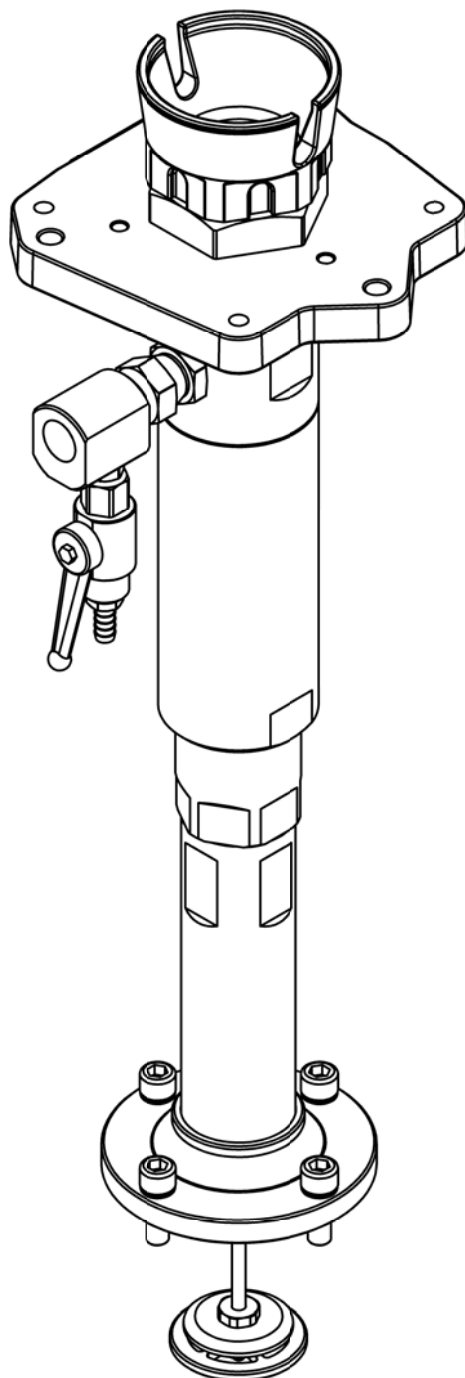


# **BINKS**<sup>®</sup>

## Instruction Manual FX68 Fluid Section

FX68PU-SMX



<b>Product Description</b>	FX68PU, FX72PU, FX190PU, FX200PU, FX220PU, FX420PU, FX440PU, FX860PU, FX880PU,
<b>This Product is designed for use with:</b>	Solvent and Water based Materials
<b>Suitable for use in hazardous area:</b>	Zone 1 & 2
<b>Protection Level:</b>	II 2 G X T4
<b>Manufacturer:</b>	Finishing Brands UK Ltd, Ringwood Road, Bournemouth, BH11 9LH. UK

## EU Declaration of Conformity



**We: Binks declare that the above product conforms with the Provisions of:**

Machinery Directive 2006/42/EC

ATEX Directive 94/9/EC

**by complying with the following statutory documents and harmonized standards:**

EN ISO 12100: Safety of Machinery - General Principles for Design

EN ISO 4413: Hydraulic Fluid Power - General Rules and safety requirements

EN 12621: Machinery for the supply and circulation of coating materials under pressure - Safety requirements

EN1127-1: Explosive atmospheres - Explosion prevention - Basic concepts

EN 13463-1: Non electrical equipment for use in potentially explosive atmospheres - Basic methods and requirements

EN 13463-5: Non electrical equipment for use in potentially explosive atmospheres - Protection by constructional safety

Providing all conditions of safe use stated within the product manuals have been complied with and that the final equipment into which this product is installed has been re-assessed as required, in accordance with essential health and safety requirements of the above standards, directives and statutory instruments and also installed in accordance with any applicable local codes of practice.

D Smith (General Manager)  
19/2/14

<b>Specification</b>	
<b>Feature</b>	<b>Unit</b>
Fluid Section designed to be used with AX55S, AX85S & AX140S Air Motors –  MX6805PU-SMX MX6812PU-SMX MX6833PU-SMX  See Pump Manual MX68 for Installation details	
Recommended intermittent cycle rate	20 cycles/min
Flow at 60 cycles/min	1.08 US Gal. /min. 4.08 Litres/min.
Flow per cycle	0.018 US Gallons 0.068 Litres
Pump Stroke	3" 75 mm
Ratio with AX55S Air motor (MX6805 Pump Assembly)	5:1
Ratio with AX85S Air Motor (MX6812 Pump Assembly)	12:1
Ratio with AX140S Air Motor (MX6833 Pump Assembly)	33:1
Maximum Fluid Pressure	3830 PSI 265 BAR
Fluid Inlet	Ram – Chop Check
Fluid Outlet	1/2" NPT
Weight	20 Lbs 9 KG
Rod Surface Treatment	Ceramic Coated
Rod Upper Packing Seal	PTFE + UHMWPE
Rod Lower Packing Seal	PTFE + UHMWPE

 **WARNING**

**Directions for Working Safety**

This Product has been constructed according to advanced technological standards and is operationally reliable. Damage may, however, result if it is used incorrectly by untrained persons or used for purposes other than those for which it was constructed.

The locally current regulations for safety and prevention of accidents are valid for the operation of this product under all circumstances.

International, national and company safety regulations are to be observed for the installation and operation of this product, as well as the procedures involved in maintenance, repairs and cleaning.

These instructions are intended to be read, understood and observed in all points by those responsible for this product. These operating and maintenance instructions are intended to ensure trouble free operation. Therefore, it is recommended to read these instructions carefully before start-up. Binks PCE cannot be held responsible for damage or malfunctions resulting from the non-observance of the operating instructions. These instructions including regulations and technical drawings may not be copied, distributed, used for commercial purposes or given to others either in full or in part without the consent of Binks PCE.

We reserve the right to alter drawings and specifications necessary for the technical improvement of this product without notice.



**Equipment Misuse Hazard**

Equipment misuse can cause the equipment to rupture or malfunction and result in serious injury.

- This equipment is for professional use only.
- Read all instruction manuals, tags, and labels before operating the equipment.
- Use the equipment only for its intended purpose.
- Do not alter or modify this equipment. Use only genuine Binks PCE parts and accessories.
- Check equipment daily. Repair or replace worn or damaged parts immediately.
- Do not exceed the maximum working pressure stated on the equipment or in the Technical Data for your equipment. Do not exceed the maximum working pressure of the lowest rated component in your system.
- Use fluids and solvents which are compatible with the equipment wetted parts. Refer to the Technical Data section of all equipment manuals. Read the fluid and solvent manufacturer's warnings.
- Route hoses away from traffic areas, sharp edges, moving parts, and hot surfaces. Do not expose hoses to temperatures above 82°C (180°F) or below -40°C (-40°F).
- Do not lift pressurized equipment.
- Comply with all applicable local, state, and national fire, electrical, and safety regulations.



**Fire, Explosion and Electric Shock Hazard**

Improper grounding, poor ventilation, open flames or sparks can cause a hazardous condition and result in a fire, explosion, or electric shock.

When installed and operated in accordance with its instructions, the pump is approved for operation in Zone 1 (Europe) & Division 1 (North America), hazardous locations. (ATEX Cat 2)

- Electrical equipment must be installed, operated, and serviced only by trained, qualified personnel who fully understand the requirements stated in this instruction manual.
- Ground the equipment and all other electrically conductive objects in the spray area. After grounding test with ohmmeter to ensure earth continuity is 1 ohm or less.
- Keep all covers tight while the motor is energized.
- If there is any static sparking or you feel an electric shock while using this equipment, stop spraying/dispensing immediately. Do not use the equipment until you identify and correct the problem.
- Provide fresh air ventilation to avoid the build up of flammable fumes from solvents or the fluid being pumped.
- Keep the pumping area free of debris, including solvent, rags, and gasoline.
- Electrically disconnect all equipment in the pumping area.
- Extinguish all open flames or pilot lights in the spray/dispense area.
- Do not smoke in the spray/dispense area.
- Do not turn on or off any light switch in the spray/dispense area while operating or if fumes are present.





# WARNING



**READ THE MANUAL**

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



**WEAR SAFETY GLASSES**

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



**DE-ENERGIZE, DEPRESSURIZE, DISCONNECT AND LOCK OUT ALL POWER SOURCES DURING MAINTENANCE**

Failure to De-energize, disconnect and lock out all power supplies before performing equipment maintenance could cause serious injury or death.



**NOISE HAZARD**

You may be injured by loud noise. Hearing protection may be required when using this equipment.



**OPERATOR TRAINING**

All personnel must be trained before operating equipment.



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



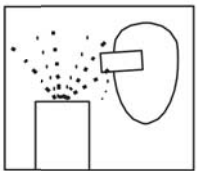
**KEEP EQUIPMENT GUARDS IN PLACE**

Do not operate the equipment if the safety devices have been removed.



**HIGH PRESSURE CONSIDERATION**

High pressure can cause serious injury. Relieve all pressure before servicing. Hose leaks, or ruptured components can inject fluid into your body and cause extremely serious injury.



**PROJECTILE HAZARD**

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



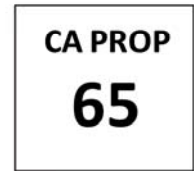
**AUTOMATIC EQUIPMENT**

Automatic equipment may start suddenly without warning.



**PINCH POINT HAZARD**

Moving parts can crush and cut. Pinch points are basically any areas where there are moving parts.



**PROP 65 WARNING**

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



**MAGNETIC FIELD PRESENT**

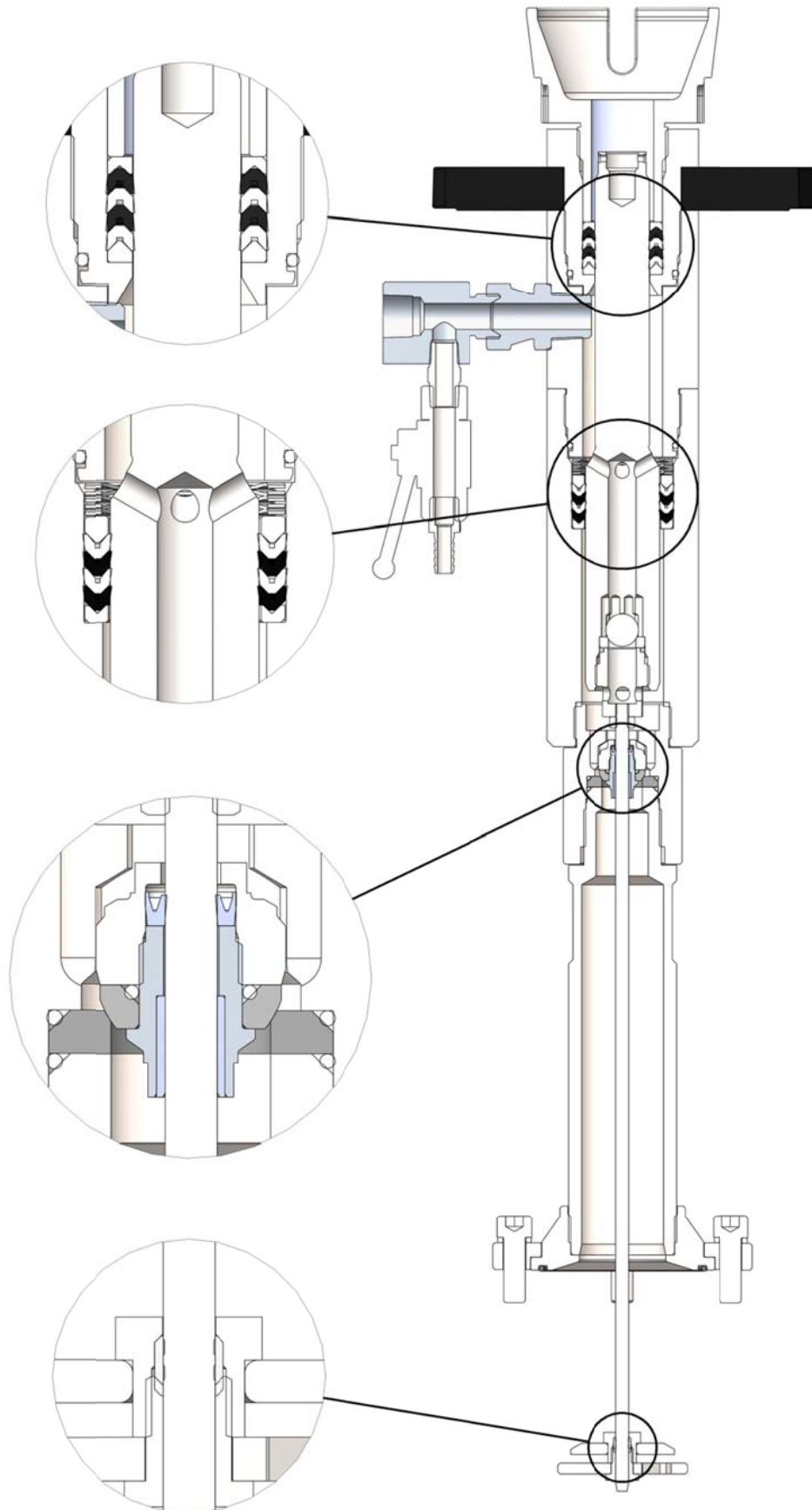
You may be subjected to magnetic fields which may interfere with the operation of certain pacemakers.

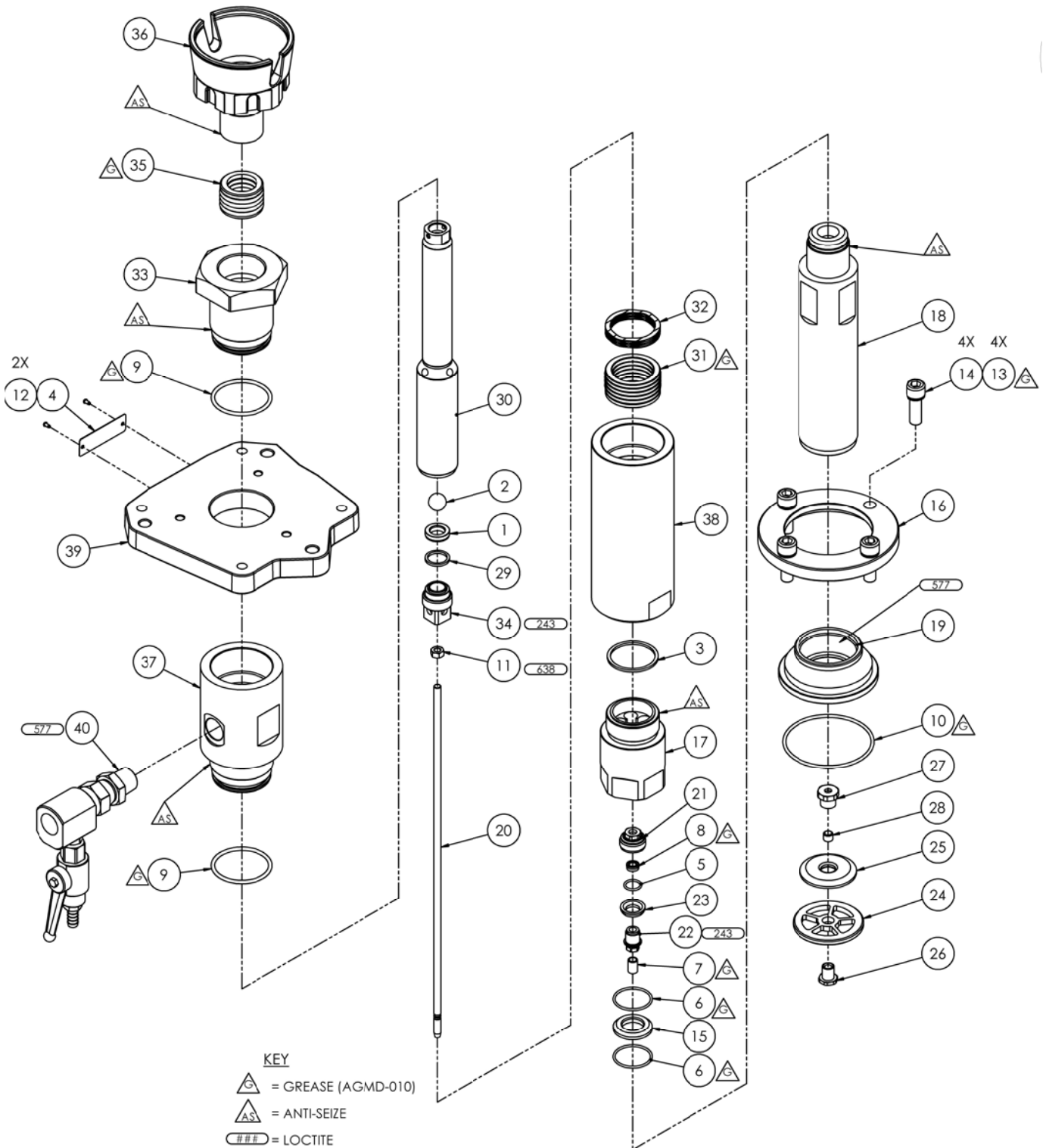


**MAGNET HAZARD**

Take care when handling magnets. Avoid getting magnets in close proximity of each other. Injury or damage to magnets may result.

**FX68PU-SMX**



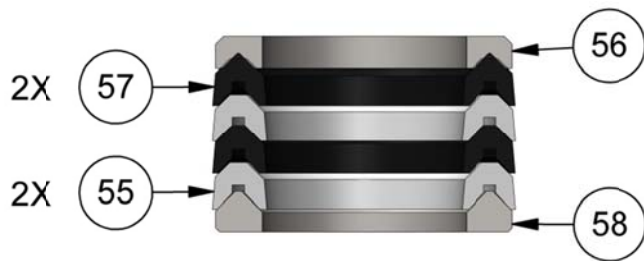


Parts List – 'FX68PU-SMX' Fluid Section				
ITEM	PART No	DESCRIPTION	QTY	REMARKS
1	0114-014056	VALVE SEAT	1	
2	0114-014237	15mm DIAMETER BALL	1	
3	0115-010140	FX12 LOWER BALL CAGE SEAL	1	
4	0115-010642	NAMEPLATE	1	
5	161502	Ø12.1 x Ø1.6 O'RING - PTFE	1	
6	162745	Ø29.9 X 1.78 O'RING - PTFE	2	
7	162803	SHAFT BEARING	1	
8	162804	LIP SEAL	1	
9	162825	Ø46 X 3 O'RING - PTFE	2	
10	162839	Ø72.69 x 2.62 O'RING - VITON	1	
11	163320	M6 HEX NUT - STST	1	
12	164838	No 2 x 4.75 RIVET	2	
13	165123	M10 SPRING WASHER	4	
14	165988	M10 x 30 CAPHEAD SCREW	4	
15	193189	PISTON SEAT	1	
16	193752	SLIP FLANGE	1	
17	193776	FX68 LOWER BALL CAGE	1	
18	193777	INLET TUBE	1	
19	193778	RAM ADAPTOR	1	
20	193780	SHOVEL SHAFT	1	
21	193781	SHOVEL PLATE BALL	1	
22	193782	BALL CHECK INSERT	1	
23	193783	BALL CHECK SEAT	1	
24	193784	BOTTOM SHOVEL PLATE	1	
25	193785	TOP SHOVEL PLATE	1	
26	193786	LOWER PLATE LOCK	1	
27	193787	UPPER PLATE LOCK	1	
28	193788	COMPRESSION WASHER	1	
29	193794	SEAL	1	
30	193970	FX68 PUMP ROD - CERAMIC	1	
31	193971	FX68 LOWER PACKING ASSEMBLY	1	
32	194093	PACKING SPRING	1	
33	194098	PACKING RETAINER	1	

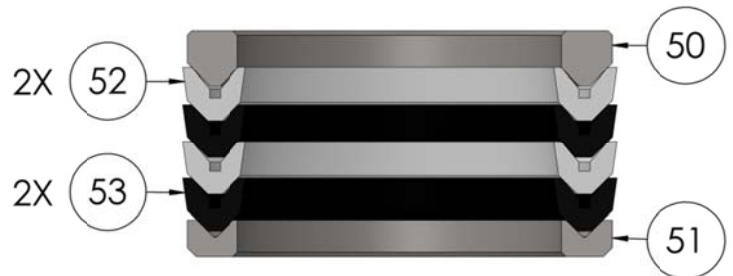


34	194118	FX115 UPPER SEAT RETAINER	1	
35	194120	FX68 UPPER PACKING SET	1	
36	194121	FX68PACKING NUT	1	
37	194123	FX68 UPPER PUMP TUBE	1	
38	194124	FX68 LOWER PUMP TUBE	1	
39	194130	FX68 PUMP ADAPTER PLATE	1	
40	194471	PRIMER KIT ASSEMBLY	1	

**ITEM 35**  
Upper Packing Assembly



**ITEM 31**  
Lower Packing Assembly



**Parts List – Item 35**  
Upper Packing Assembly

ITEM	PART No	DESCRIPTION	QTY	REMARKS
55	0114-013972	FX12 UPPER PACKING PTFE	2	
56	0115-010150	FX12 UPPER FEMALE ADAPTER	1	
57	0115-010267	FX12 UPPER PACKING UHMW	2	
58	194091	UPPER MALE ADAPTER	1	

**Parts List – Item 31**  
Lower Packing Assembly

ITEM	PART No	DESCRIPTION	QTY	REMARKS
50	193972	FX68 LOWER MALE ADAPTER	1	
51	193973	FX68 LOWER FEMALE ADAPTER	1	
52	193974	FX68 LOWER PACKING PTFE	2	
53	193975	FX68 LOWER PACKING UHMWPE	2	

Spare Parts Kit - 250717 Fluid Section Seal Kit				
ITEM	PART No	DESCRIPTION	QTY	REMARKS
3	0115-010140	FX12 LOWER BALL CAGE SEAL	1	
5	161502	Ø12.1 x Ø1.6 O'RING - PTFE	1	
6	162745	Ø29.9 X 1.78 O'RING - PTFE	2	
7	162803	SHAFT BEARING	1	
8	162804	LIP SEAL	1	
9	162825	Ø47 X 3 O'RING - PTFE	2	
10	162839	Ø72.69 x 2.62 O'RING - VITON	1	
28	193788	COMPRESSION WASHER	1	
29	193794	SEAL	1	
31	193971	FX68 LOWER PACKING ASSEMBLY	1	
35	194120	FX68 UPPER PACKING SET	1	

Fault Finding		
Problem	Cause	Action
Leak from rod seal packings	Seal wear or damage to packing material	Stop the pump and relieve all material pressure. Tighten the packing nut until the resistance of the packings clamping the shaft can be felt. Do not over-tighten. Ensure solvent cup has the correct lubricant for the material being pumped present at all times.
	Damaged rod	Replace
Low material flowrate, pump running fast or will not stall (stalling - 1 stroke should not occur in less than 30 seconds)	Contaminates trapped between ball and seat	Strip and clean pump. Check for damage
	Worn or damaged balls/seats	Check for wear; replace balls and / or seats.
	Worn bottom rod seals	Replace
Air entering system	Loose joint on suction side	Check and reseal fittings

## Preventative Maintenance - Pump Paint Packings

**Check daily** to ensure that there is the correct type of lubricant material present in the solvent cup; this should be compatible with the material being pumped. Confirmation from the material supplier should be sought to ensure compatibility to prevent the risk of contamination.

A universal lubricant is available - Wet Sol 'Plus' Binks Part Number 863009

**Check daily** for excessive material leaks into the solvent cup.

## Upper Packing Adjustment

1. Stop the Pump and isolate the air motor air supply.
2. Relieve all fluid pressure from the pump.
3. Clean the solvent cup to remove excess leaked material.
4. Use the 'C' spanner to tighten the packing nut (36) and preload the chevron packing , approximate torque 40Nm
5. Add a compatible lubricant to the solvent cup of the packing nut (36).

## Upper Packing Replacement

1. Stop the Pump at the bottom stroke position.
2. Relieve all fluid pressure from the pump.
3. Disconnect fluid section to air motor coupling.
4. Carefully Start the air motor with reduced air pressure and stop at the top stroke position. Isolate the air supply to the air motor.
5. Use 'C' spanners to remove the packing nut (36) from the packing retainer.
6. Remove all parts and clean using compatible solvent, discard the 4 off chevron packings.
7. Refit male packing retainer (58) into packing retainer (33). Lubricate the bore with compatible grease and fit 1 off new chevron packings assembly (35).
8. Lubricate the thread of the packing nut (36) with anti-seize and fit into the packing retainer (33), hand tighten only.
9. Use the 'C' spanner to tighten the packing nut (36) and preload the chevron packing, approximate torque 40Nm.
10. Refit the solvent cup.
11. Carefully drive the air motor shaft down towards the fluid section.
12. Couple the air motor to the fluid section.
13. Run the pump at pressure then de-pressurise again, retighten packing nut (36).



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