



巨輪興股份有限公司

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超高壓電動液壓泵浦 操作手冊

SPE-200RI **SPE-200RINC** **SPE-2000RI**



SPE-200RI



SPE-200RINC



SPE-2000RI

中文：C1~C6

中文
English
Ver. 16

1. 安全預防措施



不遵守以下的注意事項和警告將引起設備損失及人員傷害。



重要事項：未滿18歲人員不得擅自操作。操作SUN RUN油壓設備前請先仔細閱讀並了解相關操作手冊、安全事項和警告事項。操作人員負有油壓設備週邊之人員及環境之安全責任。



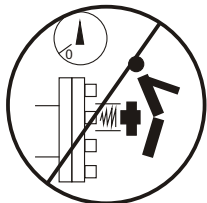
警告事項：為確保避免人員傷害和設備作業損失，請確認所有油壓設備及週邊配件，使用最大壓力為 1520 bar(22,000psi)。



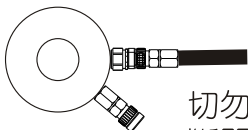
警告事項：操作人員於使用期間為避免傷害，需全程配戴安全防護措施。



危險事項：為避免人員傷害，請於操作過程中手、腳遠離液(油)油壓缸和液壓設備。



切勿在拉伸或拆卸過程中站立於螺栓同軸位置。如果螺栓出現問題、鬆脫或損壞的零件可能會射出，如此可能會導致嚴重的人員傷亡。非必要或壓力穩定情況下，才允許操作者到加壓拉伸器附近持續觀察壓力計。



切勿在斷開連接的公接頭背面施壓。斷開的公接頭無法承受高壓。只有液壓管路中最後一個拉伸器上的母接頭可以保持斷開狀態。所有其他接頭都必須緊密連接。



警告事項：系統操作壓力絕不可超過最低壓力元件之值最低值。系統中應加裝壓力錶藉以監測系統中的壓力並了解使用狀態。



警告事項：避免損壞油壓管。捲收油管時，避免油管強烈彎曲或打結。使用彎曲或打結油管易引起背壓。強烈彎曲或打結的油管亦易引起內部損壞或提早油管老化。



千萬不要重壓油管。劇烈的撞擊會造成油管內鋼絲網損壞。使用受損的油管可能導致油管破裂。



重要事項：千萬不要利用油管來提攜其他油壓設備(例如:小型油壓缸、泵浦..等)。



危險事項：液(油)壓設備應遠離火或熱源。高溫會軟化包裝和密封材料，導致液壓油洩漏；高溫同時也會造成油管材質與包裝變質。為確保最好狀態，不要將液(油)壓設備暴露於 65°C(150°F)高溫。在電焊場所時亦應注意防止電焊火花噴到油管。



危險事項：不要用手對油管施加壓力(包括拉或舉高) 高壓下洩漏的液壓油會穿透皮膚造成嚴重傷害。當液壓油侵入皮膚請立即就診。



警告事項：當零件出現裂痕或損壞時，應立即以SUN RUN 零件更換。正確標準的零件可防止人員或設備損傷。SUN RUN零件經特別設計可完全適用並適用產品標稱的額定荷載或壓力。

重要事項：液壓設備必需由合格的液壓技工進行維修。需要修理時，請連繫就近的SUN RUN服務據點並使用SUN RUN 液壓油保固方為有效。

2.規範

SPE-200RI 2 1 4 3 C

1 2 3 4 5 6

- 1.馬達
2000bar,0.75HP(0.5kw)

2.電壓/安培
1=100V/12A
2=200V/6A

3.相數
1=1ph

4.油箱
4=4L

5.閥門樣式
3.手動三口二位控制閥

6.配件
C=線控裝置
- 1.Voltage
2000bar,0.75HP(0.5kw)

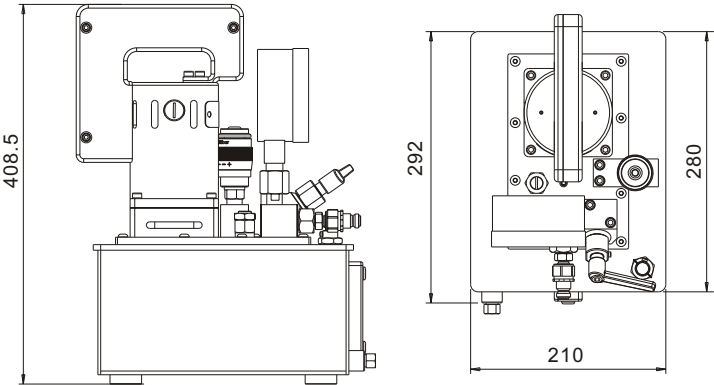
2.Voltage/A
1=100V/12A
2=200V/6A

3.Phase
1=1ph

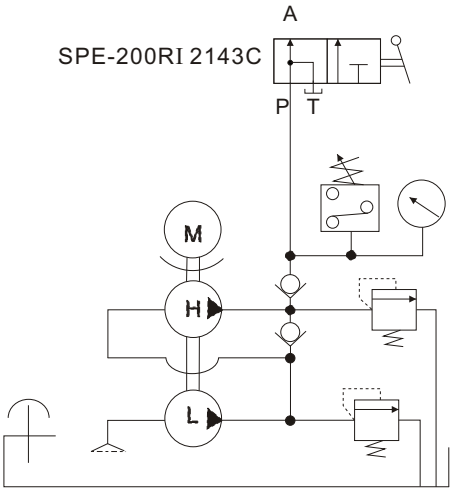
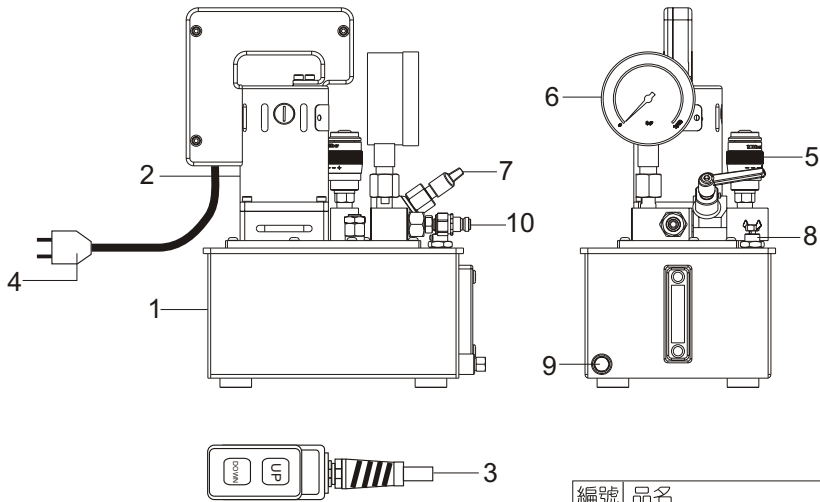
4.Reservoir
4=4L

5.Valve
3. 3way/ 2position Manual Valve

6.fitting
C=Remote control



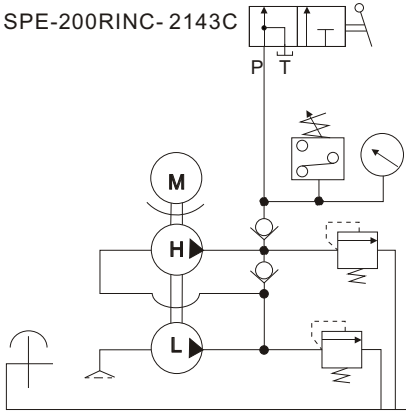
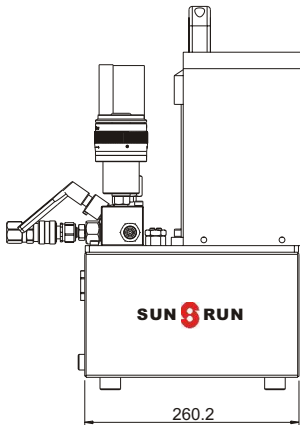
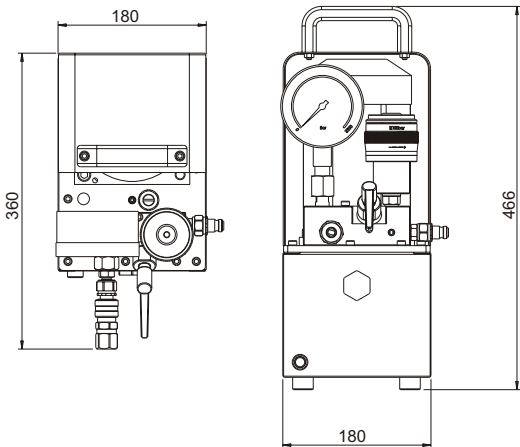
Model Number	Motor	Max.Pressure	Pressure Rating (psi)/(bar)		Output flow rate (L/min)		Weight (include oil)
型 號	馬達	最大使用壓力	輸出壓力		輸出油量		重量 (含油) (kg)
	kW(hp)	(psi)/(bar)	1 st stage	2 nd stage	1 st stage	2 nd stage	
SPE-200RI	0.5(5/8)	29,000(2000)	435(30)	29,000(2000)	2	0.1	24



編號	品名
1	油箱
2	馬達
3	遙控器
4	電線
5	調壓閥
6	壓力錶
7	洩壓閥
8	加油/通氣閥
9	洩油孔
10	進/出油口, SBT-CE116-M

2.規範 (續)

電泵型號選擇：Custom build your Electric Pump:					
SPE-200RINC-2 1 4 3 C					
1	2	3	4	5	6
1.馬達			1.Voltage		
200RI=0.625HP(0.5kw)			200RI=0.625HP(0.5kw)		
2.電壓/安培			2.Voltage/A		
1=110V/12A			1=110V/12A		
2=220V/7A			2=220V/7A		
3.相數			3.Phase		
1=1ph			1=1ph		
4.油箱			4.Reservoir		
4=4L			4=4L		
5.閥門樣式			5.Valve		
3=手動三口二位控制閥			3=3way/ 2position Manual Valve		
6.配件			6.fitting		
C=線控裝置			C=Remote control		
G=油壓錶			G=Pressure Gauge		



型 號 Model Number	馬達 Motor	最大使用壓力 Max.Pressure	輸出壓力 Pressure Rating		輸出油量 Output flow rate		重量 (含油) Weight (include oil)
			1 st stage	2 nd stage	1 st stage	2 nd stage	
SPE-200RINC-	0.5(1.5)	29,000(2000)	435(30)	29,000(2000)	2	0.1	19

2.規範 (續)

電泵型號選擇：Custom build your Electric Pump:

SPE-2000RI5-2 6 3 20 3

1 2 3 4 5 6 7

- 1.馬達

2000RI2=2HP(1.5kw)

2000RI5=5HP(3.7kw)
- 1.Voltage

2000RI2=2HP(1.5kw)

2000RI5=5HP(3.7kw)
- 2.電壓

2=220V-4P
- 2.Voltage

2=220V
- 3.Hz

5=50Hz

6=60Hz
- 3.Hz

5=50Hz

6=60Hz
- 4.相數

3=3ph
- 4.Phase

3=3ph
- 5.油箱

20=20L
- 5.Reservoir

22=22L
- 6.閥門樣式

3=手動三口控制閥

4=手動四口控制閥
- 6.Valve

3=3way Manual Valve

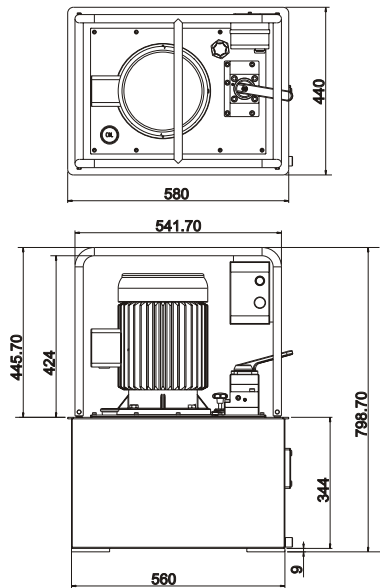
4=4way Manual Valve
- 7.選配

C=線控裝置

W=輪子
- 7.Optional

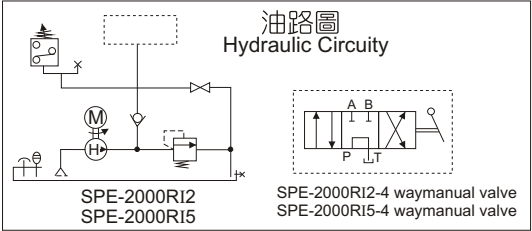
C=Remote control

W=Wheel



Model Number 型 號	Motor 馬達 kW /(hp)	Insulation 絕緣	Flow Rate 輸出流量 (L/min)		Pressure Rating 輸出壓力 (bar)	Rpm 轉速		Weight (22L tank no oil) 重量 (kg)
			50Hz	60Hz		50Hz	60Hz	
SPE-2000RI2	1.5 /(2)	E lass Totally enclosed fan-cooled	0.35	0.42	2500	1500	1800	110
SPE-2000RI5	3.7 /(5)	E級 全閉外扇	0.9	1.08				130

電動泵浦基本閥型 BASIC PUMP VALVE	適用油壓缸 Used with cylinder		閥作用 Valve Function		
手動三口方向閥 Manual 3 way Valve	●	●	●	●	●
手動四口方向閥 Manual 4 way Valve	●	●	●	●	●



3. 操作

3.1 警告

- 3.1.1 施壓前請先將出油口塞頭取下並安裝上油管或接頭。
- 3.1.2 本泵浦最大操作壓力為 2000bar (29000psi)。高壓安全閥工廠預設值為2000bar (29000psi)。
請勿調壓超過此極限壓力。調壓閥設定壓力應低於 2000bar(29000psi)。
- 3.1.3 假如泵浦用於向週邊產品提供動力，而週邊產品壓力低於 2000bar(29000psi)時，應將調壓閥設定壓力下調於週邊產品的最高壓力。如不調低壓力而操作使用將有損機械。
- 3.1.4 為防止觸電事故發生，對泵浦進行維修或檢查時必須切斷電源。
- 3.1.5 當油缸承載重物或處於強大拉力情況下突然釋放壓力時，重物可能會突然落下或裂開，引起人身傷害。
如需在這種情況下使用，請向SUN RUN服務據點諮詢適用的操作閥搭配使用。
- 3.1.6 使用時必須打開加油/通氣閥。如在通氣閥關閉情況下使用泵浦，當液壓油回流時，回使油箱內壓力上升，損壞油箱。
- 3.1.7 請每操作30小時後即檢查液壓油位。使用油品為 ISO AW32 液壓油。
- 3.1.8 接上電源前請先檢查遙控器/開關是否關閉；假如遙控器/開關是呈現開啟或按壓的狀態則通電後即可能產生油缸前進或施壓的狀況。
- 3.1.9 為預防觸電請注意電源接地狀況。

3.2 如何調整調壓閥

假如要設定壓力低於2000bar (2040kgf/cm²), 請一邊確認壓力錶一邊旋轉調壓閥往 "-" (負號)方向直到壓力錶顯示所需要壓力為止。

泵浦最大操作壓力為2000bar.
請勿超壓 2000bar!



3.3 如何操作

- 3.3.1 以油管連接好油壓缸。
- 3.3.2 打開加油/ 通氣閥。
- 3.3.3 操作前請先設定好操作壓力。
- 3.3.4 將3Way手動閥順時針轉向打開方向。
- 3.3.5 按下遙控器"UP"鍵啟動馬達開始油壓。隨著壓力增加，主軸向前荷載。
- 3.3.6 當壓力上升到達設定值馬達停止或中途放開"UP"鍵，則馬達停止壓力持壓。
- 3.3.7 操作完成將手動閥逆時針關閉則主軸完全回縮。
- 3.3.8 關閉加油/ 通氣閥。

假如發生異常狀況，放開 "UP" 即可停止馬達操作。

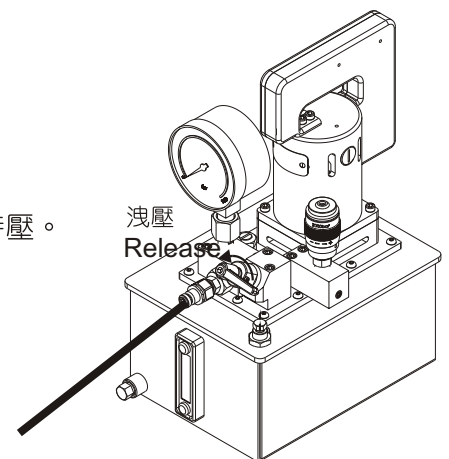


Fig.1

4. 維修

★操作每 30 小時即需確認液面是否正常。必要時加入SUN RUN 提供之液壓油。

液面至少要維持在自油桶頂下2"位置。每年至少全面更換液壓油一次。

下列情況時請常更換液壓油：

1. 油溫到達 140 F(60°C)時。
2. 潮溼和溫度變化大的環境。
3. 沙塵多的環境也可能污染液壓油，所以要每年定期清洗過濾網。
4. 鬆開油桶面板上的螺栓。將泵浦單元自油桶上拿起，注意小油封或零件不要損壞或遺失。
5. 鬆開泵浦底座並用不易燃溶劑清洗。
6. 吹乾後重新組裝。安放泵浦的週圍保持空氣流通，儘可能保持馬達和泵浦乾淨。

5. 疑難排除

問題	原因	解決
馬達無運轉	1. 碳刷磨耗 2. 錯誤電源 3. 插頭/插座損壞或與電線未正確連接	1. 檢查碳刷長度, 當碳刷長度少於 8mm 時請更換碳刷 2. 檢查是否已接上電源和插座電源是否正確 3. 請換新
主軸無揚程	1. 油量不足 2. 空氣混入泵浦系統內導致泵浦無法吸取液壓油	1. 加滿液壓油至標準線 2. 將泵浦側倒(排油口向上), 操作數次, 使吸入液壓油
無法持壓	1. 接頭鬆脫	1. 將螺牙完全鎖緊即可
主軸動作緩慢	1. 空氣存留於油管或油缸內部	1. 清出油管或油缸內的空氣即可
主軸無法回縮	1. 接頭螺母鬆脫, 阻塞液壓油流通	1. 用手鎖緊螺母。因存有壓力而無法手鎖時可使用管鉗等工具鎖緊

出廠證明暨保固書

產品名稱：

型 號：

序 號：

出廠日期： / /

保固期間： / / ~ / /

該產品經公司嚴格品質管制,並測試合格出廠,本產品自驗收合格日起保固一年,如非人為使用不當或天然不可抗拒之災害,本公司免費維修,如非以上之原因本公司將酌收材料成本負責維修。

公司：巨輪興股份有限公司

負責人：蘇明益

高雄市岡山區岡山北路199號

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OPERATING INSTRUCTIONS

HIGH PRESSURE

HYDRAULIC ELECTRIC PUMP

SPE-200RI

SPE-200RINC

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SPE-2000RI

English : E1~E6

中文
English
Ver. 16

1. SAFETY PRECAUTIONS



Fail to comply with the following cautions and warnings could cause equipment damage and personal injury.



IMPORTANT : Minimum age of the operator must be 18 years. The operator must have read and understood all instructions, safety issues, cautions and warnings before starting to operate the SUN RUN equipment. The operator is responsible for this activity towards other persons.



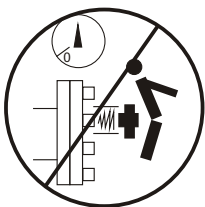
WARNING : To avoid personal injury and possible equipment damage, make sure all hydraulic components withstand the maximum pressure of 1520 bar (22,000 psi).



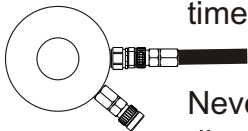
WARNING: Always wear safety glasses. The operator must take precaution against injury due to failure of the tool or workpiece.



DANGER: To avoid personal injury keep hands and feet away from cylinder and workpiece during operation.



Never stand in-line with the bolt axis while tensioning or de-tensioning is in progress. If the bolt should fail, serious personal injury or death could result if loose or broken parts become projectiles. All personnel must be aware of this potential hazard at all times.



Never pressurize the back of a disconnected male coupler. Male couplers cannot withstand high pressures when disconnected. Only the female coupler on the LAST tensioner in the circuit can remain uncoupled. All other couplers must be connected.



WARNING : The system operating pressure must not exceed the pressure rating of the lowest rated component in the system. Install pressure gauges in the system to monitor operating pressure. It is your window to what is happening in the system.



CAUTION: Avoid sharp bends and kinks that will cause severe back-up pressure in hoses. Bends and kinks lead to premature hose failure.



DO NOT drop heavy objects on hose. A sharp impact may cause internal damage to hose wire strands. Applying pressure to a damaged hose may cause it to rupture.



IMPORTANT: Do not lift hydraulic equipment by the hoses or couplers. Use the carrying handle or other means of safe transport.



CAUTION : KEEP HYDRAULIC EQUIPMENT AWAY FROM FLAMES AND HEAT. Excessive heat will soften packings and seals, resulting in fluid leaks. Heat also weakens hose materials and packings. For optimum performance do not expose equipment to temperatures of 65°C (150°F) or higher. Protect hoses and cylinders from weld spatter.



DANGER: Do not handle pressurized hoses. Escaping oil under pressure can penetrate the skin causing serious injury. If oil is injected under the skin, see a doctor immediately.



WARNING: Immediately replace worn or damaged parts with genuine SUN RUN parts. SUN RUN parts are designed to fit properly and withstand rated loads.

IMPORTANT: Hydraulic equipment must only be serviced by a qualified hydraulic technician. For repair service, contact the SUN RUN Service Center in your area. To protect your warranty, use only SUN RUN oil.

2.SPECIFICATION

SPE-200RI 2 1 4 3 C

1 2 3 4 5 6

- 1.馬達
2000bar,0.75HP(0.5kw)

2.電壓/安培
1=100V/12A
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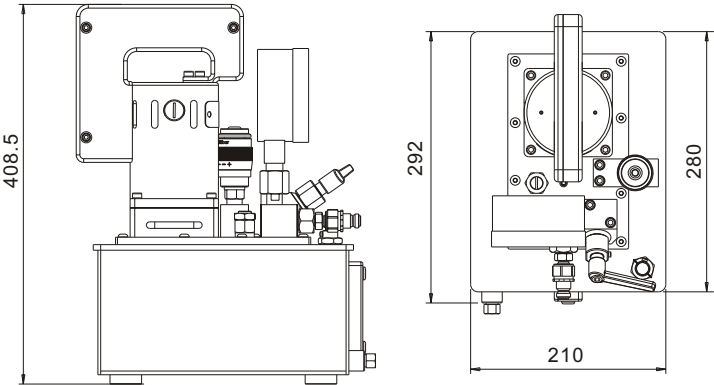
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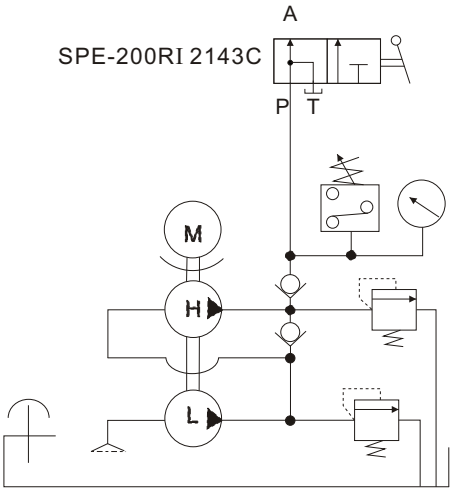
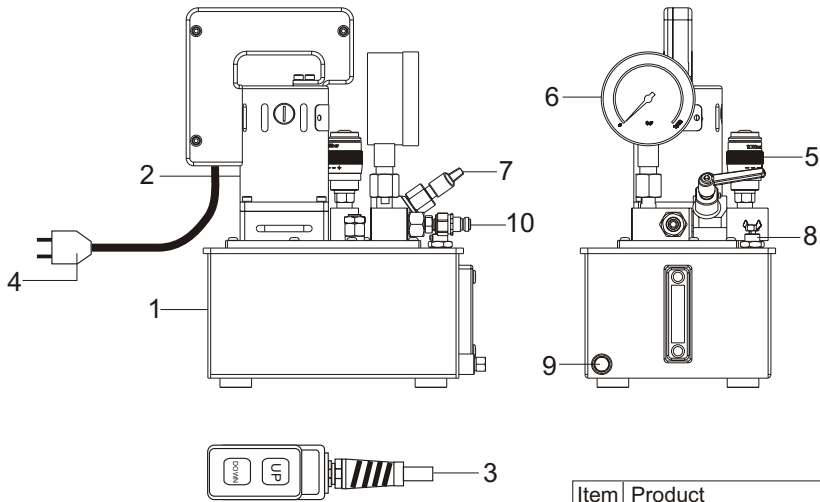
4.Reservoir
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5.Valve
3. 3way/ 2position Manual Valve

6.fitting
C=Remote control



Model Number	Motor	Max.Pressure	Pressure Rating (psi)/(bar)		Output flow rate (L/min)		Weight (include oil)
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SPE-200RI	0.5(5/8)	29,000(2000)	435(30)	29,000(2000)	2	0.1	24



Item	Product
1	oil tank
2	electric motor
3	remote switch
4	power cable
5	pressure adjust
6	pressure gauge
7	release valve
8	vent/oil port
9	oil drain port
10	oil output/ return, SBT-CE116-M

2.SPECIFICATION

電泵型號選擇：Custom build your Electric Pump:

SPE-200RINC-2143C

1 2 3 4 5 6

1.馬達

200RI=0.625HP(0.5kw)

1.Voltage

200RI=0.625HP(0.5kw)

2.電壓/安培

1=110V/12A
2=220V/7A

2.Voltage/A

1=110V/12A
2=220V/7A

3.相數

1=1ph

3.Phase

1=1ph

4.油箱

4=4L

4.Reservoir

4=4L

5.閥門樣式

3=手動三口二位控制閥

5.Valve

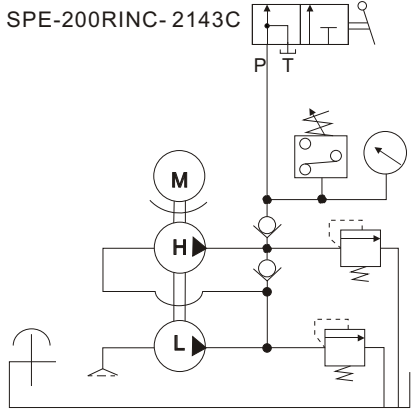
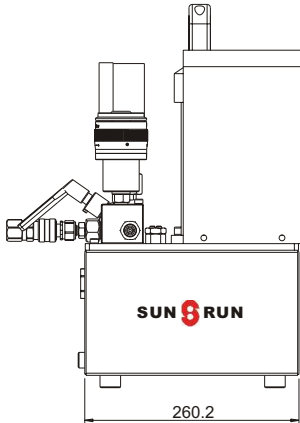
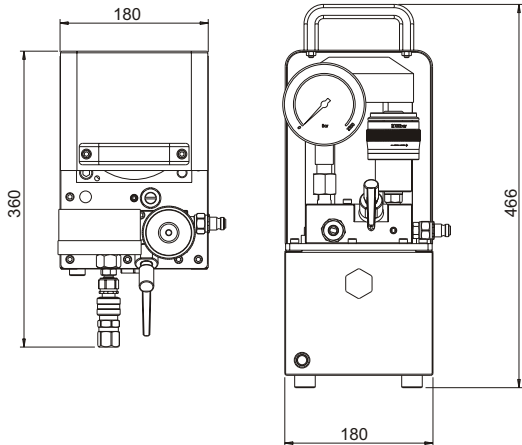
3=3way/ 2position Manual Valve

6.配件

C=線控裝置
G=油壓錶

6.fitting

C=Remote control
G=Pressure Gauge



型 號 Model Number	馬達 Motor	最大使用壓力 Max.Pressure	輸出壓力 Pressure Rating		輸出油量 Output flow rate		重量 (含油) Weight (include oil)
			1 st stage	2 nd stage	1 st stage	2 nd stage	
SPE-200RINC-	0.5(1.5)	29,000(2000)	435(30)	29,000(2000)	2	0.1	19

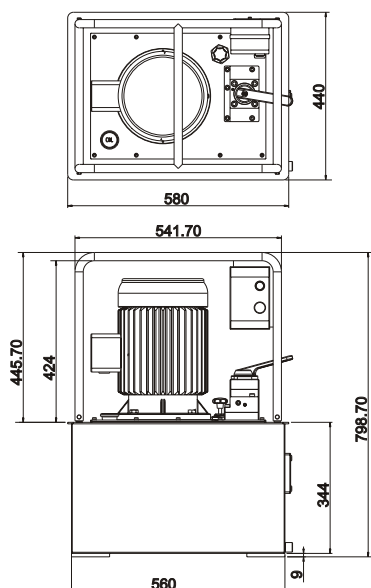
2.SPECIFICATION

電泵型號選擇：Custom build your Electric Pump:

SPE-2000RI5-2 6 3 20 3

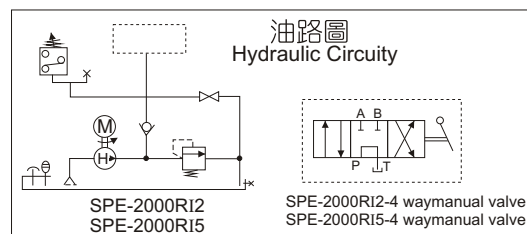
1 2 3 4 5 6 7

- | | |
|--|---|
| 1.馬達
2000RI2=2HP(1.5kw)
2000RI5=5HP(3.7kw) | 1.Voltage
2000RI2=2HP(1.5kw)
2000RI5=5HP(3.7kw) |
| 2.電壓
2=220V-4P | 2.Voltage
2=220V |
| 3.Hz
5=50Hz
6=60Hz | 3.Hz
5=50Hz
6=60Hz |
| 4.相數
3=3ph | 4.Phase
3=3ph |
| 5.油箱
20=20L | 5.Reservoir
22=22L |
| 6.閥門樣式
3=手動三口控制閥
4=手動四口控制閥 | 6.Valve
3=3way Manual Valve
4=4way Manual Valve |
| 7.選配
C=線控裝置
W=輪子 | 7.Optional
C=Remote control
W=Wheel |



Model Number 型 號	Motor 馬達 kW /(hp)	Insulation 絕緣	Flow Rate 輸出流量 (L/min)		Pressure Rating 輸出壓力 (bar)	Rpm 轉速		Weight (22L tank no oil) 重量 (kg)
			50Hz	60Hz		50Hz	60Hz	
SPE-2000RI2	1.5 /(2)	E lass Totally enclosed fan-cooled	0.35	0.42	2500	1500	1800	110
SPE-2000RI5	3.7 /(5)	E級 全閉外扇	0.9	1.08				130

電動泵浦基本閥型 BASIC PUMP VALVE	適用油壓缸 Used with cylinder		閥作用 Valve Function		
手動三口方向閥 Manual 3 way Valve	●	●	●	●	●
手動四口方向閥 Manual 4 way Valve	●	●	●	●	●



3. OPERATION

3.1 Warning

- 3.1.1 Before applying pressure, take out the blind plug of the oil output port, then mount a hose or a coupler.
- 3.1.2 The maximum operating pressure of this pump is 2000bar (29000psi). High pressure safety valve, which works as a safety device, is factory-set at 2000bar(29000psi). Be sure not to adjust this valve at exceeding this pressure. The set pressure of pressure switch should be under 2000bar(29000psi).
- 3.1.3 If this pump is used to operate the peripherals which operating pressure is less than 2000bar(29000psi), be sure to set the high pressure safety valve at the peripherals' operation pressure.
Be warned failure to lower setting could result in the equipment damage.
- 3.1.4 To prevent electric shock, ensure to switch off the power source before the maintenance of electric apparatus.
- 3.1.5 Releasing the pressure suddenly from the jacking up or wire stand occurs to dropping or bouncing of the loads, and it happens to personal injury. Consult SUN RUN authorized agents regarding a suitable valve to prevent that.
- 3.1.6 Be sure to open an air valve under operation. If not, when the working oil returns to the tank, the pressure in the tank will be increased, and the tank might be damaged.
- 3.1.7 Check hydraulic oil level every 30 hours of operation. Use ISO AW32 hydraulic oil only.
- 3.1.8 Before plugging in the power cable, ensure to switch off operation switch and push-button switch. If they are switched on, the rams will advance, and the pressure will be applied.
- 3.1.9 Be sure to ground to prevent electric shock.

3.2 How to adjust Pressure Switch

If setting less than 2000bar (2040kgf/cm²), please check the pressure gauge one side and turn the switch to "-" direction, till the pressure go down where you need.

The max. Operating pressure of this pump is 2000bar.

Never over 2000bar!



3.3 How to Operate--Single-acting ram

- 3.3.1 Connect the cylinder with the hose.
- 3.3.2 Open the vent/ oil valve.
- 3.3.3 Before operating, set the pressure switch to the operation pressure.
- 3.3.4 Turn the lever of the 3 way manual valve counter-clockwise to open it.
- 3.3.5 Switch "UP" the operation switch to operate the electric motor. The ram piston advances to increase the pressure and to do the operation.
- 3.3.6 When the pressure rises up to the set pressure of the pressure switch or release the "UP" button the electric motor stops, and the pressure is held.
- 3.3.7 After operation, counterclockwise the 3 way manual valve retract the ram piston completely.
- 3.3.8 Close the vent/oil valve.

If the abnormal conditions happen, release the "UP" button to stop the electric motor operation.

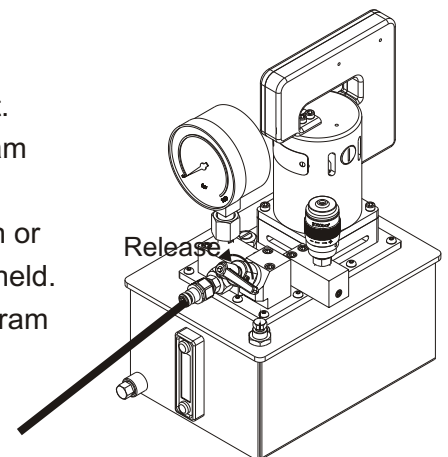


Fig.1

4. Maintain oil level

- ★Check hydraulic oil level every 30 hours of operation. Add SUN RUN approved oil when necessary. Oil level should be more than 2" from top of reservoir plate. Completely change oil at least twice a year. The following conditions require more frequent oil changes:
1. Rigorous duty, where oil temperature may reach 140 F(60°C).
 2. High humidity environment and extreme changes in temperature that can result in condensation inside the reservoir.
 3. Dirty or dusty environments that may contaminate the oil. Clean oil Filter Screen Once a Year.
 4. Loosen and remove reservoir plate bolts. Lift pump unit off the reservoir, being careful not to damage the gasket.
 5. Unscrew screen from the bottom of pump unit and clean with nonflammable solvent.
 6. Blow dry and reassemble. Keep areas around pump unobstructed to provide good airflow around the motor and pump. Keep the motor and pump as clean as possible.

5.TROUBLESHOOTING

Problem	Cause	Solution
Motor will not rotate.	1. Carbon brushes are worn. 2. Incorrect plugging of power plug, or no power source is applied. 3. Damages of power plug and switch, or disconnection of cord and connectors.	1. Check the length of carbon brushes, and change with new ones when the length of them are less than 8mm. 2. Check if the power source is applied or not, and plug the power source cable correctly. 3. Repair or change with new ones.
Working oil doesn't displace. The ram piston doesn't advance.	1. Oil volume isn't enough. 2. Air is mingled into the low pressure trochoid pump, and the pump cannot suck the oil.	1. Refill oil upto the required level. 2. Set this pump sideways, and the drain port upward to operate this pump several times to suck the oil.
Pressure can't be hold.	1. The looseness of the connected threads.	1. Tighten the threads completely.
Slow ram speed.	1. Air is included in the hose or ram.	1. Release the air in the hose or ram.
The ram piston doesn't retract.	1. Bag nut of coupler is loosen, and the oil flow is blocked.	1. Tighten the bag nut by hand. If the pressure is left, use a pipe wrench.