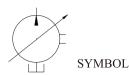
# KCL Variable Displacement Vane Pump Care in Application 變量泵

### Care in Application 變量泵使用時注意事項



#### **Power Unit Circuit**

In variable displacement vane Pump systems, the close circuit is recommended.

## **Sharp Characteristics and Quick Response**

Quick response is displayed in both off-on control of operation, due to use special design "BIAS PISTON". Stable and accurate operation can be attained in an instant.

## Low Noise Level (even in the high pressure range)

The noise level(dB)is very low, even in the high pressure dut to used of "JOURAL BEARING", special setting and shape modification of the suction and delivery ports.

#### **Energy Saving Type**

Power loss has been reduced further by application of our highly advanced precision machining technology to assure the same high efficiency performance as the series with many new mechanisms of our new design.

#### **Sturdy Structure for Durable Life**

High durability is assured by the sturdy construction based on our rich experience and know how as well as strict selection of materials and high precision machining.

Stable and highly efficient performance is possible even under severe operating conditions.

#### **Shaft Rotation**

Clockwise rotation viewed from the shaft end is standard.

#### Fluids Permissible

When working pressure lower than 70 bar , Hydraulic oil with a viscosity from  $30\sim50(cst)$  (VG32) at 40°C is recommended.

- 1.一般輪葉變量泵建議使用閉迴路的設計。
- 2.良好的應答速度與穩定的性能。
- 3.極低的噪音,甚至在  $70 \text{kgf/cm}^2$  時也很低。
- 4.節省能源(馬力)。
- 5.結構堅固耐用,外型精巧。
- 6.泵的迴轉是順時針。

#### **Drain Pipe**

External drain control type. Drain connection must be piped directly to tank and back pressure must not exceed 0.3 bar.

#### Oil Temperature Range

Oil temperature range should be from 15°C~ 60°C during running operation and should be more than 7°C at starting.

## Alignment and Installation of Pumps

In case the pump is connected to an electric motor , limit the defection of the alignment between the shafts to 0.05 mm TIR , and angle  $\pm 1$  degree.

Be sured the electric motor direction is accordingly with the pump's shaft before starting.

#### **Suction Port min. Pressure**

Suction port minimum working pressure is  $\pm 0.03$  bar.

#### **Pressure Adjustment**

The pressure will be increased with the pressure adjusting screw is turned clockwise and will be reduced when the adjusting screw is turned counter-clockwise.

#### **Cautions for Starting**

When the pump is to be operated for the first time, place the pump delivery side in NO-Load condition and repeat starting and stopping of the motor for several times to eject the air from inside of the pump and piping. If keep on 10 minutes operation will be much better.

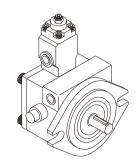
- 7.作動油的黏度建議使用(VG32)。
- 8.泵的内漏回油管,必須單獨直接進入油箱, 並且控制内漏的排油管壓力在0.3bar以内。
- 9.作動油的溫度最好在  $(15^{\circ} \sim 60^{\circ})$  之間
- 10.泵與馬達心軸連接時的偏心量在 0.05 m/m 或  $\pm 1^{\circ}$  以内  $\circ$
- 11.進油口的壓力必須控制在 0.03bar 以内。



### Variable Single Pump Features & Ordering Code 變量泵訂購指引

VPKCF8 VPKCF12 VPKCF15 VPKCF20





#### FEATURES 特點

Model	Operating Pressure ( Kgf/cm <sup>2</sup> )		Rated Speed (rpm)		Net
			MAX	MIN	Weight
VPKCF8	A1: 5-18 A3:30-55	A2:15-35 A4:50-70	1800	800	4.8Kg
VPKCF12	A1: 5-18 A3:30-55	A2:15-35 A4:50-70	1800	800	4.8Kg
VPKCF15	A1: 5-18 A3:30-55	A2:15-35 A4:50-70	1800	800	5.2Kg
VPKCF20	A1: 5-18 A3:30-55	A2:15-35 A4:50-70	1800	800	5.2Kg

#### ORDERING CODE 訂購指引

## $\frac{\text{VPKC-F*A*-01-A}}{\boxed{1}} \boxed{\boxed{2}} \boxed{\boxed{3}} \boxed{\boxed{4}} \boxed{\boxed{5}}$

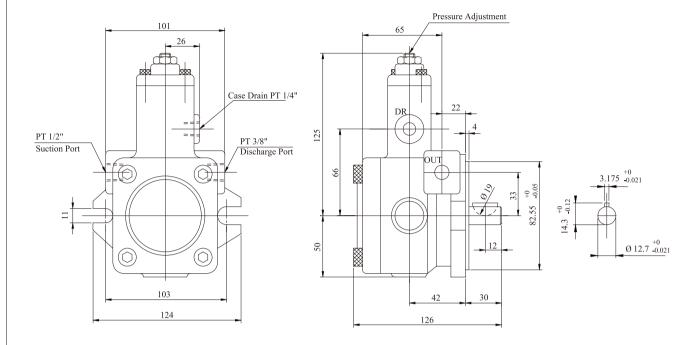
- 1 Series Number
- ②— Flange Type
- ③—— Output Flow at 1800rpm 8,12,15,20 ( \( \ell \) /min )
- Pressure Adjusting Range
  1:5-18 2:15-35
  3:30-55 4:50-70 (Kgf/cm²)
- ⑤ Shaft Type 01:No.01 Shaft 02:No.02 Shaft
- Type of Suction Port & Discharge Port A or No Marking: PT

B: NPT C: SAE D: BSP

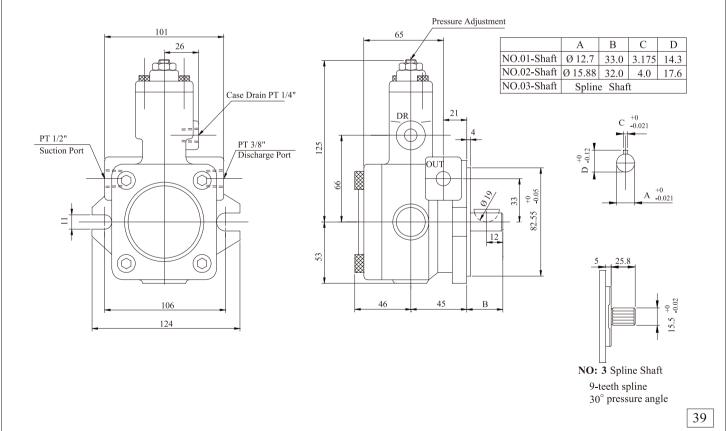


## Variable Single Pump Dimensional Drawing 變量泵外型尺寸圖

### VPKCF12



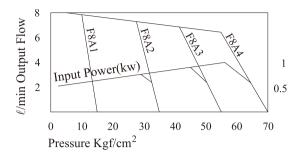
### VPKCF20



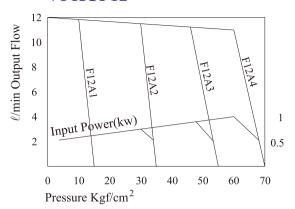
## **KCL**

### Variable Displacement Vane Pump Typical Performance Characteristics 變量泵流量與壓力特性表

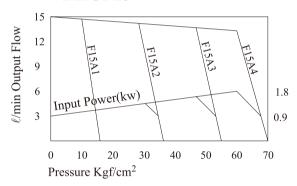
#### **VPKCF8**



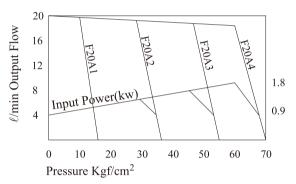
#### VPKCF12



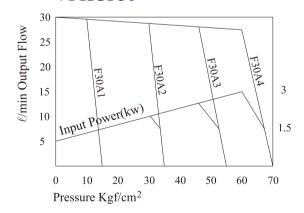
#### VPKCF15



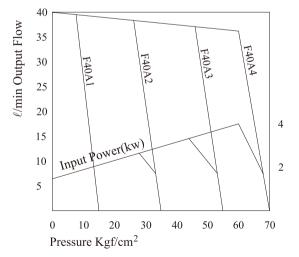
#### **VPKCF20**



#### VPKCF30

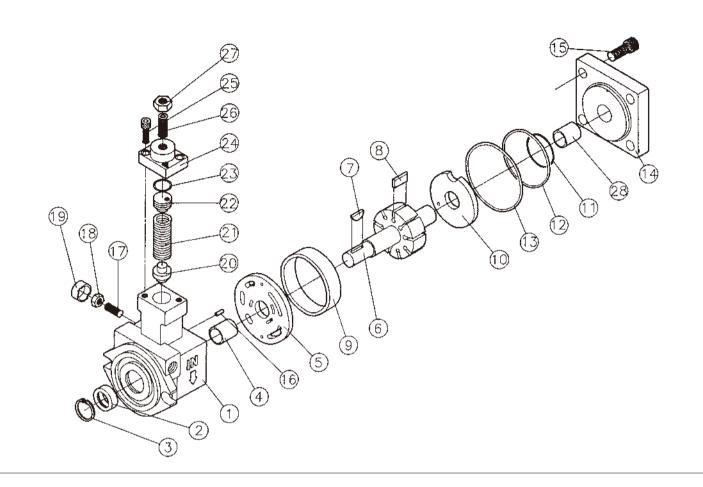


#### VPKCF40



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# VPKC Series Single Pump Decomposition Chart VPKC (F8、F12、F15、F20)系列單泵分解圖



#### **VPKC Single Pump Parts List**

VPKC (F8、F12、F15、F20)系列單泵零件表

- NO.1 Housing (體)
- NO.2 Seal (油封)
- NO.3 Retainer Ring (扣環)
- NO.4 Engine Bush (乾式軸承)
- NO.5 Port Plate A (壓力板 A)
- NO.6 Rotor (轉子)
- NO.7 Woodruff Key (半圓鍵)
- NO.8 Vanes (葉片)
- NO.9 Cam Ring (軸環)
- NO.10 Port Plate B (壓力板 B)
- NO.11 O Ring (0型環)
- NO.12 O Ring (0型環)
- NO.13 O-Ring (0型環)
- NO.14 Cover (蓋)
- NO.15 Cap-Screw (上蓋螺絲)
- NO.16 Lock Pin (定位銷)

- NO.17 O Ring + Slide Screw (0型環+調中心螺絲)
- NO.18 Nut (螺帽)
- NO.19 Protect Cover (保護蓋)
- NO.20 Piston (雙頭活塞)
- NO.21 Spring (彈簧)
- NO.22 Spring Retainer (彈簧承座)
- NO.23 O-Ring (0型環)
- NO.24 Cover (側蓋)
- NO.25 Socket Head Cap-Screw (側蓋螺絲)
- NO.26 Socket Set Screw (調壓螺絲)
- NO.27 Nut (螺帽)