

SERVICE & OPERATING MANUAL

AIR OPERATED DOUBLE DIAPHRAGM PUMP

X25

X1A Metallic Series

This pump is Atex approved for use
in potentially explosive atmospheres
Group II category 2



Table of Contents

Service / Maintenance Log, Recycling	2
Dimensions	3
Performance Curve	3
Technical Data & Temperature limitations	4
Explanation of Pump Nomenclature	4
Principle of Pump Operation	5
Installation guide	5
Important Warnings & Safety Information	6
Troubleshooting	7
Grounding the Pump.....	7
Warranty	8
Service	8
Air Valve Overhaul	8
Wet-side Overhaul	8
Exhaust Safety	9
High Temperature Installations	9
Parts List	10
Assembly Drawing	11
Declaration of Conformity	12

Service / Maintenance Log

Date	Details	Completed



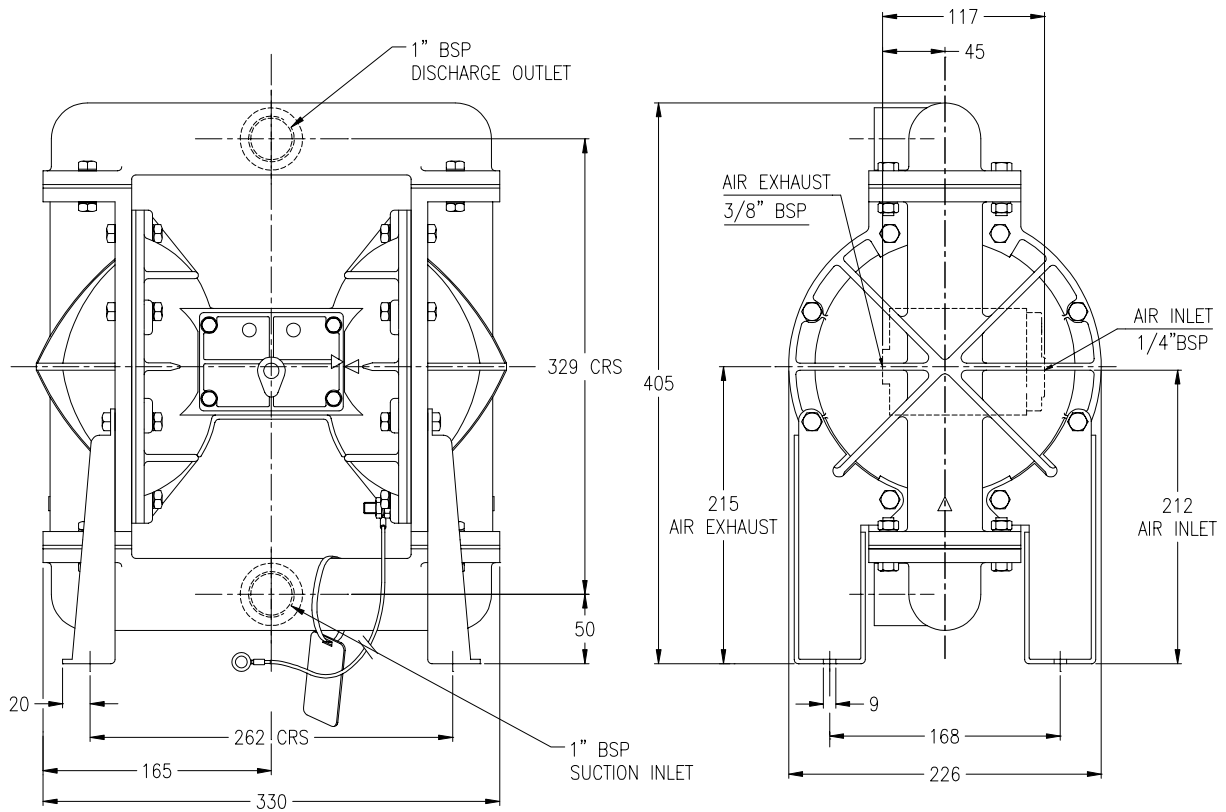
RECYCLING

Many components of BLAGDON air operated double diaphragm pumps are made of recyclable materials. We encourage pump users to recycle worn out parts and pumps whenever possible, after any hazardous pumped fluids are thoroughly flushed.

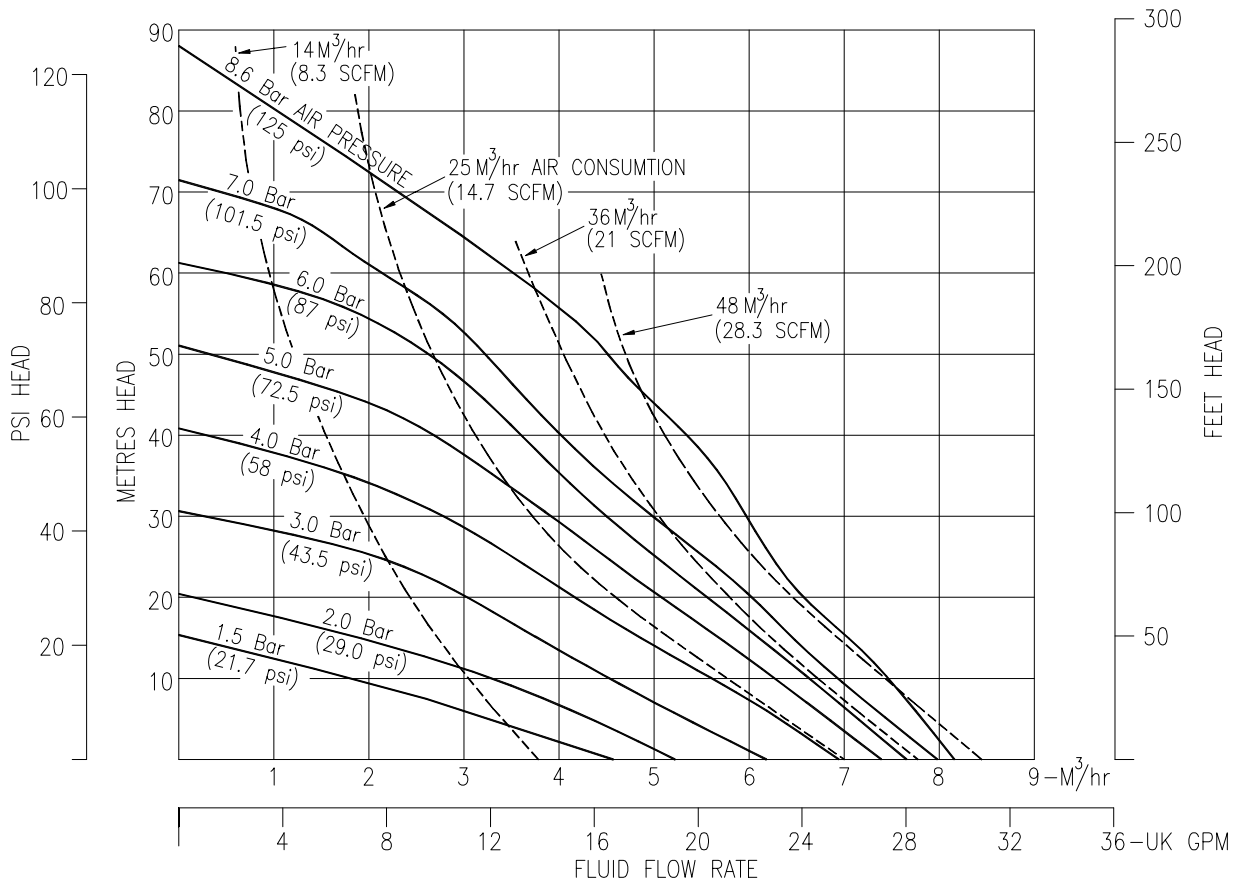
Contact Information

Contact	Phone / Fax No.

GA Drawing & Performance Curve



General Assembly :- X1A Metallic all Aluminium Pump, all dimensions +/- 3mm



X1A Metallic Pump Performance Curve
Performance based on water at ambient temperature

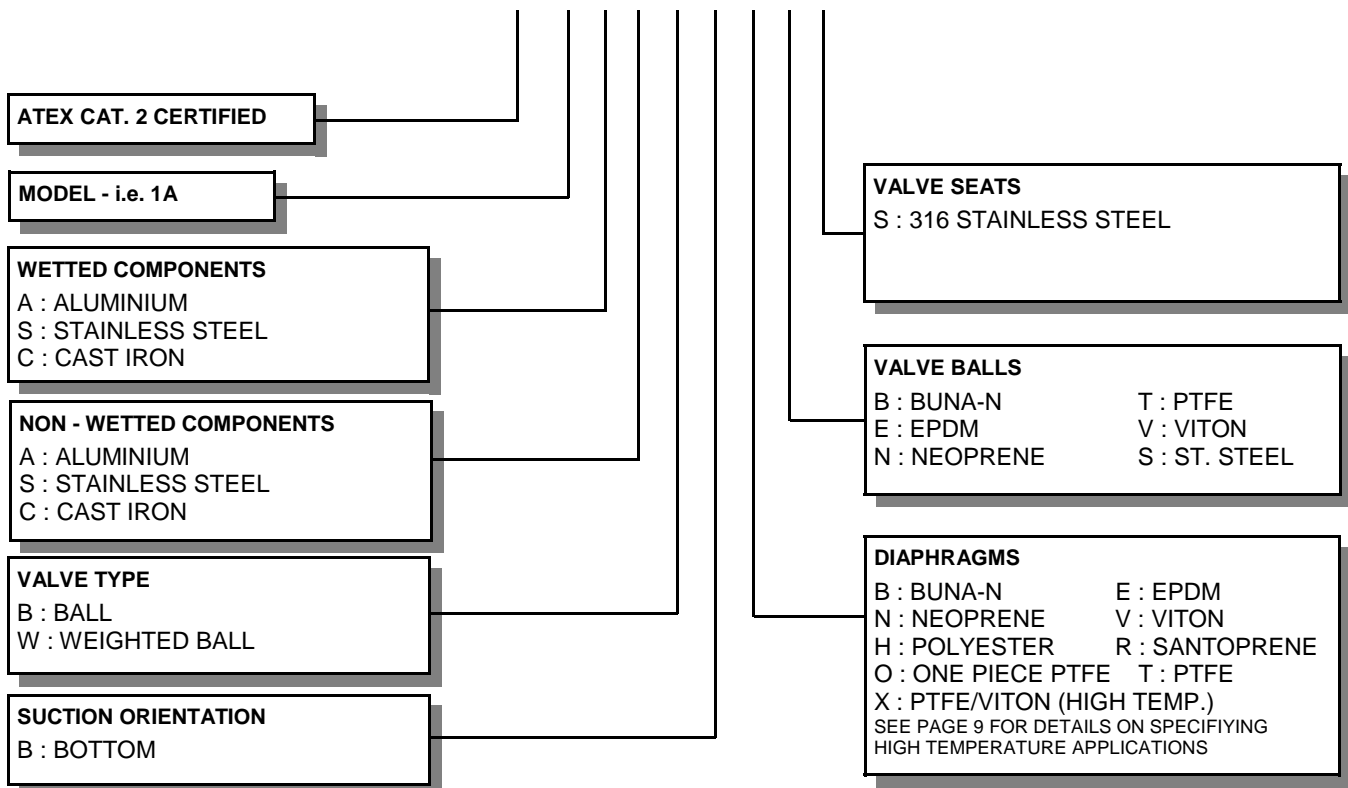
TECHNICAL DATA				
FLUID CONNECTIONS 1" BSP (F)	CAPACITY 0 - 136 Liters/Minute (0 - 30 Gallons/Minute)	MAX SOLIDS 3 MM (1/8")	MAX DISCHARGE HEAD 88 Meters (289 ft)	DISPLACEMENT/STROKE 0.475 Litres (0.1 UK Gallons)
MAX. WORKING PRESSURE 8.6 Bar (125 psi)	AIR INLET 1/4" BSP (F)	TEMPERATURE LIMITS Determined by Elastomers		PUMP WEIGHTS :- AA :- 16.3 Kg SA :- 31.8 Kg SS :- 39.8 Kg

ⓘ Caution - Operating temperature limitations are as follows:

Operating Temperatures

Materials	Maximum	Minimum	Optimum
Buna-n - General purpose, oil resistant. Shows good solvent, oil, water and hydraulic fluid resistance. Should not be used with highly polar solvents like acetone and MEK, ozone, chlorinated hydrocarbons and nitro hydrocarbons.	176°F 80°C	-18°F -28°C	50° to 140°F 10° to 60°C
EPDM - Shows very good water and chemical resistance. Has poor resistance to oils and solvents, but is fair on ketones and alcohols.	212°F 100°C	-11°F -24°C	50° to 212°F 10° to 100°C
Neoprene - All purpose. Resistant to vegetable oil. Generally not affected by moderate chemicals, fats greases and many oils and solvents. Generally attacked by strong oxidising acids, ketones, esters, nitro hydro carbons and chlorinated aromatic hydrocarbons.	212°F 100°C	-4°F -20°C	50° to 130°F 10° to 54°C
Santoprene® - Injection moulded thermoplastic elastomer with no fabric layer. Long mechanical flex life. Excellent abrasion resistance.	212°F 100°C	-10°F -23°C	50° to 212°F 10° to 100°C
PTFE - Chemically inert, virtually impervious. Very few chemicals are known to react chemically with PTFE : molten alkali metals, turbulent liquid or gaseous fluorine and a few fluoro-chemicals such as chlorine trifluoride or oxygen difluoride which readily liberate free fluorine at elevated temperatures.	356°F 180°C	32°F 0°C	50° to 212°F 10° to 100°C
Viton® - Shows good resistance to a wide range of oils and solvents : especially all aliphatic, aromatic and halogenated hydrocarbons, acids, animal and vegetable oils. Hot water or aqueous solutions(over 70°F) will attack Viton®.	356°F 180°C	0°F -18°C	75° to 212°F 24° to 100°C
Hytre - Combines many of the most desirable characteristics of high performance rubbers and plastics. Good retention of properties at elevated temperatures. Shows good resistance to many industrial chemicals, oils & solvents.	257°F 125°C	-40°F -40°C	50° to 130°F 10° to 54°C

TYPICAL CODE = X 1A.S A. B B. N N S



IMPORTANT

This pump should be used in accordance with the requirements of the Health and Safety at Work Act 1974.
All business conducted subject to Blagdon Pump. Terms and Conditions of Sale, available on request.

BLAGDON PUMP

A Unit of IDEX Corporation

LAMBERT ROAD, ARMSTRONG, WASHINGTON,
TYNE & WEAR NE37 1QP
ENGLAND.
TEL. : (0191) 4177475 FAX. : (0191) 4175435
Web Site : www.blagdonpump.com
E-Mail : sales@blagdonpump.com

PRINCIPLE OF PUMP OPERATION

This ball valve type diaphragm pump is powered by compressed air and is a 1:1 ratio design. The inner side of one diaphragm chamber is alternately pressurised while simultaneously exhausting the other inner chamber. This causes the diaphragms, which are connected by a common shaft secured by plates to the centres of the diaphragms, to move in a reciprocating action. (As one diaphragm performs a discharge stroke the other diaphragm is pulled to perform the suction stroke in the opposite chamber.) Air pressure is applied over the entire inner surface of the diaphragm while liquid is discharged from the opposite side of the diaphragm. The diaphragm operates in a balanced condition during the discharge stroke which allows the pump to be operated at discharge heads of over 200 feet (61 meters) of water.

For maximum diaphragm life, keep the pump as close to the liquid being pumped as possible. Positive suction head in excess of 10 feet of liquid (3.048 meters) may require a back pressure regulating device to maximize diaphragm life.

Alternate pressurising and exhausting of the diaphragm chamber is performed by an externally mounted, pilot operated, 2 way distribution valve. When the spool shifts to one end of the valve block body, inlet pressure is applied to one chamber and the other diaphragm chamber exhausts. When the spool shifts to the opposite end of the valve body, the pressure to

the chambers is reversed. This alternating movement of the spool inside the valve body is controlled by a pilot air pressure signal held against the diaphragm shaft, between seals in the diaphragm shaft bushes. This signal is released, triggering the movement of the spool, when pilot holes in the diaphragm shaft align with the held pilot signal, sending the signal to exhaust, which in-turn causes a pressure imbalance around the spool, sending it to the opposite end of the valve body. This simultaneously sends inlet pressure to the opposite chamber.

The chambers are connected by manifolds with a suction and discharge ball valve for each chamber, maintaining flow in one direction through the pump.

INSTALLATION

The typical installation shown in FIG. 1 is only a guide to selecting and installing system components. Your installation will depend on the type of fluid being pumped and your application needs. To reduce the risk of serious bodily injury and damage to property, never use fluids in this pump which are not compatible with the wetted components. Contact your local distributor or the manufacturer for system design assistance & compatibility if necessary.

Mount the pump in an upright position. Failure to ensure an upright position may result in loss of or poor priming characteristics. Ensure the pump is securely mounted to avoid movement and possible risk of bodily injury.

PRESSURE The pump delivers the same pressure at the discharge outlet as the air

pressure applied at the air inlet (unless pump is configured as a 2:1 ratio model).

NOTE: *Pressure Regulator (H) should be installed where air supply could exceed 125 psi.*

SAFETY

Your BLAGDON PUMP is a high performance unit capable of achieving high outputs at high efficiencies. However, as is common with pneumatic equipment, the pump efficiencies is reliant upon the air being clean, dry and filtered. Failure to comply with these requirements may lead to loss of performance and reduced component life and in extreme cases, permanent damage to the pump.

To avoid leaks, ensure that all fluid connections are tight. The use of PTFE thread tape correctly applied should be used to ensure 100% leak proof connections. **Failure to ensure 100% sealability of the suction connection could adversely affect suction performance.**

If you are pumping hazardous fluids, or operating the pump in an enclosed area, it is essential that the exhaust from the pump is piped away to a safe location. When pumping hazardous fluids the above instructions must be adhered to in order to ensure safe operating procedures. (Under certain operating conditions the failure of internal components can lead to the pumped fluid being exhausted via the pump exhaust outlet).

WARNING

NEVER place your hands over or near the pump suction inlet. Powerful suction could cause serious bodily injury.

FLUSH THE PUMP This pump was tested with water containing an oil-based rust inhibitor. If this solution could contaminate or react with the fluid you are pumping, flush the pump thoroughly with a solvent/detergent to clean internal components. The solvent/detergent must be compatible with the pump materials of construction. Care should be taken to flush the pump each time it is disassembled for maintenance or repair.

CAUTION Unless pump is configured as "Lube Free" ensure that only the recommended grade of lubricating oil is used. BLAGDON PUMPS require an SAE 10 lubricating oil. Other grades of oil may cause the Air Logic System to operate intermittently, thereby causing a loss of output and failure to operate.

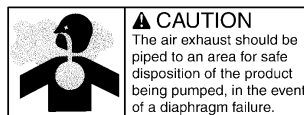
If the pump accelerates or is running too fast due to a lack of fluid, then stop it immediately by shutting off the air supply. A dry pump will accelerate to a high speed causing wear to elastomers.

If the fluid you are pumping tends to dry up or set when it is not moving, then flush the pump as often as necessary to prevent the fluid from drying in the pump. Drain the pump thoroughly before storing.

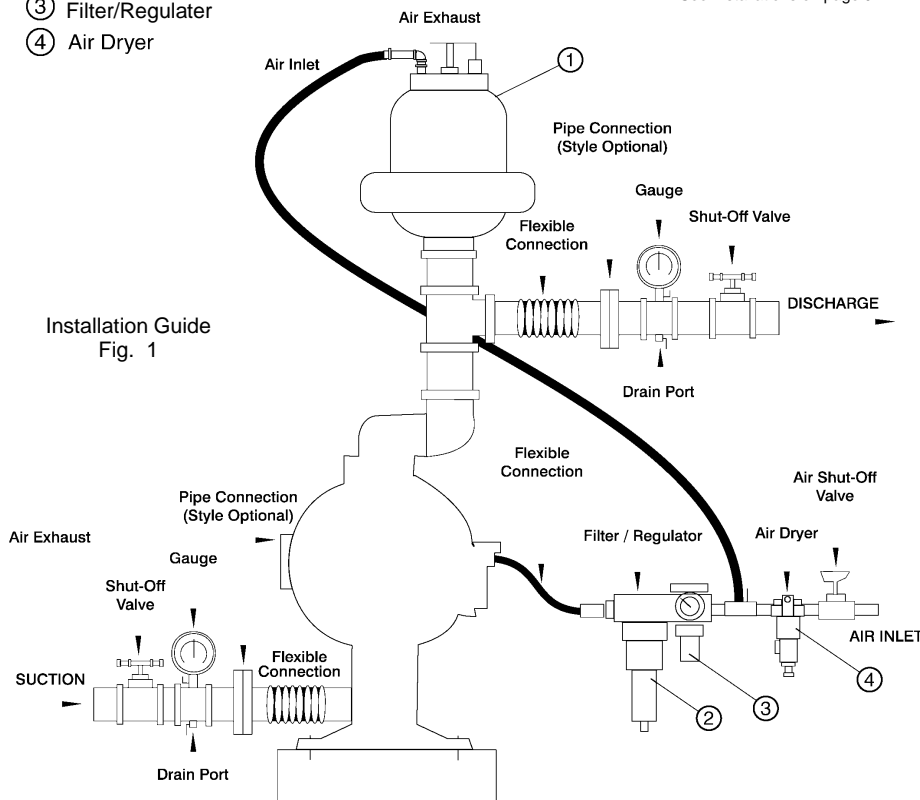
If feasible, invert pump to allow any fluid to drain from the non-return valves.

Available from
Blagdon Pump

- ① Pulsation Dampener
- ② Lubricator
- ③ Filter/Regulator
- ④ Air Dryer



See Installations on page 9



Important Warnings and Safety Information



IMPORTANT

Read these safety warnings and instructions in this manual completely, before installation and start-up of the pump. It is the responsibility of the purchaser to retain this manual for reference. This manual must be kept with, and supplied with the pump at all times. Failure to comply with the recommendations stated in this manual will damage the pump, and void factory warranty. These instructions are available if required, in the language or languages of the country or countries in which the equipment is used. Please refer to the manufacturer for details.



IMPORTANT!

This pump is pressurized internally with air pressure during operation. Always make certain that all bolting is in good condition and that all of the correct bolting is reinstalled during assembly. End-user must ensure correct fitting of Inlet / Outlet connections. Crossed threads or over tightening of connections will result in leaks. Quick action/release connections are not recommended. If their use is unavoidable, the levers must be locked to avoid them being forced apart in a hazardous manner.



WARNING!

Before maintenance or repair, shut off the compressed air line, bleed the pressure, and disconnect the air line from the pump. The discharge line may be pressurized and must be bled of its pressure. End-user must ensure correct regulation of air supply pressure, as any increase in air pressure results in a similar increase in product pressure if stalled-out.



WARNING!

Before doing any maintenance on the pump, be certain all pressure is completely vented from the pump, suction, discharge, piping, and all other openings and connections. Be certain the air supply is locked out or made non-operational, so that it cannot be started while work is being done on the pump. Be certain that approved eye protection and protective clothing are worn at all times in the vicinity of the pump. Failure to follow these recommendations may result in serious injury or death.



WARNING!

Airborne particles and loud noise hazards. Wear ear and eye protection.



WARNING!

Take action to prevent static sparking. Fire or explosion can result, especially when handling flammable liquids. The pump, piping, valves, containers or other miscellaneous equipment must be grounded. Refer to exhaust safety instructions on page 9.



WARNING!

When used for toxic or aggressive fluids, the pump should always be flushed clean prior to disassembly. User must ensure chemical compatibility, and any pressure / temperature limits are not exceeded. These instructions include all the information for relevant diaphragm temperature limits. Pump temperature range can also be found on data-plate attached to the pump. If pump is not used for more than 5 days, care must be taken when restarting. If in any doubt, remove pump from line and flush with a suitable cleaner. Solidified deposits within the pump may cause damage to the diaphragms.



CAUTION!


Before pump operation, inspect all gasketed fasteners for looseness caused by gasket creep. Re-torque loose fasteners to prevent leakage. Follow recommended torques stated in this manual. In cases of excess vibration, Blagdon recommend fitting a Pulsation Dampener to remove effects of pulse actions from pump operation. Flexible connections can be used, but must be kept to a minimum length necessary to avoid sharp flexing or straining movements.

TROUBLE SHOOTING GUIDE

NOTE :- Check all solutions before dismantling the pump.

PROBLEM	CAUSE	SOLUTION
Pump will not start	Air valve assembly malfunction/Siezure Obstructed fluid line. Obstructed diaphragm chamber. Diaphragm failure causing fluid & excessive air to be expelled through the exhaust. Diaphragm seal failure. Air valve system malfunction. Air connected to exhaust.	Check carrier for freedom of movement. - Clean, oil & replace. Clean line or increase line size. Remove obstruction. Replace diaphragm. Replace shaft seals. Check all seals in valve chest assembly. Re-connect to air inlet.
Erratic flow	Diaphragm failure on one side. Valve ball not seating. Suction leakage. Diaphragm failure causing fluid & excessive air to be expelled through the exhaust. Diaphragm seal failure. Air valve system malfunction.	Replace diaphragm. Check and remove obstruction. Check and correct. Replace diaphragm. Replace shaft seals. Check all seals in valve chest assembly.
Pump strokes but will not discharge	Excessive suction lift. Suction line leakage. Valve ball not seating correctly or damaged. Suction line or strainer clogged. Diaphragm failure.	Shorten suction line. Check and correct. Check and remove obstruction / replace. Clear. Replace diaphragm.
Fluid discharged from air exhaust	Diaphragm Failure. Loose frontplate.	Replace diaphragm. Re-Torque to manual specifications.
Intermittent stroke rate	Over lubrication Diaphragm shaft seal failure. Air valve system malfunction. Valve ball not seating / partially obstructed.	Shut-down pump. Remove air connection into pump & introduce a small quantity of degreasing agent into air valve and replace line. Run pump until clear. Replace seals. Check all seals in valve chest assembly. Clear obstruction.

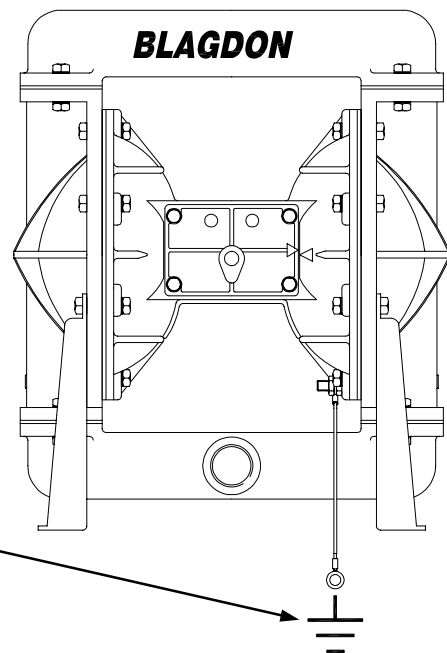
Grounding the pump :-



WARNING!

Take action to prevent static sparking. Fire or explosion can result, especially when handling flammable liquids. The pump, piping, valves, containers or other miscellaneous equipment must be grounded.

This unit is supplied with a natural earth ground cable. This cable is 2 meters in length and permanently connected through a stud at one end to the pump centre casting. The other end is free to connect to the nearest available suitable point to provide a natural earth ground. This must be done to reduce the risk of electro-static sparking.





IMPORTANT!

Read these instructions completely, before installation and start-up. It is the responsibility of the purchaser to retain this manual for reference. Failure to comply with the recommendations stated in this manual will damage the pump, and void factory warranty.

SERVICE

The following sections give a general overview on how to service all models of BLAGDON Diaphragm Pumps. For details on individual part numbers, quantities, materials, etc., please consult the parts list supplied with the pump.

NOTE : *Before commencing any service or maintenance work on the pump, ensure that the air supply has been disconnected or isolated.*

AIR VALVE SYSTEMS

MECHANICAL TYPE - Remove the 4 bolts securing the air inlet plate to the center section and withdraw the air valve assembly. A flat screwdriver can be inserted between the air inlet plate and the center section to “lever out” the assembly.

Remove both valve caps from the assembly.

Dismantle the valve block assembly by removing the M6 and M4 cap screws. Using a plastic mallet, gently tap the assembly to loosen, then remove gaskets, slide valve and valve carrier together with valve block and slide valve plate.

Using a flat screwdriver, remove the actuator pin from the pilot valve and withdraw valve from the valve block bore.

Clean all parts thoroughly and inspect for wear or damage. If the pilot valve bore is scored, or has worn excessively, the valve block must be replaced. Ensure any remaining thread sealant is removed from the pilot valve and actuator pin prior to re-assembly. Check valve carrier ‘O’ Rings for wear and replace as required.

Lubricate all parts with light oil before re-assembly.

Slide the pilot valve spool in its bore. Apply a drop of loctite - grade 222 (or equivalent locking compound), to the threads of the actuator pin and screw into the pilot valve spool, finger tight. Remove any excess locking compound

immediately and ensure freedom of movement within the bore.

Locate the valve carrier into the valve block so that the recess in the spool faces the rectangular opening in the valve block.

Re-assemble the remaining components, ensuring the assembled faces are flat so that an adequate seal is obtained.

Before final assembly into the center section, lightly grease both valve caps to ease assembly. Locate the actuator pin so that it will engage into the ‘cut-out’ area of the diaphragm shaft. (See fig 2) In addition, roughly align the ‘arrow’ on the air inlet plate with the arrow on the center section.

Re-assemble the air valve assembly into the center section and re-torque in accordance to the settings shown in the parts list.

In the event of a complete air-side overhaul, the valve block assembly must first be removed from the center section.

Failure to remove the valve block may result in component damage later in the dis-assembly procedure.

The pump should then be dis-assembled down to the center section assembly as described later in the “Wet-Side Overhaul”.

Inspect the diaphragm shaft, shaft seals and bushes for wear or damage. Replace as needed. If bushes are replaced, they will require reaming in-line to dia 19.07 – 19.09 mm. Ensure shaft seals are replaced with the seal lips outermost.

Lubricate all relevant components and re-assemble as detailed above, in reverse order. Ensure the correct position of all components as detailed in all sectional assembly drawings.

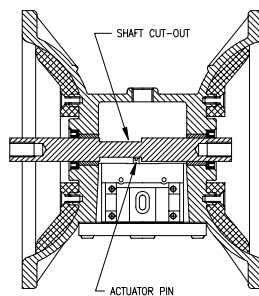


Fig. 2

WET-SIDE OVERHAUL

REPLACING BALL VALVES

Remove discharge manifold from pump assembly together with associated valve balls, seats and ‘O’ rings.

NOTE :- *The orientation of the valve seat relative to the valve ball should be noted as incorrect positioning may result in a performance loss.*

Turn pump through 180° and remove the suction manifold. Clean and inspect the components. Check for any wear or

damage and replace as required.

NOTE :- *Ball or valve seat wear may result in loss of performance and suction lift.*

Re-assemble the valve balls/seats and ensure manifolds are adequately torqued to the settings shown in the parts list.

REPLACING DIAPHRAGMS

Remove both suction and discharge manifolds as detailed in the previous section, removing all ball valves, seats and ‘O’ rings.

Loosen and remove both outer covers from the pump assembly. The orientation of the covers should be noted so as to facilitate re-assembly.

Holding one of the frontplates in a vice, (‘soft jaws’ should be fitted), or with an adjustable spanner, loosen and remove the frontplate from the opposite end. Remove the diaphragm, backplate and bumpstop from diaphragm shaft.

Carefully withdraw the diaphragm shaft from the centre section and hold the free end in a vice, holding between the flats machined on the end. Loosen and remove the frontplate and remove the diaphragm together with backplate and bumpstop (where fitted).

NOTE :- *Care should be taken with all plastic, coated and hygienic pumps, so that the surface of the frontplate is not damaged.*

Thoroughly clean all parts and check for wear, damage, swelling, cracking, delamination and chemical attack.

Replace components where required.

NOTE :- *Rubber diaphragms should be replaced if they are worn to such an extent that the fabric re-enforcing is evident on the surface of the diaphragm.*

For pumps fitted with PTFE diaphragms, a light coating of grease should be applied to the back-up diaphragm prior to re-assembly.

Before re-assembly, it is advisable to check the condition of the diaphragm shaft seal/‘O’ rings for wear or attack. If either is evident, it is recommended that they be replaced.

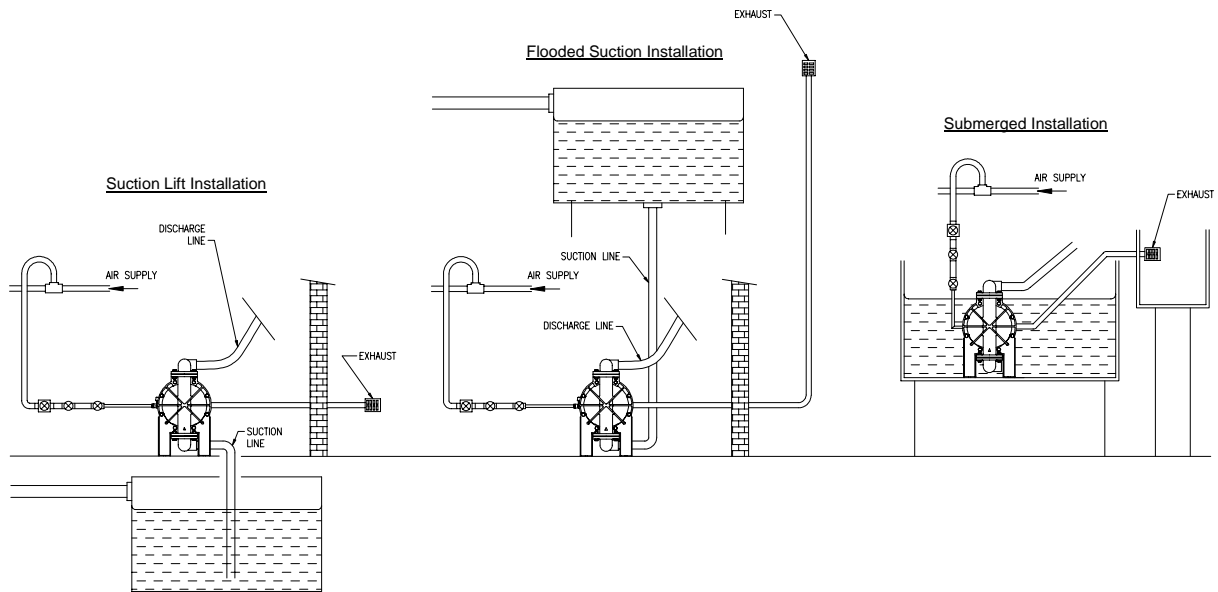
Assemble the diaphragms onto the shaft in a reverse sequence to their removal. Care should be taken as to the orientation of the diaphragm relative to the front and back plates. All diaphragms have “AIR SIDE” molded onto one side. The backplate must be fitted adjacent to the AIR SIDE of the diaphragm.

EXHAUST SAFETY WHEN PUMPING HAZARDOUS LIQUIDS



WARNING!

In the event of diaphragm rupture, pumped material may enter the air end of the pump, and be discharged into the atmosphere. If pumping a product which is hazardous or toxic, the air exhaust must be piped to an appropriate area for safe disposition.



Exhaust Safety :-

When a diaphragm fails during operation, pumped liquid can enter and contaminate the air side of the pump. If diaphragm failure is not severe, i.e. a small split or hole, then the pump can continue to run, with air being forced into the product being pumped. If however the failure is more serious, then the pump may stop, with fluid or fumes being expelled through the exhaust. Under these conditions it is recommended that the exhaust is piped away to a safe area. In standard suction lift conditions this can simply be done by piping from the exhaust connection to a safe area. Multiple installations can be piped to a common connection, then to a safe area. In flooded suction conditions the exhaust must be taken to a point higher than the fluid level to prevent any siphoning away. In submerged conditions ensure exhaust is piped away above fluid level.

In all conditions ensure exhaust outlet is not expelling across a non-conductive surface. The exhaust must not be placed less than 100mm from any non-conductive surface, as this may generate a propagating brush discharge resulting in a possible ignition source.

HIGH TEMPERATURE INSTALLATIONS

In situations where the temperature of the fluid to be pumped is likely to exceed 80°C, a high temperature pump code must be specified. This is signified using an 'X' in the last part of the pump code as shown.

"XTS" in place of "TTS".

This indicates the following specification amendments :-

All seals and o-rings will be changed from Buna-N to Viton. Any gaskets will be changed to a higher temperature spec. Diaphragm shaft bushes will be changed from plastic to metal, back-up diaphragms and any bumpstops will be changed to Viton.

See table below for parts effected :- (refer to main table for quantities / pump)

HIGH TEMPERATURE SPECIFICATION							
REF. NO	11	12	15	16	20	33	42
DESCRIPTION MATERIAL	BUMPSTOP	SHAFT SEAL	VALVE CAP - LH	O-RING	VALVE CAP - RH	AIR INLET PLATE GASKET	SUPPORT DIAPHRAGM
VITON	1A272	1A273	1A270	G366	1A271	-	1A039
NOVUS 30	-	-	-	-	-	1A376	-

PARTS LIST

Ref No.	PART NUMBER WETTED COMPONENTS			Description	Qty
	Stainless Steel	Aluminium	Common Parts		
1	1A036	1A015		SUCTION MANIFOLD	1
2			SEE TABLE	O-RING ◆	8
3			1A004	VALVE SEAT	4
4	1A035	1A005		OUTER COVER	2
5	SA10104	SA10502		FRONTPLATE ASSEMBLY	2
6			SEE TABLE	DIAPHRAGM ◆	2
7	1A259	1A007		BACKPLATE	2
8			SEE TABLE	VALVE BALL ◆	4
9	1A077	1A053		DISCHARGE MANIFOLD	1
10	1A378	1A371		CENTRE SECTION	1
11			1A009	BUMPSTOP	2
12			1A010	DIAPHRAGM SHAFT SEAL	2
13			1A011	DIAPHRAGM SHAFT BUSH	2
14			1A008	DIAPHRAGM SHAFT	1
15			1A030	VALVE CAP - LH ● □	1
16			G122	O-RING ● □	2
17			1A024	SLIDE VALVE CARRIER ●	1
18			1A025	SLIDE VALVE ●	1
19					
20			1A031	VALVE CAP - RH ● □	1
21			A005	BOLT - M8 x 35	16
22			C004	WASHER - M8	16
23			B003	NUT - M8	24
24			1A377	SILENCER	1
25			A006	BOLT - M8 x 40	8
26	1A226		1A018	BASE LEG - LH	2
27	1A227		1A019	BASE LEG - RH	2
28			1A020	ACTUATOR PIN ●	1
29			1A021	PILOT VALVE SPOOL ●	1
30			1A026	GASKET (SLIDE VALVE PLATE) ● □	1
31			1A029	SLIDE VALVE PLATE ●	1
32			D009	SKT CAP SCREW - M4 x 20 ●	4
33			1A028	GASKET (AIR INLET PLATE) □	1
34	1A069	1A027		AIR INLET PLATE	1
35			1A023	VALVE BLOCK ●	1
36			D010	SKT CAP SCREW - M6 x 35	3

PARTS LIST - cont.

REF No.	PART NUMBER	DESCRIPTION	QTY
37	A008	BOLT - M6 x 20	4
38	C007	WASHER - M6	4
39	SA10288	GROUNDING LEAD ASSY.	1
40	SP467	ATEX CAT.2 I/D TAG	1
41	SP473	TIE-LOK TIE	1

PUMPS FITTED WITH PTFE DIAPHRAGMS

REF No.	PART NUMBER	DESCRIPTION	QTY
42	1A089	DIAPHRAGM - (BACK-UP) ◆	2
43	1A071	DIAPHRAGM - (PTFE) ◆	2

ELASTOMER TABLE

REF No.	DESCRIPTION	BUNA-N	EPDM	NEOPRENE	ONE-PIECE PTFE	VITON	QTY
2	O-RING - (VALVE SEAT)	G057	G060	G059	-	G061	8
6	DIAPHRAGM	1A006	1A040	1A057	1A348	1A039	2
8	VALVE BALL	1A049	1A080	1A079	-	1A081	4
8	VALVE BALL - (WEIGHTED)	1A072	1A092	1A091	-	1A093	4

ELASTOMER TABLE - cont.

REF No.	DESCRIPTION	ST. STEEL	PTFE	POLYESTER	SANTOPRENE®	QTY
2	O-RING - (VALVE SEAT)	-	G058	-	-	8
6	DIAPHRAGM	-	SEE TABLE	1A061	1A358	2
8	VALVE BALL	1A197	1A002	-	-	4

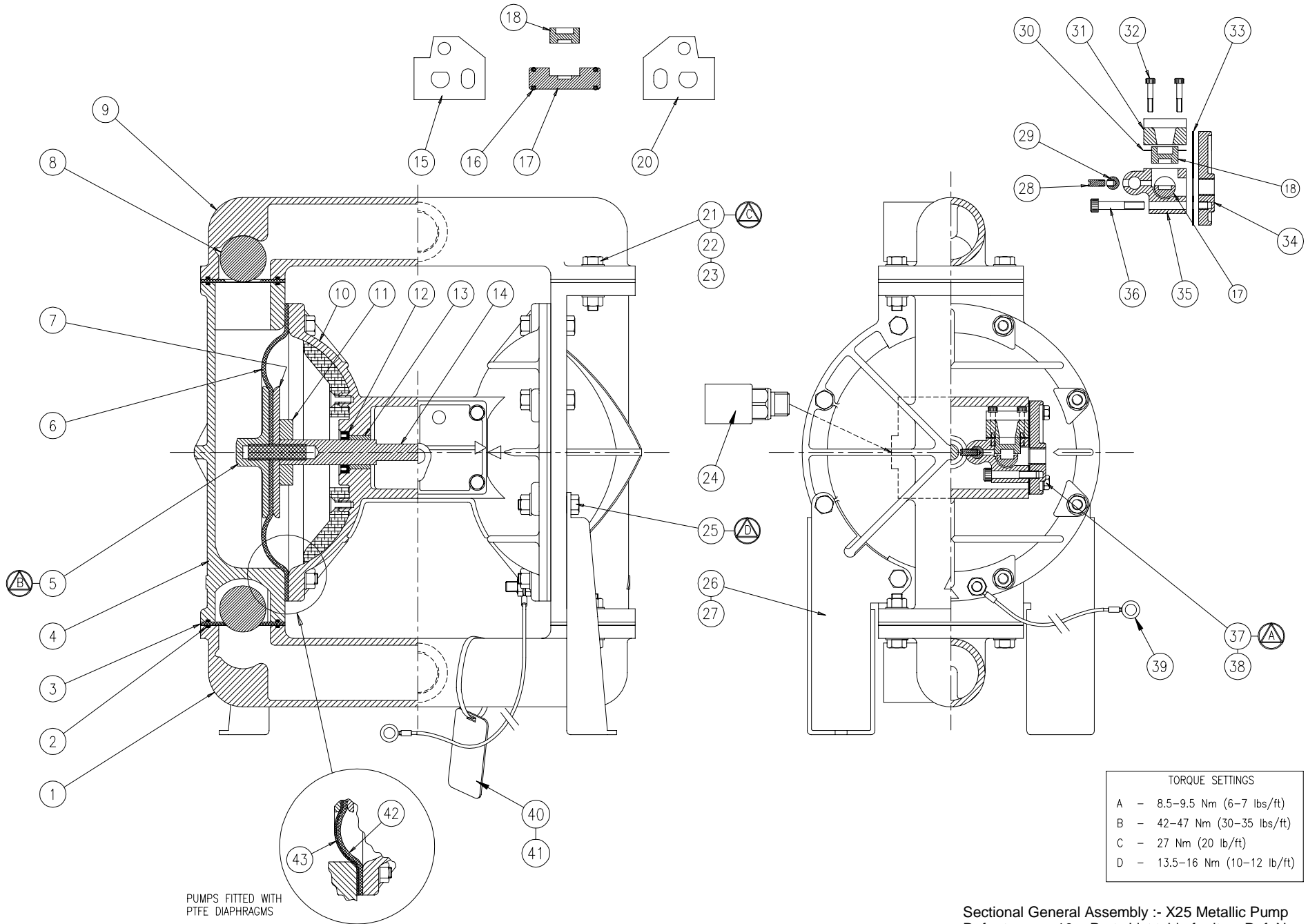
◆ - These items are available in a recommended spares kit. Please refer to your local stockist / distributor for details.

□ - These items are available in a recommended spares kit - SA10102 - Air side Kit.

● - These items are available as a sub-assembly kit - SA10011S - Valve Block Assembly.

Santoprene is a registered tradename of Monsanto Corp.

Note! High Temperature Air Side Kit :- Refer to manufacturer
For NPT option, refer to manufacturer.



Sectional General Assembly :- X25 Metallic Pump
 Refer to page 10 - Parts List table for item Ref. Nos.
 Refer to page 9 for any high temperature parts.

EC Declaration of Conformity Atex 100a

Manufactured by :-

BLAGDON PUMP
LAMBERT ROAD, ARMSTRONG, WASHINGTON,
TYNE & WEAR NE37 1QP
ENGLAND.
TEL. : (0191) 4177475 FAX. : (0191) 4175435
Web Site : www.blagdonpump.com
E-Mail : sales@blagdonpump.com



BLAGDON PUMP

A Unit of IDEX Corporation



II 2 GD c



Sira 03ATEX9347X

This declaration applies to all standard metallic Blagdon Air Operated Double Diaphragm pumps.

Blagdon Pump declares under our sole responsibility that the product listed below conforms with the relevant provisions of EC directive 94/9/EC of 23 March 1994 for equipment and protective systems intended for use in potentially explosive atmospheres, and is certified for safe use in Group 2 category 2 area's.

Pump Model

Serial No.

This product has used the following harmonized standards to verify conformance :

Non-electrical equipment for potentially explosive atmospheres : EN13463-1 : 2001
Internal control of production.

Non-electrical equipment intended for use in potentially explosive atmospheres - Part 5 :
Protection by constructional safety "c"

Safety requirements for fluid power systems and their components - Pneumatics :
BS EN 983 : 1996

Machinery Safety Directive : 98/37/EC of 22 June 1998

Pumps & Pump units for liquids : EN 809

This product must not be used in area's other than specified above. If in doubt consult an authorised distributor, or refer to the manufacturer Blagdon Pump.

Approved by :

Michael Johnson , General Manager

Date : 1st July 2003