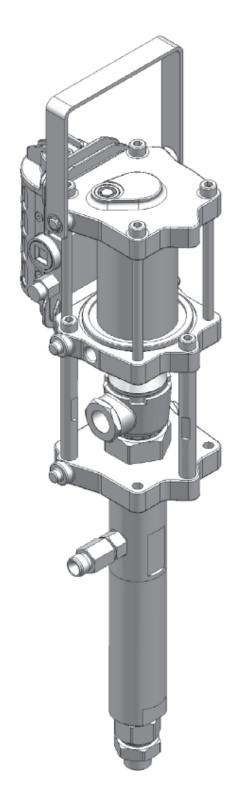
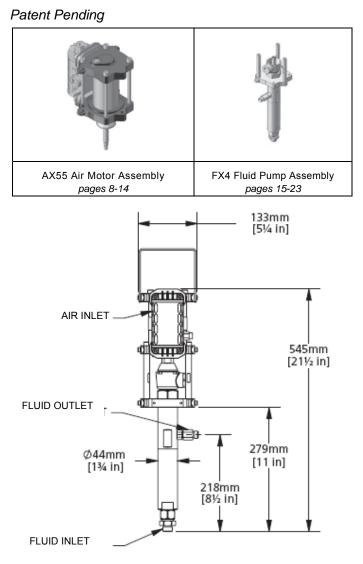


# MX4-12 Bare Pump Assemblies

# Models: 0115-010033 (UHMW U-CUP), 0115-010233 (PTFE/LEATHER CHEVRONS), 0115-010233-P (PTFE CHEVRONS)





SPECIFICATIONS			
Ratio:	12:1		
Maximum air inlet pressure:	8 bar [116 psi]		
Maximum fluid pressure:	96 bar [1390 psi]		
Displacement per cycle:	24 cc [0.8 oz]		
Output @ 60 cycles/min:	1.4 L/m [0.4 gal/m]		
Maximum recommended continuous cycle rate:	20 cycles/min		
Air inlet connection:	3/8" BSP(f)		
Fluid inlet connection:	1/2" NPS(m)		
Fluid outlet connection:	3/8" BSP(m) and 3/8" NPS(m)		
Weight:	7 kg [15.4 lbs]		



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

# 

Hazards or unsafe practices which could result in severe personal injury death or substantial property damage.

# CAUTION

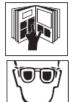
Hazards or unsafe practices which could result in minor personal injury, product or property damage

# NOTE

Important installation, operation or maintenance information

# 

Read the following warnings before using this equipment.



**READ THE MANUAL** Before operating finishing 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.



#### **OPERATOR TRAINING** All personnel must be trained before operating finishing equipment.



#### EQUIPMENT MISUSE HAZARD Equipment misuse can cause the equip ment

to rupture, malfunction, or start unexpectedly and result in serious injury.

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



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

Always follow the pressure relief procedure in the equipment instruction manual.

### NOISE LEVELS

The A-Weighted sound level of pumping equipment and spray guns may exceed 85 dB (A) depending on the set-up being used. Details of actual noise levels are available on request. It is recommended that ear protection is worn at all times when spraying while pump is operating.

HIGH PRESSURE CONSIDERATION

High pressure can cause serious injury.

Relieve all pressure before servicing. Spray

from the spray gun, hose leaks, or ruptured components can inject fluid into your body and cause extremely serious injury.



## **PROIECTILE 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.



## 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 electric shock and other serious injury.

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

FOR FURTHER SAFETY INFORMATION REGARDING BINKS AND DEVILBISS EQUIPMENT. SEE THE GENERAL EQUIPMENT SAFETY BOOKLET (77-5300).



Automatic equipment may start suddenly without warning.

AUTOMATIC EQUIPMENT

INSPECT THE EQUIPMENT DAILY Inspect the equipment for worn or broken parts on a daily basis. Do not operate the equipment if you are uncertain about its condition.



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

EMERGENCY

PRESSURE RELIEF PROCEDURE





# WARNING







## HIGH PRESSURE CAN CAUSE SERIOUS INJURY IF EQUIPMENT IS INSTALLED OR USED INCORRECTLY—READ, UNDERSTAND, AND OBSERVE ALL WARNINGS AND INSTRUCTIONS IN THIS MANUAL.

## INSTALL, OPERATE OR SERVICE THIS EQUIPMENT ONLY AFTER ALL INSTRUCTIONS ARE CLEARLY UNDERSTOOD.

It is the responsibility of the employer to place this information into the hands of the operator.

## 

Hazards or unsafe practices which could result in severe personal injury, death or substantial property damage.

# 

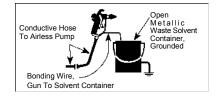
Hazards or unsafe practices which could result in minor personal injury, product or property damage

# NOTE

Important installation, operation or maintenance information

## AVOID STATIC SPARKING

- 1. Use Binks **NO-WIRE** conductive hose in all airless spraying operations. Be sure the gun and hose have continuity.
- Make sure the pump is grounded. NEVER operate the unit when it is on a non-grounded platform.
- When flushing or cleaning with a combustible solvent, always use an open metallic container for receiving the waste solvent. Ground the solvent receptacle.
- ALWAYS remove spray tip when flushing the system. Operate the pump at the lowest possible pressure.



## **GENERAL WARNINGS**

- 1. **NEVER** leave a pressurized sprayer unattended.
- Periodically inspect all hoses for leaks and/or abrasions and tighten all connections before use. DO NOT ATTEMPT TO REPAIR a defective hose. REPLACE it with another conductive hose.
- ALWAYS relieve pressure in the system by turning bypass valve to BYPASS or triggering spray gun before disassembly of any component parts.

## CAUTION

Never store de-ionized, distilled, reverse osmosis or any pure grade of water in the pump. These fluids may cause corrosion

## NOTE

BINKS is not responsible for misapplication of pumps. Consult your BINKS representative for application assistance. **NOTE** Be sure that all fluids, solvents and fillers to be used are chemically and physically compatible with wetted parts in the pump. Consult your BINKS representative for pump materials of constructions and compatibility information. Consult the fluid manufacture

for information regarding the fluids to be used.

### REPLACEMENT PARTS

The pump is designed to use authorized parts only. When using this pump with parts that do not comply with the minimum specifications and safety devices of Binks, the user assumes all risks and liabilities.

# 

EXCESSIVE AIR PRESSURE Can cause personal injury, pump damage or property damage. Do not exceed maximum inlet air pressure as stated on motor model plate.



HAZARD	CAUSE	SAFEGUARDS
EXPLOSION	STATIC ELECTRICITY Use of this equipment in a potentially explosive atmosphere. Vapors from flammable liquids can catch fire or explode from static electricity discharges.	<ol> <li>If installing this equipment in a potentially explosive atmosphere, check the ATEX equipment category and temperature ratings meet the requirements for the zoned area.</li> <li>Check electrical continuity of the air supply to earth—should be no greater than 10<sup>6</sup> Ω.</li> <li>Electrically bond all metallic equipment to earth. Should be no greater than 1 Ω.</li> </ol>
SPECIAL CONDITIONS FOR SAFE USE REQUIRED BY ATEX CERTIFICATION	Over pressurization of equipment can cause equipment failure or injury. Use lubricating medium resistant to carburisation. Improper operation or maintenance may create a hazard.	<ol> <li>Do not exceed the stated maximum working pressures and motor speed as specified in this manual.</li> <li>Only a suitably approved static dissipating or conductive air supply hoses shall be attached to the equipment and terminated to the air supply.</li> <li>Air supplies (compressors, etc.) shall be sited in a nonhazardous area with a filter on the air intake system to prevent the ingress of dust or similar foreign material into the parts where compression takes place.</li> <li>Use lubricating medium resistant to carburisation and has an auto ignition temperature of more than 185°C for T4 equipment.</li> <li>User shall ensure all metallic parts of the equipment are suitably bonded to earth. Should be no greater than 1 Ω.</li> </ol>

## EC Declaration of Conformity



We: ITW Oberflächentechnik GmbH, Justus-von-Liebig-Str. 31, 63128 Dietzenbach, Germany

As the manufacturer of the items listed below:

# Piston Pumps MX4-12 MX4-32

Declare, under our sole responsibility, that, the equipment to which this document relates is in conformity with the following standards or other normative documents:

EN 13463-1:2009, EN 13463-5:2005, EN 982:1996 + A1:2008, EN 983:1996 + A1:2008 and EN 12621:2006 And thereby conform to the protection requirements of Council Directive 98/37/EC relating to *Machinery Safety Directive* and council Directive 94/9/EC relating to *Equipment and Protective Systems intended for use in Potentially Explosive Atmospheres;* 

CE Ex 2 II Gc T4

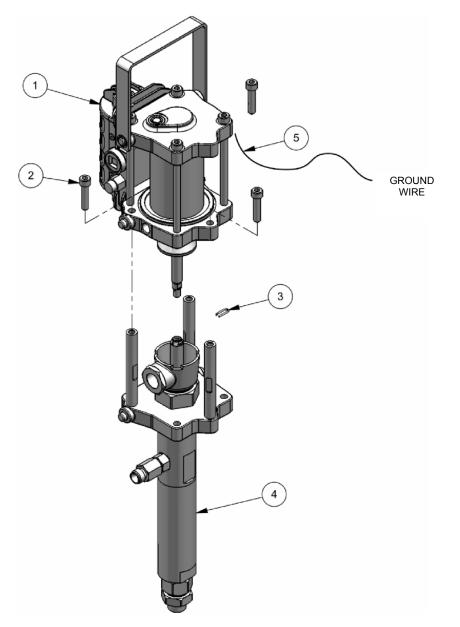
Issued on: 1st July 2009

Authorized by:

erflächentechnik GmbH ITW stus-von-Liebig-Str. 31 3120 Dietzenbach kon (0 60 74) 4 03-1

General Manager Technical file lodged with; TRL Compliance Ltd (Notified Body 0891) Moss View Nipe Lane Up Holland WN8 9PY, UK

## MX4-12 BARE PUMP ASSEMBLIES



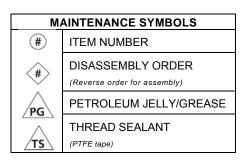
ITEM NO.	PART NUMBER	DESCRIPTION	0115-010033 QTY.	0115-010233 QTY.	0115-010233-P QTY.
1	0115-010088	AX55 AIR MOTOR ASSEMBLY	1	1	1
2	0115-010001	SOCKET HEAD CAP SCREW	3	3	3
3	0115-010099 •	ROD CLIP	1	1	1
4	0115-010045	FX4 FLUID SECTION ASSEMBLY, U-CUPS	1	-	-
4	0115-010052	FX4 FLUID SECTION ASSEMBLY, LEATHER/PTFE	-	1	-
4	0115-010052-P	FX4 FLUID SECTION ASSEMBLY, PTFE	-	-	1
5	0114-016243	GROUND WIRE KIT	1	1	1

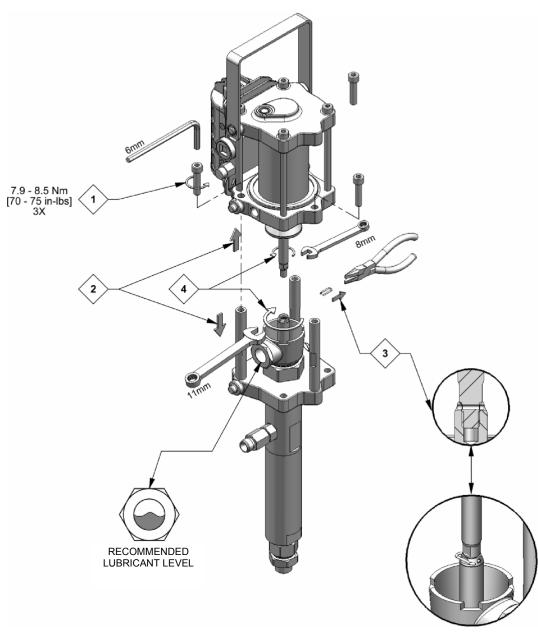
• Part not sold separately. Available in repair kits: 0115-010220, 0115-010222 & 0115-010224.





## MX4-12 BARE PUMP ASSEMBLIES – MAINTENANCE







# **MX4-12 BARE PUMP ASSEMBLIES – TROUBLESHOOTING**

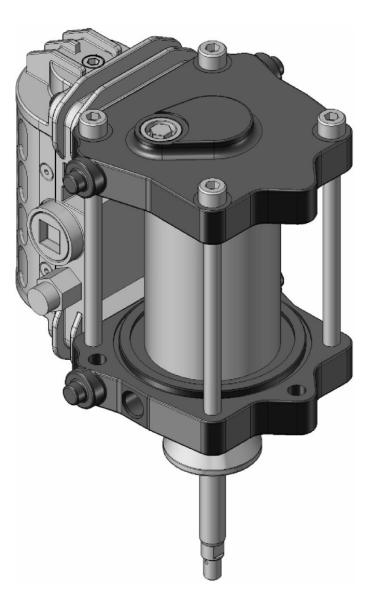
PROBLEM	CAUSE	SOLUTION	
Pump will not start	No compressed air. Spray tip is blocked.	Check compressed air supply. Clean or replace the spray tip.	
Erratic operation of air motor, air motor stops	Worn poppet assemblies. Worn or dirty spool and sleeve assembly.	Replace the poppet assemblies. Clean or replace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





# **AX55 Air Motor Assembly**

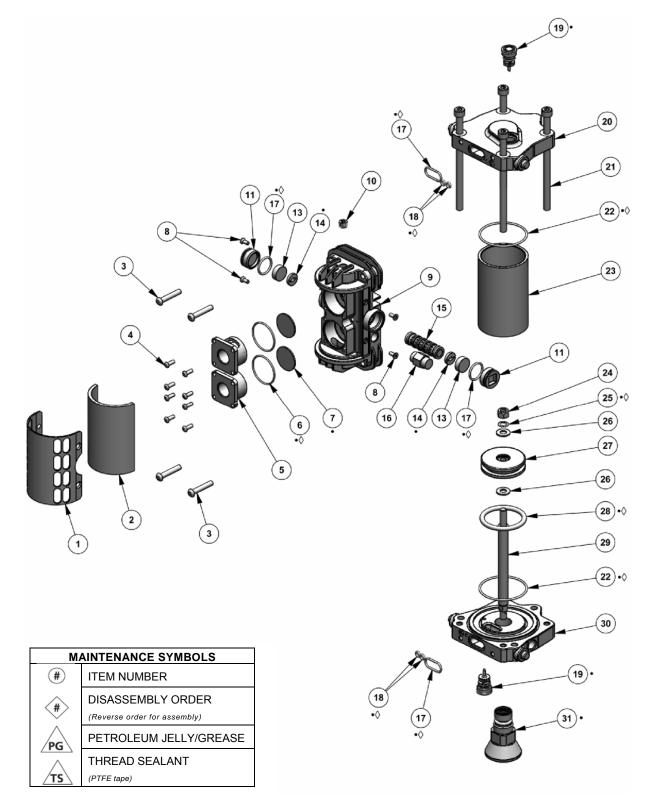
Model: 0115-010088 Patent Pending



SPECIFICATIONS			
Maximum air inlet pressure:	8 bar [116 psi]		
Maximum recommended continuous cycle rate:	20 cycles/min		
Air inlet connection:	3/8" BSP(f)		
Piston Diameter:	55 mm [2.2 in]		
Stroke Length:	75 mm [3.0 in]		



## **AX55 AIR MOTOR ASSEMBLY**



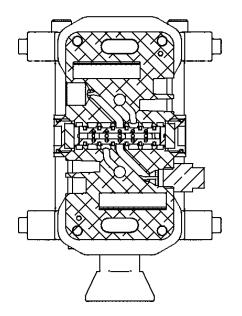
• Parts are included in 0115-010214 AX55 Repair Kit. ◊ Parts are included in 0115-010216 AX55 Seal Kit.

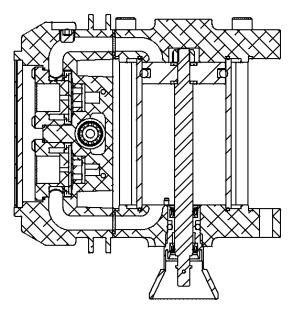
**C E** (Ex)

AX55 A	AIR MOT	OR ASS	EMBLY
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ITEM NO.	PART NUMBER	DESCRIPTION	0115-01 0088 QTY.
1	0115-01 0023	EXHAUST COVER SCREEN	1
2	0115-010022	EXHAUST COVER	1
3	0115-010026	BUTTON HEAD CAP SCREW	4
4	0115-010073	BUTTON HEAD CAP SCREW	8
5	0115-010019	QUICK EXHAUST VALVE CAGE	2
6	0115-010021 •◊	O-RING	2
7	0115-010020 •	DIAPHRAGM	2
8	0115-010024	FLAT HEAD COUNTER SUNK CAP SCREW	4
9	0115-010097	VALVE BLOCK ASSEMBLY	1
10	0115-010107	PIPE PLUG	1
11	0115-010018	VALVE BLOCK END CAP	2
13	0115-010017	MAGNET	2
14	0115-010016 •	BUMPER	2
15	0115-010015	SPOOL AND SLEEVE ASSEMBLY	1
16	0114-014774	SAFETY VALVE	1
17	0115-010049 •◊	O-RING	4
18	0115-010051 •◊	O-RING	4
19	0115-010037 •	POPPET ASSEMBLY	2
20	0115-010004	UPPER END CAP MACHINING	1
21	0115-010029	SOCKET HEAD CAP SCREW	4
22	0115-010086 •◊	CYLINDER SEAL, 55mm	2
23	0115-010007	CYLINDER, 55mm	1
24	0115-010096	LOCKNUT	1
25	0115-010036 •◊	SEALING RING	1
26	0115-010035	FLAT WASHER	2
27	0115-010085	PISTON, 55mm	1
28	0115-010025 •◊	PISTON SEAL, 55mm	1
29	0115-010034	MOTOR ROD	1
30	0115-010006	LOWER END CAP MACHINING	1
31	0115-010008 •	MOTOR ROD CARTRIDGE ASSEMBLY (INCLUDES SEALS)	1

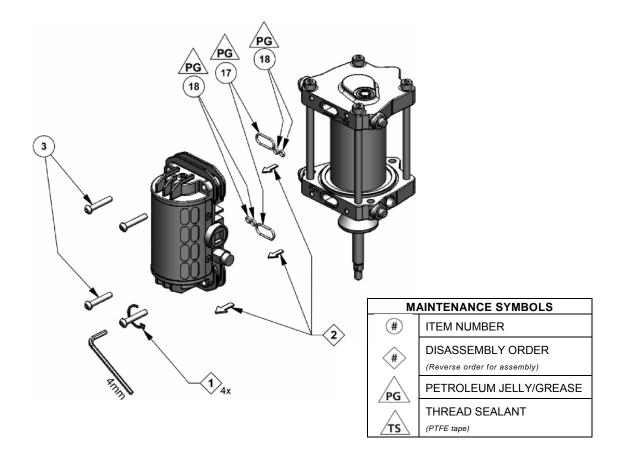
• Parts are included in 0115-010214 AX55 Repair Kit. ◊ Parts are included in 0115-010216 AX55 Seal Kit.

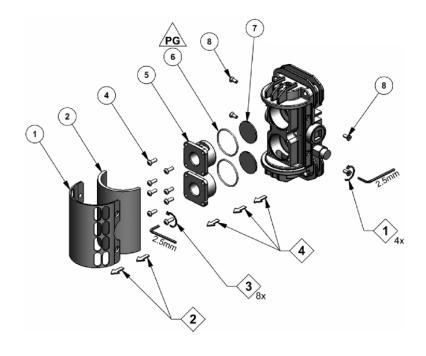






AX55 AIR MOTOR ASSEMBLY - MAINTENANCE

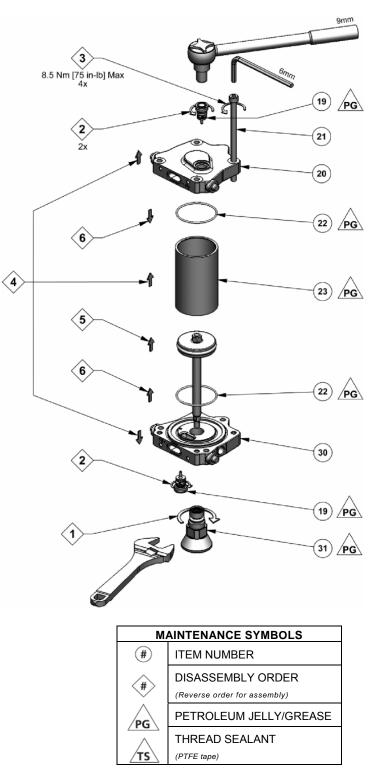






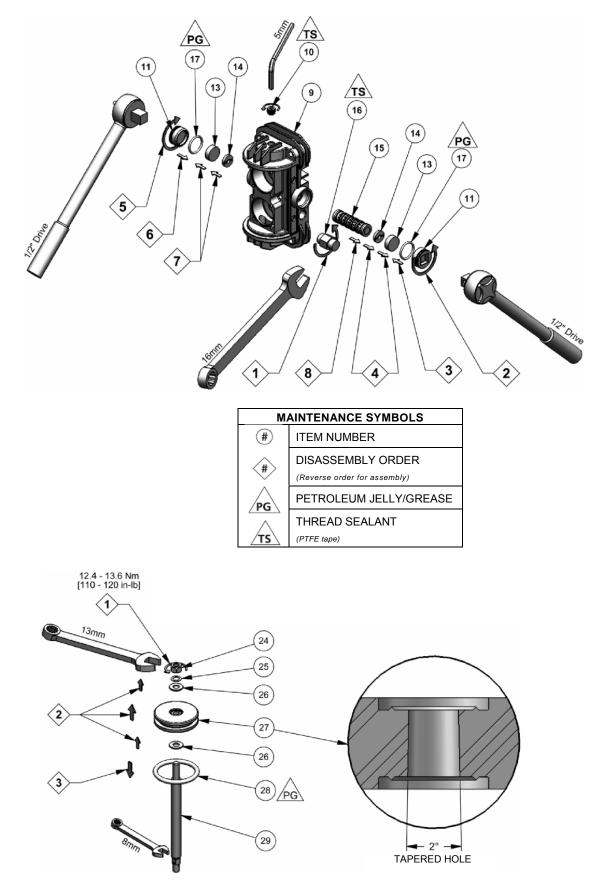
<u> 8 BINKS</u>

**AX55 AIR MOTOR ASSEMBLY – MAINTENANCE** 





## AX55 AIR MOTOR ASSEMBLY – MAINTENANCE







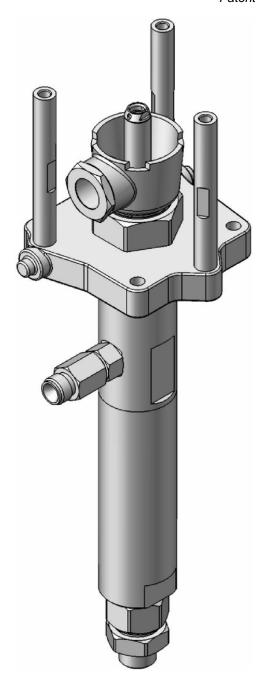
## AX55 AIR MOTOR ASSEMBLY – TROUBLESHOOTING

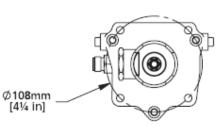
PROBLEM	CAUSE	SOLUTION	
Pump will not start	No compressed air. System is blocked.	Check compressed air supply. Clear the blockage.	
Erratic operation of air motor, air motor stops	Worn poppet assemblies. Worn or dirty spool and sleeve assembly.	Replace poppet assemblies. Clean or replace the spool and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

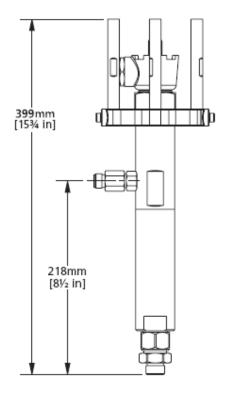
<u> 8 BINKS</u>

# FX4 Fluid Pump Assemblies Models: 0115-010052 (PTFE/Leather Chevrons), 0115-010052-P (PTFE Chevrons), 0115-010045

(UHMW U-Cups) Patent Pending

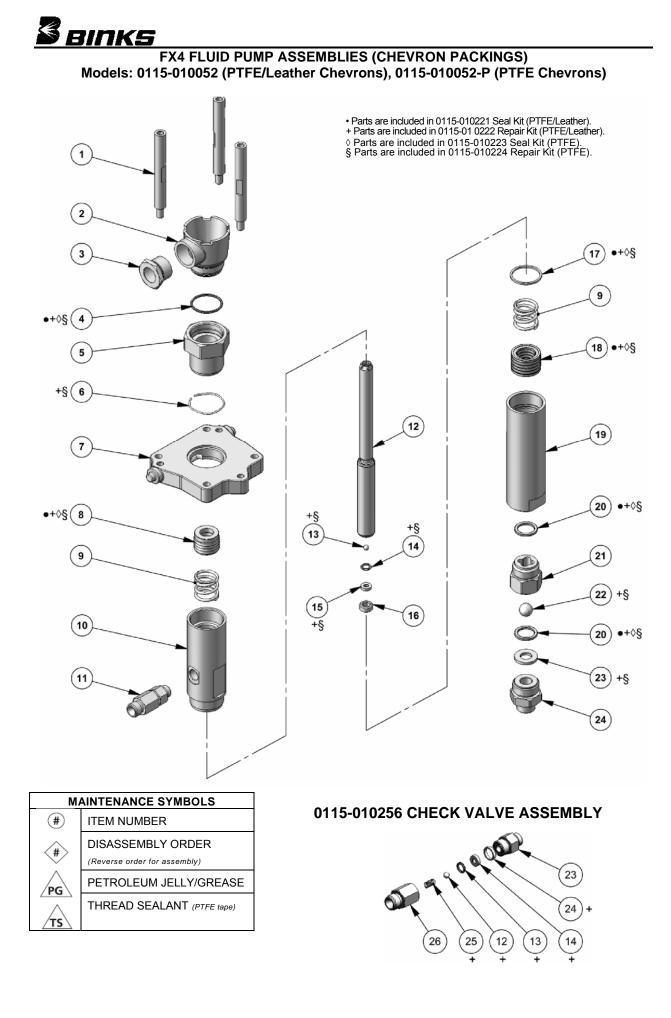






SPECIFICATIONS				
Maximum fluid pressure:	96 bar [1390 psi]			
Displacement per cycle:	24 cc [0.8 oz]			
Output @ 60 cycles/min:	1.4 L/m [0.4 gal/m]			
Fluid inlet size:	1/2" NPS(m)			
Fluid outlet size:	3/8" NPSM(m)			
Weight:	3.7 kg [8.1 lbs]			
Wetted parts materials of construction:	Stainless Steel, Tungsten Carbide, Hard Chrome, PTFE, Polyethylene, Leather			







# FX4 FLUID PUMP ASSEMBLIES (CHEVRON PACKINGS) Models: 0115-010052 (PTFE/Leather Chevrons), 0115-010052-P (PTFE Chevrons)

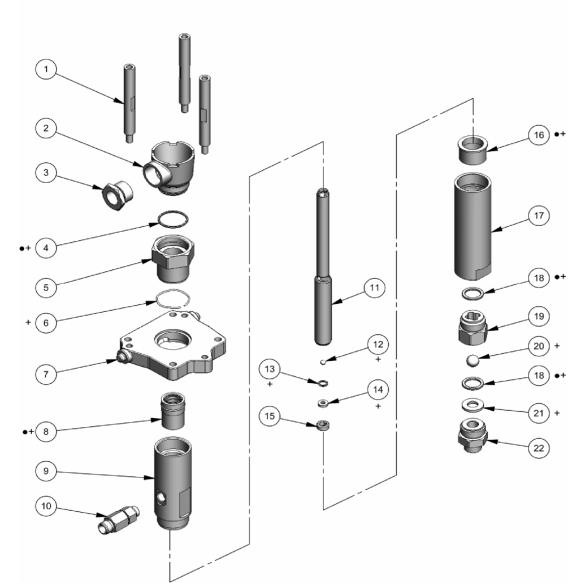
ITEM NO.	PART NUMBER	DESCRIPTION	0115-010052 Qty.	0115-010052-P Qty.	
1	0115-010053	PUMP TIE ROD	3	3	
2	0115-010059	SOLVENT CUP	1	1	
3	0115-010060	SIGHT GAUGE	1	1	
4	0115-010061 ·+◊§	SOLVENT CUP SEAL	1	1	
5	0115-01 0062	PACKING ADAPTER	1	1	
6	0115-010058 +§	WAVE SPRING	1	1	
7	0115-01 0204	ADAPTER PLATE MACHINING	1	1	
8	0115-010171 •+	UPPER PACKING SET (PTFE/LEATHER)	1	-	
8	0115-010206 פ	UPPER PACKING SET (PTFE)	-	1	
9	0115-01 0111	PACKING SPRING	2	2	
10	0115-010055	UPPER PUMP TUBE	1	1	
11	0115-010256	CHECK VALVE ASSEMBLY	1	1	
12	0115-01 0063	PUMP ROD (HARD CHROME)	1	1	
13	0114-014745 +§	UPPER BALL, 6mm	2	2	
14	0115-010065 +§	ROD SEAT SEAL	2	2	
15	0115-010066 +§	ROD SEAT	2	2	
16	0115-010067	ROD SEAT NUT	1	1	KA -
17	0115-010064 <sup>•</sup> +◊§	LOWER PUMP TUBE SEAL	1	1	Ļ į
18	0115-010173 •+	LOWER PACKING SET (PTFE/LEATHER)	1	-	ليستعل
18	0115-010207 פ	LOWER PACKING SET (PTFE)	-	1	
19	0115-010056	LOWER PUMP TUBE	1	1	
20	0115-010068 •+◊§	LOWER SEAT SEAL	2	2	
21	0115-010057	LOWER BALL CAGE	1	1	
22	0114-014237 +§	LOWER BALL, 15mm	1	1	
23	0115-010069 +§	LOWER SEAT	1	1	
24	0115-010070	SEAT RETAINER	1	1	
25	0115-01 0258	FLUID OUTLET FITTING	1	1	
26	0115-010259 +§	CHECK SEAL	1	1	
27	0115-010087 +§	VALVE SPRING	1	1	
28	0115-010257	CHECK VALVE HOUSING	1	1	
29	0115-010099 +§	ROD CLIP (not shown)	1	1	

Parts are included in 0115-010221 Seal Kit (PTFE/Leather).
Parts are included in 0115-010222 Repair Kit (PTFE/Leather).
Parts are included in 0115-010223 Seal Kit (PTFE).
Parts are included in 0115-010224 Repair Kit (PTFE).



# FX4 FLUID PUMP ASSEMBLIES (U-CUPS) 0115-010045 (UHMW U-Cups)

Parts are included in 0115-010219 Seal Kit (U-CUPS).
Parts are included in 0115-010220 Repair Kit (U-CUPS).



23) 24)+
4

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



# FX4 FLUID PUMP ASSEMBLIES (U-CUPS) 0115-010045 (UHMW U-Cups)

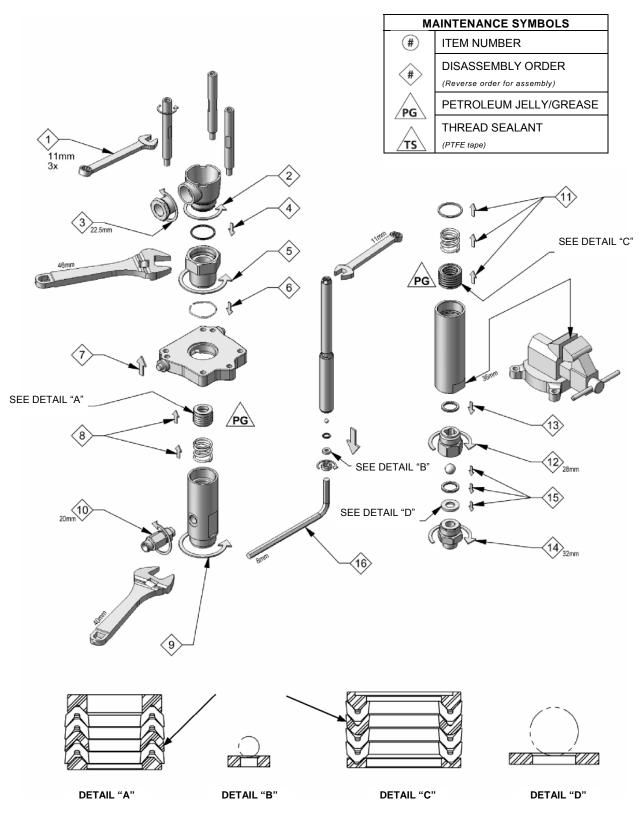
ITEM NO.	PART NUMBER	DESCRIPTION	0115-010045 QTY.	
1	0115-010053	PUMP TIE ROD	3	
2	0115-010059	SOLVENT CUP	1	
3	0115-010060	SIGHT GAUGE	1	
4	0115-010061 •+	SOLVENT CUP SEAL	1	
5	0115-01 0062	PACKING ADAPTER	1	
6	0115-010058 +	WAVE SPRING	1	
7	0115-01 0204	ADAPTER PLATE MACHINING	1	
8	0115-010166 •+	UPPER SEAL CARTRIDGE ASSEMBLY	1	
9	0115-010055	UPPER PUMP TUBE	1	
10	0115-010256	CHECK VALVE ASSEMBLY	1	
11	0115-01 0063	PUMP ROD (HARD CHROME)	1	
12	0114-014745 +	UPPER BALL, 6mm	2	
13	0115-010065 +	ROD SEAT SEAL	2	HAR H
14	0115-010066 +	ROD SEAT	2	
15	0115-010067	ROD SEAT NUT	1	
16	0115-010169 •+	LOWER SEAL CARTRIDGE ASSEMBLY	1	
17	0115-010056	LOWER PUMP TUBE	1	
18	0115-010068 •+	LOWER SEAT SEAL	2	
19	0115-010057	LOWER BALL CAGE	1	
20	0114-014237 +	LOWER BALL, 15mm	1	
21	0115-010069 +	LOWER SEAT	1	K A
22	0115-010070	SEAT RETAINER	1	
23	0115-01 0258	FLUID OUTLET FITTING	1	
24	0115-010259 +	CHECK SEAL	1	
25	0115-010087 +	VALVE SPRING	1	
26	0115-010257	CHECK VALVE HOUSING	1	
27	0115-010099 +	ROD CLIP (not shown)	1	]

Parts are included in 0115-010219 Seal Kit (U-CUPS).
 Parts are included in 0115-010220 Repair Kit (U-CUPS).



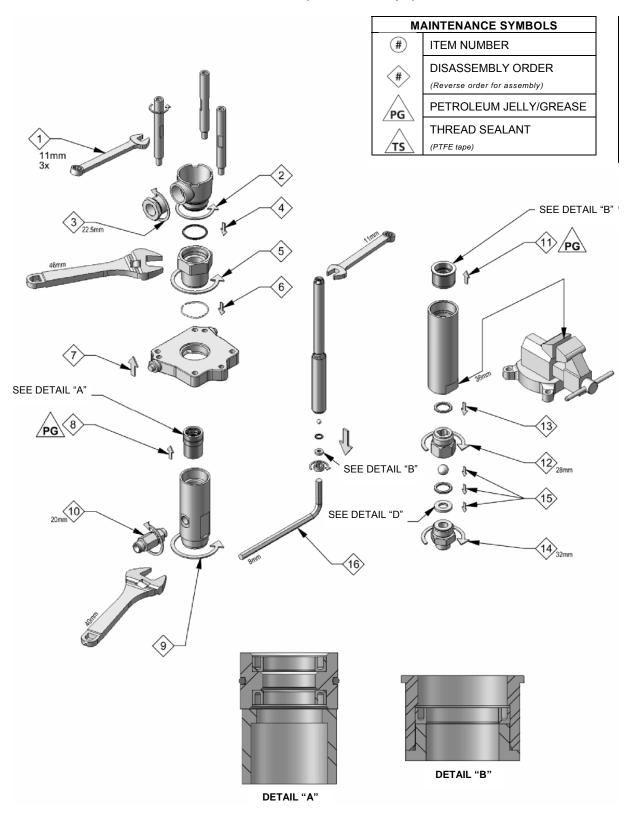


## FX4 FLUID PUMP (CHEVRONS) – MAINTENANCE Models: 0115-010052 (PTFE/Leather Chevrons), 0115-010052-P (PTFE Chevrons)





# FX4 FLUID PUMP (U-CUPS) – MAINTENANCE 0115-010045 (UHMW U-Cups)



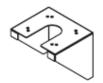


## FX4 FLUID PUMP ASSEMBLIES – TROUBLESHOOTING

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



## ACCESSORIES FOR YOUR MX4-12 BARE PUMP



BRACKET 0115-010179



SUCTION HOSE ASSEMBLY 0115-010236 (20 MESH) Service Bulletin 77-2923



TROLLEY ASSEMBLY 0115-010186 Service Bulletin 77-2923



AIR CONTROLS 0115-010180 (Air Assist) 0115-010198 (Airless) Service Bulletin 77-2923



TRIPOD ASSEMBLY 0115-010100 Service Bulletin 77-2923



FLUID FILTER (100 MESH) 0110-009130 Service Bulletin 77-2923



LUBRICATING OIL FOR FX-4 FLUID PUMP 0114-009433 (Solvent Based Materials) 0114-014871 (Water Based Materials)



## **WARRANTY** This product is covered by Binks' 5 Year Limited Warranty.

## Binks European Sales and Service Listing: www.itwifeuro.com

## **ITW Industrial Finishing**

Binks has authorized distributors throughout the world. For technical assistance or the distributor nearest you, see listing below.

### U.S./Canada Technical Service Office:

195 Internationale Blvd. Glendale Heights, IL 60139 Toll-Free Telephone: 1-888-992-4657 (U.S.A. and Canada only) Toll-Free Fax: 1-888-246-5732

## ITW Industrial Finishing: Ringwood Road, Bournemouth

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