



Butterfly Damper
蝶式風門

TAIWAN ATYCO FLUID CONTROL EQUIPMENT INTERNATIONAL
COMPANY LIMITED

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RTC TAIWAN ATYCO FLUID CONTROL

Series 100 Butterfly Damper

RTC butterfly dampers are designed to provide tight shutoff with minimum leakage. Each is equipped with shaft seals to prevent leakage through the damper frame and PTFE disc seals.

It is a relatively air tight valve with a tightness between 97% and 99% which can reach up to 100% if an air sealing system is included. The damper is tested for airflow leakage in accordance with AMCA 500-D.

RTC damper is a reliable and cost-effective air control solution. It offers effective isolation and/or control in hot, noxious, corrosive and dirty gas flow conditions. The dampers can be actuated manually pneumatically or electrically

Design Feature

The unique oval shape disc to reach a better effective seal ability The elliptical seal stretches until reaching a linear contact with the body to achieve a perfectly sealing area. This metal-to-metal design needs to be applied enough forced to obtain an optimum sealing performance.

蝶式風門 100 系列

RTC 蝶式風門的設計能夠提供最低洩漏量的密閉效果。每個風門不但配有 PTFE 閥板密封並且搭配軸密封可防止風門結構上洩漏。

這是一種氣融高的產品，氣在 97%~99%之間，在完整的密封組合下,甚至可以達到 100%。風門是根據 ANSI 伯 MCA 500-D 規範,進行氣流洩漏測試。

RTC 風門是一種可靠又符韻濟成本的氣體控制解瀨 案,適用於高溫、有害、腐蝕性和含塵氣體的流體條件下, 仍能提供有效的隔離及控制。風門操作方式有手動, 氣動 或電動驅動。

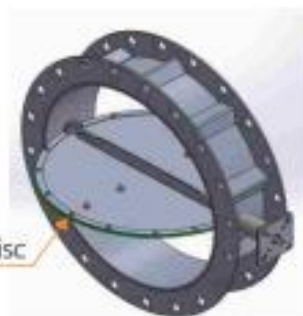
設計特性

獨特的橢圓結構閥板能達到所的有效密封能力。橢圓 密封會延伸至與本斷成線性接觸而達到完美密封面。這種金屬對金屬的硬密封設計需要施加足夠的壓力以得 到最佳的密封性能。

Full Close (Clockwise)



Full Open (Counterclockwise)



Oval shape disc

Section A



Section A-A



Metal-to metal elliptical seal contact

產品優勢

低成本

輕量化設計是管道支撐系統的理想解決方案,並且安裝。

低扭力

75%開關行程以最大限度地閥板與本體內部之間的擦範圍,可減少風門關閉/開啟瞬間扭矩。扭力越小需要的驅動器越小。

最低洩漏

閥板邊緣加裝密封件以提高風門密封效果,軟密封硬密封均能確保密封性達到至少97%~99%。

簡易維修

可替換PTFE密封座可以減少或避免停機和維修時

耐高溫

金屬密封適用於磨蝕性或高溫環境,耐熱軸承使用命長。

Product Advantages

Low Cost

Lightweight design is ideal solution for pipe support system and is easy to install.

Low Torque

75% ON-OFF to minimize wear parts between disc and inner body to reduce seating/unseating torque. Smaller torque means a smaller actuator.

Minimum Leakage

Disc edges are fitted with polymer seals to improve the sealing efficiency of the damper. PTFE or Metal to Metal seal ensures a sealing performance from min. 97% to 99%.

Easy Maintenance

Replaceable PTFE seat to eliminate downtime and maintenance.

High Temperature Resistance

Metal seat is suitable for abrasive and/or high temperature. Heat-resistant bearing offers a long service life.

General Applications — 一般應用

The butterfly dampers are suitable to work with a wide range of air, gases and fumes. They are particularly suitable for controlling the flow of gas in pipelines.

蝶式風門廣泛用於各種空氣, 氣體和煙霧。特別適用於控制管道中的氣體流動。

- ▶ Clean rooms
- ▶ RTO
- ▶ Dust collection
- ▶ Medical facilities
- ▶ CHP and WTE
- ▶ Heat recovery system
- ▶ Nuclear power plants
- ▶ Microelectronic manufacturing
- ▶ 無塵室
- ▶ 蓄熱式焚化爐
- ▶ 集塵
- ▶ 醫療設施
- ▶ 熱電聯產和廢棄能源轉化廠
- ▶ 熱回收系統
- ▶ 核電廠
- ▶ 微電子生產

For specific or complicated services, RTC provides the best solution to meet your needs.

對特定或複雜的環境, RTC 提供最佳解決方案來滿足您的需哀

Butterfly Damper is manufactured with a heavy-duty wafer type body. The both end flanges are welded to suit for different standards of flange available. Standard flanged drilling is ANSI 125/150 but can be supplied with JIS, DIN or AS Flange upon request.

碟型風門採用對夾式重型本體製成，兩端法蘭用焊接方式連接，可滿足不同標準的法蘭規格。標準法蘭鑽孔為 ANSI 125/150，但可以根據客戶需求提供 JIS、DIN 或 AS 法蘭。

Product Specifications

Size: From DN100 to DN1800 (larger sizes on request)
Material: Stainless Steel
Working(ΔP): less 4 Kpa to reach the best sealing performance
Working Temperature: 300°C (consult the supplier for higher temperature)
End Connection: Flanged to ANSI Class 125/150, JIS 5K/10K, PN6/10/16
Leakage Classifications: Class 1 per AMCA Standard 511
Sealing Efficiency: >97% to 99% or better
Inspection: 100% Gap measurement prior to shipment
Test: According to JAKI Quality Control Plan QCP00

產品規格

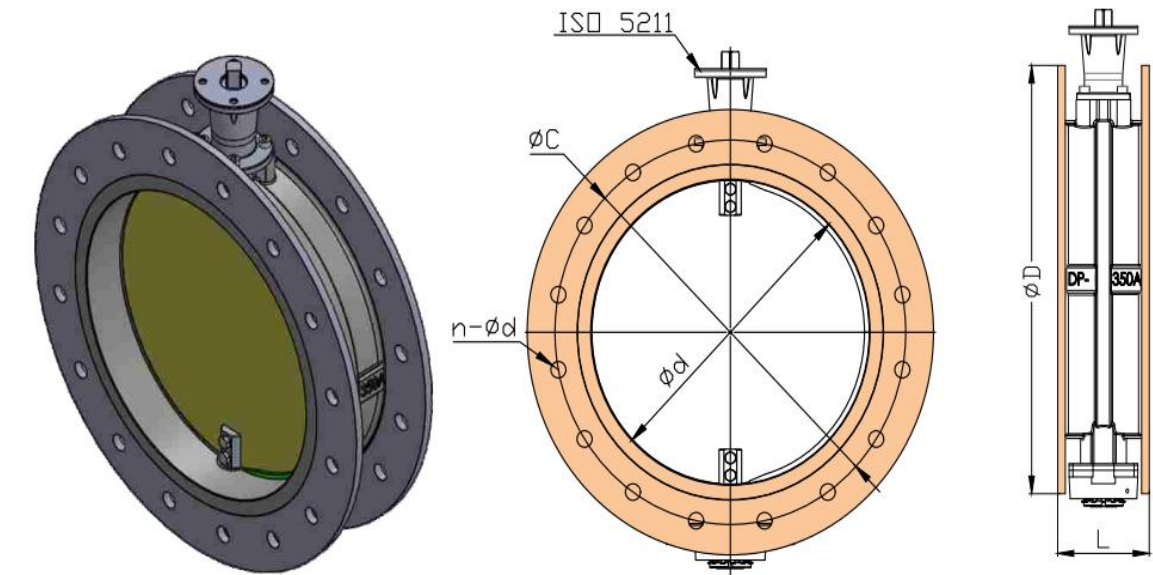
尺寸: DN100~DN1800 (更大尺寸可客製)
材質: 不銹鋼304/316
工作壓力: 差壓小於4Kpa 可達到最佳密封性能
工作溫度: 300°C (更高溫度, 請諮詢供應商)
端口連接: 對夾式, 法蘭式, 符合ANSI 125/150, JIS 5K/10K, PN6/10/16
洩漏分級: 按照AMCA 511 Class 1 規範
密封效率: >97% ~ 99% 或更好
檢驗: 出貨前100%測量間隙
測試: 按照JAKI QCP 品質控制計畫書

Material Specification 零件材質

Parts	Material	Option
Body	SUS 304/316	special materials of alloy steel are available
Disc	SUS304/316	
Stem	AISI 304/346	17-4 ph or other material
Seal	PTFE or Metal	Rubber or Polymer optional
Bearing	Graphite	
Operator		Gear/Chainwheel/with Locking Device/Actuator ***

***All dampers can be equipped with Electric Pneumatic Actuators, and accessories like Limit Switch, Solenoid Valve, Filter Regulator, Positioners, etc.
風門可以搭配電動、氣動驅動器及相關控制元件，如微動開關、電磁閥、調壓過濾器及定位器等。

Model No. 100F



Dimensions

Unit:mm

SIZE	d	L	FLANGE STANDARDS									ISO 5211
			JIS 5K			JIS 10K			ANSI 150			
			ΦD	ΦC	n-Φd	ΦD	ΦC	n-Φd	ΦD	ΦC	n-Φd	
4"	100	80	200	165	8-19	210	175	8-19	230	190.5	8-19	F05
6"	150	100	265	230	8-19	280	240	8-23	280	241.3	8-23	F05
8"	200	120	320	280	8-23	330	290	12-23	345	298.5	8-23	F07
10"	250	120	385	345	12-23	400	355	12-25	405	362.0	12-25	F07
12"	300	120	430	390	12-23	445	400	16-25	485	431.8	12-25	F07
14"	350	120	480	435	12-25	490	445	16-25	535	476.3	12-29	F07
16"	400	150	540	495	16-25	560	510	16-27	595	539.8	16-26	F07
18"	450	150	605	555	16-25	620	565	20-27	635	578.0	16-32	F07
20"	500	175	655	605	20-25	675	620	20-27	700	635.0	20-32	F07
24"	600	175	770	715	20-27	795	730	24-33	815	749.3	20-36	F07

For larger or rare size, please consult manufacturer. 有更大尺寸或非標尺寸需求, 請諮詢製造商。

Note:

RTC Butterfly Dampers are custom made and are intended for specific applications. They are designed to respond to criteria unique to their purpose, such as line pressure, operating temperature, and chemical compatibility. Should the conditions be altered or changed significantly it could affect the normal operation of the damper

RTC 蝶式風門都是按照需求客製化來適用於特定應用。根據其特定條件去達到標準，例如管內壓差、操作溫度和化學相容性。如果工作條件產生巨大變化或改變，可能會影響風門的正常運行。

Operating Torque Data 扭矩數據

The following table can be used as a quick guide for actuator selection. Torque Chart for RTC Butterfly Damper Series 100.

以下扭力表可用器的對數值。

(All torques in N-m)

SIZE	DN	100	150	200	250	300	350	400	450	500	600
	Linch	4 "	6 "	8 "	10 "	12 "	14 "	16 "	18 "	20 "	24 "
Series 100		15	20	30	35	40	45	50	70	100	120

Leakage Data 洩漏數據

Air Leakage testing is performed in accordance with ANSI/AMCA Standard 500-d. 風門的氣體洩漏測試標準是根據規範 ANSI/AMCA 500-d。

Leakage Class Definitions:

As defined by AMCA, the maximum allowable leakage is as follows:

洩漏等級定義:

根據 AMCA 機構定義，最大允許洩漏量如下:

SI	Maximum Allowable Leakage, Li/m ²		
Class	at 025 kPa[1]	at 1.0 kPa[1]	at x kPa[2]
1A	152	N/A	NR
1	20	41	2√X x20
2	51	102	2√Xx51
3	203	106	2√Xx203

I-P	Maximum Allowable Leakage, Li/m ²		
Class	at 0.25 kPa[1]	at 1.0kPa[1]	At x kPa[2]
1A	15.2	N/A	NR
11	20	41	2√X x20
2	51	102	2√Xx51
3	203	106	2√Xx203

Note:

[1] [Required pressures; shall be cataloged

[2]Any other pressure may be cataloged using these formulas

LEAKAGE PERFORMANCE

Each 100F is leakage tested at 4 kPa prior to shipment to ensure performances as expected.

Installation - Precaution 安裝注意事項

- » The drive shaft must always maintain in horizontal position. 軸心必須翻在水平位置
- » The actuator is on the side of pipe (see the pictures below) 驅動器位於管路側邊（如下圖）
- » Pipe inner size shall be larger than damper bore size. 管道內經應大於風門流道口徑
- » Check the flow direction and follow the arrow direction marked on the body to install the damper. 確認流向，並按照本體上箭頭方向標示來安裝設備



Design Change

In order to follow the RTC commitment to continuous improvement, we reserve the right to revise or modify product and performance without prior notice.

為了遵循 RTC 持續改進的承諾，我們保留修改產品和性能的權利，恕不另行通知。