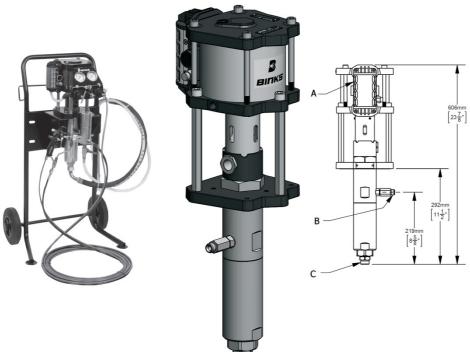
**BINKS** 

## MX1231 & MXL1231 Pump & Packages

Models: MX1231<sup>‡‡</sup> & MXL1231<sup>‡‡</sup>, <sup>‡‡</sup>=PL (PTFE/Leather), PP (PTFE), PU (PTFE/UHMWPE), UC (U-Cups)



Patent 7,603,855.

|   | SPECIFICATION - Ba  | re Pump  |  |  |
|---|---|--|--|--|
|   | Ratio:  | 31:1   |  |  |
|   | Maximum air inlet pressure:   | 8 bar [116 psi]  |  |  |
|   | Maximum fluid pressure:   | 248 bar [3596 psi]   |  |  |
|   | Displacement per cycle:   | 72 cc [2.4 oz]   |  |  |
|   | Output @ 60 cycles/min:   | 4.3 l/m [1.2 US gal/m]   |  |  |
|   | Air consumption @ 20 cycles/min and 8 bar [116 psi] air inlet pressure: | 498 l/m [17.6 SCFM]  |  |  |
|   | Maximum recommended continuous cycle rate (cycles/min):                 | 20   |  |  |
| ۱ | Air inlet connection:   | 3/8" BSP(f)  |  |  |
| : | Fluid inlet connection:   | MX-3/4" NPS(m), MXL-1/2" NPS(m)  |  |  |
| 5 | Fluid outlet connection:  | 3/8" BSP(m)/NPS(m)   |  |  |
|   | Sound level:  | 97.3 dB  |  |  |
|   | Weight:   | 16 kg [35.5lbs]  |  |  |
|   | Wetted parts materials of construction:                                 | Stainless Steel, Tunsten Carbide, Hard<br>Chrome, PTFE, Polyethylene, Leather,<br>Ceramic. |  |  |



| Product Description  | MX4**, MXL4**, MX12**, MXL12**, MX190***, <b>EN</b><br>MX220***, MMX4**, MMX12**   |
|--|--|
| This Product is designed for use with:   | Solvent and Water based Materials  |
| Suitable for use in hazardous area:  | Zone 1 & 2   |
| Protection Level:  | II 2 G X IIB T4 (NB 0891)  |
| Manufacturer:  | Binks,<br>Ringwood Road,<br>Bournemouth, BH11 9LH. UK  |
| EU Declaration of Conformit  | ty <b>C E</b> (E)  |
| We: Binks declare that the above product conform<br>Machinery Directive 2006/42/EC | ns with the Provisions of:   |
| ATEX Directive 94/9/EC   |  |
|  | for Design<br>  safety requirements<br>d safety requirements<br>pating materials under pressure - Safety requirements  |
| into which this product is installed has been re-assessed                          | duct manuals have been complied with and that the final equipment<br>as required, in accordance with essential health and safety<br>sutory instruments and also installed in accordance with any applicable<br>D Smith (General Manager) |
| ť  | A mete 1/11/12   |



In this part sheet, the words WARNING, CAUTION and NOTE are used to emphasize important safety information as **EN** follows:

|               | WARNING   |  |           |         | NOTE   |
|---------------|---|--|-----------|---------|--|
| severe person | fe practices which could result in<br>al injury, death or substantial<br>property damage. | Hazards or unsafe practices which coul<br>minor personal injury, product or pr<br>damage   |           | Importa | nt installation, operation or maintenance<br>information.  |
|               |   |  |           |         |  |
|               | Read the  | following warnings before usir   | ng this e | quipme  | nt.  |
|               |   | perating finishing equipmrnt, read and<br>on and maintenance information<br>nual.  | C         | ý       | AUTOMATIC EQUIPMENT. Automatic<br>equipment may start suddenly without<br>warning.   |
|               | WEAR SAFETY GLASSES. Failu<br>shields could result in serious                             | ure to wear safety glasses with side<br>eye injury or blindness.   |           | Ð       | PROJECTILE HAZARD. You may be<br>injured by venting liquids or gased that<br>are released under pressure, or flying<br>debris. |
| J.            | POWER SOURCES DURING M<br>disconnect and lock out all po                                  | SE, DISCONNECT AND LOCK OUT ALL<br>AINTENANCE. Failure to de-energize,<br>wer supplies before performing<br>I cause serious injury or death.           |           |         | KNOW WHERE AND HOW TO SHUT<br>OFF THE EQUIPMENT IN CASE OF AN<br>EMERGENCY.  |
| ۵.            | equipment may exceed 85 dB<br>Actual noise levels are availab                             | ed sound level of pumping and spray<br>(A) depending on equipment settings.<br>le on request. It is recommended that<br>mes while equipment is in use. | T         | ×       | PRESSURE RELIEF PROCEDURE.<br>Always follow the pressure relief<br>procedure in the equipment instructio<br>manual.            |
|               |   | AILY. Inspect the equipment for worn or<br>Do not operate the equipment if you<br>ion.   |           |         | OPERATOR TRANING. All personnel<br>must be trained before operating<br>finishing equipment.                                    |
|               |   | <ol> <li>Equipment misuse can cause the<br/>ction or start unexpectedly and result in</li> </ol>   |           |         | PACEMAKER WARNING. You are in the<br>presence of magnetic fields which may<br>interfere with the operation of certain          |
| r /           | injury. Relieve all pressure be   | TION. High pressure can cause serious<br>fore servicing. Spray from the gun,<br>nents can inject fluid into your body<br>njury.                        |           |         | KEEP EQUIPMENT GUARDS IN PLACE.  |



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.



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

safety devices have been removed.



PROP 65 WARNING. WARNING: This product contains chemicals known to the state of California to cause cancer and birth defects or other reproductive harm.

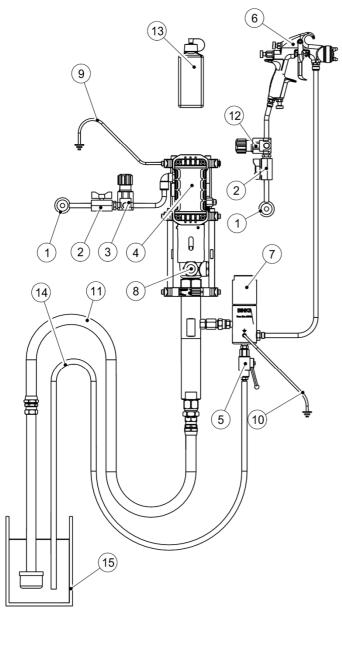


PINCH POINT HAZARD. Moving parts can crush and cut. Pinch points are any areas where ther are moving parts.

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



#### PUMP OPERATION AND CLEANING



| 1  | AIR SUPPLY  |
|----|---|
| 2  | AIR SHUT OFF VALVE (IF FITTED)  |
| 3  | AIR PRESSURE REGULATOR  |
| 4  | BINKS PUMP  |
| 5  | FLUID PRESSURE RELIEF VALVE (IF FITTED)   |
| 6  | SPRAY GUN   |
| 7  | FLUID FILTER (IF FITTED)  |
| 8  | LUBRICATION CUP & LEVEL   |
| 9  | EARTH CABLE AIR MOTOR   |
| 10 | EARTH CABLE FLUID FILTER (IF FITTED)  |
| 11 | FLUID SUCTION HOSE/SUCTION<br>TUBE/GRAVITY HOPPER - DEPENDING ON<br>MODEL             |
| 12 | AIR PRESSURE REGULATOR (SPRAY GUN)<br>(IF FITTED)                                     |
| 13 | LUBRICANT<br>0114-016099 SOLVENT BASED MATERIALS<br>0114-016100 WATER BASED MATERIALS |
| 14 | RELIEF/RETURN HOSE (IF FITTED)  |
| 15 | FLUID CONTAINER   |

| A<br>WARNING | WEAR EYE PROTECTION WHEN OPERATING THIS EQUIPMENT                                |
|--------------|--|
|              |  |
|              | PUMP MUST BE GROUNDED BEFORE OPERATING, TO PREVENT STATIC CHARGES.               |
|              |  |
|              | HOSES MUST HAVE A SUITABLE WORKING PRESSURE ABOVE THE MAXIMUM PRESSURE POSSIBLE. |



#### INSTALLATION

1 - ENSURE THE PUMP IS LOCATED ON A SUITABLE & STABLE MOUNTING.

2 - GROUND/EARTH THE PUMP WITH (9) OR (10), CHECK EARTH IS LESS THAN 1 Ohm.

3 - CONNECT SUITABLE HOSES FOR AIR SUPPLY AND FLUID HOSE TO GUN.

4 - FILL THE LUBRICATION CUP (8) WITH A SUITABLE LUBRICANT (13) SO IT IS VISIBLE IN THE LEVEL SIGHT GLASS.

5 - ENSURE SUITABLE FILTER MESH (100 MESH, 150  $\mu m$  STD) IS INSTALLED IN THE FILTER(7).

6 - ENSURE RETURN HOSE (14) IF FITTED, IS DIRECTED INTO THE FLUID CONTAINER (15).

#### **CLEANING THE PUMP**

1 - INSERT SUCTION SYSTEM (11) & RETURN HOSE (14) (IF FITTED) INTO A CONTAINER WITH SUITABLE CLEANING FLUID.

2 - CLOSE VALVE (2) AND SET REGULATORS (3) & (12) TO ZERO ( WIND ANTICLOCKWISE), OPEN VALVE (5) IF FITTED.

3 - REMOVE FLUID NOZZLE FROM THE SPRAY GUN FOR RETURNING FLUID INTO THE CONTAINER

4 - CONNECT AIR SUPPLY

a) IF (5) IS FITTED:

5a - OPEN VALVE (2), INCREASE REGULATOR PRESSURE (3) UNTIL PUMP STARTS TO OPERATE (APPROX. 1 BAR [14.5 PSI])

6a - ALLOW FLUID TO CIRCULATE FOR SEVERAL MINUTES OR UNTIL SYSTEM IS CLEAN.

7a - CLOSE VALVE (5) AND TRIGGER SPRAY GUN INTO CONTAINER FOR SEVERAL MINUTES TO CLEAN HOSE & GUN.

8a - WITH THE TRIGGER STILL OPEN REDUCE REGULATOR PRESSURE (3) TO ZERO, AND OPEN VALVE (5) IF FITTED AND CLOSE TRIGGER.

b) IF (5) IS NOT FITTED.

5b - TRIGGER SPRAY GUN AND HOLD OVER CONTAINER, INCREASE REGULATOR PRESSURE (3) UNTIL PUMP STARTS TO OPERATE (APPROX. 1 BAR [14.5PSI])

6b - ALLOW FLUID TO CIRCULATE FOR SEVERAL MINUTES OR UNTIL SYSTEM IS CLEAN.

7b - WITH THE TRIGGER STILL OPEN REDUCE REGULATOR PRESSURE(3) TO ZERO AND ENSURE NO PRESSURE IS LEFT IN THE HOSE AND GUN BEFORE CLOSING THE TRIGGER.

| NOTE | REPEAT CLEANING PROCESS UNTIL CLEANING FLUID HAS NO CONTAMINATION, ESPECIALLY IF<br>THE PUMP WILL NOT BE USED IMMMEDIATELY, OR HAS BEEN USED WITH 2 COMPONENT PAINTS. |
|------|---|
|      | WHEN THE SPRAY GUN IS NOT IN USE THE SAFTEY LOCK SHOULD BE ENGAGED TO PREVENT ACCIDENTAL OPERATION.   |



#### **STARTUP**

1 - INSERT SUCTION SYSTEM (11) & RETURN HOSE (14) (IF FITTED) INTO A CONTAINER WITH THE FLUID TO BE SPRAYED

2 - CLOSE VALVE (2) AND SET REGULATORS (3) AND (12) TO ZERO (WIND ANTICLOCKWISE), OPEN VALVE (5) IF FITTED.

3 - REMOVE SPRAY TIP FROM THE GUN FOR RETURNING FLUID INTO THE CONTAINER.

4 - CONNECT AIR SUPPLY.

a) IF (5) IS FITTED

5a - OPEN VALVE (2), INCREASE REGULATOR PRESSURE (3) UNTIL PUMP STARTS TO OPERATE.

6a - WHEN FLUID FLOWS THROUGH HOSE (14) WITHOUT AERATION, CLOSE VALVE (5).

7a - OPEN SPRAY GUN TRIGGER UNTIL FLUID FLOWS INTO CONTAINER WITHOUT AIR, THEN RELEASE TRIGGER.

b) IF (5) IS NOT FITTED.

5b - TRIGGER THE SPRAY GUN AND HOLD OVER CONTAINER, INCREASE REGULATOR PRESSURE (3) UNTIL PUMP STARTS TO OPERATE.

6b - KEEP TRIGGER OPEN UNTIL FLUID FLOWS INTO CONTAINER WITHOUT AERATION, THEN RELEASE TRIGGER.

8 - REDUCE REGULATOR PRESSURE (3) TO ZERO.

9 - APPLY SPRAY GUN SAFETY LOCK WHILE SPRAY TIP IS FITTED.

10 - INCREASE REGULATOR PRESSURE(3) UNTIL DESIRED ATOMISATION IS ACHIEVED FROM SPRAY GUN.

11 - INCREASE REGULATOR PRESSURE (12) TO ACHIEVE DESIRED SPRAY FAN.

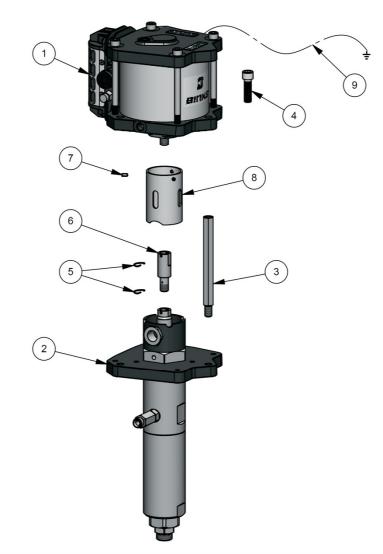
#### SHUT DOWN

- 1 REDUCE REGULATOR PRESSURE (3) AND (12) TO ZERO.
- 2 TRIGGER GUN TO REDUCE SYSTEM PRESSURE.
- 3 OPEN VALVE (5) SLOWLY IF FITTED.
- 4 APPLY SPRAY GUN SAFETY LOCK WHILE SPRAY TIP IS REMOVED
- 5 TRIGGER GUN CAREFULLY INTO CONTAINER AND ENSURE FLUID SYSTEM IS DE-PRESSURISED.
- 6 CLOSE VALVE(2) AND REMOVE AIR SUPPLY.
- 7 APPLY SPRAY GUN SAFETY LOCK.
- 8 CLEAN AS INSTRUCTED AND SOAK/CLEAN SPRAYGUN FLUID NOZZLE.

| NOTE | IF THE SYSTEM IS NOT USED FOR AN EXTENDED PERIOD IT IS RECOMMENDED TO BE FILLED WITH A LIGHT OIL AFTER CLEANING. |
|------|--|
|------|--|



#### MX1231 & MXL1231 BARE PUMP



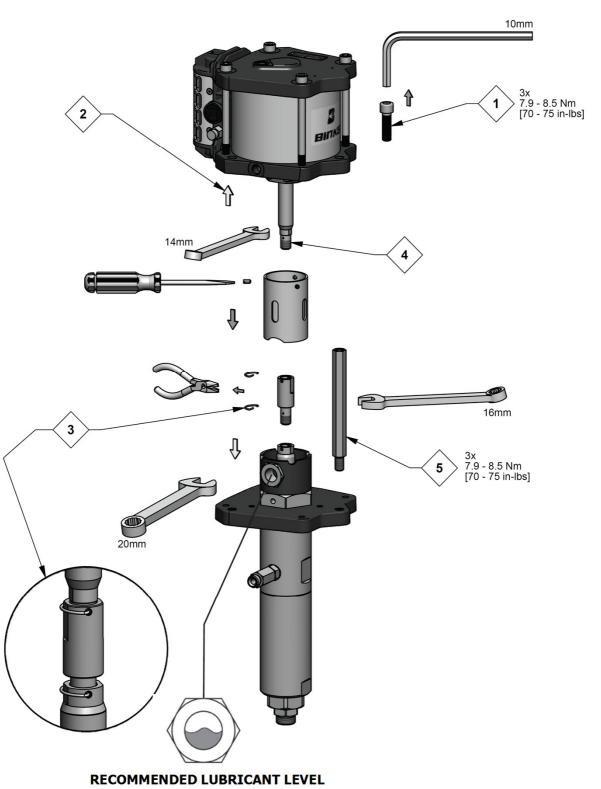
|      |                |                                   |                | Q  | ГҮ  |    |
|------|----------------|-----------------------------------|----------------|----|-----|----|
|      |                |                                   | MX123I & MXL12 |    | 231 |    |
| ITEM | PART NUMBER    | DESCRIPTION                       | PL             | PP | PU  | UC |
| 1    | AX140S         | AX140S AIR MOTOR                  | 1              | 1  | 1   | 1  |
|      | FX12PL/FXL12PL | FX12 FLUID SECTION (PTFE/LEATHER) | 1              | -  | -   | -  |
| 2    | FX12PP/FXL12PP | FLUID SECTION (PTFE)              | -              | 1  | -   | -  |
| 2    | FX12PU/FXL12PU | FLUID SECTION (PTFE/UHMW)         | -              | -  | 1   | -  |
|      | FX12UC/FXL12UC | FLUID SECTION (U-CUPS)            | -              | -  | -   | 1  |
| 3    | 0115-010648    | TIE ROD                           | 3              | 3  | 3   | 3  |
| 4    | 0115-010114 🛛  | SOCKET HEAD CAP SCREW             | 3              | 3  | 3   | 3  |
| 5    | 0115-010113 •  | LOCKING CLIP                      | 2              | 2  | 2   | 2  |
| 6    | 0115-010650    | MOTOR ROD ADAPTER                 | 1              | 1  | 1   | 1  |
| 7    | 166001         | SLOTTED SET SCREW                 | 3              | 3  | 3   | 3  |
| 8    | 0115-010655    | GUARD                             | 1              | 1  | 1   | 1  |
| 9    | 0114-011798    | GROUND WIRE                       | 1              | 1  | 1   | 1  |

Dert only available in AX140 Hardware kit: 0115-010300.

• Part only available in repair kits: 0115-010305, 0115-010307,0115-010309 and 0115-010387.



MX1231 & MXL1231 BARE PUMP - MAINTENANCE



#### MAINTENANCE SYMBOLS

| MAINTENANCE OTTIBOED |  |  |
|----------------------|--|--|
| (#)                  | ITEM NUMBER                              |  |
| <b>(#)</b>           | MAINTENANCE ORDER (Reverse for assembly) |  |
| <u>/PG</u>           | PETROLEUM JELLY                          |  |
| TS                   | THREAD SEALANT (PTFE tape)               |  |



#### MX1231 & MXL1231 BARE PUMP - TROUBLESHOOTING

| PROBLEM   | CAUSE   | SOLUTION   |
|---|---|--|
| Pump will not start                                 | No compressed air.<br>Spray tip is blocked.                                     | Check compressed air supply.<br>Clean or replace the spray tip.  |
| Erratic operation of air motor,<br>air motor stops. | Worn poppet assemblies.<br>Worn or dirty spool and sleeve<br>assembly.          | Replace the poppet assemblies.<br>Clean or replace the spool and sleeve<br>assembly, as necessary.                             |
| Continuous air leak from the<br>exhaust             | Worn poppet assemblies.<br>Worn piston seal.<br>Worn diaphragm.                 | Replace poppet assemblies.<br>Replace piston seal.<br>Replace diaphragm.   |
| Material in solvent cup.                            | Worn or dirty upper packings.   | Replace or clean upper packings as necessary.  |
| Pump does not stop on the down stroke.              | Worn or dirty lower ball check.   | Replace or clean the parts as necessary.   |
| Pump does not stop on the up stroke.                | Worn or dirty upper ball check.<br>Worn or dirty lower packings.                | Replace or clean the parts as necessary.   |
| Pump runs erratically                               | Blocked siphon kit.<br>Blocked inlet filter or strainer.<br>Low material level. | Replace or clean the siphon kit.<br>Replace or clean the inlet filter or<br>strainer.<br>Replace or refill material container. |
| Pump runs , with no output.                         | Loose connection in between pump<br>and siphon kit.<br>Stuck lower ball.        | Check that all connections are tight.<br>Replace or clean the parts as<br>necessary.   |

#### AX140S AIR MOTOR



#### Patent 7,603,855

| SPECIFICATIONS   |                 |
|--|-----------------|
| Maximum air inlet pressure                             | 8 bar [116 psi] |
| Maximum recommended continous cycle rate: (cycles/min) | 20              |
| Air inlet connection:                                  | 3/8" BSP(f)     |
| Piston Diameter:                                       | 140 mm [5.5 in] |
| Stroke Length:   | 75 mm [3.0in]   |



|          | MAINTENANCE SYMBOLS                               |
|----------|---|
| (#)      | ITEM NUMBER                                       |
| <b>#</b> | DISASSEMBLY ORDER (Reverse order for<br>assembly) |
| PG       | PETROLEUM JELLY/GREASE                            |
|          | THREAD SEALANT (PTFE tape)                        |
| •        | Parts are included in 0115-010301 Air Mo          |

- Parts are included in 0115-010301 Air Motor Repair Kit.
- + Parts are included in 0115-010226 Air Motor Valve Repair Kit.
- $\diamond$   $\;$  Parts are included in 0115-010302 Air Motor Seal Kit.
- Parts are included in 0115-010300 AX140 Hardware Kit.

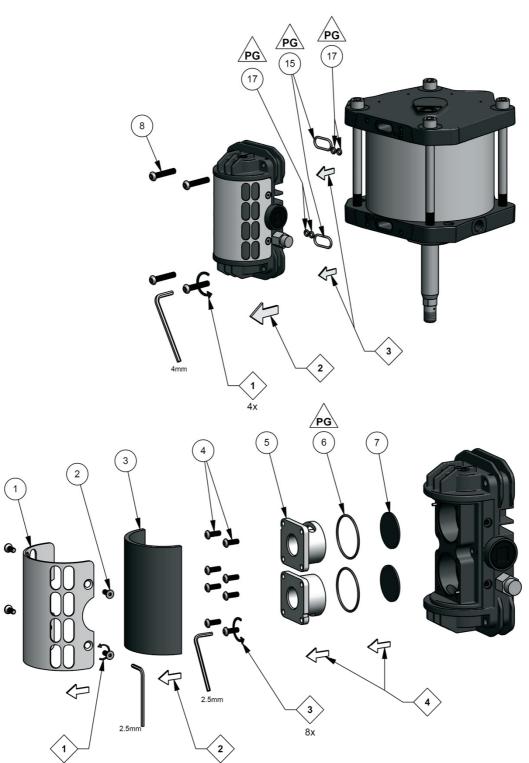
#### **AX140S AIR MOTOR**

| REF. | PART NUM    | BER  | DESCRIPTION                        | QTY |
|------|-------------|------|------------------------------------|-----|
| 1    | 0115-010023 | Δ    | EXHAUST COVER SCREEN               | 1   |
| 2    | 0115-010024 | Δ□   | FLAT HEAD COUNTER SUNK SCREW       | 4   |
| 3    | 0115-010022 | Δ    | EXHAUST COVER                      | 1   |
| 4    | 0115-010073 | Δ□   | BUTTON HEAD CAP SCREW              | 8   |
| 5    | 0115-010019 | Δ    | QUICK EXHAUST VALVE CAGE           | 2   |
| 6    | 0115-010021 | ∆∙+◊ | O-RING                             | 2   |
| 7    | 0115-010020 | ∆∙+  | DIAPHRAGM                          | 2   |
| 8    | 0115-010026 | Δ□   | BUTTON HEAD CAP SCREW              | 4   |
| 9    | 0115-010097 | Δ    | VALVE BLOCK                        | 1   |
| 10   | 0115-010107 | Δ□   | PIPE PLUG                          | 1   |
| 11   | 0114-014774 | Δ    | SAFETY VALVE                       | 1   |
| 12   | 0115-010015 | Δ+   | SPOOL AND SLEEVE ASSEMBLY          | 1   |
| 13   | 0115-010016 | ∆∙+  | BUMPER                             | 2   |
| 14   | 0115-010017 | Δ+   | MAGNET                             | 2   |
| 15   | 0115-010049 | ∆∙+≎ | O-RING                             | 4   |
| 16   | 0115-010018 | Δ+   | VALVE BLOCK END CAP                | 2   |
| 17   | 0115-010051 | ●+◇  | O-RING                             | 4   |
| 18   | 0115-010117 |      | UPPER END CAP MACHINING            | 1   |
| 19   | 0115-010037 | •    | POPPET ASSEMBLY                    | 2   |
| 20   | 0115-010124 |      | SOCKET HEAD CAP SCREW              | 4   |
| 21   | 0115-010133 | ●◊   | O-RING                             | 2   |
| 22   | 0115-010116 |      | AX140 CYLINDER                     | 1   |
| 23   | 0115-010127 |      | LOCKNUT                            | 1   |
| 24   | 0115-010131 |      | WASHER                             | 2   |
| 25   | 0115-010132 | ●◊   | O-RING                             | 2   |
| 26   | 0115-010128 |      | AX140 PISTON                       | 1   |
| 27   | 0115-010129 | •�   | O-RING                             | 1   |
| 28   | 0115-010130 |      | AX140 MOTOR ROD                    | 1   |
| 29   | 0115-010119 |      | LOWER END CAP MACHINING            | 2   |
| 30   | 0115-010658 | •    | AX140 MOTOR ROD CARTRIDGE ASSEMBLY | 1   |

- $\Delta$  Items available separately or as a complete assembly: 0115-010660.
- Parts are included in 0115-010301 Air Motor Repair Kit.
- + Parts are included in 0115-010226 Air Motor Valve Repair Kit.
- ♦ Parts are included in 0115-010302 Air Motor Seal Kit.
- □ Parts are included in 0115-010300 AX140 Hardware Kit.

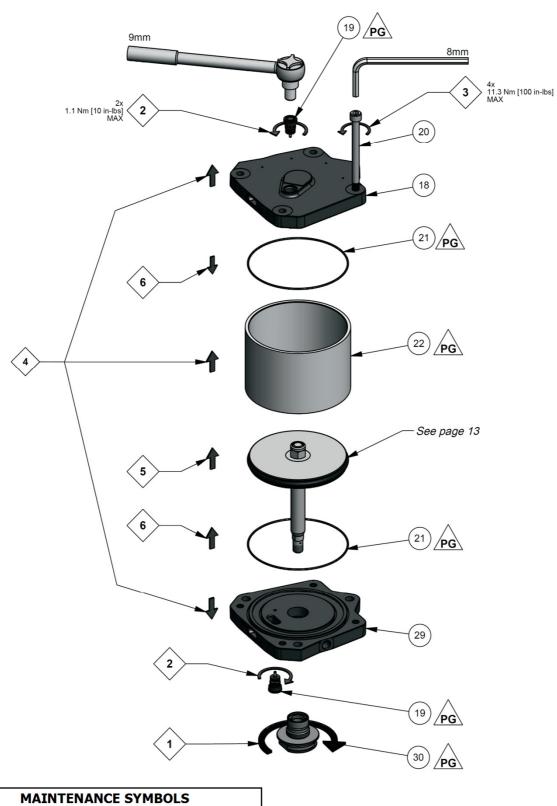
#### **AX140S AIR MOTOR - MAINTENANCE**

|     | MAINTENANCE SYMBOLS                            |
|-----|--|
| (#) | ITEM NUMBER                                    |
| (#) | DISASSEMBLY ORDER (Reverse order for assembly) |
| PG  | PETROLEUM JELLY/GREASE                         |
|     | THREAD SEALANT (PTFE tape)                     |









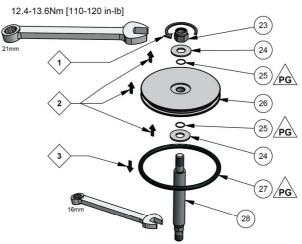
**AX140S AIR MOTOR-MAINTENANCE** 

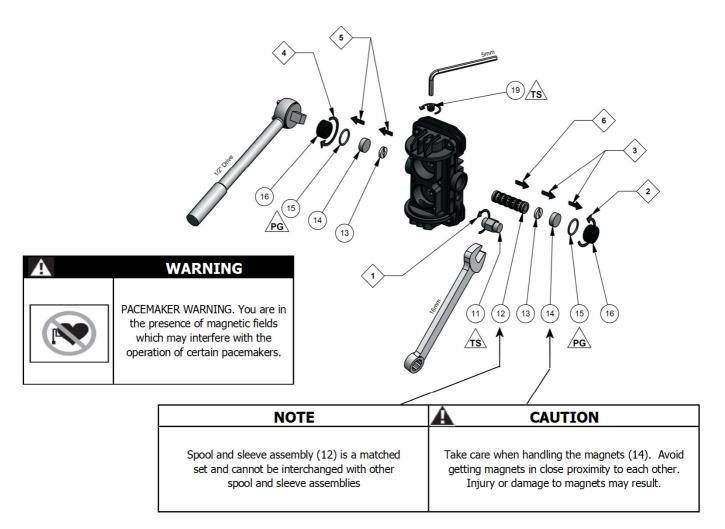
|                 | MAINTENANCE SYMBOLS                               |  |  |  |  |  |  |
|-----------------|---|--|--|--|--|--|--|
| (#) ITEM NUMBER |   |  |  |  |  |  |  |
| <b>#</b>        | DISASSEMBLY ORDER (Reverse order for<br>assembly) |  |  |  |  |  |  |
| PG              | PETROLEUM JELLY/GREASE                            |  |  |  |  |  |  |
|                 | THREAD SEALANT (PTFE tape)                        |  |  |  |  |  |  |



#### **AX140S AIR MOTOR - MAINTENANCE**

|          | MAINTENANCE SYMBOLS                            |  |  |  |  |  |  |
|----------|--|--|--|--|--|--|--|
| (#)      | ITEM NUMBER                                    |  |  |  |  |  |  |
| <b>*</b> | DISASSEMBLY ORDER (Reverse order for assembly) |  |  |  |  |  |  |
| PG       | PETROLEUM JELLY/GREASE                         |  |  |  |  |  |  |
| TS       | THREAD SEALANT (PTFE tape)                     |  |  |  |  |  |  |







#### **AX140S AIR MOTOR - TROUBLESHOOTING**

| PROBLEM  | CAUSE  | SOLUTION  |
|--|--|---|
| Pump will not start                                | No compressed air.<br>System is blocked.                               | Check compressed air supply.<br>Clear the blockage.   |
| Erratic operation of air<br>motor, air motor stops | Worn poppet assemblies.<br>Worn or dirty spool and sleeve<br>assembly. | Replace poppet assemblies.<br>Clean or replace the spool and sleeve<br>assembly as necessary. |
| Continuous air leak from<br>the exhaust            | Worn poppet assemblies.<br>Worn piston seal.<br>Worn diaphragm.        | Replace poppet assemblies.<br>Replace piston seal.<br>Replace diaphragm.                      |

## FX12 & FXL12 FLUID SECTION

Models: FX12<sup>‡‡</sup> & FXL12<sup>‡‡</sup>, <sup>‡‡</sup>=PL (PTFE/Leather), PP (PTFE), PU (PTFE/UHMWPE), UC (U-Cups)

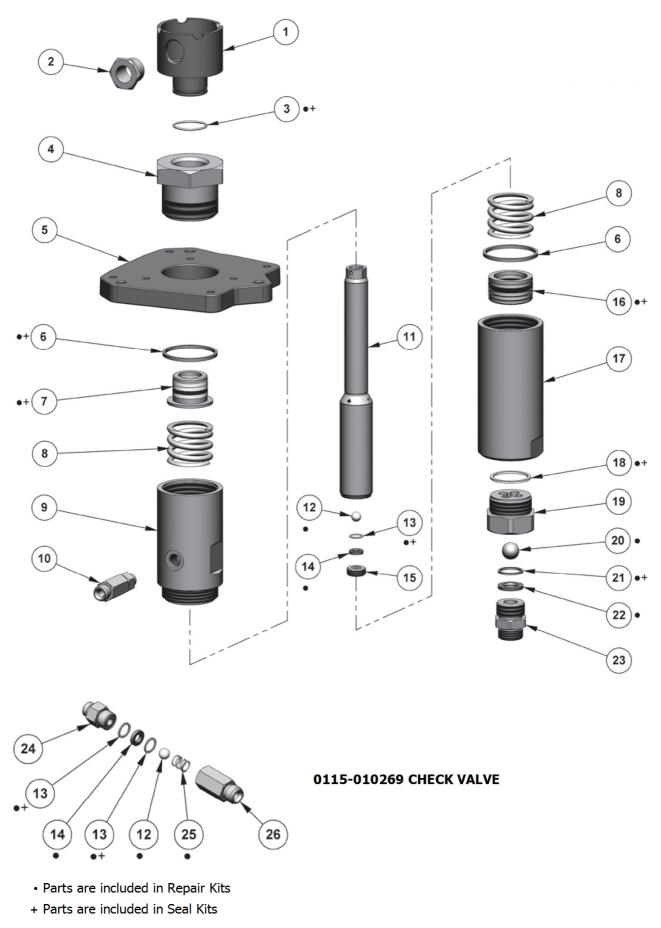


| SPECIFICATIONS                          |  |  |  |  |  |  |
|---|--|--|--|--|--|--|
| Maximum fluid pressure:                 | 248 bar [3596 psi]   |  |  |  |  |  |
| Displacement per cycle:                 | 72 cc [2.4 oz]   |  |  |  |  |  |
| Output @ 60 cycles/min:                 | 4.3 L/m [1.1 gal/m]  |  |  |  |  |  |
| Fluid inlet size:                       | FX-3/4" NPS(m), FXL-1/2"NPS(m)   |  |  |  |  |  |
| Fluid outlet size:                      | 3/8" BSP(m) & 3/8" NPS(m)  |  |  |  |  |  |
| Weight:                                 | 6.4 kg [14.1 lbs]  |  |  |  |  |  |
| Wetted parts materials of construction: | Stainless Steel,<br>Tungsen Carbide,<br>Hard Chrome, PTFE,<br>Polythylene, Leather, Ceramic. |  |  |  |  |  |



#### FX12 & FXL12 FLUID SECTION (Chevron seals)

Models: FX12<sup>‡‡</sup> & FXL12<sup>‡‡</sup>, <sup>‡‡</sup>=PL (PTFE/Leather), PP (PTFE), PU (PTFE/UHMWPE).



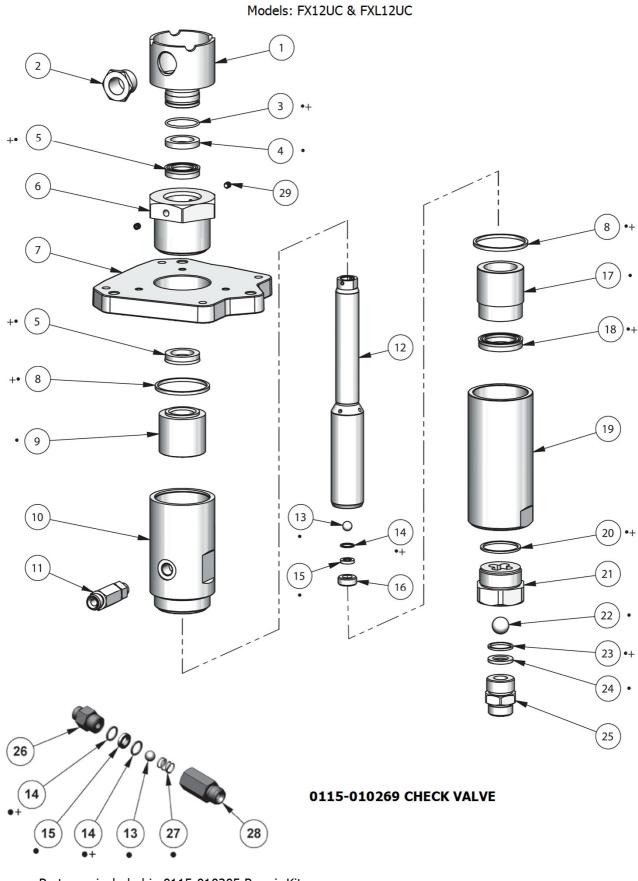


#### FX12 & FXL12 FLUID SECTION (Chevron seals)

Models: FX12<sup>‡‡</sup> & FXL12<sup>‡‡</sup>, <sup>‡‡</sup>=PL (PTFE/Leather), PP (PTFE), PU (PTFE/UHMWPE).

|       |                |                                  | QUANTITY |    |    |
|-------|----------------|----------------------------------|----------|----|----|
|       |                | FX12 & FXL12                     |          |    |    |
| ITEM. | PART NUMBER    | DESCRIPTION                      | PL       | PP | PU |
| 1     | 0115-010232    | SOLVENT CUP                      | 1        | 1  | 1  |
| 2     | 0115-010294    | SIGHT GLASS                      | 1        | 1  | 1  |
| 3     | 0115-010231 •+ | O-RING                           | 1        | 1  | 1  |
| 4     | 0115-010141    | FX12 UPPER PACKING RETAINER      | 1        | 1  | 1  |
| 5     | 0115-010205    | PUMP ADAPTER PLATE               | 1        | 1  | 1  |
| 6     | 0115-010143 •+ | PUMP TUBE SEAL                   | 2        | 2  | 2  |
|       | 0115-010261 •+ | UPPER PACKING SET (PTFE/LEATHER) | 1        | -  | -  |
| 7     | 0115-010263 •+ | UPPER PACKING SET (PTFE)         | -        | 1  | -  |
|       | 0115-010265 •+ | UPPER PACKING SET (PTFE/UHMW)    | -        | -  | 1  |
| 8     | 0115-010152    | PACKING SPRING                   | 2        | 2  | 2  |
| 9     | 0115-010137    | UPPER PUMP TUBE                  | 1        | 1  | 1  |
| 10    | 0115-010269    | FX12 CHECK VALVE ASSEMBLY        | 1        | 1  | 1  |
| 11    | 0115-010142    | FX12 PUMP ROD (HARD CHROME)      | 1        | 1  | 1  |
| 12    | 0114-014022 •  | UPPER BALL(10mm)                 | 2        | 2  | 2  |
| 13    | 0115-010144 •+ | UPPER SEAT SEAL                  | 3        | 3  | 3  |
| 14    | 0115-010145 •  | UPPER SEAT                       | 2        | 2  | 2  |
| 15    | 0115-010146    | FX12 UPPER SEAT RETAINER         | 1        | 1  | 1  |
|       | 0115-010262 •+ | LOWER PACKING SET (PTFE/LEATHER) | 1        | -  | -  |
| 16    | 0115-010264 •+ | OWER PACKING SET (PTFE)          | -        | 1  | -  |
|       | 0115-010266 •+ | LOWER PACKING SET (PTFE/UHMW)    | -        | -  | 1  |
| 17    | 0115-010138    | LOWER PUMP TUBE                  | 1        | 1  | 1  |
| 18    | 0115-010140 •+ | SEAL                             | 1        | 1  | 1  |
| 19    | 0115-010139    | LOWER BALL CAGE                  | 1        | 1  | 1  |
| 20    | 0114-014025 •  | LOWER BALL (18mm)                | 1        | 1  | 1  |
| 21    | 0115-010147 •+ | LOWER SEAT SEAL                  | 1        | 1  | 1  |
| 22    | 0115-010148 •  | LOWER SEAT                       | 1        | 1  | 1  |
| 22    | 0115-010149    | INLET 3/4" NPS(m) FX12           | 1        | 1  | 1  |
| 23    | 0115-010070    | INLET 1/2" NPS(m) FXL12          | 1        | 1  | 1  |
| 24    | 0115-010258    | FLUID OUTLET FITTING             | 1        | 1  | 1  |
| 25    | 0115-010270 •  | CHECK VALVE SPRING               | 1        | 1  | 1  |
| 26    | 0115-010271    | CHECK VALVE HOUSING              | 1        | 1  | 1  |

|   |                                   | FX*12PL     | FX*12PP     | FX*12PU     |
|---|-----------------------------------|-------------|-------------|-------------|
| • | Parts are included in Repair Kits | 0115-010307 | 0115-010309 | 0115-010387 |
| + | Parts are included in Seal Kits   | 0115-010306 | 0115-010308 | 0115-010303 |



FX12 & FXL12 Fluid Section (U-cup seals)

• Parts are included in 0115-010305 Repair Kit

+ Parts are included in 0115-010304 Seal Kit



### FX12 & FXL12 Fluid Section (U-cup seals)

Models: FX12UC & FXL12UC

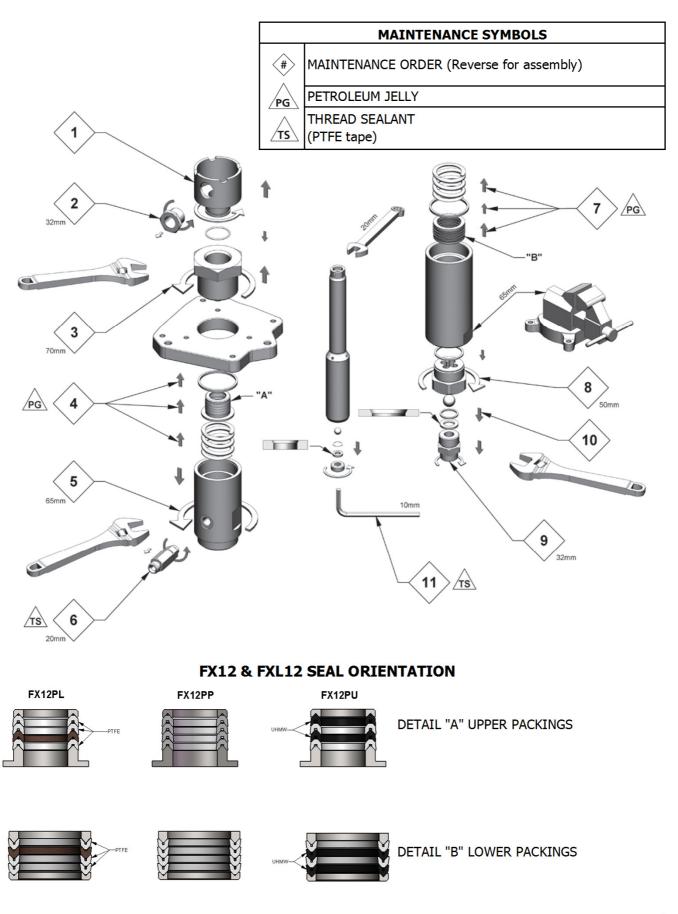
| ITEM. | PART NUMBI  | ER | DESCRIPTION                 | QTY |
|-------|-------------|----|-----------------------------|-----|
| 1     | 0115-010232 |    | FX12 SOLVENT CUP            | 1   |
| 2     | 0115-010294 |    | SIGHT GLASS                 | 1   |
| 3     | 0115-010231 | •+ | O-RING                      | 1   |
| 4     | 0115-010230 | •  | SPACER                      | 1   |
| 5     | 0115-010161 | •+ | UPPER U-CUP SEAL            | 2   |
| 6     | 0115-010229 |    | UPPER U-CUP RETAINER        | 1   |
| 7     | 0115-010205 |    | PUMP ADAPTER PLATE          | 1   |
| 8     | 0115-010143 | •+ | FX12 PUMP TUBE SEAL         | 2   |
| 9     | 0115-010162 | •  | UPPER U-CUP SPACER          | 1   |
| 10    | 0115-010137 |    | FX12 UPPER PUMP TUBE        | 1   |
| 11    | 0115-010269 |    | FX12 CHECK VALVE ASSEMBLY   | 1   |
| 12    | 0115-010142 |    | FX12 PUMP ROD (HARD CHROME) | 1   |
| 13    | 0114-014022 | •  | UPPER BALL (10mm)           | 2   |
| 14    | 0115-010144 | •+ | FX12 UPPER SEAT SEAL        | 3   |
| 15    | 0115-010145 | •  | FX12 UPPER SEAT             | 2   |
| 16    | 0115-010146 |    | FX12 UPPER SEAT RETAINER    | 1   |
| 17    | 0115-010164 | •  | LOWER U-CUP SPACER          | 1   |
| 18    | 0115-010163 | •+ | FX12 LOWER U-CUP SEAL       | 1   |
| 19    | 0115-010138 |    | FX12 LOWER PUMP TUBE        | 1   |
| 20    | 0115-010140 | •+ | FX12 LOWER BALL CAGE SEAL   | 1   |
| 21    | 0115-010139 |    | FX12 LOWER BALL CAGE        | 1   |
| 22    | 0114-014025 | •  | LOWER BALL (18mm)           | 1   |
| 23    | 0115-010147 | •+ | FX12 LOWER SEAL SEAL        | 1   |
| 24    | 0115-010148 | •  | FX12 LOWER SEAT             | 1   |
| 25    | 0115-010149 |    | INLET 3/4" NPS(m) FX12      | 1   |
| 25    | 0115-010070 |    | INLET 1/2" NPS(m) FXL12     | 1   |
| 26    | 0115-010258 |    | FLUID OUTLET FITTING        | 1   |
| 27    | 0115-010270 | •  | FX12 CHECK VALVE SPRING     | 1   |
| 28    | 0115-010271 |    | FX12 CHECK VALVE HOUSING    | 1   |
| 29    | 0114-018251 |    | SET SCREW                   | 2   |

| • | Parts are included in Repair Kit | 0115-010305 |
|---|----------------------------------|-------------|
| + | Parts are included in Seal Kit   | 0115-010304 |



#### FX12 & FXL12 FLUID SECTION (Chevron seals) - MAINTENANCE

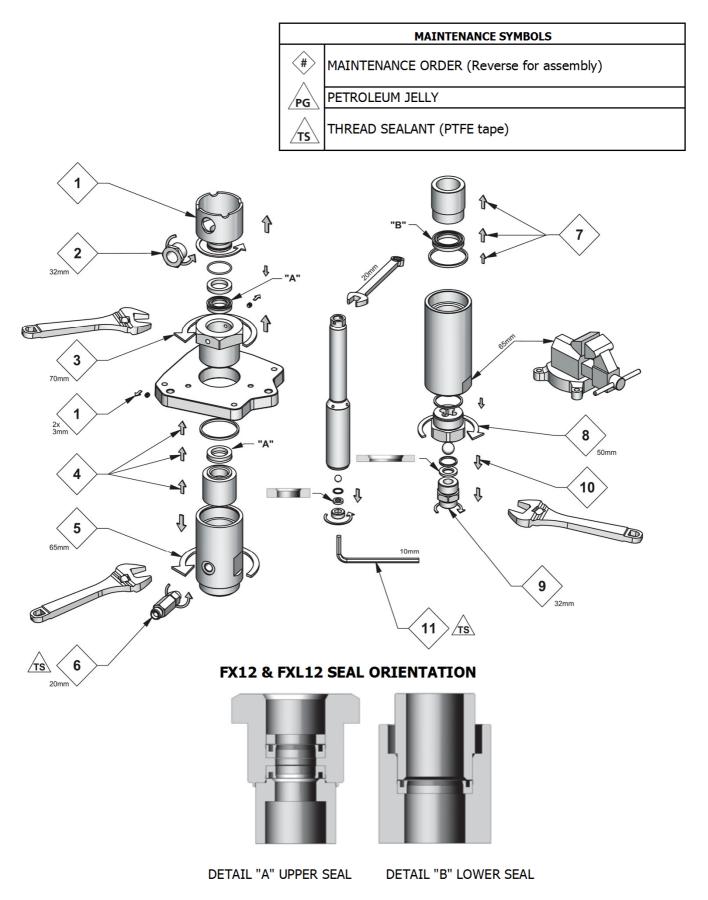
Models: FX12<sup>‡‡</sup> & FXL12<sup>‡‡</sup>, <sup>‡‡</sup>=PL (PTFE/Leather), PP (PTFE), PU (PTFE/UHMWPE).





#### FX12 FLUID SECTION (U-CUP Seals) - MAINTENANCE

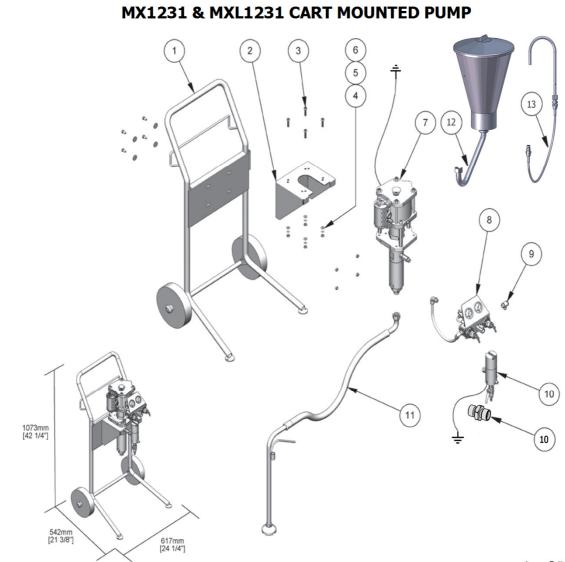
MODEL: FX12UC & FXL12UC





#### FX12 FLUID PUMP ASSEMBLIES - TROUBLESHOOTING

| PROBLEM                                  | CAUSE  | SOLUTION   |
|--|--|--|
| Material in solvent cup                  | Worn or dirty upper packings.  | Replace or clean upper packings as necessary.  |
| Pump does not stop on the down<br>stroke | Worn or dirty lower ball check.  | Replace or clean the parts as necessary.   |
| Pump does not stop on the up<br>stroke   | Worn or dirty upper ball check. Worn<br>or dirty lower packings.                         | Replace or clean the parts as necessary.   |
| Pump runs erratically                    | Blocked material siphon kit. Blocked<br>inlet filter or strainer.<br>Low material level. | Replace or clean the siphon kit.<br>Replace or clean inlet filter or<br>strainer.<br>Replace or refill material container. |
| Pump runs, with no output                | Loose connection in between pump<br>and siphon assembly.<br>Stuck lower ball.            | Check that all connections are tight.<br>Replace or clean the parts as<br>necessary.                                       |



\*= OPTIONS

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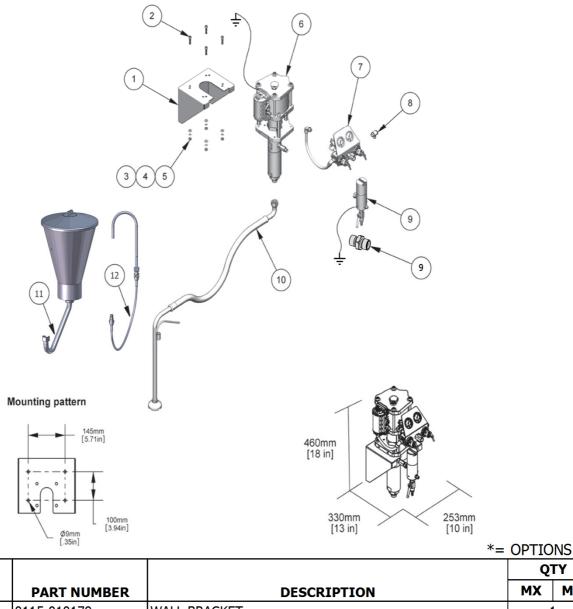
|      |             |                                  | Q  | ΓY  |
|------|-------------|----------------------------------|----|-----|
| ITEM | PART NUMBER | DESCRIPTION                      | МХ | MXL |
| 1    | 0115-010186 | CART                             |    | 1   |
| 2    | 0115-010179 | WALL BRACKET                     |    | 1   |
| 3    | 0115-010001 | SCREW                            |    | 1   |
| 4    | 0115-010030 | M8 HEX NUT                       |    | 1   |
| 5    | 0115-010031 | M8 LOCKWASHER                    |    | 1   |
| 6    | 0115-010035 | M8 PLAIN WASHER                  |    | 1   |
| 7    | MX1231XX    | MX1231 BARE PUMP                 | 1  | -   |
| /    | MXL1231XX   | MXL1231 BARE PUMP                | -  | 1   |
| 8    | 0115-010180 | AIR CONTROL 2 REGULATORS & VALVE | 1  | -   |
| 0    | 0115-010664 | AIR CONTROL 2 REGULATORS         | -  | 1   |
| 9    | 0114-009164 | ELBOW FITTING                    |    | 1   |
| 10   | 0110-009130 | HP FILTER (100 mesh)             | 1  | -   |
| 11   | 0115-010236 | SUCTION HOSE (20 mesh) 3/4"      | 1  | -   |
| 11   | 0115-010696 | SUCTION HOSE (20 mesh) 1/2"      | -  | 1   |
| 12   | 0115-010701 | HOPPER 6L [1.6 US Gal]           | 1* | -   |
| 13   | 0114-009629 | 1/4" RETURN HOSE                 | 1* | -   |

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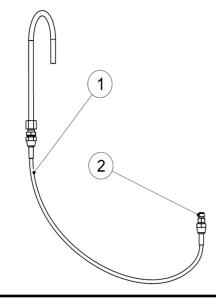


#### MX1231 & MXL1231 WALL MOUNTED PUMP



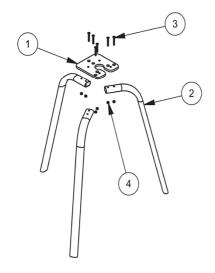
|      |             |                                  | Q  | ТҮ  |
|------|-------------|----------------------------------|----|-----|
| ITEM | PART NUMBER | DESCRIPTION                      | MX | MXL |
| 1    | 0115-010179 | WALL BRACKET                     |    | 1   |
| 2    | 0115-010001 | SCREW                            |    | 1   |
| 3    | 0115-010030 | M8 HEX NUT                       |    | 4   |
| 4    | 0115-010031 | M8 LOCKWASHER                    |    | 4   |
| 5    | 0115-010035 | M8 PLAIN WASHER                  |    | 4   |
| 6    | MX1231XX    | MX1231 BARE PUMP                 | 1  | -   |
| O    | MXL1231XX   | MXL1231 BARE PUMP                | -  | 1   |
| 7    | 0115-010180 | AIR CONTROL 2 REGULATORS & VALVE | 1  | -   |
| /    | 0115-010664 | AIR CONTROL 2 REGULATORS         | -  | 1   |
| 8    | 0115-009164 | ELBOW FITTING                    | :  | 1   |
| 9    | 0110-009130 | HP FILTER (100 mesh)             | 1  | -   |
| 10   | 0115-010236 | SUCTION HOSE (20 mesh) 3/4"      | 1  | -   |
| 10   | 0115-010696 | SUCTION HOSE (20 mesh) 1/2"      | -  | 1   |
| 11   | 0115-010701 | HOPPER 6L [1.6 US Gal]           | 1* | -   |
| 12   | 0114-009629 | 1/4" RETURN HOSE                 | 1* | -   |





| 0114-009629      |  |
|------------------|--|
| 1/4" RETURN HOSE |  |

| ITEM | PART NO     | DESCRIPTION      | QTY |
|------|-------------|------------------|-----|
| 1    | 0115-010695 | DUMP HOSE & TUBE | 1   |
| 2    | 0114-016059 | FITTING 1/4"     | 1   |



## 0115-010100

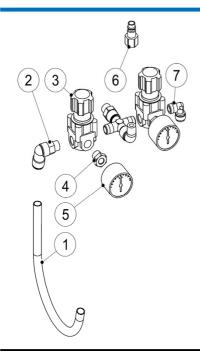
| TRIP | D           |                 |     |
|------|-------------|-----------------|-----|
| ITEM | PART NO     | DESCRIPTION     | QTY |
| 1    | 0115-010101 | MOUNTING PLATE  | 1   |
| 2    | 0115-010210 | TRIPOD LEG      | 3   |
| 3    | 0115-010212 | FLAT HEAD SCREW | 6   |
| 4    | 0115-010211 | LOCKING NUT     | 6   |

|        | - 5 |   |
|--------|-----|---|
|        |     |   |
| $\sim$ |     | M |
| (1)    | 6   |   |
|        | 2   |   |
|        | 3   |   |
|        | 4   | ~ |

#### 0115-010236

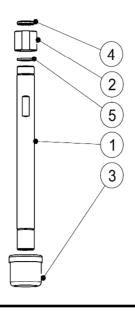
#### 3/4" SUCTION HOSE (MX)

| ITEM                 | PART NO     | DESCRIPTION         | QTY |
|----------------------|-------------|---------------------|-----|
| 1                    | 0114-018506 | SUCTION HOSE (DN20) | 1   |
| 2                    | 0114-013734 | FILTER HOUSING      | 1   |
| 3                    | 0114-014112 | STRAINER (20 MESH)  | 1   |
| 4                    | 0114-014080 | RETAINING RING      | 1   |
| 5                    | 0111-010235 | ADAPTER 3/4"M-1/2"F | 1   |
| 6                    | 0114-016024 | ADAPTER             | 1   |
| ADDITIONAL STRAINERS |             |                     |     |
| 0114-014068          |             | 50 Mesh             |     |
| 0114-014221          |             | 70 Mesh             |     |



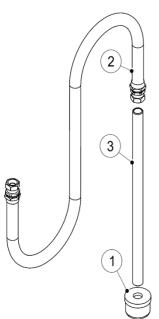
#### 0115-010664 AIR CONTROL 2 REGULATORS (MXL)

| ITEM | PART NO     | DESCRIPTION       | QTY  |
|------|-------------|-------------------|------|
| 1    | 0115-010694 | Ø12 NYLON TUBE    | 0.32 |
| 2    | 0115-010666 | 12mm OD ELBOW     | 1    |
| 3    | ZZ-3073     | AIR REGULATOR     | 2    |
| 4    | 0114-019209 | REDUCING BUSH     | 2    |
| 5    | GA-382-P    | PRESSURE GAUGE    | 2    |
| 6    | ZZ-2417     | QD STEM 1/4 BSP F | 1    |
| 7    | 0115-010667 | Ø8 ELBOW          | 1    |



#### 0115-010670 3/4" SUCTION TUBE (MX)

| ITEM | PART NO     | DESCRIPTION           | QTY |
|------|-------------|-----------------------|-----|
| 1    | 0115-010105 | SUCTION TUBE          | 1   |
| 2    | 0115-010104 | ADAPTER               | 1   |
| 3    | 0115-010668 | 3/4" STRAINER 15 MESH | 1   |
| 4    | 0115-010693 | SEAL                  | 1   |
| 5    | 0114-013834 | SEAL                  | 1   |



#### 0115-010696 1/2" SUCTION HOSE (MXL)

| ITEM | PART NO     | DESCRIPTION           | QTY |
|------|-------------|-----------------------|-----|
| 1    | 41-2661     | 1/2" STRAINER 30 MESH | 1   |
| 2    | 0115-010698 | 1/2" HOSE             | 1   |
| 3    | 0115-010697 | TUBE                  | 1   |

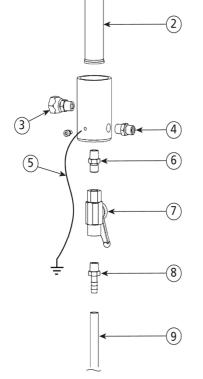




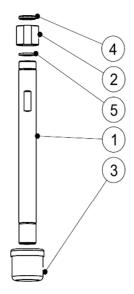
(1)

0110-009130 HIGH PRESSURE FILTER

272 BAR Max, 100 MESH 3/8" BSP F INLET, 1/4" NPSM OUTLET

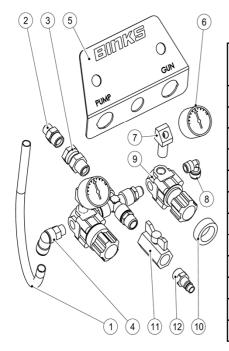


| ITEM        | PART NO            | DESCRIPTION      | QTY |
|-------------|--------------------|------------------|-----|
| 1           | 0114-016061        | SEAL             | 1   |
| 2           | 0110-009132        | FILTER 100 MESH  | 1   |
| 3           | 0110-016058        | 3/8" BSP SWIVEL  | 1   |
| 4           | 0114-016059        | 1/4" NPSM NIPPLE | 1   |
| 5           | 0114-011798        | GROUND WIRE KIT  | 1   |
| 6           | 0114-019090        | 1/4" NIPPLE      | 1   |
| 7           | 0114-019091        | BALL VALVE       | 1   |
| 8           | 0114-019092        | HOSE NIPPLE      | 1   |
| 9           | 0110-009103        | DUMP HOSE        | 1   |
| ADDITI      | ADDITIONAL FILTERS |                  |     |
| 0110-009131 |                    | 50 MESH          |     |
| 0110-0      | 09133              | 150 MESH         |     |
| 0110-0      | 09134              | 200 MESH         |     |



#### 0115-010699 1/2" SUCTION TUBE (MXL)

| ITEM | PART NO     | DESCRIPTION           | QTY |
|------|-------------|-----------------------|-----|
| 1    | 0115-010702 | SUCTION TUBE          | 1   |
| 2    | 0115-010703 | ADAPTER               | 1   |
| 3    | 41-2661     | 3/4" STRAINER 15 MESH | 1   |
| 4    | 0115-010165 | SEAL                  | 1   |
| 5    | 0115-010165 | SEAL                  | 1   |



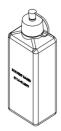
| 0115-010180             |   |
|-------------------------|---|
| <b>AIR CONTROLS (MX</b> | 0 |

| ITEM | PART NO     | DESCRIPTION     | QTY  |
|------|-------------|-----------------|------|
| 1    | 0115-010694 | Ø12 TUBE        | 0.32 |
| 2    | 0115-010157 | MOUNTING STUD   | 1    |
| 3    | 0115-010324 | 3/8 BSP SWIVEL  | 1    |
| 4    | 0115-010666 | Ø12 ELBOW       | 1    |
| 5    | 0115-010680 | PANEL           | 1    |
| 6    | GA-382-P    | PRESSURE GAUGE  | 2    |
| 7    | DVX-56      | GAUGE BLOCK     | 2    |
| 8    | 0115-010667 | Ø8 ELBOW        | 1    |
| 9    | ZZ-3073     | AIR REGULATOR   | 2    |
| 10   | DVX-58      | REGULATOR NUT   | 2    |
| 11   | 0115-010684 | 3/8" BALL VALVE | 1    |
| 12   | 0110-009091 | QD STEM 3/8"    | 1    |

# 

#### 0115-010701 6L (1.6 US GAL) HOPPER

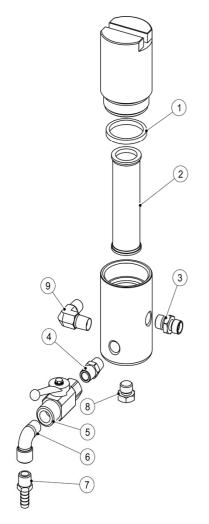
| ITEM | PART NO       | DESCRIPTION  | QTY |
|------|---------------|--------------|-----|
| 1    | ZZ-2571       | HOPPER       | 1   |
| 2    | 00-00-0002147 | FILTER       | 1   |
| 3    | 00-00-0002148 | TENSION RING | 1   |
| 4    | ZZ-2587       | PTFE SEAL    | 1   |
| 5    | 0114-016041   | SUCTION TUBE | 1   |



#### PUMP LUBRICATION

| 0114-016099 | LUBRICATION-WATER BASED 0.25   |
|-------------|--------------------------------|
| 0114-016100 | LUBRICATION-SOLVENT BASED 0.25 |
| 0114-014871 | LUBRICATION-WATER BASED 0.5    |
| 0114-009433 | LUBRICATION-SOLVENT BASED 0.5  |

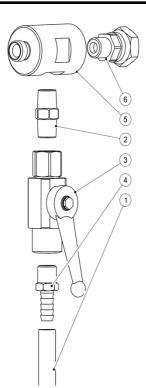




#### 0115-010200 HIGH PRESSURE FILTER (PAIL) 272 BAR Max, 100 MESH

3/8" BSP F INLET, 1/4" NPSM OUTLET

| ITEM   | PART NO       | DESCRIPTION             | QTY |
|--------|---------------|-------------------------|-----|
| 1      | 0114-016061   | SEAL                    | 1   |
| 2      | 0110-009132   | FILTER SCREEN 100 MESH  | 1   |
| 3      | 0114-013730   | NIPPLE 1/4"NPSM         | 1   |
| 4      | 0114-019090   | NIPPLE                  | 1   |
| 5      | 0114-019091   | BALL VALVE              | 1   |
| 6      | 0114-0200027  | ELBOW                   | 1   |
| 7      | 0114-019985   | HOSE CONNECTOR          | 1   |
| 8      | 0115-010600   | PLUG                    | 1   |
| 9      | 20-2828       | ELBOW                   | 1   |
| 10     | 0114-011798   | GROUND WIRE (NOT SHOWN) | 1   |
| ADDITI | IONAL FILTERS |                         |     |
| 0110-0 | 09131         | 50 MESH                 |     |
| 0110-0 | 09133         | 150 MESH                |     |
| 0110-0 | 09134         | 200 MESH                |     |



#### 0115-010672 DUMP VALVE KIT

272 BAR Max

1/4"NPSM F SWIVEL - 1/4" BSP/NPS M

| ITEM | PART NO     | DESCRIPTION    | QTY |
|------|-------------|----------------|-----|
| 1    | 0110-009103 | DUMP HOSE      | 0.6 |
| 2    | 0114-019090 | NIPPLE         | 1   |
| 3    | 0114-019091 | BALL VALVE     | 1   |
| 4    | 0114-019985 | HOSE CONNECTOR | 1   |
| 5    | 0115-010673 | MANIFOLD       | 1   |
| 6    | 0115-010674 | SWIVEL NUT     | 1   |



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