	Compression Washer (1) or (2) per brush	Oiling/Distribution Felts & Squeegee Blades/Discs (2 per brush unless otherwise stated)
90mm	SP361 (Cleaning)	SB4031	Z103	G22 (1) NATO: 1015-99-589-8290	
	SP362 (Oiling)	SB4032			G63 (6 per brush)
	SP363 (Squeegee)	SB4032			G64
	SP364 (Distribution)	SB4031			G63
100mm	SP921 (Cleaning) NATO: 1015-99-663-9651	SB4261 NATO: 1020-99-669-0702		G22 NATO: 1015-99-589-8290 (2) on CLN, OIL, SQY (1) on DIST	
	SP283 (Oiling)	SB4262 NATO: 1015-99-321-5882			G272 (6 per brush)
	SP282 (Squeegee)	SB4262 NATO: 1015-99-321-5882			G48
	SP169 (Distribution)	SB459 NATO: 1015-99-669-0714			G271
105mm	SP921 (Cleaning) NATO: 1015-99-663-9651 NSN: 1015-01-626-1300	SB4261 NATO: 1020-99-669-0702		G22 NATO: 1015-99-589-8290 (2) on CLN, OIL, SQY (1) on DIST	
	SP284 (Oiling) NATO: 1015-99-313-9444 NSN: 1051-01-626-0916	SB4262 NATO: 1015-99-321-5882			G274 (6 per brush) NATO: 5330-99-902-5394
	SP281 (Squeegee) NATO: 1015-99-986-6465 NSN: 1015-01-626-0937	SB4262 NATO: 1015-99-321-5882			G481 NATO: 7920-99-968-9093
	SP170 (Distribution) NATO: 1015-99-494-8061	SB459 NATO: 1015-99-669-0714			G273 NATO: 5330-99-555-1004
114mm (4 ½")	SP1381 (Cleaning) NATO: 7920-99-834-6959	SB4265 NATO: 1015-99-242-9892		G22 NATO: 1015-99-589-8290 (2) on CLN, OIL, SQY (1) on DIST	
	SP1383 (Oiling) NATO: 7920-99-395-9474	SB4267 NATO: 1015-99-904-0650			G26 (6 per brush) NATO: 1015-99-851-7529
	SP1384 (Squeegee) NATO: 7920-99-253-1070	SB4267 NATO: 1015-99-904-0650			G24 NATO: 1015-99-248-3850
	SP1385 (Distribution) NATO: 1015-99-219-9166	SB4268 NATO: 1015-99-840-6568			G26 NATO: 1015-99-851-7529
120mm Mortar	SP109 (Cleaning)	Not available		G22 (1) NATO: 1015-99-589-8290	
120mm	SP172 (Cleaning) NATO: 1015-99-212-9403	SB5292 NATO: 1020-99-840-6554		G22 NATO: 1015-99-589-8290 (2) on CLN, OIL, SQY (1) on DIST	
	SP100 (Nylon Cleaning)	SB443			
	SP1722 (Oiling) NATO: 1015-99-262-7361	SB4114			G33 (6 per brush) NATO: 1015-99-423-1574
	SP291/R (Squeegee Rifled) NATO: 1015-99-262-7361	SB4114			G28 NATO: 1015-99-888-9306
	SP291/S (Squeegee Smooth) NATO: 1015-99-262-7361	SB4114			G57 NATO: 7 920-99-587-4092
	SP174 (Distribution) NATO: 1015-99-671-9083	SB5291			G33 NATO: 1015-99-423-1574
122mm	SP172 (Cleaning) NATO: 1015-99-212-9403	SB5292 NATO: 1020-99-840-6554		G22 NATO: 1015-99-589-8290 (2) on CLN, OIL, SQY (1) on DIST	
	SP1722 (Oiling) NATO: 1015-99-262-7361	SB4114			G33 (6 per brush) NATO: 1015-99-423-1574
	SP1723 (Squeegee)	SB4114			G281
	SP174 (Distribution)	SB5291			G33 NATO: 1015-99-423-1574
125mm	SP551 (Cleaning)	SB5307 NATO: 1020-99-297-9621		G22 NATO: 1015-99-589-8290 (2) on CLN, OIL, SQY (1) on DIST	
	SP552 (Oiling) NATO: 5130-99-320-1231	SB4113			G67 (6 per brush) NATO: 5330-99-985-0895
	SP752 (Squeegee)	SB4113			G68
	SP554 (Distribution)	SB5308			G67 NATO: 5330-99-985-0895
127mm	SP551 (Cleaning)	SB5307 NATO: 1020-99-297-9621		G22 NATO: 1015-99-589-8290 (2) on CLN, OIL, SQY (1) on DIST	
	SP552 (Oiling) NATO: 5130-99-320-1231	SB4113			G67 (6 per brush) NATO: 5330-99-985-0895
	SP553 (Squeegee)	SB4113			G69/G NATO: 7920-99-257-2546
	SP554 (Distribution)	SB5308			G67 NATO: 5330-99-985-0895
130mm	SP57 (Cleaning)	SB5302		G22 NATO: 1015-99-589-8290 (2) on CLN, OIL, SQY (1) on DIST	
	SP572 (Oiling)	SB5303			G85 (6 per brush)
	SP573 (Squeegee)	SB5303			G86
	SP66 (Distribution)	SB5301			G85
152mm	SP167 (Cleaning) NATO: 1025-99-488-6438	SB4481 NATO: 1025-99-153-8921		G22 NATO: 1015-99-589-8290 (2) on CLN, OIL, SQY (1) on DIST	
	SP1672 (Oiling)	SB4311 NATO: 1025-99-727-6998			G312 (6 per brush)
	SP1673 (Squeegee)	SB4311 NATO: 1025-99-727-6998			G252
	SP1674 (Distribution)	SB4482 NATO: 1025-99-979-8147			G312

Brush Size	Brush Number	Replacement Brush Core	Replacement Distribution Chamber	Compression Washer (1) or (2) per brush	Oiling/Distribution Felts & Squeegee Blades/Discs (2 per brush unless otherwise stated)
155mm	SP167/5 (Cleaning) NSN: 1025-01-617-5586	SB4481/5		G22 NATO: 1015-99-589-8290 (2) on CLN, OIL, SQY (1) on DIST	
	SP167/8 (Cleaning) NATO: 1025-99-488-6438	SB4481/8 NATO: 1025-99-153-8921			
	SP27 (Oiling) NATO: 1025-99-838-8045 NSN: 1025-01-617-5577	SB4311 NATO: 1025-99-727-6998			G31 (6 per brush) NATO: 1025-99-503-8789
	SP24 (Squeegee) NATO: 1025-99-456-2293 NSN: 1025-01-617-5621	SB4482 NATO: 1025-99-979-8147			G25 NATO: 1025-99-957-7331
	SP133 (Distribution) NATO: 1025-99-384-7641	SB4481 NATO: 1025-99-153-8921			G31 NATO: 1025-99-503-8789
203mm	SP177 (Cleaning)			G22 NATO: 1015-99-589-8290 (2) on CLN, OIL, SQY (1) on DIST	
	SP1772 (Oiling)				G313 (6 per brush)
	SP1773 (Squeegee)				G253
	SP1774 (Distribution)				G313

19. EXPANDING CHAMBER BRUSH

Brush Size	Brush Number	Replacement Brush Core	Compression Washer
100mm – 146mm	SP741 NATO: 1015-99-315-1259	SB5374	G22 (1) NATO: 1015-99-589-8290
120mm – 165mm (Challenger 2)	SP7416	SB53746	
155mm – 200mm (AS90/M777)	SP7426 NATO: 1020-99-238-3315	SB5377	

The brush should be operated from the chamber end and will need to be compressed to be inserted into the chamber. Prior to inserting, the tension of the brush can be adjusted by turning the end of the brush. To increase the tension turn clockwise, to decrease turn anti-clockwise. Release the tension on the brush before stowing in the case.

*older style brushes have the tension adjuster separate from the brush.

COMPRESSING & INSERTING THE BRUSH

The chamber brush will remain in an expanded state until it is manually compressed. Compress the brush by applying pressure to the brush core segments, once compressed the brush can be inserted into the barrel or chamber.



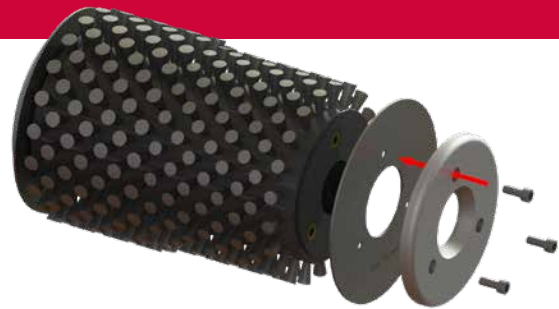
20. STORAGE



MPN	Description	NATO/NSN
H140	Soft Storage Bag (Round for all Hoses, Ferret/Shroud and Foot Valves) AND for a complete system up to 40mm.	NATO : 8105-99-226-1029
H138	Soft Storage Bag (Mini square for 4 brushes only, up to 90mm)	NATO : 8105-99-840-7657
H1383	Soft Storage Bag (Midi square for 4 brushes only, up to 122mm)	NATO : 8105-99-488-9841
H1384	Soft Storage Bag (Maxi square for 4 brushes only, up to 155mm)	
H1381	Soft Storage Bag (Square for a max of 4 brushes up to 90mm and Filter, Regulator, Lubricator Unit)	NATO : 8105-99-471-7329
H1382	Soft Storage Bag (Square for a max of 4 brushes 100mm – 120mm and Filter, Regulator, Lubricator Unit)	NATO : 8105-99-219-8253
H137	Soft Storage Bag (Square for a max of 4 brushes 122mm – 155mm and Filter, Regulator, Lubricator Unit)	NATO : 8105-99-614-0907
H42P	Storm/Peli military approved tough storage box to hold all kit with 4 brushes up to 40mm	NATO : 8142-99-483-7459
H72P	Storm/Peli military approved tough storage box to hold all kit with 4 brushes up to 90mm	NATO : 8145-99-724-2536
H41P	Storm/Peli military approved tough storage box to hold all kit with 4 brushes up to 130mm	NATO : 8145-99-479-6178
H43P	Storm/Peli military approved tough storage box to hold all kit with 4 brushes from 203mm	

21. BROACHING RINGS

For knocking off copper nodules or other barrel deposits preventing the bore gauge from passing.



MPN	Description	NATO/NSN
D8	57mm Broaching Rings (set of 6, 3 graduations)	NATO:5365-99-587-3547
D85	76mm Broaching Rings (set of 6, 3 graduations)	
D87	105mm Broaching Rings (set of 6, 3 graduations)	
D12	114mm (4½") Broaching Rings (set of 6, 3 graduations)	
D10	127mm Broaching Rings (set of 6, 3 graduations)	
D71	155mm Broaching Rings (set of 6, 3 graduations)	NATO:1025-99-378-4299 NATO:1025-99-984-7742 NATO:1025-99-553-9844

22. CLEANING FLUIDS (not illustrated)

Designed for use with the distribution brush to control deposits in the barrel that cannot be removed with a dry clean.

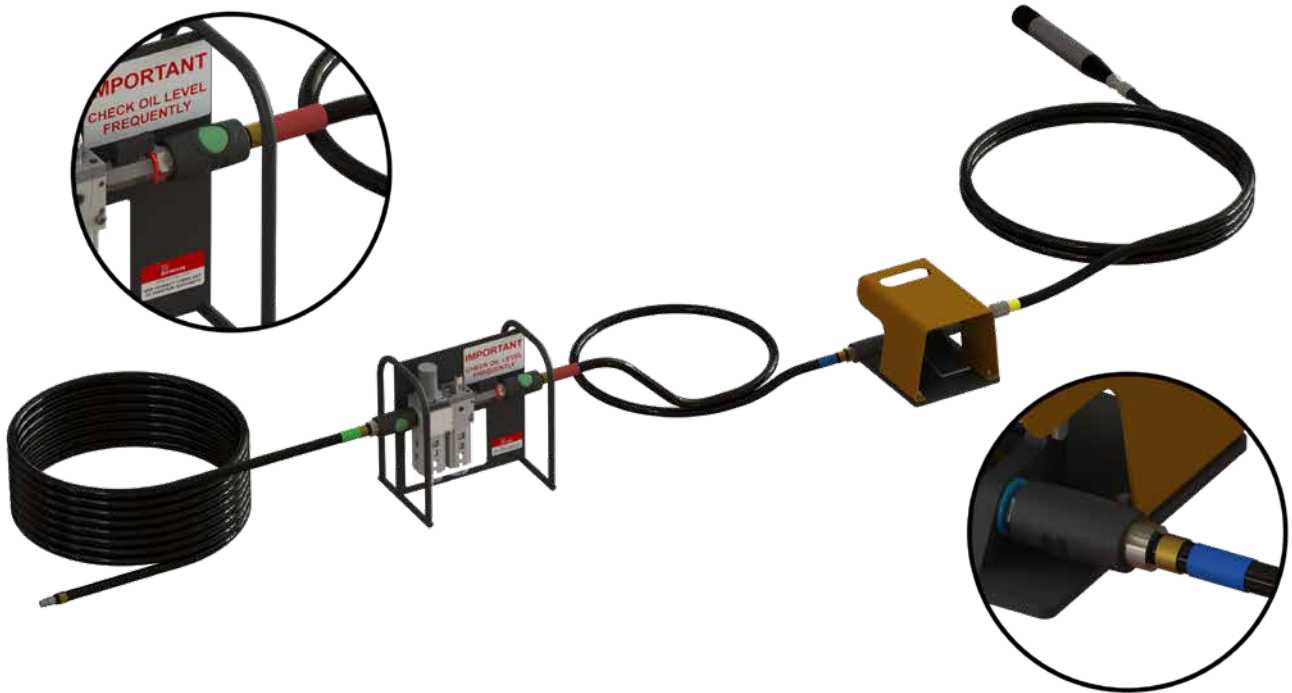
MPN	Description	NATO/NSN
O5/0.45l	0.45ltr/16oz. Cu+2 Copper Remover	NATO: 6850-99-410-8194
O4/0.45l	0.45l/16oz. Eliminator Carbon/Copper Remover	NATO: 6850-99-915-8459
O4/3.8l	3.8l/134oz. Eliminator Carbon/Copper Remover	NATO: 6850-99-855-3152
O7/0.45l	0.45l/16oz. Polymer Blend	
O7/3.8l	3.8l/134oz. Polymer Blend	

SYSTEM ASSEMBLY AND OPERATION

1. VISUALLY INSPECT COMPONENTS

- a) Hoses, for abrasions, cuts or damage
- b) Couplings located at the ends of the hoses for dirt, sand or damage.
- c) The Ferret, for damage to the body.
- d) Foot valve, ensuring full motion of the valve physically.
- e) Filter Lubricator, check oil visible through sight glass in right hand bowl (our H19 is blue to make this easier) **IT IS IMPERATIVE THAT THE FERRET HAS A CONSTANT SUPPLY OF OIL. FAILURE TO ENSURE THIS HAPPENS COULD RESULT IN TOOL FAILURE**

2. CONNECT COMPONENTS, MATCH THE COLOURS



3. SELECT BRUSH AND ATTACH TO FERRET

20mm – 90mm screw directly on to the Ferret, 100mm+ use a BRUSH BOLT (15)



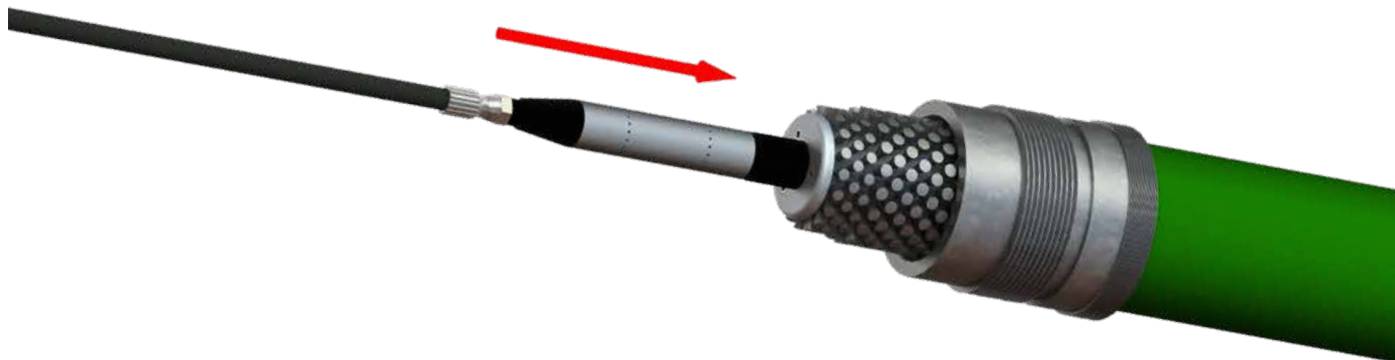
THERE ARE TWO DIAMETERS ON MOST BRUSHES, THE SMALLER END SHOULD BE NEXT TO THE FERRET. DO NOT USE THE TOMMY BAR (11) TO TIGHTEN THE BRUSH HEAD TO THE FERRET, THIS WILL OVERTIGHTEN IT. TOMMY BARS ARE ONLY TO BE USED IF NECESSARY WHEN REMOVING THE HEAD.

4. INSERT BRUSH

Push the brush gently into the barrel until it is fully engaged



Turn on the air at source and use the foot valve to begin operating the system. Guide the hose, do not grip it, and do not allow it to become entangled with anything, including the operator. Once in motion the Ferret will be drawn into the barrel with considerable force and hands must be kept clear of the muzzle as the hose is drawn towards the breech. **DO NOT HOLD THE FERRET WHILST IN OPERATION.**



5. REVERSE

As soon as the brush comes to the end of the barrel movement will stop and the brush should return automatically, if the brush does not engage for the return, a short tug on the hose will help. Once the bristles are engaged the Ferret will travel towards the operator pulling the brush behind it. Carefully collect the hose, and eventually the Ferret as it returns to avoid entanglement and switch off. This cycle is repeated as required. **DO NOT HOLD THE FERRET WHILST IN OPERATION.**

THERE ARE TWO DIAMETERS ON MOST BRUSHES, THE LARGER END SHOULD BE ENTERED FIRST. THE REDUCED DIAMETER OF THE BRUSH IS DESIGNED TO STOP THE BRUSH DRIVING WHEN IT HAS REACHED THE END OF THE BARREL TO ENABLE THE RETURN PASS.

SYSTEM DISASSEMBLY

Isolate the air supply at source and open the foot valve to release any trapped air. Clean the components and pack away to avoid damage.

TROUBLESHOOTING

If maintained and used properly, the Ferret should give long and trouble free service. The following actions are suggested if problems are encountered with starting or erratic running.

1. IS THERE ENOUGH AIR? Check the air supply is at its required level according to the gauge.

2. IS THE AIR SUPPLY TRAPPED? Ensure the supply line is not trapped or kinked, all connections are secure and the foot valve is fully depressed.

3. IS THE PISTON 'STUCK' IN THE FERRET? If the Ferret is still not running, it is likely that the piston is sticking. Ensure the system is turned off at the foot valve and move the tool in a vigorous action. Simply giving the Ferret a shake should free it. An audible sound will be heard, and movement will be felt as the piston frees itself.

4. If the problem is not cured by this approach the sticking may be due to the system having been run dry and the piston having become locked to the bore, or there is damage to the cylinder wall. Assuming no damage is evident on the cylinder wall, disconnect the Ferret from the hose and inject oil into the tool via the hose connection end and free the piston by a firm, sharp, tap at the END of the Ferret on a block of wood. Strike either end in turn until the

piston can be seen, through the exhaust ports, to be moving. **DO NOT** strike the Ferret on its chrome body.

5. If the above actions do not succeed in restoring the tool or if it runs erratically or stops for no reason it must be assumed that internal damage has occurred and the Ferret should be returned for repair.



REPAIRS, SPARES AND OVERHAULS

The Airnesco® System is completely modular which means it can be repaired or replaced quickly and efficiently. We recommend you return the system or its parts thereof that need inspecting and/or repairing to;

Repairs, Airnesco Group Ltd, Woodcock Farm, Woodcock Lane, Grafty Green ME17 2AY, UK.

Please email info@airnesco.com in advance if you are shipping from abroad so we can work together to avoid unnecessary duties.

Once we have received your items, we will assess the cost and get back to you within 48 hours with a quotation, inspection is free.

SYSTEM WARRANTY AND LIMITATIONS

Airnesco® warrants that newly purchased equipment, tools, parts and accessories will be free from defects in material and workmanship (excluding wear parts) for TWO years, after the date of delivery to the original user.

NORMAL WEARING PARTS

The following parts are considered normal wearing parts and are not under warranty;

- Brushes
- Tufted Brush Cores
- Squeegee Blades
- Oiling Felts
- Compression Washers

WARRANTY STATEMENT

Airnesco's sole liability hereunder will be to replace any part or accessory which proves to be defective within the specific time period. Any replacement part or accessory provided in accordance with this warranty will carry a warranty for the balance of the period of warranty applicable to the part it replaces.

This warranty is void as to any tool, part or accessory which has been subjected to misuse, abuse, accidental or intentional damage, improperly maintained,

repaired with other than genuine Airnesco® replacement parts, damaged in transit or handling, used with parts or accessories not meeting Airnesco's specification or which, in Airnesco's opinion, has been altered or repaired in a way that affects or detracts from the performance of the system.

Components of the system should not be substituted for non-Airnesco products, nor should parts of the system be used with other Airnesco systems which are not designed to work together.

Airnesco makes no warranty, expressed or implied, relating to merchantability, fitness or otherwise, except as stated above, and Airnesco's liability as stated above and assumed above is in lieu of all other warranties arising out of, or in connection with, the use and performance of the system, except to the extent otherwise provided for by applicable law. AIRNESCO SHALL IN NO EVENT BE LIABLE FOR ANY DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES, INCLUDING, BUT NOT LIMITED TO, DAMAGES WHICH MAY ARISE FROM LOSS OF ANTICIPATED PROFITS OR PRODUCTION, SPOILAGE OF MATERIALS, INCREASED COST OF OPERATION, OR OTHERWISE.]

Airnesco reserves the right to change specifications

ENVIRONMENTAL PROTECTION

- 1) Environmental protection should be a priority of considerable importance when using the equipment, for the benefit of both social co-existence and the environment in which we live. Try not to cause any disturbance to the surrounding area.
- 2) Scrupulously comply with local regulations and provisions for the disposal of packaging, oils, damaged parts or any elements which have a strong impact on the environment; this waste must not be disposed of as normal waste, it must be separated and taken to specified waste disposal centres where the material will be recycled.
- 3) Scrupulously comply with local regulations for the disposal of waste materials after cleaning.
- 4) At the time of decommissioning, do not pollute the environment with the machine, but hand it over to a disposal centre, in accordance with the local laws in force.

EC DECLARATION OF CONFORMITY

ORIGINAL

MANUFACTURER BUSINESS NAME & FULL ADDRESS

Airnesco Group Ltd
Woodcock Farm,
Woodcock Lane,
Grafty Green
Kent
ME17 2AY, UK

AUTHORISED REPRESENTATIVE (if applicable)

Hold Tech Files Ltd
Dun Iseal, Newtown,
Gaulsmills, Ferrybank,
Waterford
Republic of Ireland
X91F638

PERSON IN THE COMMUNITY, AUTHORISED TO COMPILE THE TECHNICAL FILE NAME AND ADDRESS

Hold Tech Files Ltd. Dun Iseal, Newtown, Gaulsmills, Ferrybank, Waterford, Republic of Ireland, X91F638

MACHINE DETAILS

Name: Airnesco Tube Cleaning System (Ferret) Type: Tube Cleaning System
Serial Number: Serial Number: 10001/0724/2082 – 19999/____/____

I declare that the machinery fulfils all the relevant provisions of the following Directives and Regulations:

Machinery Directive 2006/42/EC
Supply of Machinery (Safety) Regulations 2008 as amended

HARMONISED STANDARDS USED

EN ISO 12100:2010, EN ISO 4414:2010

PLACE OF DECLARATION

Airnesco Group Ltd
Woodcock Farm,
Woodcock Lane,
Grafty Green
Kent
ME17 2AY, UK

DATE OF DECLARATION

29 December 2023

PERSON EMPOWERED TO DRAW UP DECLARATION NAME

Sarah-Jane Grant

POSITION

Managing Director

SIGNATURE





Airnesco Group Ltd

Woodcock Farm, Woodcock Lane, Grafty Green,
Maidstone, ME17 2AY England

Tel: 01622 850470

Email: info@airnesco.com

www.airnesco.com

Made in the UK



Over seven decades of designing, manufacturing and
supplying tube, pipe and barrel cleaning equipment

Two Year Limited Warranty

All Airnesco products and parts are produced in accordance with
ISO9001:2008. Our two year warranty protects you against defects
in workmanship or materials. (Subject to terms and conditions, see
website for details.)