

SPU系列 冷卻循環泵液壓站
SPU Series Cooling Circulation
Power Unit



■ SPU-25L-2-SF30C-4CG-38

形式編碼
MODEL CODE

SPU 25L 2 SF30C 4CG 38

- 電壓 Voltage
22 : 220V
38 : 380V
50/60HZ 通用 Could be change
- 冷卻循環泵流量 Cooling circulation pump flow type
4CG 6CG
- 壓力範圍 Pressure Range
AS : 10
A : 20
B : 35
C : 55
D : 70
- 變量葉片泵流量 Flow at 1800rpm
12 L/min
20 L/min
30 L/min
40 L/min
- 馬達功率 Motor Power
1HP : 0.75KW
2HP : 1.5KW
3HP : 2.2KW
5HP : 3.7KW
- 油箱容量 Tank Capacity
10L、15L、25L、30L

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●若有其他流量與壓力需求請與CML聯絡
Please contact CML if you have further flow and pressure requirements.

技術資料
TECHNICAL DATA

變量葉片泵附冷卻循環泵 Variable Displacement Vane Pump with Cooling Circulation Pump					
型式 Model	泵流量 (無負荷時) Delivery At No Load (L / min)		壓力設定 Setting Pressure (bar)	容許回轉速 Shaft Speed Range (rpm)	
	1800rpm	1500rpm		最高 MAX.	最低 MIN.
4CG	4	3	3	1800	800
6CG	6	4			

壓力與流量請參考變量葉片泵技術資料表P14。
For Pressure and Displacement please check technical data on Page 14.

特性

- 搭配獨家循環計，降低液壓油溫，增加加工精度。
- 油溫可控制在室溫+15°C以內。
- 減少噪音，安裝簡便。
- 最小油量只需10L，減少機台內安裝空間。
- 動力油壓單元小型化，降低液壓油使用量。

應用

- 應用於長時間、高頻率作動的機器。
- 藉由變量泵附冷卻循環泵的特性，使油箱小型化，節省機台內部空間。
- 環境友善度高，減少耗材，延長產品壽命長。
- 有效控制油溫，穩定運作情形，提高加工精度。

FEATURE

- Compact power unit, hydraulic oil-saving 20-30%.
- Unique Cooling-Circulation pump can reduce oil temperature and maintain machining accuracy.
- Oil temperature is able to be controlled +15°C with the ambient environment.
- Noise reduced, Assembe easily
- Min. oil capacity is 10 Liter, save machine space.

APPLICATION

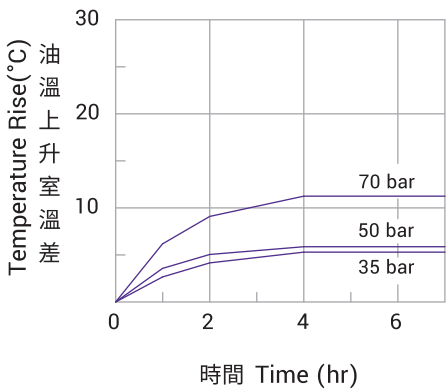
- Used for long working time, frequent active machines.
- With the feature of Variable pump with cooling circulation pump, the oil tank can be miniaturized and the internal space of the machine is saved.
- Eco-friendly, reducing consumption supplies, and extending product life.
- Effectively restrain oil temperature, stabilize operation conditions, and improve machining accuracy.

性能曲線
PERFORMANCE CURVE

VCM-SF-30+4CG*

測試條件 Testing condition
操作用油 Hydraulic oil : ISO VG32
馬達轉速 Speed : 1800 rpm
油箱容積 Capacity (Fuel tank) : 30L
室溫 Ambient Temperature : 30°C

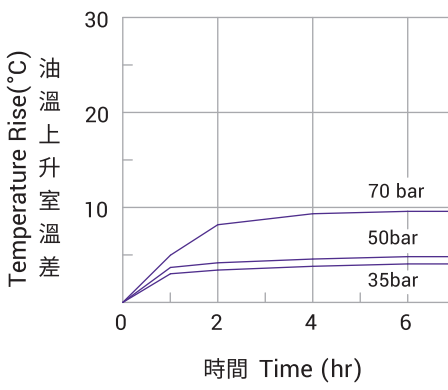
連續運轉
Continuous operating



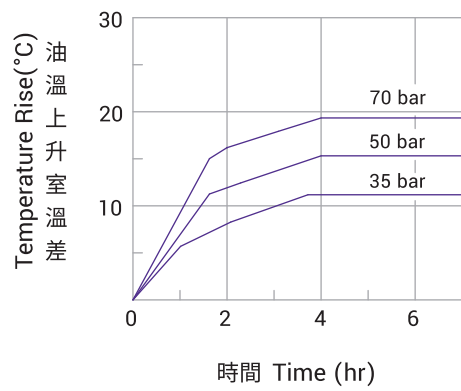
VCM-SF-12-20+4CG*

測試條件 Testing condition
操作用油 Hydraulic oil : ISO VG32
馬達轉速 Speed : 1800 rpm
油箱容積 Capacity (Fuel tank) : 30L
室溫 Ambient Temperature : 30°C

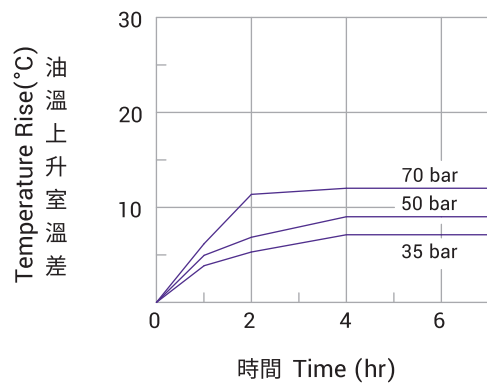
連續運轉
Continuous operating



連續操作 CYLINDER (Φ20XΦ40X250mm)
作動頻率12次往返/每分鐘
Continuous operated cyliner (Φ20XΦ40X250mm)
W/cylinder working cycle: 12 strokes/min



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性能溫升比較
OIL TEMPERATURE COMPARISON

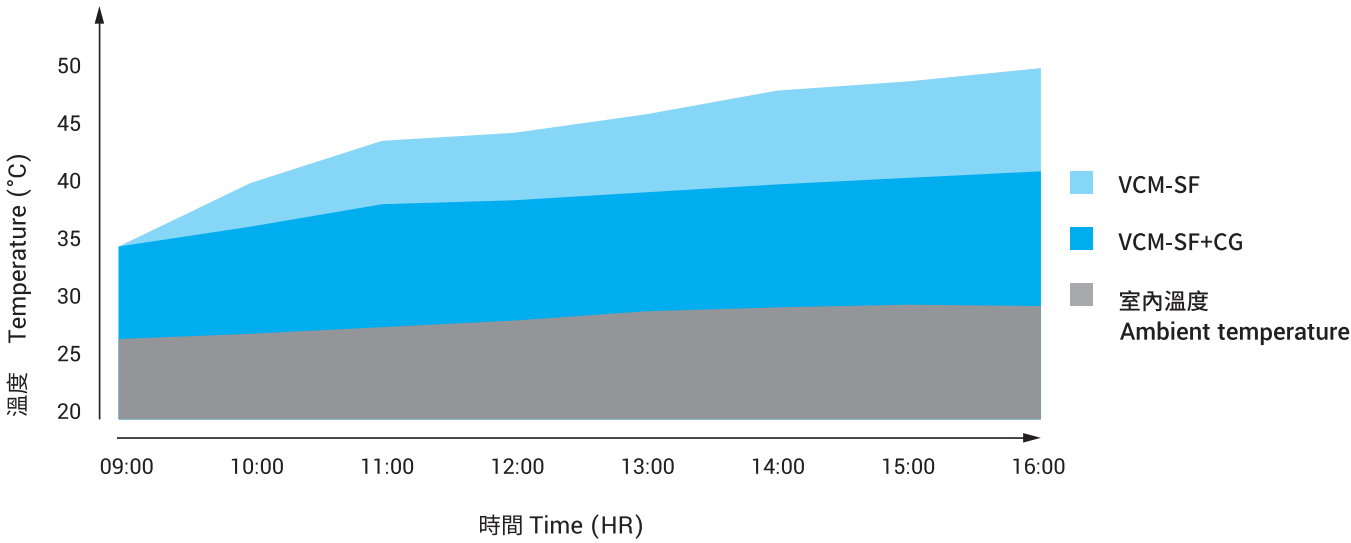


傳統變量葉片葉片泵 VS 附冷卻循環葉片泵

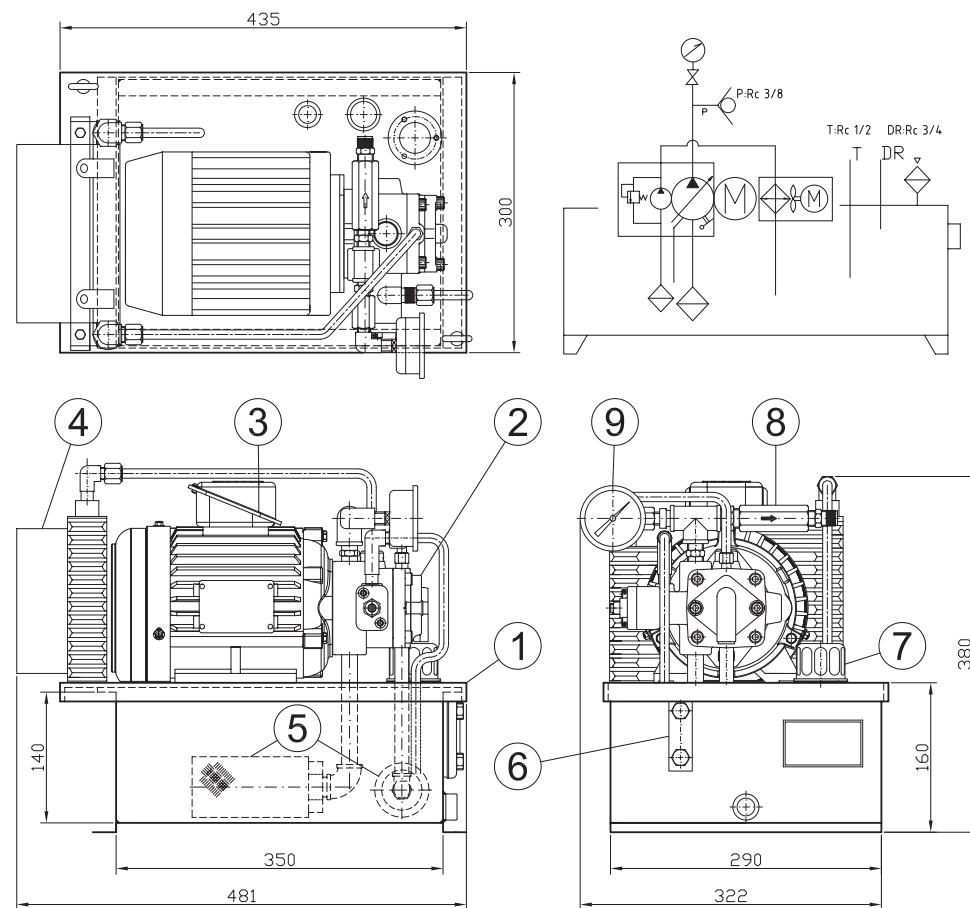
»與傳統變量葉片泵油溫相比，油溫可控制在15°C內(依環境溫度、操作、加工件、使用人冷卻器規格等不同有所差異)。提供機台更穩定的油溫,使加工零件時能更穩定、更順暢、更精準控制。
»測試條件:CNC車床進行實際零件加工,加工時間為八小時。

Standered VCM-SF VS VCM-SF+CG

»Oil temperature of CG circulation pump will be reduced by 15°C (Depends on ambient temperature, operation conditions, machining materials, air-coolers, etc)
»Testing conditions: Real operation on CNC Lathe for 8 hours machining.



外型尺寸 MEASUREMENT



NO.	名稱 Model
1	油箱 Oil tank
2	冷卻循環泵 Cooling circulation pump
3	馬達 Motor
4	風冷式油冷卻器 Air cooled radiator
5	濾油網 Filter
6	油面計 Oil level
7	注油器 Filler Breather
8	配管式止回閥 Check Valve
9	壓力計 Pressure Gauge

注意事項 Notice

一、轉動方向

- 標準油泵的回轉方向乃以從軸心方向時正視為順時針方向。

二、液壓油

- 黏度建議使用 ISO VG 32 或 ISO VG 46。

三、洩油管

- 洩油管請務必連接到油箱液面下，背壓請保持在 0.3 bar 以下。回油管請插入油箱液面下，並盡量遠離吸油口管，或以隔板隔離。

四、工作油溫

- 連續運轉溫度約為 15-60°C。

五、軸心配差

- 油泵與馬達軸心偏心誤差須在 0.05 mm 以下，角度誤差 1°，在泵軸上不能有徑向力。當軸心不一致時，會產生異音、震動、溫升，造成油泵故障原因。

六、濾油器

- 液壓油的汙染及濾油器的堵塞，是油泵故障以及壽命降低的原因，請充分注意液壓油的汙染，控制污染度在 NAS9 級以內。(註:建議吸油濾油器的過濾精度在150目。)

七、初次使用

- 請在無負載狀況下先行反覆啟動馬達，以排除管路及油泵中的空氣，為確保油泵系統當中所含空氣已排除，請讓油泵在無負載狀況下運轉 10 分鐘。

1. Direction of rotation

- The rotation of VCM-SF pump is clockwise when viewed from the shaft end .

2. Hydraulic oil

- Suggested viscosity of oil isISO VG 32orISO VG 46.

3. Drain piping

- The drain pipe is directly connected to the oil tank and the position must be below the oil level. Let the oil return pipe set under the oil level of the tank , keep it away from suction pipe or isolate them with a bulkhead .

4. Working oil temperature

- Continuous operating temperature is about 15-60 °C.

5. Alignment end insolation of pumps

- For proper alignment of pump and electric motor shaft , the eccentricity between them must be kept within 0.05 mm and the eccentric angle difference between them must be kept within 1°.
If centering between the driving shaft and pump shaft is incorrect , the bearing and oil seal may be doomed and noise and vibration may occur , which cause problems to the pump .

6. Filter

- When first time operation , the pump should be at no-load state on delivery side. Repeated inching the electric motor a number of times to make sure the air have been bled out of the system.
Cleaning level of NAS 9 and filtering of 150 mesh is recommended.

7. Coughtions for starting

- Do not operate the pump with full speed right away , Instead , inch the motor on & off several times so as to bleed the air out of the pipes , then operate it continuously , It is suggested to run the pump without load for 10 minutes before normal pressure output .