

WULI



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

MISTING PUMP OPERATION MANUAL

微霧幫浦操作手冊

M O D E L

WN-1002-5 WN-1002-6

WN-1003-5 WN-1003-6

WN-1004-5 WN-1005-6



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 Operation Manual Before Use.

安全須知 General Safety Information



微霧機請放置於乾燥的地方，避免電線短路。

To reduce the risk of short circuit, please place the pump in a dry area.



微霧機運轉後溫度會上升，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.



請做好微霧機防護措施，避免運轉時人員誤觸受傷。

Please keep off the machine while operating. Do not handle the pump or motor with wet hands.



使用前請檢查進水管與微霧機機油，以避免吸入空氣。

Check the hose for weak or worn areas and the oil level before each use.



任何檢修、保養請先關閉電源，避免危險。

Always completely shut down the unit before performing maintenance.



使用前請確認使用自來水源已經開啓，避免機器空轉造成損壞。

The unit must not be run without water. Please ensure the tap is turned on before operation; running without 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.

使用說明 Instructions

一、操作說明 **Operating Instructions**

1. 每一個接頭都要鎖緊，以防止洩漏。
Please tighten every connector securely to prevent leaking.
2. 啟動馬達前，先接好進水管。打開水源並啟動馬達，將幫浦內空氣排出後，關閉馬達，鎖緊出水管即可正常使用。
Please make sure the inlet hose is well connected and the faucet is turned on before starting the motor.
3. 使用工作壓力請勿超過本產品所設定之工作壓力(70 kgf/cm² (1,000 p.s.i.))。
Working pressure should not exceed 70 kgf/cm² (1,000 p.s.i.)
4. 請直接用水龍頭進水，水量不得低於 7 L/Min.。
Please connect the inlet hose to a faucet and note that the flow rate of the faucet should not be less than 7 liters per minute.
5. 進水管口徑不得小於 5/8 英吋。
Make sure the suction hose diameter is larger than 5/8 inch.

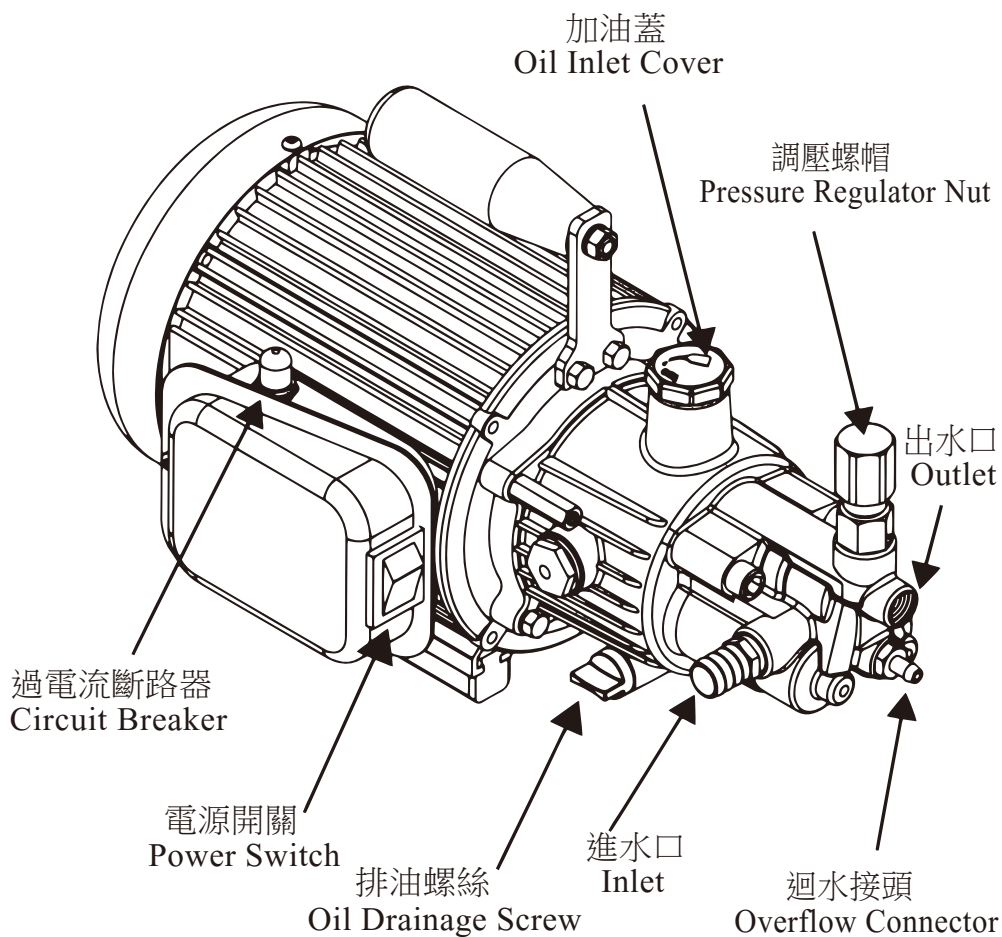
二、幫浦的潤滑 **Oil Change**

1. 幫浦在使用最初之 30~50 小時應更換機油，以後每隔 100~200 小時應更換一次(使用前應檢查機油是否足量或變質)。
Replace the oil in the pump after the first 30~50 hours of use. After this, the oil should be changed after every 100~200 hours of use. Make sure the oil is in good condition before use.
2. 更換機油時，請旋開洩油螺絲排出骯髒的機油。
Unscrew the drainage screw and drain all oil and residue from the pump.
3. 將洩油螺絲鎖緊後，打開加油蓋注入#30~#40 或二行程之乾淨機油，油量約 270cc。
Tighten the drainage screw before refilling with clean #30~#40 oil or two stroke oil; the oil amount is approximately 270 cc.

三、特別注意事項 **Reminders**

1. 使用自來水作為幫浦的水源。
Use tap water as inlet water source.
2. 馬達電源線請勿超過10公尺。
The motor power cord should not exceed 10 meters.
3. 馬達延長線線徑需大於2mm²。
Make sure the extension cord diameter for the motor is larger than 2mm².
4. 確實的更換機油以保持幫浦的潤滑，降低機械損耗。
Be sure to change the oil according to the Oil Change section or the pump may be damaged.
5. 水溫請勿超過攝氏60度。
The water temperature into the pump should not exceed 60°C.
6. 若要移動馬達，請注意馬達表面溫度。
Be careful of the motor's surface temperature when moving it.
7. 若過電流保護開關經常性跳脫，請注意是否電壓不穩、延長線未依規定設置或環境溫度過高。
If the circuit breaker is frequently turned on, please check if the voltage is unstable, if the extension cord is too long or if the surrounding temperature is too high.

部位名稱 Pump Overview

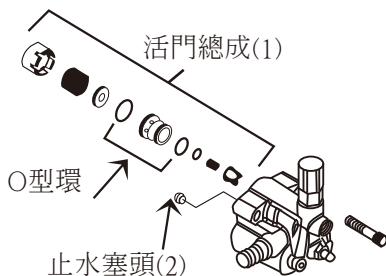


故障排除與診斷

⚠ 注意:排除故障與診斷時，請關閉電源及水源，並將插頭拔除。

一.無法吸水及壓力不穩

- 1.檢查進水管是否洩漏或阻塞。
- 2.檢查進水壓力是否足夠。
- 3.打開內六角螺絲，取出活門總成(1)，確認是否阻塞或損壞。
- 4.檢查止水塞頭(2)是否磨損。

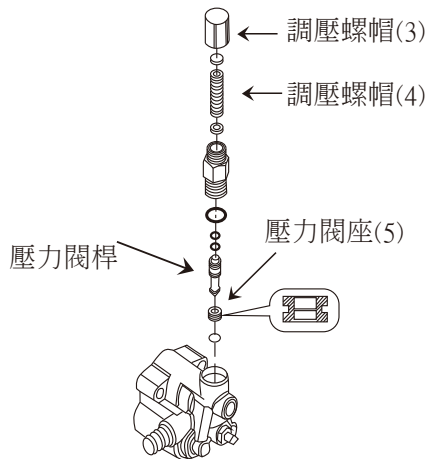


二.壓力不足

- 1.調整調壓彈簧(4)，調整壓力。
- 2.打開調壓螺帽(3)，檢查壓力閥、壓力閥座(5)(須注意正反面)及調壓彈簧(4)是否磨損、彈性疲乏或異物阻塞。
- 3.檢查活門總成(1)是否阻塞。
- 4.檢查U型迫緊(7)、防水迫緊(6)是否磨損。

三.汽缸洩漏

- 1.檢查U型迫緊(7)、防水迫緊(6)是否損壞。
- 2.檢查柱塞，若磨損嚴重則更換柱塞。
- 3.檢查各部O型環是否損壞。



四.軸箱噪音、脈動過大

- 1.檢查水龍頭的水是否正常。
- 2.檢查噴嘴是否阻塞。
- 3.檢查是否定期更換潤滑油。
- 4.檢查柱塞是否因潤滑油不足，導致卡死。
- 5.取出柱塞，重新組裝。
- 6.注入新潤滑油。

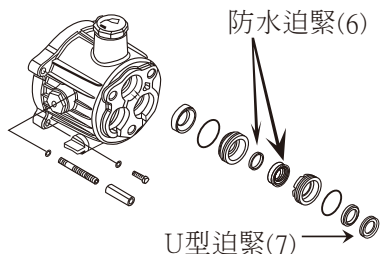
五.馬達無法啟動

- 1.檢查過電流保護器是否跳脫。
(按壓前請先關閉電源開關)
- 2.檢查延長線是否過長及電壓是否正確。
- 3.檢查周圍溫度是否過高導致跳脫。

六.汽缸或出水管溫度過高

- 1.檢查出水管路或噴嘴是否阻塞。
- 2.檢查出水量是否為額定值的70%以上。
- 3.若使用水量太小，建議送回經銷商修改外部迴水，以維持使用壽命。

▲若欲更換圖號#19、#19-1、#19-2零件改為外部迴水，請由經銷商判斷後再進行更改。

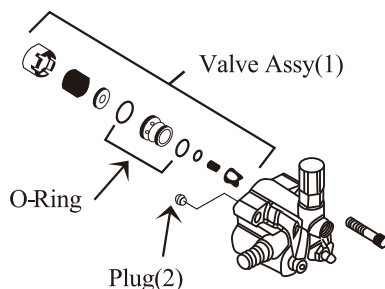


Troubleshooting

⚠ Attention: Always unplug the power and stop the water supply before maintenance.

A. Suction failure & unstable pressure

1. Check if the inlet hose is blocked or leaking.
2. Check if the inlet pressure is sufficient.
3. Unscrew and check if Valve Assy (1) is blocked or leaking.
4. Check if Plug (2) is worn out.



B. Insufficient pressure

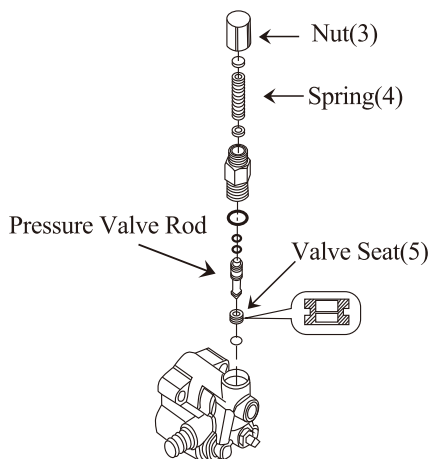
1. Adjust Spring (4) to regulate the pressure.
2. Open Nut (3) to check if the valve, Valve Seat (5) or Spring (4) is worn out, elastic fatigue or blocked.
3. Check if Valve Assy(1) is blocked.
4. Check if U-Packing(7) or Waterproof Packing(6) is worn out.

C. Leaking cylinder

1. Check if U-Packing (7) or Waterproof Packing (6) is damaged.
2. Check if pistons are worn out.
3. Check if O-Rings are damaged.

D. Noisy crankcase, strong vibration

1. Check if the water supply is sufficient.
2. Check if the nozzles are blocked.
3. Check if the oil is changed regularly.
4. Check if pistons are stuck because of insufficient oil.
5. Take out pistons and reassemble them.
6. Change oil.

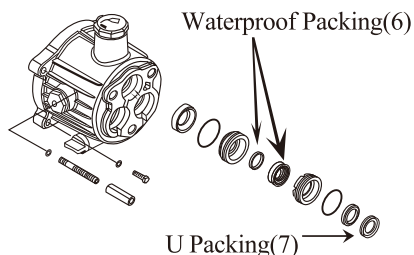


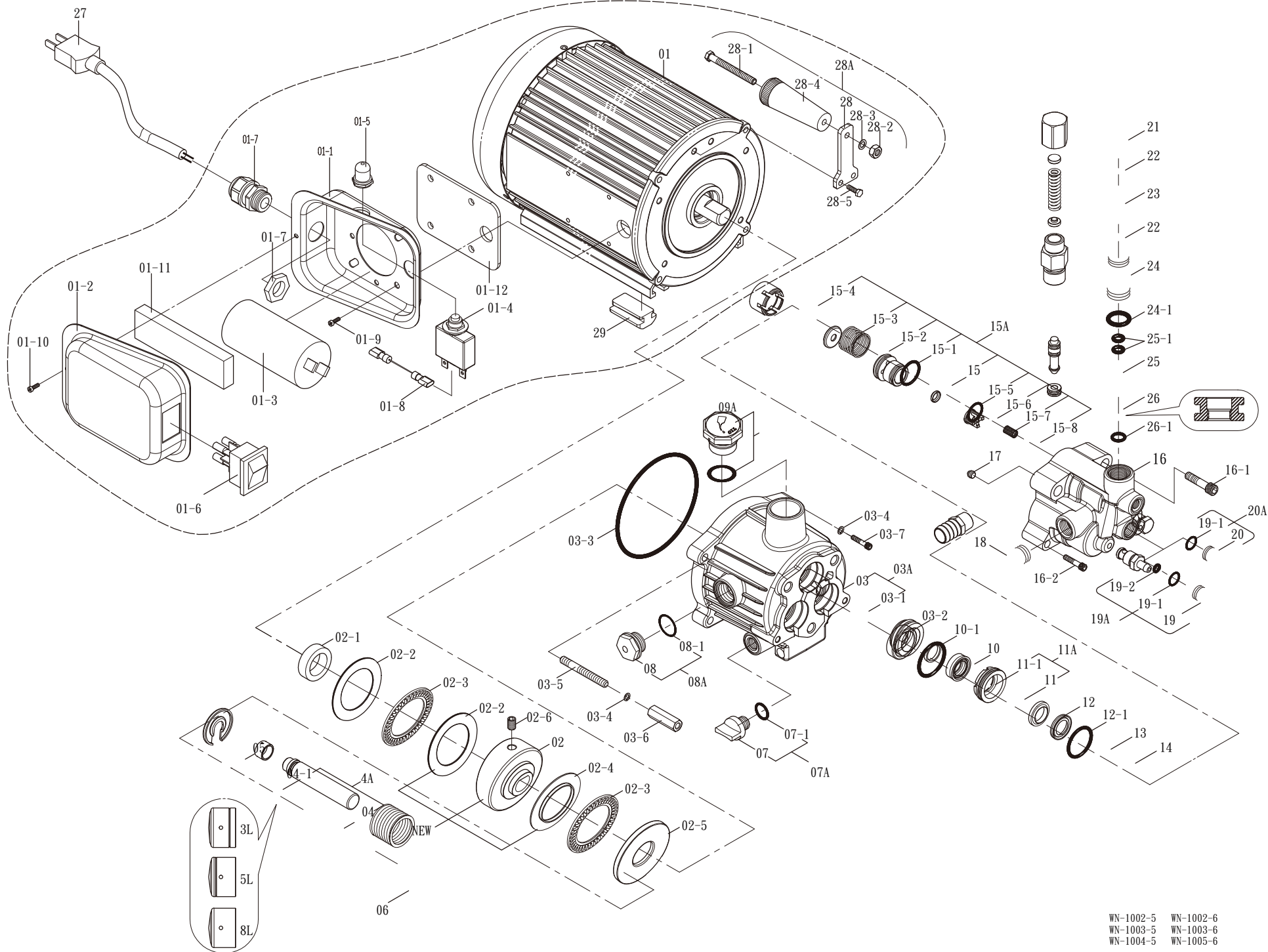
E. Cannot start motor

1. Check if the circuit breaker is on. (Turn off the power before pressing the button.)
2. Check if the extension cord is too long or the voltage is correct.
3. Check if the surrounding temperature is too high.

F. Cylinder or outlet hose is too hot

1. Check if the outlet hose or nozzles are blocked.
2. Check if the outlet volume reaches 70% or above of the suction volume.
3. If the suction volume is too big for your outlet volume, we suggest you send the pump back to the seller to adjust the external overflow.





零件表 PARTS LIST

圖號 No.	編號 CODE	名 稱	DESCRIPTION	Q'TY
01	BA20800516040	馬達 (WN-1002-5)	MOTOR 50HZ 230V 8P 370W	1
		馬達 (WN-1003-5)		
	BA20601016000	馬達 (WN-1004-5)	MOTOR 50HZ 230V 6P 1HP	
	BA20600616100	馬達 (WN-1002-6)	MOTOR 60HZ 220V 6P 3/4HP	
	BA20600616120	馬達 (WN-1003-6)	MOTOR 60HZ 220V 6P 3/4HP	
	BA20401016100	馬達 (WN-1005-6)	MOTOR 60HZ 220V 4P 1HP	
01-1	N/A	電器盒	COVER	1
01-2	N/A	電器盒上蓋	COVER	1
01-3	D020201117	電容器 (WN-1002-5)	CONDENSOR 18uf/450V	1
		電容器 (WN-1003-5)		
		電容器 (WN-1004-5)		
	D020201108	電容器 (WN-1002-6)	CONDENSOR 20uf/450V	
		電容器 (WN-1003-6)		
	D020201107	電容器 (WN-1005-6)	CONDENSOR 50uf/250V	
01-4	B130963112	電流斷路器 (WN-1002-5)	CIRCUIT BREAKER 6A	1
		電流斷路器 (WN-1003-5)		
	B130963114	電流斷路器 (WN-1004-5)	CIRCUIT BREAKER 8A	
	B130963113	電流斷路器 (WN-1002-6)	CIRCUIT BREAKER 7A	
	B130963115	電流斷路器 (WN-1003-6)	CIRCUIT BREAKER 9A	
		電流斷路器 (WN-1005-6)		
01-5	N/A	防水套	WATERPROOF CAP	1
01-6	B130563021	電源開關	POWER SWITCH	1
01-7	B110565000	電源線固定夾	WIRE BINDER/NUT	1
01-8	N/A	連接線	WIRE	1
01-9	N/A	電器盒固定螺絲	SCREW	1
01-10	N/A	電器盒上蓋固定螺絲	SCREW	1
01-11	B100463031	防震墊片 (50HZ)	SPACER	1
	B100463030	防震墊片 (60HZ)	SPACER	
01-12	B019316000	出線皮	PACKING	1

WN-1002-5/WN-1003-5/WN-1004-5/WN-1002-6/WN-1003-6/WN-1005-6

圖號 No.	編號 CODE	名 稱	DESCRIPTION	Q'TY
02	B019312010	偏心盤 (WN-1002-5)	WOBBLE PLATE	1
	B019312020	偏心盤 (WN-1003-5)	WOBBLE PLATE	
		偏心盤 (WN-1004-5)	WOBBLE PLATE	
	B019312000	偏心盤 (WN-1002-6)	WOBBLE PLATE	
	B019312010	偏心盤 (WN-1003-6)	WOBBLE PLATE	
		偏心盤 (WN-1005-6)	WOBBLE PLATE	
02-1	B019313000	軸承油封	BEARING OIL SEAL	1
02-2	B019118010	推力墊圈	GASKET	2
02-3	B019114010	平面軸承	BEARING	2
02-4	B019305000	培林支撐套	BEARING SPACER	1
02-5	B019105021	平面軸承片	BEARING	1
02-6	BS17108010500	無頭內六角螺絲	SCREW	1
03A	B019501001	曲軸箱組	CRANKCASE ASSY	1
03	1019501001	曲軸箱	CRANKCASE	1
03-1	1019508000	引擎培林	BEARING	3
03-2	B019503000	柱塞油封	PISTON OIL SEAL	3
03-3	BG10995103510	O形環	O-RING	1
03-4	BS32108300	彈簧華司	SPRING WASHER	4
03-5	B019509000	軸箱固定螺絲	SCREW	2
03-6	B019509020	軸箱固定螺帽	NUT	2
03-7	BS16108025500	內六角螺絲	HEX SCREW	2
04A	B019304022	柱塞組 (WN-1002-5)	CERAMIC PISTON ASSY	3
	B019304023	柱塞組 (WN-1003-5)		
		柱塞組 (WN-1004-5)		
	B019304021	柱塞組 (WN-1002-6)		
	B019304022	柱塞組 (WN-1003-6)		
		柱塞組 (WN-1005-6)		
04	B019304020	陶瓷柱塞	CERAMIC PISTON	3

零件表 PARTS LIST

圖號 No.	編號 CODE	名 稱	DESCRIPTION	Q'TY
04-1	B019308026	柱塞滑靴 (WN-1002-5)	PISTON WASHER	3
	B019308025	柱塞滑靴 (WN-1003-5)		
		柱塞滑靴 (WN-1004-5)		
	B019308027	柱塞滑靴 (WN-1002-6)		
	B019308026	柱塞滑靴 (WN-1003-6)		
		柱塞滑靴 (WN-1005-6)		
05	B019505000	止逆彈簧固定座	VALVE SPRING SEAT	3
06	BJ00106050	柱塞彈簧	PISTON SPRING	3
07A	B011801001	排油螺絲組	DRAINAGE SCREW ASSY	1
07	B011801000	排油螺絲	DRAINAGE SCREW	1
07-1	BG10110015	O形環	O-RING	1
08A	B019229003	油鏡組	OIL WINDOW ASSY	1
08	B019229020	油鏡	OIL WINDOW	1
08-1	BG10158020600	O形環	O-RING	1
09A	B011901014	加油蓋組	OIL INLET COVER ASSY	1
10	B019504000	防水油封套	WATERPROOF SEAL	3
10-1	BG10300034	O形環	O-RING	3
11A	B019500010	防水迫緊組	WATERPROOF PACKING SEAT	3
11	B019506000	防水迫緊	WATERPROOF PACKING	3
11-1	B019507000	防水迫緊墊片	WATERPROOF PACKING GASKET	3
12	B019504020	U迫緊套	U-PACKING COLLAR	3
12-1	BG10290033	O形環	O-RING	3
13	B019310003	墊圈	GASKET	3
14	B019309001	U型迫緊	U-PACKING	3
15A	B040063060	進出水活門組	VALVE ASSY	3
15	B040263130	進出水活門座	VALVE SEAT	3
15-1	BG10210025040	O形環	O-RING	3
15-2	B040163062	進水活門塞	INLET VALVE PLUG	3
15-3	BJ26301030	進水活門彈簧	INLET VALVE SPRING	3
15-4	B040363051	進水活門帽	INLET VALVE CAGE	3
15-5	BG10170021040	O形環	O-RING	3

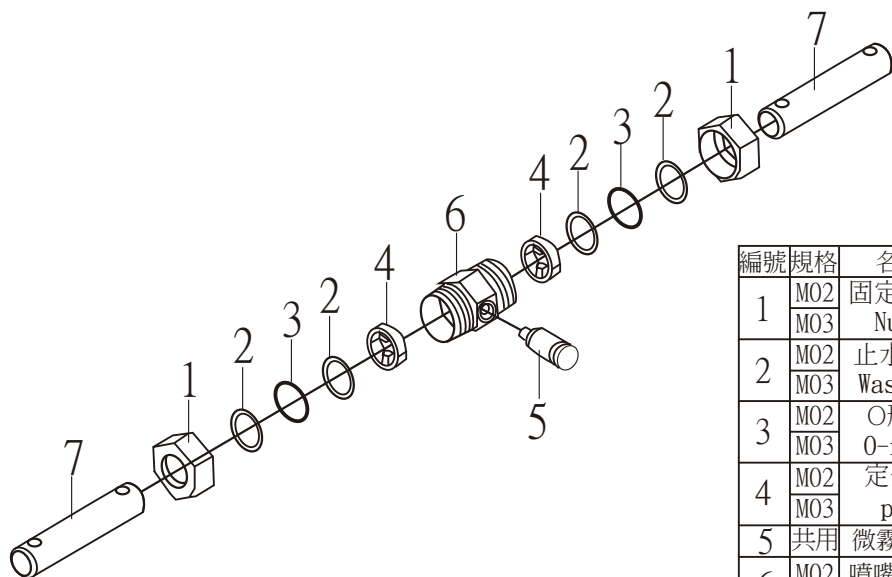
WN-1002-5/WN-1003-5/WN-1004-5/WN-1002-6/WN-1003-6/WN-1005-6

圖號 No.	編號 CODE	名 稱	DESCRIPTION	Q'TY
15-6	B040163022	活門塞	VALVE PLUG	3
15-7	BJ26301021	活門彈簧	VALVE SPRING	3
15-8	B040363060	出水活門帽	OUTLET VALVE CAGE	3
16	B019502000	汽缸	CYLINDER	1
16-1	BS16112045500	內六角螺絲	SCREW	3
16-2	BS16108045501	內六角螺絲	SCREW	2
17	B019510000	止水塞頭	PLUG	1
18	BK31404010	管牙插心接頭	ADAPTER	1
19	B019511000	迴水接頭	OVERFLOW CONNECTOR	1
19-1	BG10100014	O形環	O-RING	1
19-2	BG10070011	O形環	O-RING	1
20	B019511020	內部迴水接頭	OVERFLOW CONNECTOR	1
21	B019516000	調壓螺帽	PRESSURE REGULATOR NUT	1
22	B019515000	彈簧上座	SPRING SEAT	2
23	BJ00106120	調壓彈簧	ADJUSTING SPRING	1
24	B019512000	安全弁接頭	SAFETY VALVE CONNECTOR	1
24-1	BG10140018500	O形環	O-RING	1
25	B019513000	壓力閥桿	PRESSURE VALVE ROD	1
25-1	BG10075011500	O形環	O-RING	2
26	B019514000	壓力閥座	PRESSURE VALVE SEAT	1
26-1	BG10098013600	O形環	O-RING	1
27	B090563000	電源線	CORD	1
28A	B160263021	活動把手組	HANDLE ASSY	1
28	B019110000	把手片	HANDLE PLATE	1
28-1	BS11110089200	六角螺絲	SET BOLT	1
28-2	BS21110100	六角螺帽	NUT	1
28-3	BS31110503	平面華司	WASHER	1
28-4	B019113000	活動把手	HANDLE	1
28-5	BS11108016200	六角螺絲	SET BOLT	2
29	B100563010	馬達腳墊	CUSHION	4
			2019.03V.	

微霧管路組立安裝

- 1.決定管路的懸掛場所，於預定裝設處標示記號(噴嘴的最佳間隔距離，則依現場溫度及濕度要求決定)，用自攻螺絲將固定夾鎖在標示記號處。確認固定夾的位置與角度，為噴嘴欲噴灑方向。
- 2.確認白鐵管、接頭、管路內部是否有碎屑，以清水徹底清洗。將接頭螺紋部份以止水帶纏繞，噴嘴則不需纏繞。
- 3.依圖示A依序將白鐵管與接頭連接。組立順序為 No.1→No.2→No.3→No.2→No.4；No.4定位片須拆開定位於No.7白鐵管孔位。鎖緊固定螺帽與接頭，避免漏水。再用尾端接頭鎖緊最末端的白鐵管。
- 4.鎖緊噴嘴，避免漏水。(請定期清洗噴嘴，清除沉澱物及鈣化產生的雜質，避免噴嘴阻塞。)

微霧白鐵管路組立圖示A (DIAGRAM A)



編號	規格	名稱
1	M02	固定螺帽
	M03	Nuts
2	M02	止水墊片
	M03	Washer
3	M02	○形環
	M03	O-ring
4	M02	定位片
	M03	pin
5	共用	微霧噴嘴
6	M02	噴嘴接頭
	M03	connector
7	M02	白鐵管
	M03	SST. pipe

STAINLESS STEEL MIST LINE ASSEMBLY

1. Mount the fittings in the area where the mist line will be installed.
Please consider objects and high-traffic areas that may be in the path of the mist nozzles.
2. Flush water through the pipes to ensure they are free of debris and dirt which may block nozzles.
3. Per diagram A, assemble the connector by placing parts on the pipe in this order : No.1→No.2→No.3→No.2→No.4 (2 pcs). The peg in the center of the crescent-shaped pin (No. 4) should fit into the hole on the side of pipe. Then, fasten the nut (No. 1) to the connector body.
4. Tighten securely after installation to ensure the direction of the nozzle is suitable and the connector does not leak. Use either an end connector or a ball valve for the end of the mist line.

微霧白鐵管路組立圖示B (DIAGRAM B)

