



# Instruction Manual

## FX440 Fluid Section

FX440PU-CMH  
FX440PU-SMH



**BINKS****Product Description**

Pumps - Maple, MX, MMX, A260, A320,  
220, 440, 880, DVP

**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

**Manufacturer:**

Binks,  
Justus-von-Liebig - Strasse,  
63128 Dietzenbach. DE

**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 ISO 4414: Pneumatic 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)

01 November 2012

**Specification**

Feature	Unit
Fluid Section designed to be used with A260 & A320 Air Motors – MX44030PU-XXX & MX44046PU-XXX See Pump Manual MX44030PU-XXX & MX44046PU-XXX for Installation details	
Recommended intermittent cycle rate	25 cycles/min
Flow at 60 cycles/min	7.2 US Gal. /min. 26.4 Litres/min.
Flow per cycle	0.12 US Gallons 0.440 Litres
Pump Stroke	5" 127 mm
Ratio with A260 Air motor (MX44030 Pump Assembly)	30:1
Ratio with A320 Air Motor (MX44046 Pump Assembly)	46:1
Maximum Fluid Pressure	4670 PSI 322 BAR
Fluid Inlet	1½" NPT
Fluid Outlet	1¼" NPT
Weight	70 Pounds 32 KG
Rod Surface Treatment	Plasma Nitride Coated Ceramic Coated Stainless Steel
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.



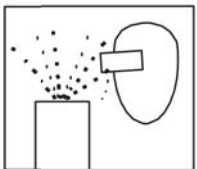
**OPERATOR TRAINING**

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**



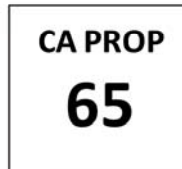
**HIGH PRESSURE CONSIDERATION**

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**

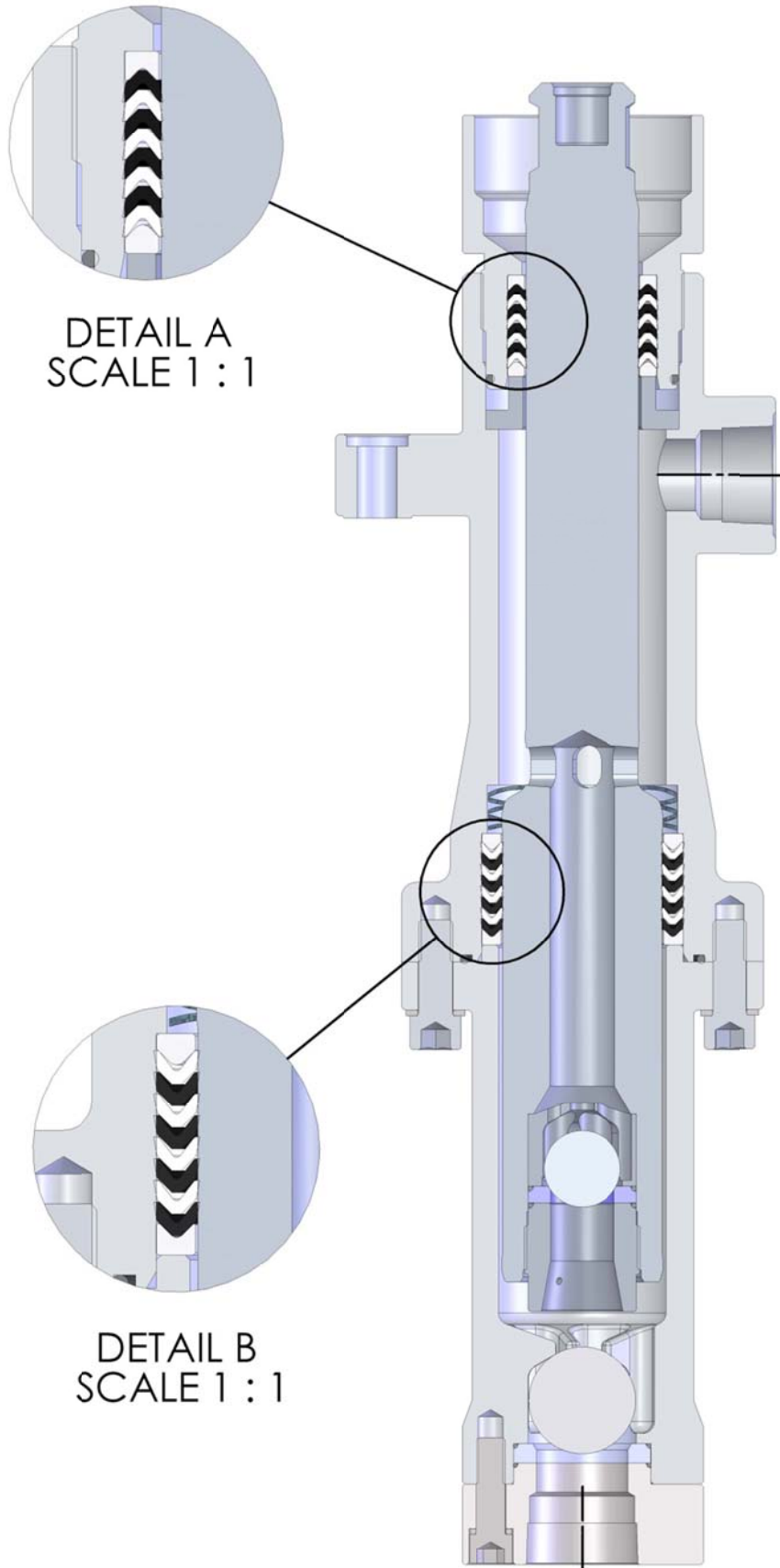
WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.



**MAGNET HAZARD**

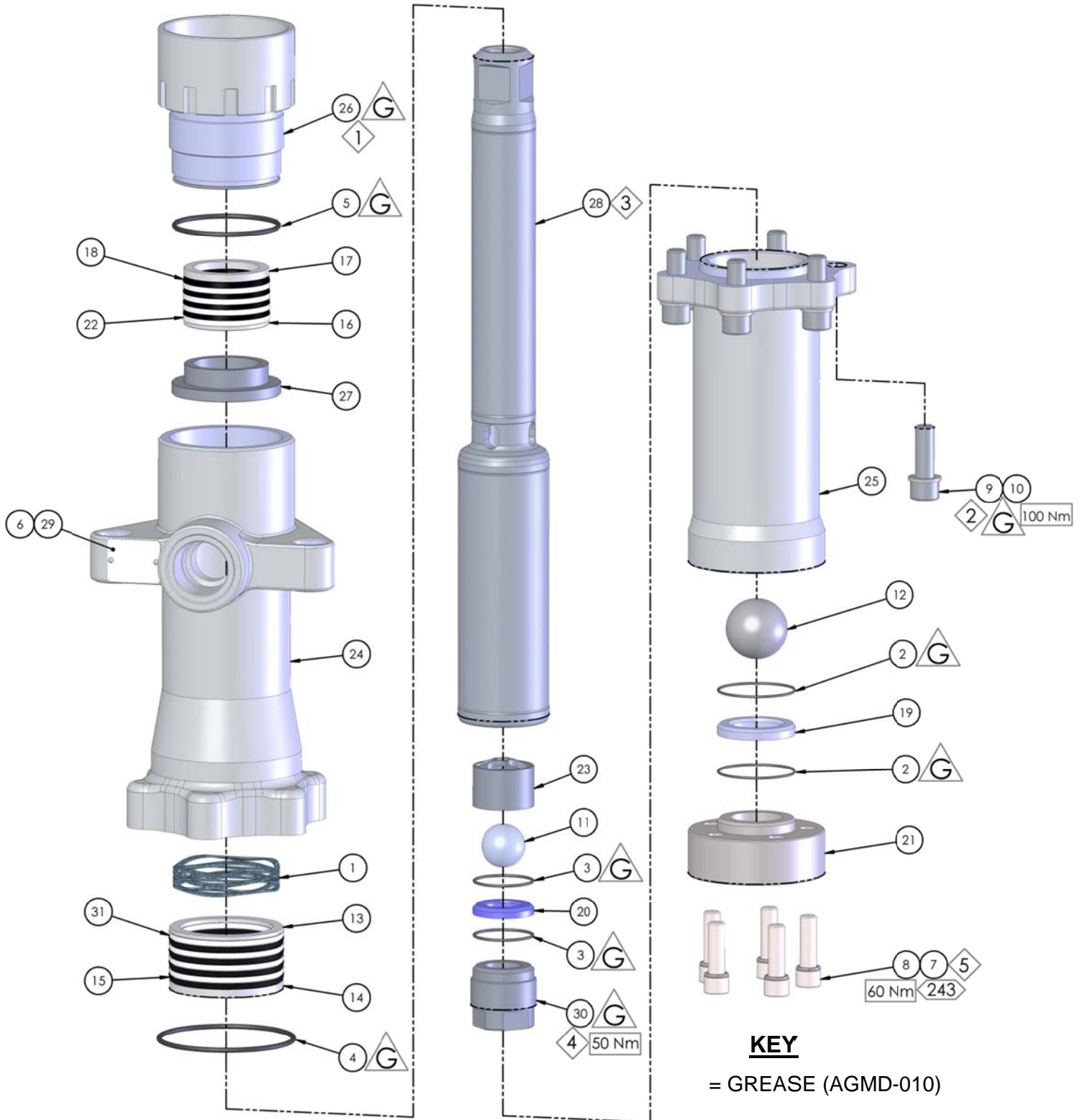
Take care when handling magnets. Avoid getting magnets in close proximity of each other. Injury or damage to magnets may result.

**FX440PU-CMH / FX440PU-SMH**



DETAIL A  
SCALE 1 : 1

DETAIL B  
SCALE 1 : 1



**KEY**

- = GREASE (AGMD-010)
- = LOCTITE
- = TORQUE
- = GREASE INTERNAL (AGMD-010)
- = MAINTENANCE ORDER (REVERSE FOR ASSY)

Parts List – ‘FX440PU-CMH/SMH’ Fluid Section				
ITEM	PART No	DESCRIPTION	QTY	REMARKS
1	160519	SPRING	1	
2	162712	Ø53.7 x 1.78 O-RING	2	
3	162724	Ø41 x 2 O-RING	2	
4	162754	ORING Ø94.84 X 3.53 - VITON	1	
5	162779	Ø72.62 X 3.53 - VITON	1	
6	164838	No 2 x 4.75 RIVET	2	
7	165044	M12 SPRING WASHER STST	5	
8	165960	M12 x 40 CAP HD SCREW (ST ST)	5	
9	165978	M14 x 40 CAP HD SCREW (STST)	6	
10	165982	M14 SPRING WASHER - STST	6	
11	171724	Ø1.25 ST ST BALL	1	
12	171784	1.750 ST ST BALL	1	
13	192919	Ø66.5 MALE SEAL RETAINER	1	
14	192920	Ø66.5 FEMALE SEAL RETAINER	1	
15	192921	Ø66.5 CHEVRON - UHMWPE	4	BLACK
16	192927	Ø47 MALE SEAL RETAINER	1	
17	192928	Ø47 FEMALE SEAL RETAINER	1	
18	192929	Ø47 CHEVRON - UHMWPE	4	BLACK
19	192939	1¼" BALL SEAT	1	
20	192941	1¼" BALL SEAT	1	
21	192992	440 INLET SEAT RETAINER	1	
22	193306	Ø47 CHEVRON - PTFE	4	WHITE
23	193345	BOTTOM CAGE	1	
24	193470	UPPER HOUSING MACHINING	1	
25	193471	LOWER HOUSING MACHINING	1	
26	193472	PACKING NUT MACHINING	1	
27	193474	UPPER PACKING ADJUSTER	1	
28	193477	PUMP SHAFT - CERAMIC	1	FX440PU-SMH
28	193969	PUMP SHAFT – PLASMA NITRIDED	1	FX440PU-CMH
29	193540	LABEL	1	
30	193603	PISTON CAGE RETAINER	1	
31	193684	Ø66.5 CHEVRON - PTFE	4	WHITE



**NOTES**

**NOTES**

<b>Spare Parts Kit - 250696</b>				
<b>ITEM</b>	<b>PART No</b>	<b>DESCRIPTION</b>	<b>QTY</b>	<b>REMARKS</b>
15	192921	LOWER CHEVRON PACKING - UHMWPE	4	Black
18	192929	UPPER CHEVRON PACKING - UHMWPE	4	Black
31	193684	LOWER CHEVRON PACKING - PTFE	4	White
22	193306	UPPER CHEVRON PACKING - PTFE	4	White
2	162712	Ø53.7 O-RING	2	
3	162724	Ø41 O-RING	2	
4	162754	Ø94.84 O-RING	1	
5	162779	Ø72.62 O-RING	1	

<b>Accessories</b>		
<b>PART No</b>	<b>DESCRIPTION</b>	<b>REMARKS</b>



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](mailto: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](mailto: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](mailto: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