BINKS

Instruction Manual

FX220 Fluid Section

FX220PU-CMB
FX220PU-SMB

Finishing Brands.
DeVILBISS Ransburg BGK BINKS

Product Description	FX68PU, FX72PU, FX190PU, FX200PU, FX220PU, FX420PU, FX440PU, FX860PU, FX880PU,
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 T4
Manufacturer:	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

Specification	
Feature	**Unit**
Fluid Section designed to be used with AX200L & AX260L Air Motors – MX22035PU-*C*MB/SMB MX22060PU-*C*MB/SMB See Pump Manual MX22035PU-*CMB/SMB* & MX22060PU-*CMB/SMB* for Installation details	
Recommended intermittent cycle rate	25 cycles/min
Flow at 60 cycles/min	3.6 US Gal. /min. 13.2 Litres/min.
Flow per cycle	0.06 US Gallons 0.220 Litres
Pump Stroke	5” 127 mm
Ratio with AX200L Air motor (MX22035 Pump Assembly)	35:1
Ratio with AX260L Air Motor (MX22060 Pump Assembly)	60:1
Maximum Fluid Pressure	7250 PSI 500 BAR
Fluid Inlet Fluid Outlet	Ram Mount 3/4” NPT
Weight	53 Lbs 24 KG
Rod Surface Treatment	-Plasma Nitride Coated -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.

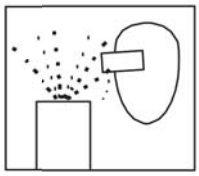
WARNING

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

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.

OPERATOR TRAINING
All personnel must be trained before operating equipment.

KEEP EQUIPMENT GUARDS IN PLACE
Do not operate the equipment if the safety devices have been removed.



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

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

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

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

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

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

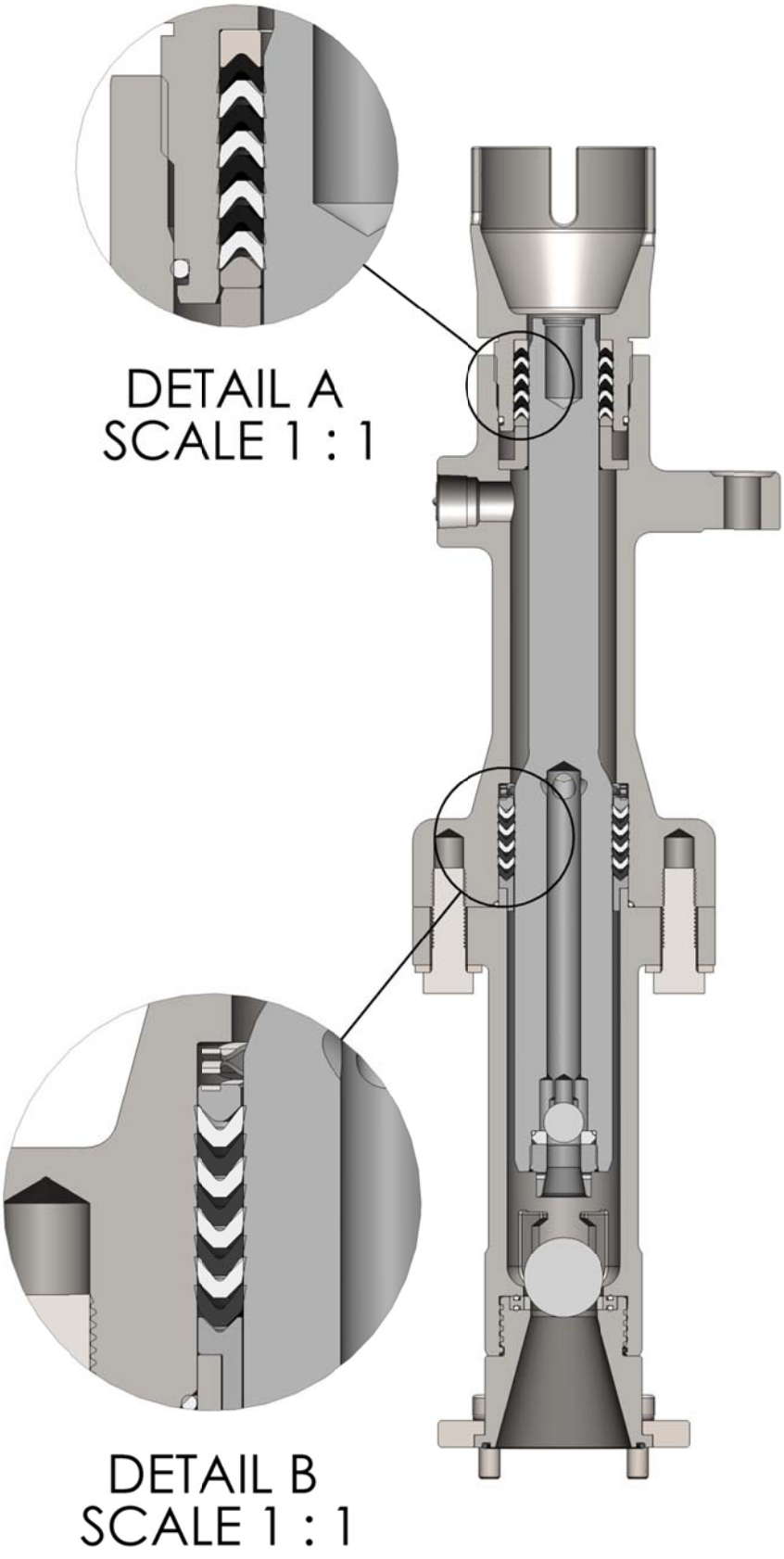
HIGH PRESSURE CONSIDERATION
High pressure can cause serious injury. Relieve all pressure before servicing. Hose leaks, or ruptured components can inject fluid into your body and cause extremely serious injury.

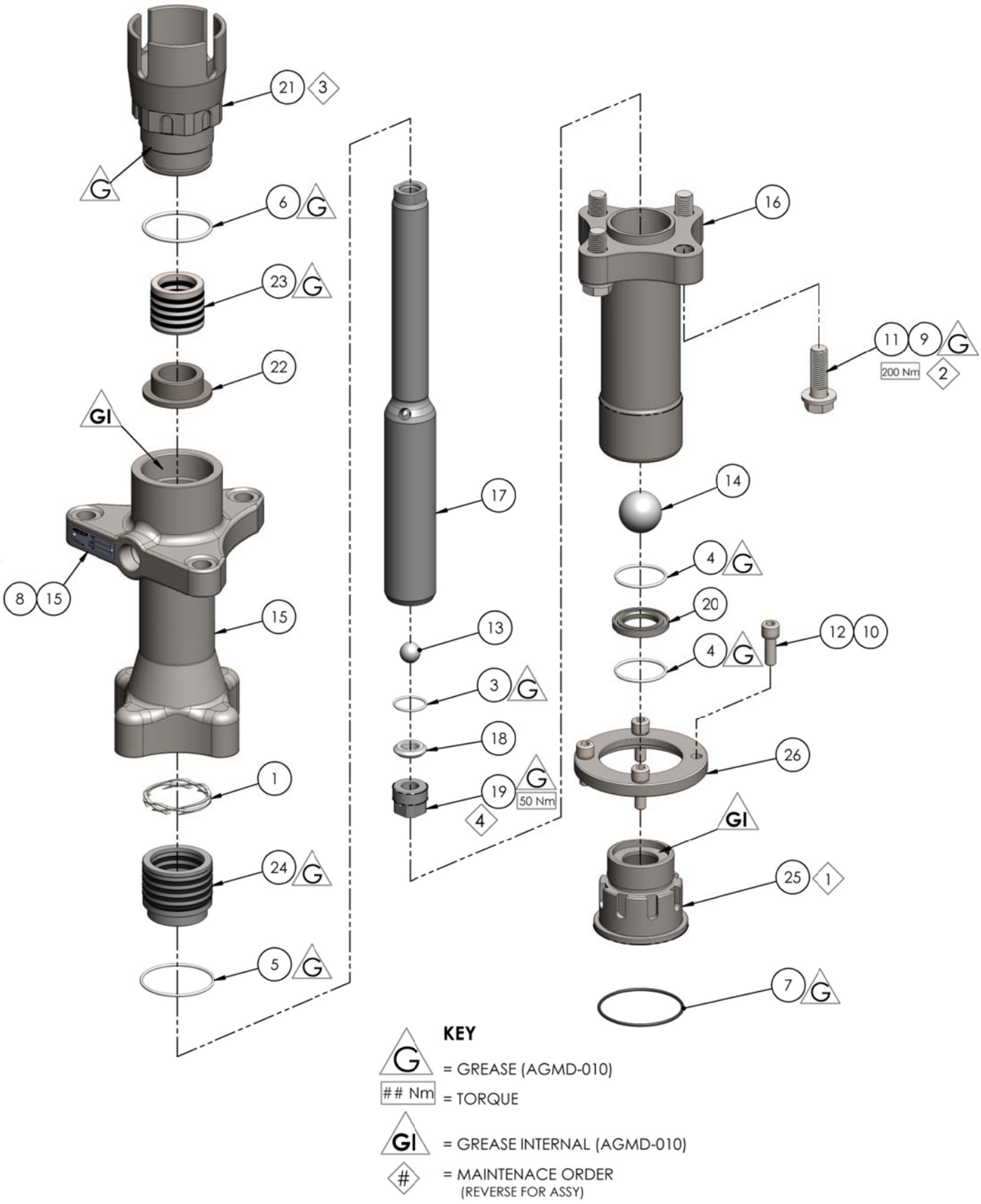
AUTOMATIC EQUIPMENT
Automatic equipment may start suddenly without warning.

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

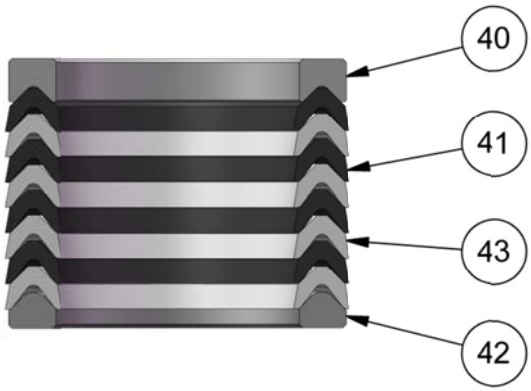
MAGNET HAZARD
Take care when handling magnets.
Avoid getting magnets in close proximity of each other. Injury or damage to magnets may results.

FX220PU-CMB / FX220PU-SMB

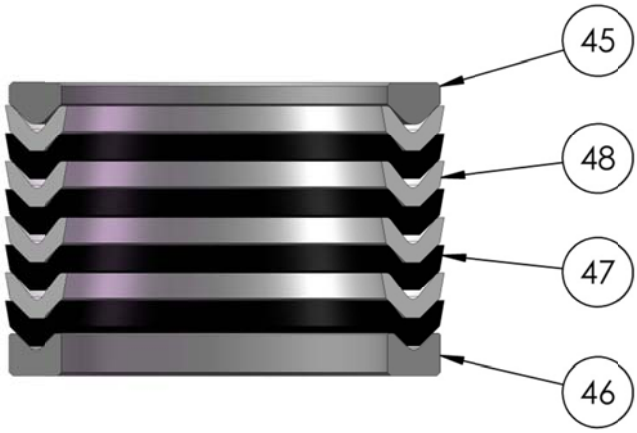



21
3
G
6
G
23
G
22
GI
8
15
15
1
24
G
5
G
17
13
3
G
18
19
G
50 Nm
4
16
11
9
G
200 Nm
2
14
4
G
20
4
G
12
10
26
GI
25
1
7
G
KEY
G
= GREASE (AGMD-010)
Nm
= TORQUE
GI
= GREASE INTERNAL (AGMD-010)
#
= MAINTENACE ORDER
(REVERSE FOR ASSY)

Parts List – 'FX220PU-CMB/SMB' Fluid Section				
ITEM	**PART No**	**DESCRIPTION**	**QTY**	**REMARKS**
1	41-28038	LOWER PACKING SPRING	1	
2	0115-010642	NAMEPLATE BINKS INDUSTRIAL	1	
3	162770	O-RING 2 X 27 PTFE	1	
4	162771	O-RING 2-131 FEP ENCAPSULATED VITON	2	
5	162772	O-RING, 2.5 X 62 PTFE	1	
6	162773	O-RING, 3 X 57, PTFE	1	
7	162839	Ø72.69 x 2.62 O'RING VITON	1	
8	164838	No 2 x 4.75 RIVET	2	
9	165097	M16 WASHER	4	
10	165123	Ø10 SPRING WASHER (STST)	4	
11	165369	M16 x 50 HEX HD CAP SCREW - PLATED	4	
12	165988	M10 x 30 CAPHEAD SCREW	4	
13	171790	3/4" BALL, 440c GRADE 25	1	
14	191791	1-1/2" BALL, 440c GRADE 28	1	
15	193285	FX220 UPPER HOUSING MACHINING	1	
16	193286	FX220 LOWER HOUSING MACHINING	1	
17	193287	FX220 PUMP ROD - CERAMIC	1	SMB
17	193988	FX220 PUMP ROD - NITRIDED	1	CMB
18	193288	3/4" BALL SEAT	1	
19	193289	SEAT RETAINER	1	
20	193290	1-1/2" BALL SEAT ASSEMBLY	1	
21	193295	FX220 PACKING NUT	1	
22	193301	PACKING LOADER	1	
23	193313	UPPER PACKING ASSEMLBY (PTFE/UHMW)	1	
24	193314	LOWER PACKING ASSEMBLY (PTFE/UHMW)	1	
25	193751	FX220 RAM ADAPTOR	1	
26	193752	SLIP FLANGE	1	



ITEM 23
Upper Packing Assembly



ITEM 24
Lower Packing Assembly

Parts List – Item 24 Lower Packing Assembly				
ITEM	**PART No**	**DESCRIPTION**	**QTY**	**REMARKS**
45	193927	MALE PACKING ADAPTER	1	
46	194226	FEMALE PACKING ADAPTER	1	
47	192929	UHMWPE PACKING	4	Black
48	193306	PTFE PACKING	4	White

Parts List – Item 23 Upper Packing Assembly				
ITEM	**PART No**	**DESCRIPTION**	**QTY**	**REMARKS**
40	192936	FEMALE PACKING ADAPTER	1	
41	192937	UHMWPE PACKING	4	Black
42	193297	MALE PACKING ADAPTER	1	
43	193304	PTFE PACKING	4	White

Spare Parts Kit - 250732 Fluid Section Seal Kit				
ITEM	**PART No**	**DESCRIPTION**	**QTY**	**REMARKS**
3	162770	O-RING 2 X 27 PTFE	1	
4	162771	O-RING 2-131 FEP ENCAPSULATED VITON	2	
5	162772	O-RING, 2.5 X 62 PTFE	1	
6	162773	O-RING, 3 X 57, PTFE	1	
7	162839	Ø72.69 x 2.62 O'RING VITON	1	
41	192937	UPPER CHEVRON – UHMWPE	4	BLACK
43	193304	UPPER CHEVRON – PTFE	4	WHITE
47	192929	LOWER CHEVRON – UHMWPE	4	BLACK
48	193306	LOWER CHEVRON – PTFE	4	WHITE

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 solvent based lubricant is available - Binks Part Number 0114-009433
A water based lubricant is available – Binks Part Number 0114-014871

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 (21) and preload the chevron packing , approximate torque 50Nm
5. Add a compatible lubricant to the solvent cup of the packing nut (21).

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 stoke position. Isolate the air supply to the air motor.
5. Use ‘C’ spanners to remove the packing nut (21) from the upper housing.
6. Remove all parts and clean using compatible solvent, discard the 8 off chevron packings.
7. Refit packing female retainer (40) into packing nut (21). Lubricate the bore with compatible grease and fit 8 off new chevron packings (41&43) then fit the packing male retainer (42).
8. Lubricate the thread of the packing nut (21) with compatible grease and fit into the upper housing (15), hand tighten only.
9. Use the ‘C’ spanner to tighten the packing nut (21) and preload the chevron packing, approximate torque 50Nm.
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 (21).

Justus-von-Liebig-Straße 31, 63128 Dietzenbach. DE
Tel. +49 (0) 6074 403 1 Fax. +49 (0) 607 403 300
General e-mail: info@finishingbrands.eu

Ringwood Road, Bournemouth, Dorset BH11 9LH. UK
Tel. +44 (0)1202 571 111 Fax. +44 (0)1202 573 488
General e-mail: info@finishingbrands.eu

163-171, Av. des Auréats, 26014 Valence cedex. FR
Téléphone : +33 (0) 4 75 75 27 53 Télécopie: +33 (0) 4 75 75 27 79
General e-mail: info@finishingbrands.eu

USA Canada Customer Service
195 Internationale Blvd.
Glendale Height,IL 60139
630-237-5000

Toll Free Customer Service and
Technical Support 800-992-4657
Toll Free Facsimile 800-246-5732