物理農業機械股份有限公司

WULI AGRICULTURE MACHINE CO., LTD.

動力噴霧機、高壓洗淨機、微霧系統專業設計製造

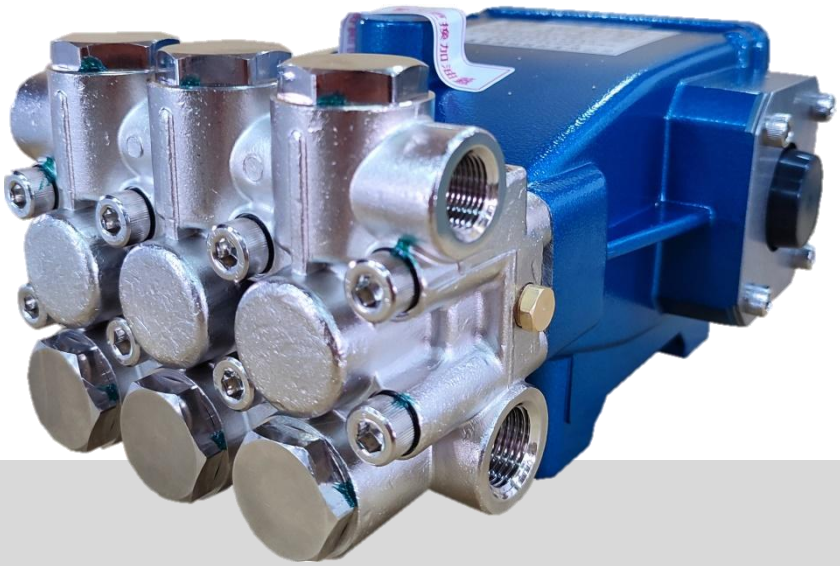
高壓泵浦操作手冊

HIGH PRESSURE PUMP OPERATION MANUAL

MODEL

WH-2013F1 放電 E.D.M.

(Electron Discharge Machining)



感謝您購買物理產品，使用前請詳閱本說明。
Thank you for choosing our product.
Please read the manual before use.

2026.05V

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安全須知 Safety Instructions

使用前請檢查機油。
Check the pump oil level before each use.

請放置於乾燥之場所，避免機器銹蝕，影響產品使用壽命。
To reduce the risk of rust and prolong the life of product, please place the pump in a dry area.

泵浦運轉後溫度會上升，請勿直接碰觸機械表面。
To reduce the risk of burns, do not touch the surface of the pump while operating.

請做好安全防護措施，避免操作運轉時，人員誤觸受傷。
For safety concerns, please keep off the machine while operating.

勿將噴水口直接對準機器、電器、人員或動物。
Do not aim the spray gun at people, animals or any electrical device.

泵浦搭配引擎、馬達運轉時，在任何檢修保養時，請先關閉，避免危險。
Please completely shut down the unit during maintenance.

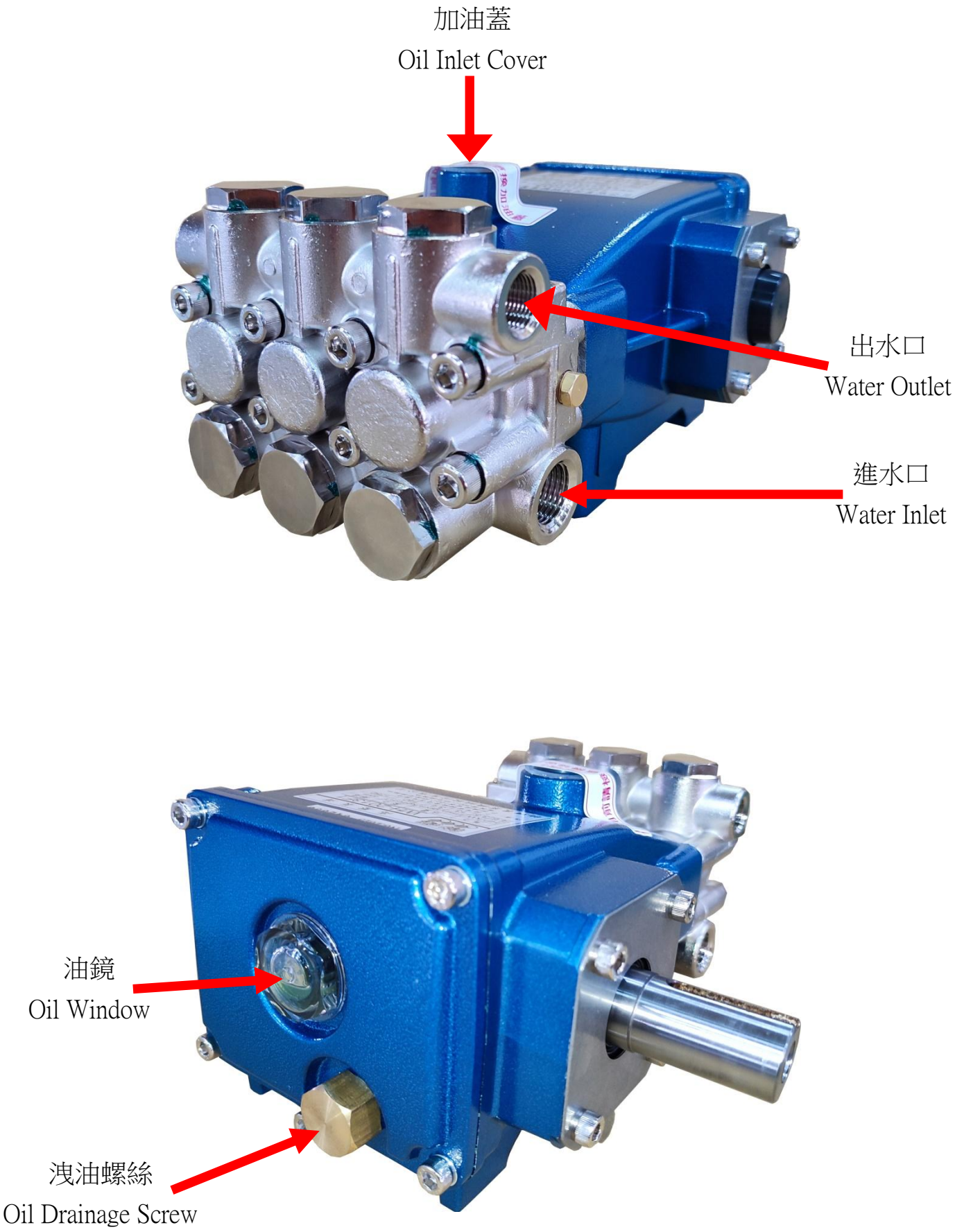
本機器必須配合水一同操作使用，缺水將造成機器嚴重損壞。
The unit must not be run without water. Lack of water will cause serious damage to the pump.

請勿讓兒童使用本機器，使用時請注意兒童安全。
Do not operate the machine near children or animals.

勿在雨天及雷雨中操作。使用時，勿覆蓋物體以避免危險。
Do not operate the unit in the rain or during thunderstorms. When the unit is working, do not cover it or place it in a closed space with poor ventilation.

泵浦搭配馬達運轉，須注意電壓是否正確，並使用獨立電源，並加裝漏電開關。
Please check whether the voltage is correct and use GFCI plug.

外觀結構 Pump Overview



使用說明

一、 操作說明

1. 檢查泵浦與馬達/引擎的每個扣件，是否穩固的鎖緊於架上。
2. 將吸水管接於泵浦進水口鎖緊，並將高壓管接於出水口。
3. 將吸水管(網)放入蓄水槽內並保持水管暢通。吸水過濾網需放置水槽底部上方 20 公分處，預防吸進底部泥沙，確保泵浦壽命，吸水管給水量需大於泵浦使用水量，如此才能達到使用壓力。
4. 檢查馬達電源是否配接正確電壓；引擎燃料是否正確、充足。
5. 初次啟動泵浦後，請先將泵浦內空氣排出後，停止泵浦。
6. 壓力調整:調整時請依照壓力錶顯示之壓力為參考值，壓力調整弁加壓以順時針方向調整;反之，以逆時針方向調整。調整壓力時需要打開噴槍;最高壓力不得高於泵浦設定之壓力，以維護機器壽命。
7. 使用完時，請先關閉動力來源(馬達/引擎)再作動噴槍一次，避免壓力蓄存於高壓管中。

二、 泵浦的潤滑

1. 更換機油時，請將泵浦停止作動，並注意油溫，請冷卻後再進行更換。
2. 初次使用 100 小時應更換機油，以後每使用 300 小時應更換一次。
3. 更換機油時，請旋開洩油螺絲排出骯髒的機油。
4. 將洩油螺絲鎖緊後，打開加油蓋注入#30~#40 之車輛用重型機油，機油應保持在油鏡 2/3 的位置。

三、 特別注意事項

1. 確實的更換機油以保持泵浦的潤滑，降低機械損耗。
2. 泵浦與吸水網之高度差(揚程)請勿超過 1.3 公尺。
3. 水溫請勿超過攝氏 60 度。
4. 泵浦的轉速/壓力不得超出建議轉速/壓力的最高值。
5. 請確定馬達/引擎的動力可以配合泵浦。

Operation Instructions

A. Operating Instructions

1. Check every fastener to make sure that the pump and engine/motor are installed firmly onto the frame.
2. Connect the suction hose to the Water Inlet of the pump and secure the hose; connect the high pressure hose to the Water Outlet.
3. Put the suction hose (with filter) into the water tank and make sure that water flows smoothly. Please suspend the suction filter around 20cm above the bottom of the water tank to avoid suctioning residue which might reduce the product's life.
4. Check if the motor is connected to the right voltage; check if the engine fuel is suitable and sufficient.
5. Always release air from the pump when first starting it.
6. Pressure adjustment:
   - ◇Check the pressure displayed on Pressure Gauge for reference when adjusting it.
   - ◇The maximum pressure should not exceed the pump's working pressure.
   - ◇Hold the spray gun trigger when adjusting the pressure.
   - ◇Turn the knob clockwise to increase pressure; counterclockwise decrease.
7. When finished using the pump, turn off the power of motor or engine and squeeze the spray gun trigger again to release the pressure stored in the high pressure hose.

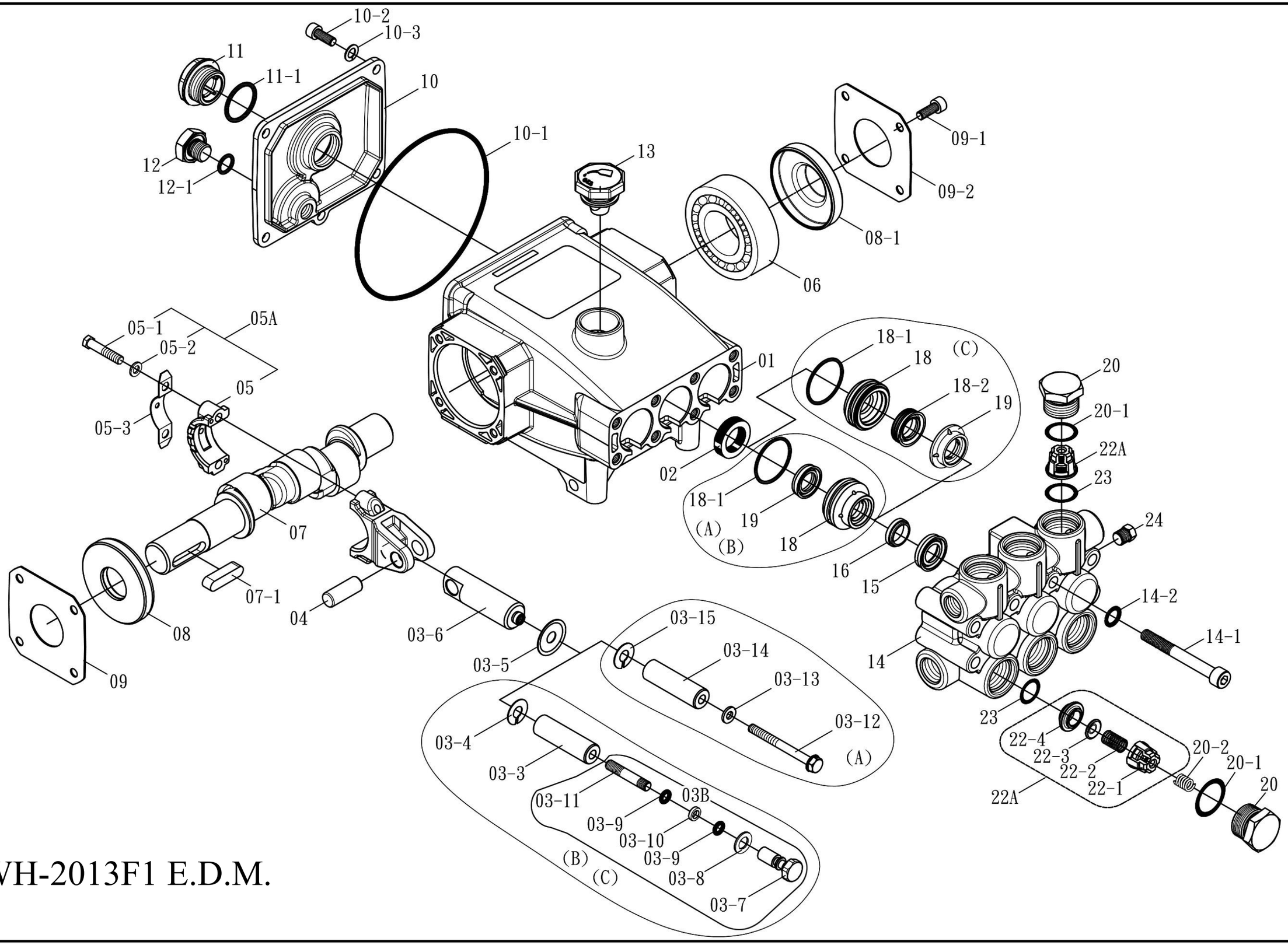
B. Oil Change

1. Replace the oil in the pump after the first 100 hours of use. After this, the oil should be changed after every 300 hours of use.
2. Unscrew the Oil Drainage Screw and drain the oil from the pump.
3. Tighten the Oil Drainage Screw before refilling with clean motor oil SAE #30~#40 up to the level of 2/3 of the Oil Window.

※Attention: When replacing the oil, please turn off the product and make sure that the oil temperature has cooled before replacing.

C. Reminders

1. Be sure to change the oil according to the Oil Change section or the pump might be damaged.
2. The pump’s location should be no more than 1.3 meters higher than the suction filter.
3. The water temperature should not exceed 60℃.
4. The pump’s revolution and working pressure should not exceed the maximum suggested values.
5. Please make sure the motor or engine power is suitable for the pump.



WH-2013F1 E.D.M.

零件表 Parts List

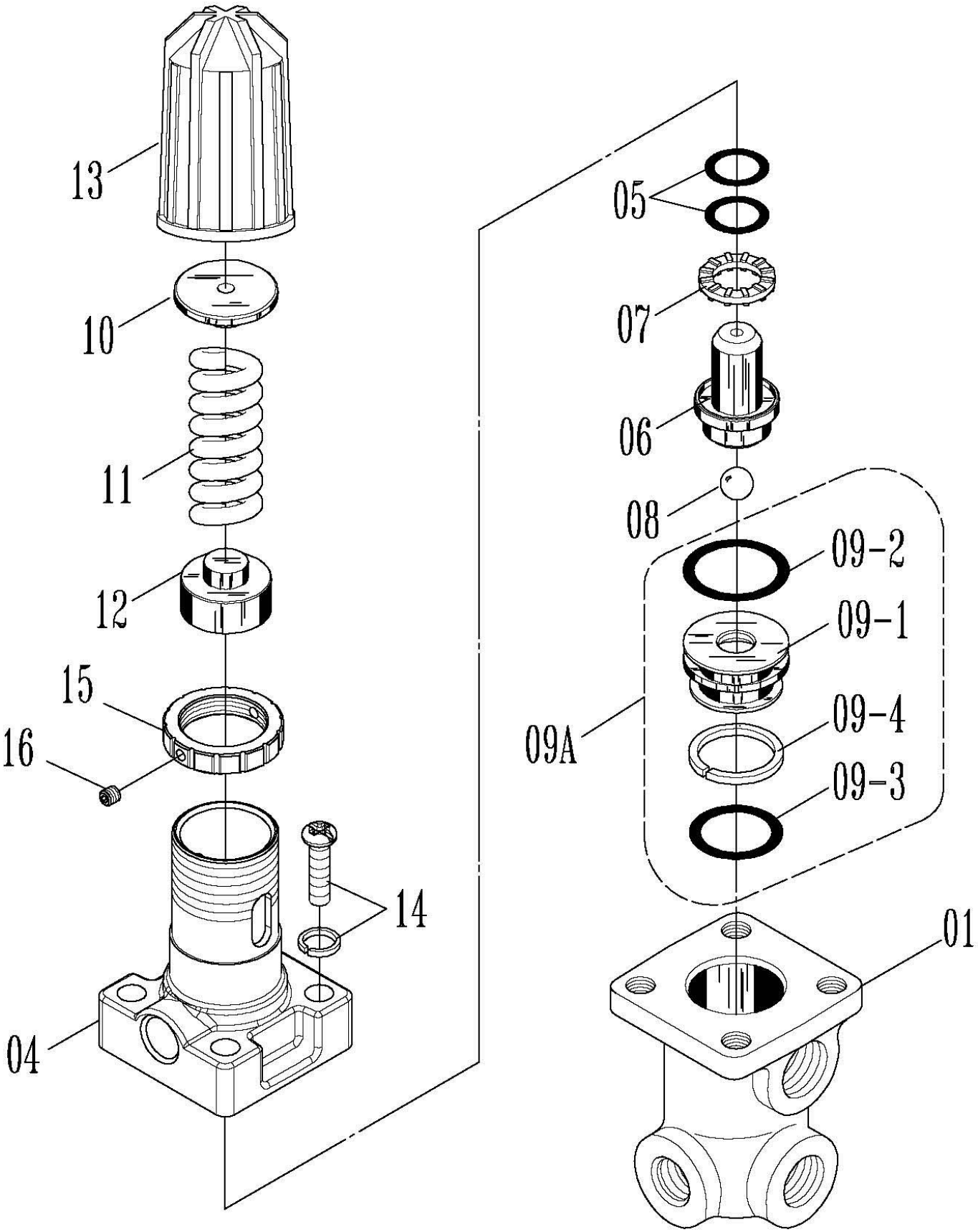
圖號 NO.	編號 CODE	名 稱	DESCRIPTION	Q'TY
01	B010123000	曲軸箱	CRANKCASE	1
02	B010210000	柱塞油封	PISTON OIL SEAL	3
03-3	B013223010	柱塞套(B,C 款)	CERAMIC PISTON SLEEVE (B & C MODEL)	3
03-4	B013511110	柱塞套透氣墊圈(B,C 款)	GASKET (B & C MODEL)	3
03-5	B013510020	柱塞套平墊圈(B,C 款)	GASKET (B & C MODEL)	3
03-6	B013123002	柱塞桿(B,C 款)	PISTON ROD (B & C MODEL)	3
03B	B015223001	柱塞螺絲組(B,C 款)	PISTON SCREW ASSY (B & C MODEL)	3
03-7	B013410020	柱塞套固定螺帽(B,C 款)	PISTON SET NUT (B & C MODEL)	3
03-8	B013510002	柱塞套平墊圈(B,C 款)	GASKET (B & C MODEL)	3
03-9	BG10050009060	O 形環(B,C 款)	O-RING (B & C MODEL)	6
03-10	BG30053008200	背托環(B,C 款)	BACK-UP RING (B & C MODEL)	3
03-11	B013323010	柱塞套固定螺絲(B,C 款)	PISTON SET SCREW (B & C MODEL)	3
03-12	1013323001	柱塞套固定螺絲(A 款)	PISTON SET SCREW (A MODEL)	3
03-13	B015123003	止水墊片(A 款)	GASKET (A MODEL)	3
03-14	B013223000	柱塞套(A 款)	CERAMIC PISTON SLEEVE (A MODEL)	3
03-15	B013511112	柱塞套透氣墊圈(A 款)	GASKET (A MODEL)	3
04	B010523000	柱塞銷	PISTON PIN	3
05A	B010623001	連桿組	CONNECTING ROD ASSY	3
05	N/A	連桿	CONNECTING ROD	3
05-1	BS11206030500	六角螺絲	HEX SCREW	6
05-2	BS31206501	平面華司	WASHER	6
05-3	B014311000	螺絲防鬆片	LOCK WASHER	3
06	B010710010	軸承	BEARING	2
07	B010823001	曲軸	CRANKSHAFT	1
07-1	B012109000	曲軸鍵	CRANKSHAFT KEY	1
08	B010910040	曲軸油封	CRANKSHAFT OIL SEAL	1
08-1	B010923100	全密曲軸油封	END COVER OIL SEAL	1
09	B011023000	曲軸油封蓋	CRANKSHAFT OIL SEAL COVER	1
09-1	BS16206016501	內六角螺絲	SCREW	8
09-2	B011023100	全密曲軸油封蓋	END COVER OIL SEAL COVER	1
10	B011623000	曲軸箱後蓋	REAR COVER	1
10-1	BG11012106500	O 形環	O-RING	1
10-2	BS16206016501	內六角螺絲	SCREW	5
10-3	BS32206200	彈簧華司	SPRING WASHER	5
11	B012201020	油鏡	OIL WINDOW	1

零件表 Parts List

圖號 NO.	編號 CODE	名 稱	DESCRIPTION	Q'TY
11-1	BG10234028700	O 形環	O-RING	1
12	B011823000	排油螺絲	DRAINAGE SCREW	1
12-1	BG10130019	O 形環	O-RING	1
13	B011901014	加油蓋組	OIL INLET COVER ASSY	1
14	B020123000	汽缸	MANIFOLD	1
14-1	BS16208070500	內六角螺絲	SCREW	8
14-2	BS33208400	安全華司	SAFETY WASHER	8
15	B020323001010	U 迫緊	U-PACKING	3
16	B020323021	墊圈	SPACER	3
18	B021123000	迫緊上環(A,B 款)	PACKING UPPER RING (A & B MODEL)	3
	B021123001	迫緊上環(C 款)	PACKING UPPER RING (C MODEL)	
18-1	BG10300035030	O 形環(三款通用)	O-RING (FOR 3 MODELS)	3
18-2	B021210020	迫緊中間環(C 款)	U-PACKING SPACER RING (C MODEL)	3
19	B021023001010	防水油封(A,B 款)	WATREPROOF OIL SEAL (A & B MODEL)	3
	B021010020	防水油封(C 款)	WATREPROOF OIL SEAL (C MODEL)	
20	B021310050	活門固定螺絲(無孔)	VALVE BOLT W/O HOLE	6
20-1	BG10200025020	O 形環	O-RING	6
20-2	BJ21001210	活門輔助彈簧	VALVE AUXILIARY SPRING	6
22A	B040011033	活門組(A 款)	VALVE ASSY (A MODEL)	6
	B040011031	活門組(B,C 款)	VALVE ASSY (B & C MODEL)	
22-1	B040310010	活門帽(POM)	VALVE CAGE (POM)	6
22-2	BJ21201001	活門彈簧(A 款)	VALVE SPRING (A MODEL)	6
	BJ20901000	活門彈簧(B,C 款)	VALVE SPRING (B & C MODEL)	
22-3	B040110000	活門塞(A 款)	VALVE PLUG (A MODEL)	6
	B040109001	活門塞(B,C 款)	VALVE PLUG (B & C MODEL)	
22-4	B040211000	活門座	VALVE SEAT	6
23	BG10160021020	O 形環	O-RING	6
24	BS50004000	六角塞頭 PT1/8	PLUG PT1/8	1
***30A**	**B070009005**	**自動洩壓總成**	**UNLOADING VALVE ASSY**	**1**
ACC.	BS11210015222	六角螺絲附華司(腳座用)	SCREW & WASHER (FOR STAND)	4
ACC.	1S50016040	內六角油塞 PT1/2	PLUG PT1/2	1
ACC.	1S50012040	內六角油塞 PT3/8	PLUG PT3/8	1
ACC.	BS50008050	內六角油塞 PT1/4	PLUG PT1/4	1
*30A 零件表及分解圖請參閱第 11~12 頁。			*30 diagram & parts list please refer to page 11~12.	

自動洩壓總成 展開圖 Unloading Valve Assy Diagram

B070009005



自動洩壓總成 零件表 Unloading Valve Assy Parts List

圖號 NO.	編號 CODE	名 稱	DESCRIPTION	Q'TY
01	B070109030	洩壓汽缸套	UNLOADING VALVE CYLINDER	1
04	B070209000	迴水座	OVERFLOW CHAMBER	1
05	BG10108015640	O 形環	O-RING	2
06	B070509000	壓力閥桿	PRESSURE VALVE ROD	1
07	B070909000	消音片	DAMPER PLATE	1
08	B070309000	陶瓷球閥	CERAMIC BALL VALVE	1
09A	B070409001	壓力閥座組	PRESSURE VALVE SEAT ASSY	1
09-1	B070409000	壓力閥座	PRESSURE VALVE SEAT	1
09-2	BG10200025020	O 形環	O-RING	1
09-3	BG10170022020	O 形環	O-RING	1
09-4	BG30183022310	背托環	BACK-UP RING	1
10	B071311000	彈簧上座	SPRING SEAT (UPPER)	1
11	BJ40901002	調壓彈簧	PRESSURE REGULATING SPRING	1
12	B051403011	彈簧下座	SPRING SEAT	1
13	B071709000	調壓螺帽	PRESSURE REGULATING KNOB	1
14	BS16108025500	圓頭螺絲	SCREW	4
	BS32108200	彈簧華司	SPRING WASHER	4
15	B071109051	固定環	SET RING	1
16	BS17106005300	無頭內六角螺絲	SCREW	2

故障診斷與排除 Troubleshooting

若是發生不良狀況時，大多可使用下面的對策來解決，使機器恢復正常運作。萬一無法解決或是有不清楚的地方，請向購買的販售商詢問。詢問的同時，敬請告知您所購買的**產品型號**及**機器流水號**。

If the pump is out of order, take the following actions to fix it.

Should the problem persist, please contact the seller for help. Please inform the seller of the *model number* and *serial number* when describing the problem.

A. 泵浦操作注意事項與對策 Pump problems & solutions

吸水問題
Suction problem

1. 過濾網阻塞→以清水將過濾網刷洗乾淨。
   The filter blocked → Clean it.
2. 吸水管毀損或裝配不良→更換吸水管或檢視裝配及申目迫緊。
   The suction hose is damaged or mis-assembled→ Check hose & socket connections; replace hose if necessary.
3. 泵浦與水槽距離或高度超出範圍→改善水槽或泵浦位置。
   The distance or height difference between the pump and tank exceeds limits. → Relocate the tank or the pump.

活門問題
Valve problem

4. 活門塞與活門座沾黏→拆解後清洗乾淨或更換零件。
   Sticky valve plugs and valve seats → Remove them from the pump and clean or replace them.
5. 雜物卡在閥座上→清除雜物。
   Residue stuck on valve seats→ Remove the residue.
6. 活門彈簧損壞或不良→更換不良零件。
   Valve springs damaged or malfunctioning→ Replace

故障診斷與排除 Troubleshooting

調壓力問題
Pressure problem

7. 壓力閥或閥座磨損→更換不良零件。
   Valves or valve seats worn out→ Replace them.
8. 雜物卡在閥座上→清除雜物。
   Residue stuck on valve seat→ Remove the residue.
9. 高壓迫緊損壞(漏水)→ 更換不良零件。
   Packings worn out (leaking)→ Replace packings.

曲軸箱問題
Crankcase problem

10. 機油不足產生磨損→取下曲軸箱後蓋，更換不良零件。
    Worn out by insufficient pump oil→ Remove the rear cover of the crankcase and replace the worn spare parts.
11. 內部機油變質→檢查變質因素，更換機油或柱塞油封。
    Internal pump oil deteriorated→ Find out the causes of oil deterioration, replace the oil or piston oil seal.

柱塞問題
Piston problem

12. 機油不足產生磨損→取下曲軸箱後蓋，更換不良零件。
    Worn out by insufficient pump oil→ Remove the rear cover of the crankcase and replace the worn spare parts.
13. 內部機油變質→檢查變質因素，更換機油或柱塞油封。
    Internal pump oil deteriorated→ Find out the causes of oil deterioration, replace the oil or piston oil seal.

其他問題
Other problem

14. 噴嘴磨損壓力下降→更換噴嘴。
    Nozzles worn out (pressure declining)→ Replace nozzles.
15. 高壓出水管或接頭迫緊損壞→更換高壓出水管或接頭迫緊。
    Outlet hose or connector packings damaged→ Replace as necessary.

B. 泵浦發生異常原因 The cause of pump malfunction

請依照上述對策編號進行對照，以利障礙排除。

Please refer to the previous solution numbers to solve the problem.

吸入空氣 Sucking in air	對策 Solution: 1、2、9、12、13
壓力錶指針振動 Pressure gauge indicator vibrating	對策 Solution: 1、2、3、4、5、6、8、9
異常振動 Pump abnormal shaking	對策 Solution: 1、2、3、4、5、6、8、9、15
不會吸水 Suction failure	對策 Solution: 1、2、3、4、5、9、12
泵浦之異常聲音 Abnormal noise	對策 Solution: 2、3、4、5、12、15
壓力無法上升 Low pressure	對策 Solution: 4、5、6、7、8、9、12、13、14、15