



CUSTOMER	16374P	ITEM	VACUUM PUMP	DATE	Jun.13,2016	REV. NO	A
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1. 適用範圍 Application :

本規格書適用於幫浦 KPV14A-3A 之用。

This specification is applied to regulation related to the Vacuum Pump - KPV14A-3A.

2. 測試環境 Test environment :

2-1 測試環境溫度濕度:周圍溫度 20°C 相對濕度 65%RH 為標準.如無爭議發生可以在下述環境測試:周圍溫度 5-30°C 相對濕度 40-85%RH

The standard temperature and humidity of test environment is the ambient temperature of 20°C and relative humidity of 65%RH. If no disputes occur, then the test can be conducted under the below circumstance: the ambient temperature of 5-30°C and relative humidity of 40-85%RH.

2-2 測試姿勢 Position :

水平 Horizontal

2-3 負荷 Load :

空氣壓 Air pressure

3. 定格條件 Rated condition :

3-1 定格電壓 Rated voltage :

DC 3.0 V

3-2 使用電壓範圍 Range of operating voltage :

DC 2.5 V ~ 3.2 V

3-3 定格電流 Rated current :

使用 DC 3 V 定格電壓供應邦浦充氣壓力從 0 到 150 mmHg (20kpa) 的最高電流小於 450 mA.

The highest current is less than 450 mA while pressurizing from 0 to 150 mmHg (20kpa) with DC 3V.

3-4 壓力 / 流量 PRESSURE /Air flow :

在定格電壓下空載時流量 0.9 LPM,負荷壓力在 75 mmHg(10 kpa)時流量 0.3LPM (圖 1-1)

At DC 3.0 V, the air flow is 0.9 LPM with no load and the air flow is 0.3LPM with pressure at 75 mmHg(10kpa). (FIG 1-1)



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3-5 真空 / 流量 VACUUM / Air flow :

在定格電壓下空載時流量 0.9LPM,負荷壓力在 -75 mmHg(-10 kpa)時流量 0.3LPM (圖 1-2)

At DC3.0 V, the air flow is 0.9LPM with no load and the air flow is 0.3LPM with pressure at -75 mmHg(-10kpa). (FIG 1-2)

3-6 最大充氣壓力 Maximum pressure :

依 DC 3.0 V 之電源在 100CC 容器中充氣壓力從 0 到停止升壓之最高壓力值大於 300 mmHg.

The maximum pressure value shall be more than 300 mmHg while pressurizing with DC 3.0 V in a 100CC tank from 0 till dead-head pressure value.

3-7 最大真空度 Maximum vacuum :

依 DC 3 V 之電源在 100CC 容器中最高真空度壓力值小於-135mmHg.

The maximum vacuum pressure value shall be less than -135mmHg while pressurizing with DC 3.0 V.

3-8 噪音 Noise :

將幫浦之下墊 5 cm 之海綿, 距噪音計 30 cm 之處, 依 DC 3 V 之電源充氣壓力從 0 到 150 mmHg 所測得之 dB 值小於 72 dB (圖 2)

Putting a 5 cm sponge under the pump, and placing it about 30 cm away from the noise meter. The evaluated noise level shall be less than 72 dB while pressurizing from 0 to 150 mmHg with DC 3.0 V. (FIG 2)

3-9 使用溫度範圍 Operation temperature range :

在溫度 5°C 到 45°C 及濕度 30%RH 到 80%RH 之間幫浦運作良好

The temperature have to be between 5°C and 45°C and humidity must is between 30% and 80% RH to function the pump well.

3-10 保存溫度範圍 Preservation temperature range :

在溫度-20°C 到 60°C 及濕度 30%RH 到 80%RH 之間幫浦保持在良好的狀態.

The temperature has to be between negative 20°C and positive 60°C and humidity has to be between 30% and 80% RH to keep the pump in a good condition.

4. 保證性能 Guaranteed performance :

在經過 4-1 到 4-5 的測試後,噪音需低於 80 dB.

After running through from test 4-1 to test 4-5, the noise level shall be less



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than 80 dB.

4-1 低溫特性 Low-temperature characteristic :

放置在 -20°C 經 72 小時後, 再取出置於常溫(20°C±5°C)中 2 小時依下列專案測試無異狀 #3-3, -4,-7, -8

Putting the pump in the temperature at -20°C for 72 hours; then taking it out and putting it in a room temperature at 20°C±5°C for two hours. Under this circumstance, running through test 3-3, 3-4, 3-7, 3-8 and finding out that the pump still performs well.

4-2 高溫特性 High-temperature characteristic :

在 60°C 經 72 小時放置後, 在於常溫(20°C±5°C)中 2 小時依下列專案測試無異狀 #3-3, -4,-7, -8

Putting the pump in the temperature at +60°C for 72 hours; then taking it out and putting it in a room temperature at 20°C±5°C for two hours. Under this circumstance, running through test 3-3, 3-4, 3-7, 3-8 and finding out that the pump still performs well.

4-3 高溫高濕 High-temperature & High humidity :

於溫度 60°C, 濕度 90% 環境中經 72 小時取出置於常溫(20°C±5°C)中 2 小時依下列專案測試無異狀 #3-3, -4,-7, -8

Putting the pump in the temperature at 60°C and the humidity at 90% for 72 hours; then taking it out and putting it in a room temperature at 20°C±5°C for two hours. Under this circumstance, running through test 3-3, 3-4, 3-7, 3-8 and finding out that the pump still performs well.

4-4 溫濕度循環測試 Temperature & humidity cycle test :

在經過 12 次的溫濕度循環測試後, -20°C * 2Hr → +25°C * 1Hr → +60°C 85%RH* 2Hr → 25°C * 1Hr, 需維持相同的性能依下列專案測試無異狀: #3-3, -4, -7, -8

After doing the temperature and humidity cycle test, -20°C * 2Hr → +25°C * 1Hr → +60°C 85%RH* 2Hr → 25°C * 1Hr, for twelve times, the pump shall still perform the same functions proved by running through test 3-3, 3-4, 3-7 and 3-8.

4-5 壽命試驗 Life test :

在 100CC 容器中吸氣 5 秒停 2 秒排氣 5 秒為一循環, 測試 30,000 次以後經下列專案測試無異狀.#3-3, -4,-7, -8 (圖三)

In a 100CC tank, pressurizing for 5 seconds, stopping for 2 seconds, and



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deflating for 5 seconds is as one cycle. Doing it for 30,000 times, then examine the pump by test 3-3, 3-4, 3-7, and 3-8 and figure out that the pump is still in a good function. (FIG 3)

5. 熱環境表現性能 Thermal test performance :

在經過以下項目之特殊環境測試後,本產品須可滿足項目 3-4 至 3-8 之基本性能,但消費電流可被允許低於 550 mA 及噪音可被忽略不在上述保證。

After the pump has been tested through test 5-1 and 5-2, it must be suitable the basic performance required by item 3-4 to 3-8. However the current is allowed lower than 550 mA and the noise performance could be exclusive from this guaranteed.

5-1 低溫環境測試 Low-temperature environment test :

在 5°C 經五小時後,在此溫度下依下列專案測試無異狀#3-4, -5, -6, -7, -8

Under a temperature of 5°C for 5 hours, then examining the pump by test 3-4, 3-5, 3-6, 3-7, and 3-8 and finding out it still perform well.

5-2 高溫環境測試 High-temperature environment test :

在 45°C 經五小時後,在此溫度下依下列專案測試無異狀#3-4, -5, -6, -7, -8

Under a temperature of 45°C for 5 hours, then examining the pump by test 3-4, 3-5, 3-6, 3-7, and 3-8 and finding out it still perform well.

6. 其他 Others :

6-1 端子強度 The lead tension :

以 0.5 公斤法碼與端子平行靜負載測試一分鐘無異常

Hanging a 0.5kg static load on the terminal of the pump will not cause a damage on the pump for one minute.

6-2 落下實驗 Fall test :

使用標準的包裝方式,在水泥地上將其從 50cm 的高度分別從正面,側面,邊角落下, 依下列專案測試#3-4, -5, -6, -7, -8 其性能及結構需無異常。

Basic performance and the structure shall not be defected after following test proved by test 3-4, 3-5, 3-6, 3-7, 3-8: With a standard packaging conditions, then dropping it at the front, side, and edges part from 50 cm height to the concrete floor.

6-3 異常試驗 Unusual test :

以 DC 3.0 V 連續 8 小時通電無燃燒,發煙現象

There is no burning and smoking occurrence while the power is on with DC 3.0 V for 8 hours continuously.



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6-4 外觀 Appearance :

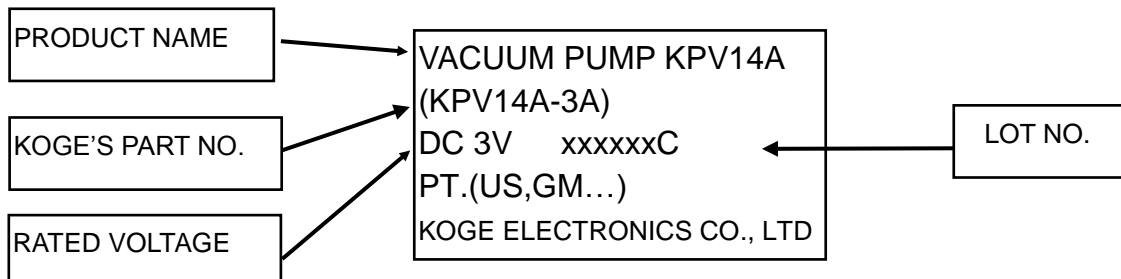
商品無不適當的外觀和刮傷, 髒污等.

The appearances of the pump shall not contain cracks and impurities.

6-5 量產番號表示 Lot number display :

2003 年 2 月 20 日 中國生產 YEAR MONTH DAY Place of production
3 02 20 C 03 02 20 China

6-6 標籤 Labeling :



6-7 馬達端子焊錫作業需在焊錫溫度 375±5°C 下, 3 秒內操作完成

Motor terminal for Soldering process the heat temp. is controlled by 375±5°C, and operating time is for 3 sec only.

7. 如對於此份規格書有任何須修改,增加,或刪除的意見,需經過客戶及科際公司雙方面的協商

In case, any modifications, additions, or eliminations on this specifications are necessary, decisions shall be made through the negotiations between our customers and Koge Micro Tech Co.,Ltd.

8. 允收標準 Acceptable standard :

依據 MIL-STD-105D 特殊檢驗 (圖四).

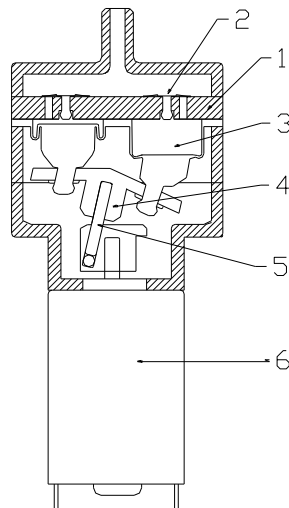
Acceptable standard is according to the MIL-STD-105D (FIG 4).

	特殊檢驗水準 Special inspection level	
LOT.SIZE	S-4	
151-280	E	(13)
281-500	E	(13)
501-1200	F	(20)
1201-3200	G	(32)
3201-10000	G	(32)



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9. 結構圖和材料表 Structural Drawing and material list :



材料表 Material List :

號碼 NO	項目 ITEM	材質 MATERIAL
01	Plastic	Plastic
02	Umbrella	Rubber
03	Diaphragm	Rubber
04	Plastic	Plastic
05	Pin	Steel
06	RoHS Motor	DC 3.0 V



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附圖：

(圖一) 流量測試 Flow test

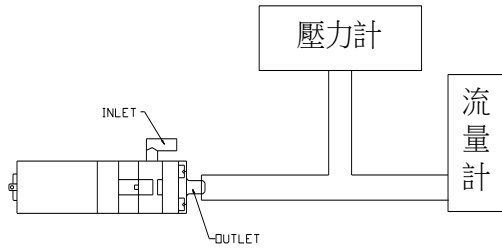


FIG 1-1

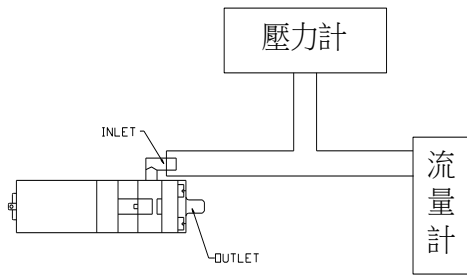


FIG 1-2

(圖二) 噪音測試 Noise Test

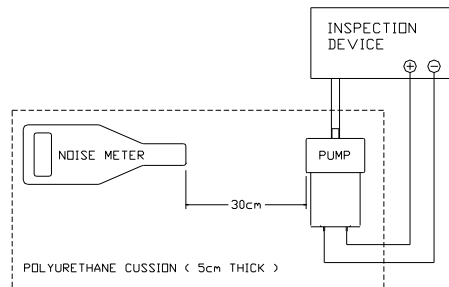


FIG 2

(圖三) 壽命試驗 Life Test

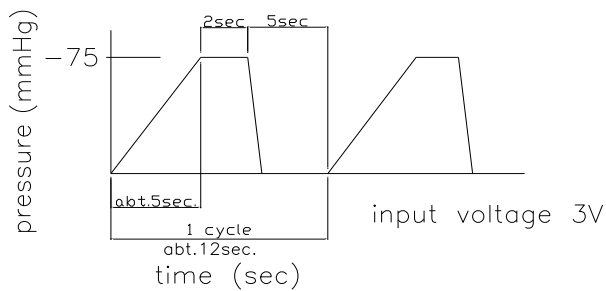
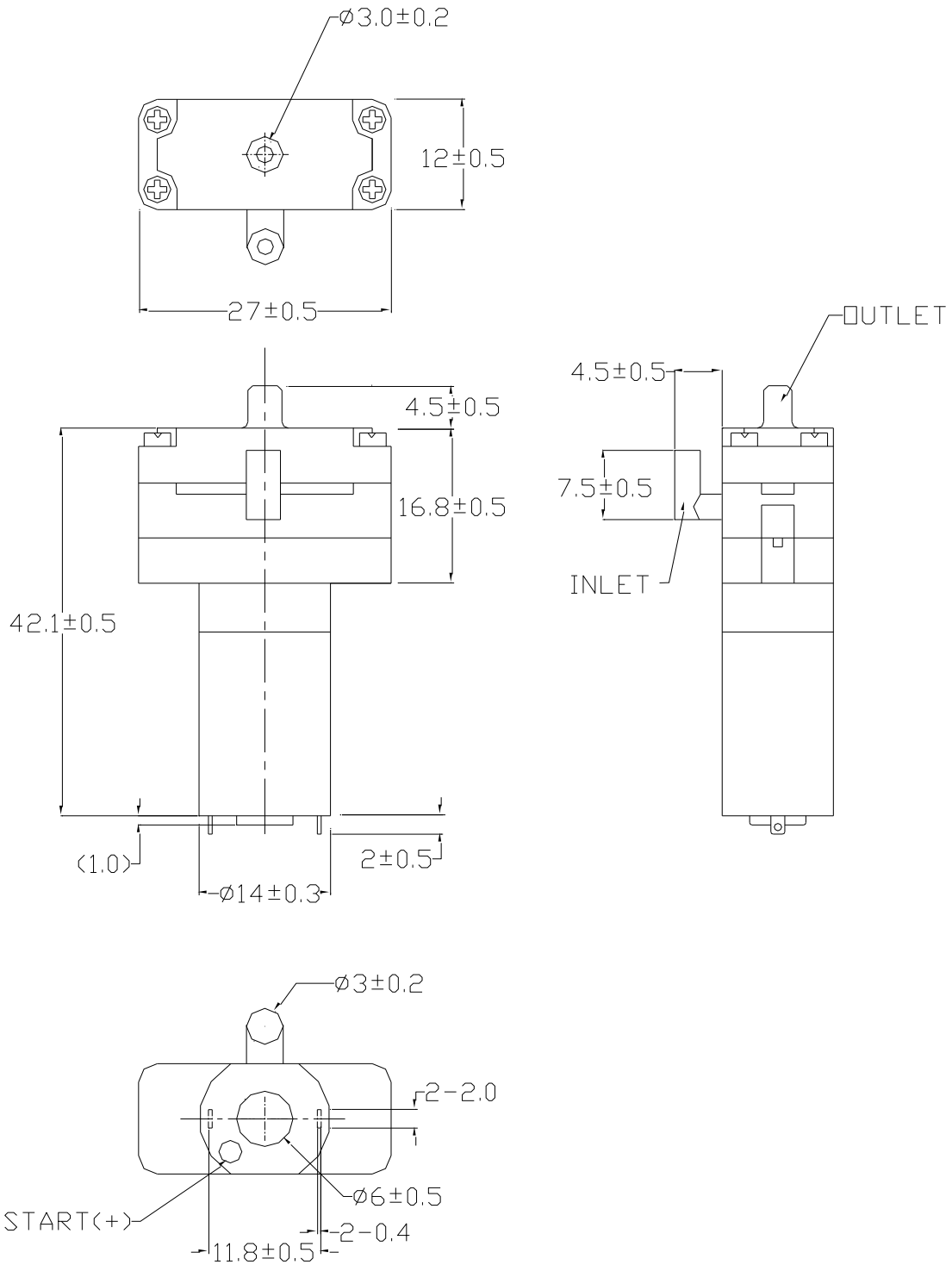


FIG 3



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10.成品圖 Finished product Drawing : (Undefined Tolerance±0.5mm)

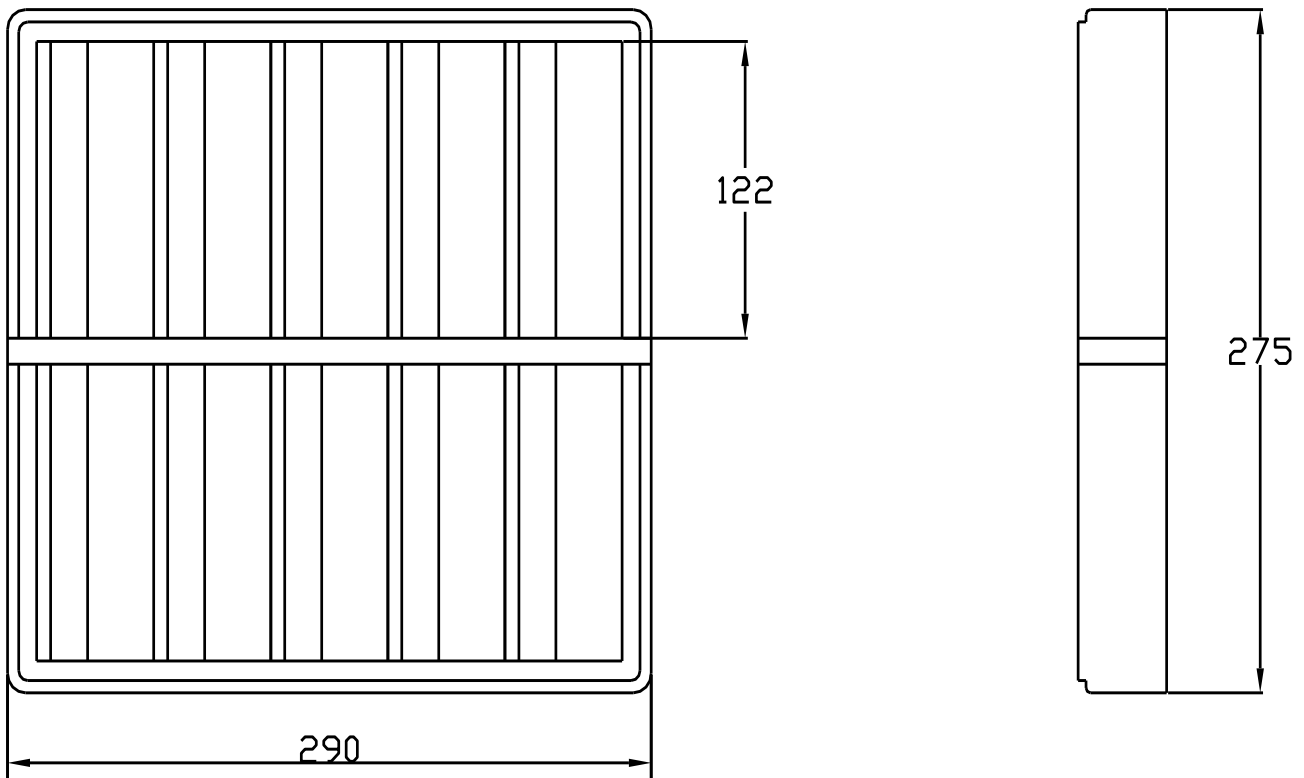


馬達標籤的正上方貼（科際）標籤



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11.產品包裝圖 Package Figure :



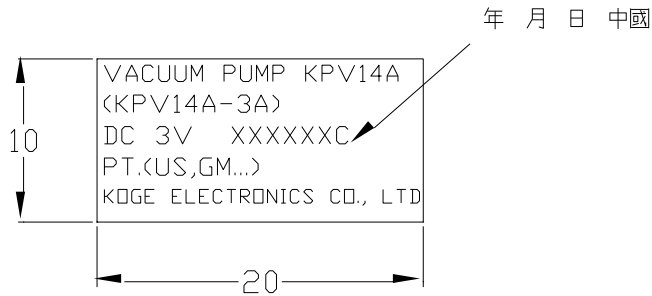
包裝數量:

70*10=700pcs/carton

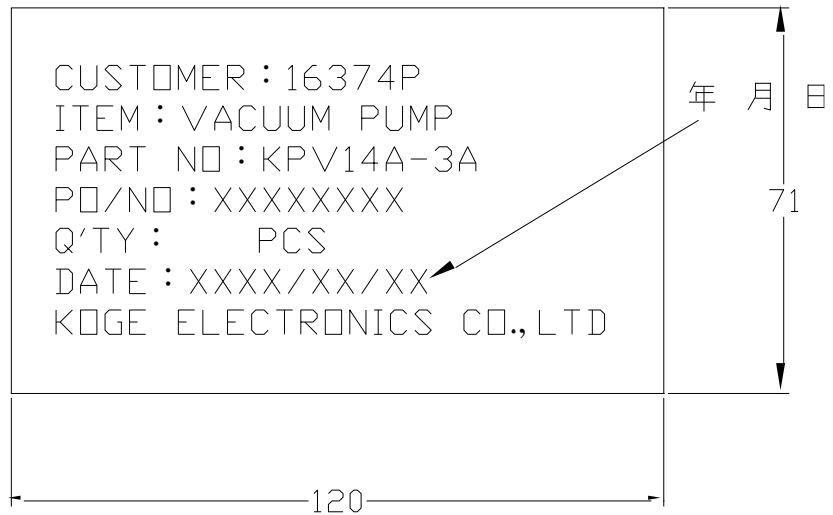


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標籤：



側麥：



正麥：

