

- APV601N 氣壓式提動閥 - 使用說明書

■特徵

- APV6 系列具回吸機能，可防止吐出滴漏。
- 回吸調整機能，可作微量調整。
- 接液部材質可依客戶需求對應各種膠材吐出應用。

標準仕様規格

型式	APV601N
閥的構造	提動閥
最小吐出量	0.005 c.c
最大流量	3300 c.c.m
適用黏度	~100Pa.s(~100,000cps)
接液部材質	不鏽鋼(SUS316)
膜片材質	聚四氟乙烯(PTFE)
材料入口尺寸	Ø8.5mm, 牙孔 Rc1/8(PT1/8)
最大作動速度	200 cycles/min.
作動氣壓入力	0.30~0.69MPa(3.0~7.0kgf/cm ²)
重量	325g

- 最小吐出量會依針徑大小改變。
- 流量(c.c/min)：用水加壓 0.1MPa持續吐出1分鐘所得之測試值。

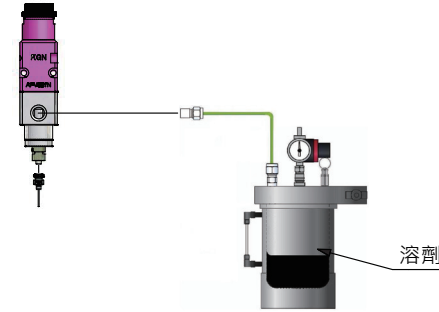
-1-

不適用的吐出材料產生情形

吐出材料	橡膠系接著劑等牽絲性強的材料	黏度 30 萬 MPa·S 以上的高黏度材料	粒度 50 μm 以上的填入材料
使用	會呈現上記現象，導致對吐出應用造成妨礙。	單次的吐出會較費時間，使用的節奏上會產生問題。	閥座的耐久性會降低（即閥座使用壽命減短）。

洗淨方法

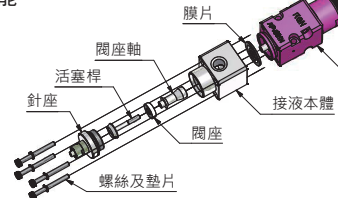
【使用膠閥後請務必在材料硬化前予以清洗】
將吐出材料全部吐出後，將清洗溶劑倒入材料容器內，用微壓讓溶劑通過閥體。



-2-

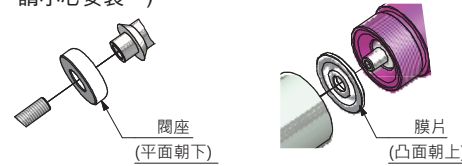
拆解要點

- ★ 請先將回吸調整螺絲順時針旋到底！
- ★ 膜片、閥座、接液本體務必注意絕對勿使其有傷痕。以避免造成吐出材料混入空氣及材料滴漏問題發生。
- ★ 清洗接液部不需拆解驅動部，以免造成組立不良影響回吸功能。



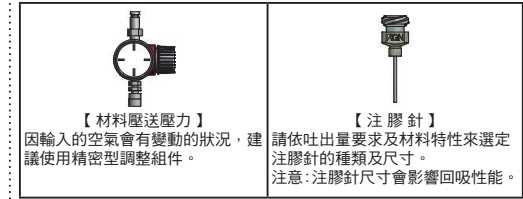
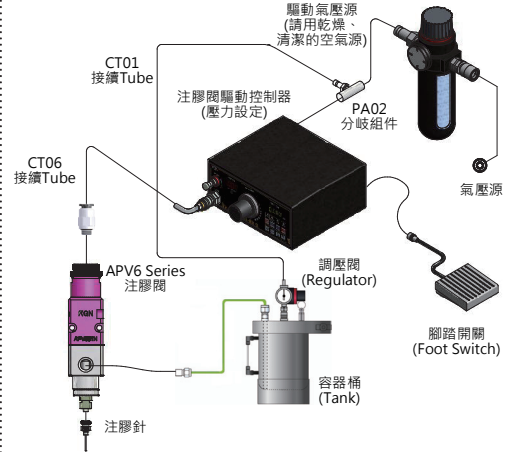
組立方法

將膜片隔板安裝在驅動部本體時，請先注意膜片隔板的
方向，確認後再裝上。閥座安裝時，將活塞桿旋緊
(10~12kgf/cm²)，以免造成閥座無法密封。
★ (特別注意勿將閥針旋轉過緊，以免造成膜片破損，
請小心安裝。)



-3-

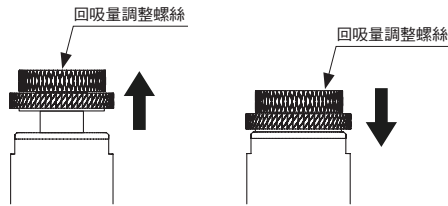
系統裝配及設定



-4-

回吸量調整說明

1. 回吸量變大：
逆時針 ↺ 旋轉。
2. 回吸量變小：
順時針 ↻ 旋轉。

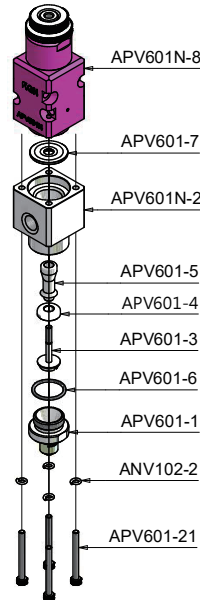


3. 調整方法：
出廠設定值為最大回吸量位置，依膠材不同可能造成漏膠現象，如有漏膠發生應先將調整螺絲向順時針 ↻ 調至正常封止位置，再調整回吸量需求。

- ★ 注意：
- 回吸量過大，可能會造成出膠量不穩定。
- 回吸調整螺絲順時針旋到底時，會造成無法吐出現象，請勿向下鎖緊。
- 作動時會上下移動，注意夾手。

-5-

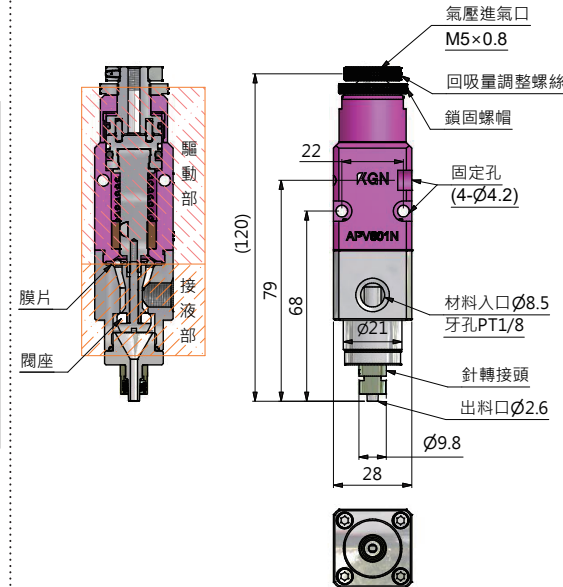
分解圖及零件表



零件表			
零件編號	品名規格	材質	數量
APV601-1	針座	SUS316	1
APV601N-2	接液本體	SUS316	1
APV601-3	活塞桿	SUS316	1
APV601-4	閥座	PTFE	1
APV601-5	閥座軸	SUS316	1
APV601-6	O 型環	NBR	1
APV601-7	膜片	PTFE	1
APV601N-8	作動本體	A6061-T6	1
APV601-21	螺絲	SUS304	4
ANV102-2	彈簧墊片	SUS304	4

-6-

構造圖、外型尺寸圖



-7-

安全使用要點

- 若空氣隨材料混入注膠閥中，會產生氣泡而影響吐出效果。因此在使用前，請務必確實將氣泡消除。
- 注膠閥作動時會產生振動，務必確實固定之，實施固定加工時，請勿損傷閥體內部。為避免影響吐出效果，使用前，必須確實將氣泡消除。
- 除非有特別使用需要，勿將空氣壓排氣口堵塞住。
- 在清洗保養之際，處理使用過的溶劑時，務必加以注意切勿對環境造成污染或危害。
- 產品使用前，請確實瞭解本「使用說明書」內的相關說明。尤其務必將「清洗保養」的方法確實告知現場使用者。

保養與維護

- 驅動部中使用的 O 型環會因閥的作動而損耗，須加以更換。在分解、組立時若有產生傷痕亦務必更換新品。驅動部的 O 型環更換基準方面，在正常的使用狀況下，約可至 200 萬回。(僅供作參考值)
- 驅動閥作動的空氣，請務必透過 5 μm 以下過濾度的過濾器；以乾淨且乾燥的空氣加以應用。
- 膜片隔板的更換基準方面，通常約可至 200 萬回的程度。(僅供作參考值)
- 閥座會因使用材料及使用頻率而有耐久性的不同，就更換基準來看，有填料的材料使用方面約可達 10~30 萬回，無填料的材料使用方面則約可達 50~100 萬回。(僅供作參考值)
- 接液部油封的耐久性則依使用的材料材質、使用方法、使用頻度的狀況不同而有所差異。
- 使用會自然硬化的材料或會結晶化液體時，在使用後尚未硬化前，請一定要拆解清洗。

-8-

APV601N Instruction Manual

— APV601N (Air Operated) Poppet Valve —

■ Features

- Reverse-sucking mechanism to prevent leakage or dripping during discharge.
- Flow rate adjusting mechanism is provided with in-tuning function.
- The material of liquid receiving section will be selected according to the gel used upon the requirement of the customer.

■ Standard specifications

Valve mode	APV601N
Valve Structure	Poppet Valve
Minimum Shot	0.005 c.c
Fluid Flow(Max.)	3300 c.c.m
Viscosity	~100Pa.s(~100,000cps)
Wetted parts material	SUS316
Diaphragm material	PTFE
Material port dimension	Ø8.5mm, Thread Rc 1/8(PT1/8)
Operating cycle(Max.)	200 cycles/min.
Dispensing pressure	0.30~0.69MPa(3.0~7.0kgf/cm ²)
Weight	325g

- The minimum shot volume depends on the dimension of valve needle.
- Volume(c.c/min) : 0.1MPa/min water testing result.

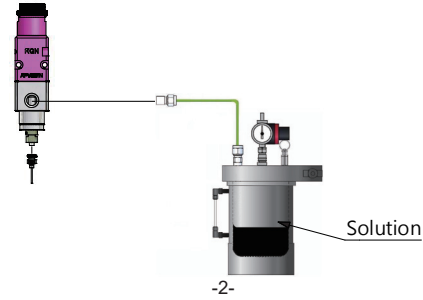
Disapplicable materials

Materials	Avoid using rubber-based adhesives, which have a stronger viscous effect.	Very high viscosity materials more than 300,000 cp	Filler containing materials which particle size is more than 50 μ m
Using	If the above-said situation arises, output performance may be impeded.	Shot time may take longer.	The durability of the Valve Seat will be degraded (i.e. shorten the service life of the Valve Seat).

Cleaning and Assembly Method

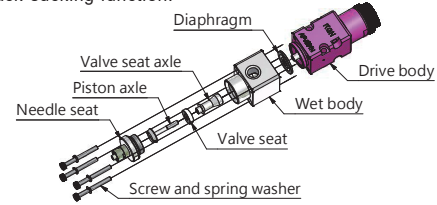
[Be sure to dismantle the valve and clean it after use and before the material hardens]

After discharging all of the output materials, pour the cleaning solvent into the container and then press the solvent through the valve body with low pressure.



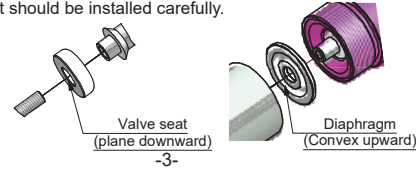
Precautions for Disassembly

- ★ Please turning the back-sucking adjusting screw to the end.
- ★ When dismantling the Gel Feed Valve, special care should be used to prevent the film, valve seat and gel-receiving unit from any bruising in order to prevent the air from mixing and leaking during gel feeding.
- ★ Do not dismantle the Drive Body when cleaning the Gel Receiving Unit to avoid defective assembly that may affect the back-sucking function.

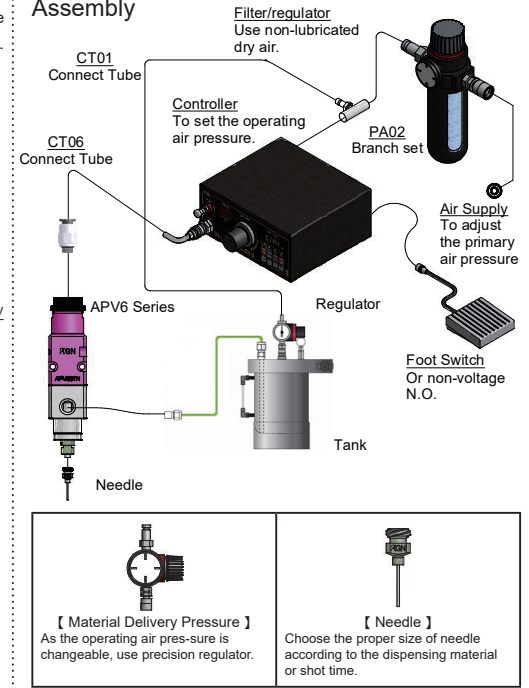


Precautions for Assembly:

When assembling the Film Spacer on the Drive Body, watch the orientation of the Film Spacer and then mount after confirming it is correct. When installing the Valve Seat, screw tight the Piston Rod (10~12 kgf/cm) in order to seal the Valve Seat tightly. It should be installed carefully.

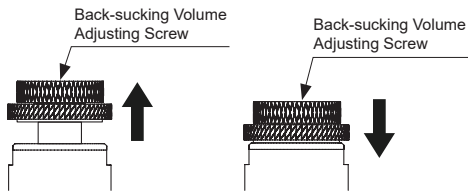


Assembly



Back-sucking Volume Adjusting

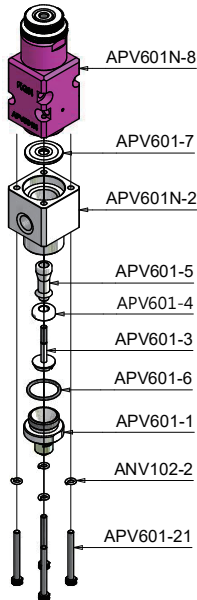
1. Larger Back-sucking Volume: Turn counter-clockwise.
2. Smaller Back-sucking Volume: Turn clockwise.



3. Adjusting Method:
Before ex-factory, the unit has been set at the maximum back-sucking position and gel leaking may happen depending on the gel material used. If gel leaking exists, turn the adjusting screw in a clockwise direction to the normal sealing position and then adjust to the desired back-sucking volume.

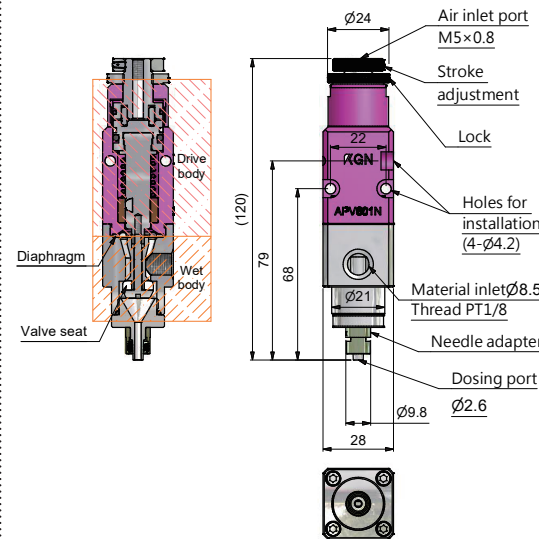
- ★ **Caution:**
- A larger back-sucking volume may lead to instable gel feeding.
 - If turning the back-sucking adjusting screw to the end, the unit may not be able to feed the gel; in this case, do not turn to the end.
 - The unit tends to move up and down during operation. Care should be used to prevent the hands from being caught.

Exploded View & Parts List



Parts List			
Parts NO.	Descriptio	Material	Qty
APV601-1	Needle seat	SUS316	1
APV601N-2	Wet body	SUS316	1
APV601-3	Piston axle	SUS316	1
APV601-4	Valve seat	PTFE	1
APV601-5	Valve seat axle	SUS316	1
APV601-6	O-ring	NBR	1
APV601-7	Diaphragm	PTFE	1
APV601N-8	Drive body	A6061-T6	1
APV601-21	Screw	SUS304	4
ANV102-2	Spring washer	SUS304	4

Sectional Drawing and Dimensions



Safety Caution

- If air gets into the Valve along with the material, air bubbles will be produced and will affect the output. Due to this, be sure to thoroughly remove air bubbles before use.
- As the Valve tends to vibrate when activated, it must be properly secured. When securing, do not damage the internal side of the Valve Body. To avoid affecting output, air bubbles must be completely removed before use.
- Unless required for specific applications, do not block the compressive air exhaust outlet.
- During cleaning maintenance, the solvent must be properly treated to avoid causing pollution or hazard to the environment.
- Before using this product, be sure to read relevant descriptions of this "Instruction Manual" thoroughly. Further, it is also necessary to communicate the "cleaning and maintenance" methods to site users.

Maintenance

- As the O-Ring used in the Drive Unit tends to wear along with the valve actions, it must be replaced according to actual conditions. If damage is found during assembly, be sure to replace it with a new one.
- The operating air of the Drive Valve must be screened through the Filter in sieving pore below 5 μ m.
- Normally, the diaphragm should be replaced after being used for 2,000,000 rounds. (for reference only)
- The valve life depends on the material used and operating conditions.
- The valve life is about 500,000~1,000,000 cycles for no filler containing materials and about 100,000~300,000 cycles for filler containing materials.
- After using material that hardens naturally or crystallized liquid, be sure to dismantle the valve and clean it after use and before the material hardens.