



進典工業股份有限公司  
JDV CONTROL VALVES CO.,LTD.

T02 series  
Installation, Operation and Maintenance  
Instructions for Double Eccentric High  
Performance Butterfly Valve

T02 系列  
高性能雙偏心蝶閥  
安裝、操作和維護手冊

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## **Preface 前言**

JTD Series Double Eccentric Butterfly valve Manual

For Soft-Seat/Metal-Seat Type

1. Please read this manual before installation or servicing.  
請在安裝和維修閥門前閱讀此操作手冊
2. Before installing or servicing, please ensure the line pressure has been relieved and any hazardous fluid has been drained or purged from the system.  
請在安裝和維修前，確保管道壓力已經泄放，同時危險的流體已經排放掉。
3. Please do not use the valve exceeding its designed pressure range.  
請不要在超過閥門設計壓力的情況下使用。
4. Please do not use the valve exceeding its designed temperature range.  
請不要在超過閥門設計溫度的情況下使用。

### **BEFORE INSTALLATION**

1. Before installing, check all valves and mating flanges to ensure gasket surfaces are free from defects.  
安裝前，檢查所有閥門和配對法蘭，確保密封墊片表面乾淨，不粘任何瑕疵。
2. Make sure all valves and lines are clean without any dirt or debris, which may cause valve seats damaged.  
確保所有閥門和管路內部是乾淨的，沒有任何可能會導致閥座損壞的污垢或碎片。
3. Checking the piping is the alignment with appropriate supports. It is not recommended to install valves to improperly positioned pipes.  
檢查管道是在合理支撐條件下成一直線狀態。不建議將閥門安裝在位置偏差的管道上。
4. Valves can be installed for flow in correct direction. Before installing, inspect the valve by visual for avoiding any damages.  
閥門按照正確流向進行安裝；安裝前注意觀察避免任何損傷。
5. Install the valve to the pipeline and tighten bolts properly. Notice that the over tightening of any side may cause the leakage.  
把閥門安裝在管線上，均勻鎖緊螺栓螺絲。注意過度鎖緊任何一側螺絲均可能造成洩漏。



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JTD Series butterfly valve is designed in the double eccentric disc concept. This design reduces the seating wear caused by disc camming action during closing to the minimum and provides the superior throttling characteristics. Non fire and fire protection products in different conditions have a wider range of use.

JTD 系列蝶閥依照閥板雙偏心的概念設計。這種設計降低了閥板旋轉時對閥座的磨損，並具備優秀的調節特性。非防火和防火產品在不同的條件下有更廣泛的使用範圍。

## Product Features 產品特點

Integral seat liner on the body provides excellent stability and guarantees the seat tightness. 整個閥座被鑲嵌在閥體上，使得閥座更加穩定和緊密。

Seat liner extending on the contact faces ensures perfect sealing and eliminates the need for separate flange gaskets. 閥座超出結合面設計確保更好的密封性，避免使用獨立的法蘭密封墊片。

Unique triple sealing system for shaft sealing ensures zero leakage of the media passing shaft seals. 閥軸填料獨特的三重密封設計，確保在介質通過時閥軸零洩漏。

Narrow land disc ensures perfect sealing with least operating torque requirements. 閥板表面加工精細，提供完美的密封性能和最低的操作扭矩。

A fully universal body design ensures fitment of the valve between companion flanges of all popular standards.

閥門完全按照全球通行的標準設計，確保了閥門可以與全球各種不同標準的配對法蘭進行搭配和安裝。

A truly line size body bore ensures the maximum flow capacity with the lowest pressure drop. 與管道內徑一致的閥體流道設計，使得閥門有最大的流通能力及最小壓力降。

Both top and bottom shaft swiveling are guided by self-lubricated PTFE+316 bearings. 蝶閥頂部和底部心軸旋轉部位都採用自潤滑的 PTFE+316 軸承。



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## **Applicable Standards 應用標準**

- Body Material 閥體材質: Standard in WCB/CF8/CF8M (Special material is available acc. to requirements.)
- Seat 閥座材質: PTFE / G-PTFE / C-PTFE / PEEK / TFM-1600 / PCTFE
- Nominal size 公稱口徑: 3" to 24" (DN80 to DN600)
- General design and manufacturing 一般的設計和製造標準: API 609 Category B
- Pressure Rating 壓力等級: ANSI 150LB ANSI 300LB
- Pressure Temperature Rating 壓力溫度等級: API B16.34
- End Connection 端部連接型式: Wafer / Wafer Lugged
- Temperature Range 溫度範圍: -320~446°F(-196~220°C), higher temperatures are on request.
- Face to Face Dimension 法蘭面間距: API 609 Category B / ANSI B16.10
- Flanged Dimension 法蘭尺寸: ANSI B16.5 Class 150 Class 300
- Fire Safe Test 防火設計標準: API 607 4TH
- Pressure Test Rating 壓力測試標準: API 598
- Seat Leakage 洩漏等級: Soft Seat: Class VI
- Casting 鑄造標準: MSS-SP-67



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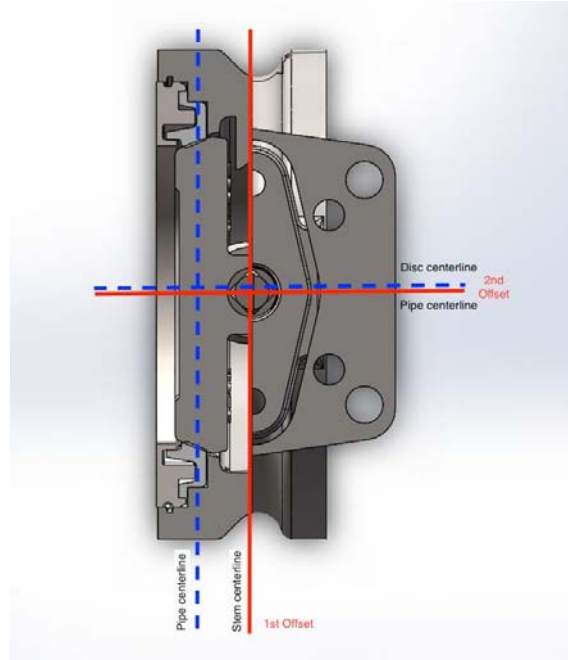


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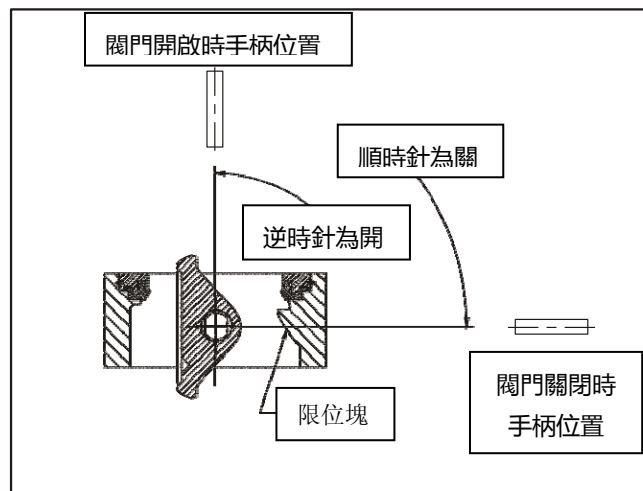
## Double eccentric butterfly valve schematic

雙偏心蝶閥原理圖



## Schematic diagram of double eccentric butterfly valve operation

雙偏心蝶閥操作示意圖



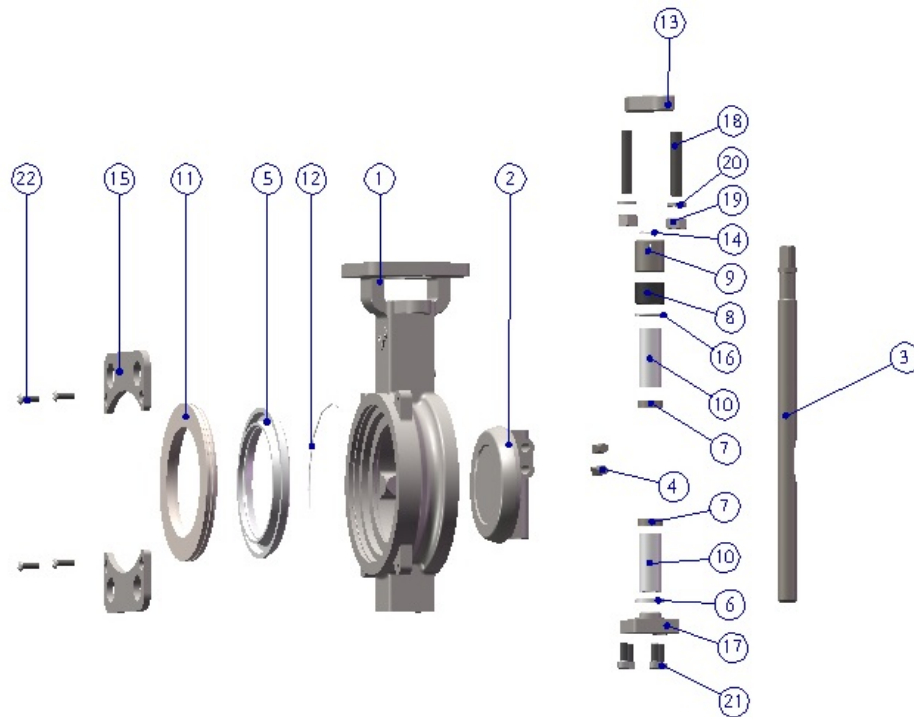
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## 2-1/2"~12" Technical Specifications 2-1/2"~12"技术参数



NO	PART NAME	MATERIAL		
1	BODY	A216 WCB	A351 CF8	A351 CF8M
2	DISC	A351 CF8	A351 CF8	A351 CF8M
3	STEM	A564 630	A564 630	A564 630
4	PIN	A564 630	A564 630	A564 630
5	SEAT	RPTFE	RPTFE	RPTFE
6	COVER GASKET	GRAPHITE	GRAPHITE	GRAPHITE
7	RING	A182 F316+HARD FACE		
8	GLAND PACKING	GRAPHITE	GRAPHITE	GRAPHITE
9	GLAND	A182 F304	A182 F304	A182 F316
10	THRUST BEARING	316+PTFE	316+PTFE	316+PTFE
11	BODY RETAINER	304SS	304SS	316SS
12	BODY RETAINER SPRING	INCONEL X-750	INCONEL X-750	INCONEL X-750
13	GLAND FLANGE	A216 WCB	A351 CF8	A351 CF8M
14	FIXED RING	INCONEL X-750	INCONEL X-750	INCONEL X-750
15	POSITIONING PALTE	304SS	304SS	304SS
16	PACKING SEAT	304SS	304SS	316SS
17	END COVER	A216 WCB	A351 CF8	A351 CF8M
18	GLAND FLANGE BOLT	A193 B7	A193 B8	A193 B8
19	GLAND FLANGE NUT	A194 2H	A194 B8	A194 B8
20	SPRING WASHER	304SS	304SS	316SS
21	END COVER SCREW	A193 B7	A193 B8	A193 B8
22	BODY RETAINER SCREW	A193 B8	A193 B8	A193 B8



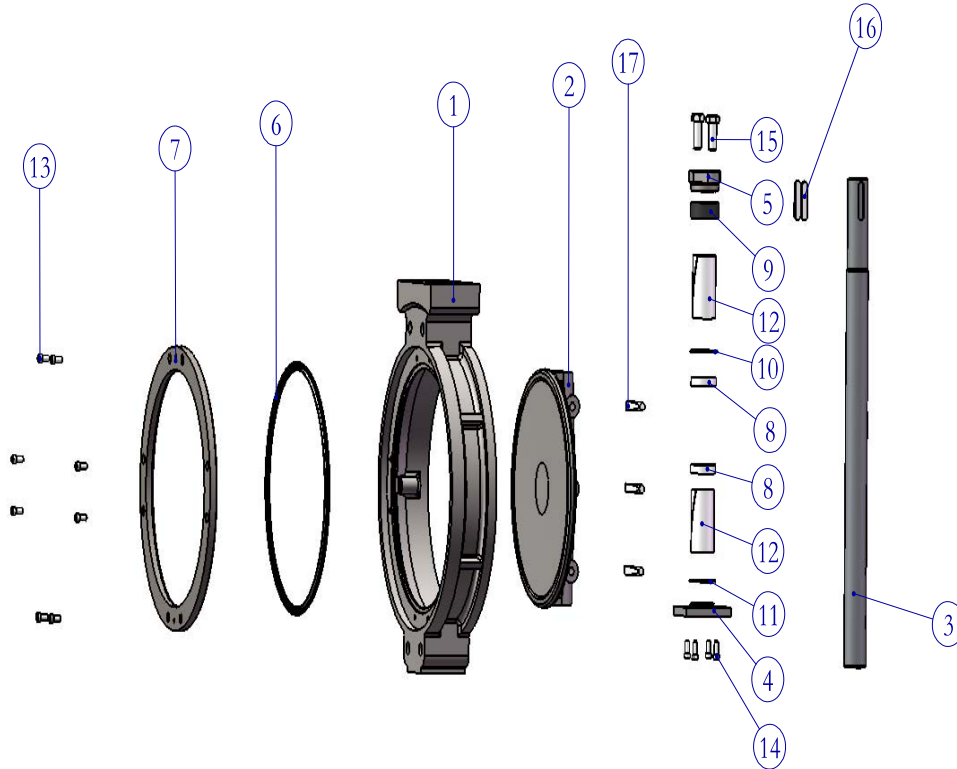
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## 14"~24" Technical Specifications 14"~24" 技术参数



NO	PART NAME	MATERIAL		
1	BODY	A216 WCB	A351 CF8	A351 CF8M
2	DISC	A351 CF8	A351 CF8	A351 CF8M
3	STEM	A564 630	A564 630	A564 630
4	END COVER	A216 WCB	A351 CF8	A351 CF8M
5	CLAND	A216 WCB	A351 CF8	A351 CF8M
6	SEAT	RPTFE	RPTFE	RPTFE
7	BODY RETAINER	A182 F304	A182 F304	A182 F316
8	RING	A182 F316+HARD FACE		
9	GLAND PACKING	GRAPHITE	GRAPHITE	GRAPHITE
10	PACKING SEAT	A182 F304	A182 F304	A182 F316
11	COVER GASKET	GRAPHITE	GRAPHITE	GRAPHITE
12	THRUST BEARING	316+PTFE	316+PTFE	316+PTFE
13	BODY RETAINER SCREW	A193 B8	A193 B8	A193 B8
14	END COVER SCREW	A193 B7	A193 B8	A193 B8
15	GLAND BOLT	A193 B7	A193 B8	A193 B8
16	KEY	AISI-1045	AISI-1045	AISI-1045
17	PIN	A564 630	A564 630	A564 630



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## **Installation, Operation and Maintenance Instructions for Double Eccentric High Performance 安裝，操作和維護說明**

### **Storage Prior to Installation: 安裝前的保存**

The valves are supplied, wrapped in polyethene bubble sheets packed in individual boxes or stacked together with proper separators in wooden boxes. The valves must be retained in the original packing itself till installation and must be preferably be stored in-doors. Avoid mechanical damage to the valve seat, disc seating profile and flange mating faces while handling in the unpacked condition.

客戶自己安裝閥門時，閥門在未使用之前必須用木箱包裝，並且在木箱內要用聚乙烯泡沫片或一些適當分離物隔離閥門。閥門必須保留原來的包裝，最好存放在戶內。這樣可以避免當未包裝條件下操作閥門時，對閥座、閥板密封面和法蘭面機械損壞。

### **Preparation for Installation and Precautions: 安裝前的注意點**

Butterfly valves should be installed preferably with minimum 6 pipe diameters from other piping elements i.e. elbows, pumps, valves, pipe fittings, etc. Wherever this 6 pipe diameters are not practical, provide the max. Straight distance as possible. Avoid connecting the valve directly to the inlet or outlet of a pipe fittings, except as terminal end valve or discharge valve.

蝶閥安裝時，最好與彎頭、泵出口、閥門等管配件保持最小 6 倍管徑的長度。若條件不允許，盡可能提供足夠長的直管距離，避免將閥門直接安裝與入上述管配件的入口或出口，除非是終端閥門或者卸料閥。

Companion flanges must be welded in place and the flange faces must be parallel to each other. Use of a dummy is recommended to ensure proper flange face alignment and sufficient pre-installation gap between the flanges.

配對法蘭片必須堆焊到準確的位置，同時法蘭片端面彼此保證平行。建議在法蘭片之間利用短管確保法蘭端面相互對準成一直線，同時預留合適的安裝間距。



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警告

Never carry out welding of the flanges with valve installed between them or never use the valve as dummy for flange alignment during welding. This will result in permanent damage to valve seat and impaired valve performance.

切忌對配對與已安裝的閥門的配對法蘭，執行焊接動作。在焊接過程中絕對不能把閥門作為校正法蘭端面的工具。這將導致永久性損傷閥座，同時使閥門性能受損。

The pipeline and flang faces, must be clean and free of any foreign material such as pipe scale, metal chips, welding splatters, projecting weldments, electrode bits, etc. Presence of the above can obstruct disc movement and cause damage to soft seat. Flushing of the pipeline with the dummy piece before valve installation is advisable.

管道和法蘭面必須是乾淨的，不帶任何外來雜質，如管道屑、金屬碎片、焊雜、凸出的焊接頭、焊條等等。若以上提及的雜質存在會妨礙蝶板的活動，同時損傷軟密封閥座。在閥門安裝前，合理的做法就是對管道進行沖洗。

Align piping and then widen the pipe flanges apart so as to permit easy dropping of the valve between the flanges. Use a pair of “jack bolts”to widen the flanges if required.

調整管道然後增大配對法蘭片的間隙，以便能夠很容易地安放下閥門。如果有需要的情況，使用一對帶螺母的螺栓件（類似千斤頂的原理）來增大配對法蘭片間距。

The valve must be provided with suitable flange gaskets on either side of mating faces to obtain perfect sealing with the pipe flanges. Selection of proper gasket material may be done by the user depending on the operating conditions and nature of media.

為了獲得閥門與配對法蘭片之間的完美密封性能，閥門安裝時必須提供和放置合適的法蘭密封墊片在閥門的兩邊與配對法蘭接觸的面上。根據操作條件和介質的特性，用戶需選擇合適材質的密封墊片。

The valve disc must be kept in the “fully closed” position while dropping the valve between the pipe flanges, to prevent damage to machined edges of the valve disc.

當將閥門放入配對法蘭片間安裝前，須將閥門保持在全關的狀態。防止閥門蝶板的密封面被刮傷。

JTD series valves are provided with an arrow mark indicating the specified flow direction. Check the



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pipe line flow direction before valve installation and ensure that the valve is installed as per the indicated flow direction only.

JTD 系列蝶閥閥體上提供了一個箭頭標誌指定介質的流向。在閥門安裝前檢查管線內介質的流向，確保閥門依照指示的流向進行安裝。

In general butterfly valves can be installed in any orientation (direction) depending on operational requirement. However mounting with shaft (stem) in horizontal orientation is preferable except in certain specific application where vertical shaft installation is a must. Refer conditions as listed under. Vertical shaft installation is recommended for valves installed immediately at the downstream of a bend, elbow, tee or reducer.

通常情況下，蝶閥根據操作要求可安裝在任何的位置。除在一定特殊用途必須立式安裝之外，無論如何在水準位置執行器與蝶閥閥軸安裝更加合適。閥門安裝在一個三通管、彎頭、或減徑管的出口端根據上述的狀況，進行垂直地面方位安裝是允許的。

Valves installed in pump discharge side also requires vertical shaft orientation (except vertical pump shafts.)

若閥門安裝在泵出口側，也是要求立式方位安裝。（除立式泵之外）



警告

**CAUTION** : Please note that valves shall never be mounted with the operator vertically downwards.

注意：執行器與閥門安裝時，執行器不能垂直與地面。

Horizontal shaft installation is always advisable for the following media conditions viz. slurries, sludge, pulp stock, dry cement provides media containing sediments and solids, as well as highly viscous fluids. The valves shall be installed with the shaft in horizontal orientation and the lower disc edge opening in the down stream direction (body stopper must be vertically above). This ensures self-cleaning of the valve due to local high velocity above and below the disc edges. 在下述含有沉澱物和固體顆粒的介質（如漿液、污泥、紙漿、乾燥水泥粉）及高粘度流體的狀況下，水準方位安裝時始終合適的。當閥門安裝時，閥軸處於水準位置，閥板邊緣朝下游出口側打開（閥體的蝶板阻擋片必須垂直上述位置的蝶板），這將確保因在蝶板上下兩側邊緣的高速流體流過，形成自我清潔的效果。



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Valve sizes of 350MM and higher, are also recommended, to be mounted with the shaft in the horizontal orientation which will provide the following advantages

當蝶閥口徑為350MM 或大於350MM，若同時提供下面的有利條件，閥門可建議安裝時，其閥軸在橫向的方位。

Weights of the disc and shaft gets evenly supported by the bearings.

蝶板和閥軸的自重均勻地被軸承支撐。

Any solid particles in the pipeline do not get settled near the seating, causing damage to seat or bottom bearing/bush.

在管道內部的任何固體顆粒不能殘留與閥座附近，若殘留將損傷閥座或者蝶閥底部軸承件。

## **Installation in Pipeline 管道安裝**

Slip down the valve between the widened flanges with the gaskets placed on either side. Always hold the valve using the locating lugs or neck of the body. Never lift the valve by holding the actuator or using operator mounted on the top flange.

將閥門放入配對法蘭片之間，同時將法蘭密封墊片放入到閥門的兩側。在閥體定位耳軸或者閥門頸部始終握住該閥門。不能通過握住執行器或者安裝在蝶閥頂部平臺上的操作機構來支撐該閥門。

Center the valve between the flanges. Provide the studs / bolts through the upper and lower locating lugs and hand tighten the nuts. Insert all the other flange bolts / studs and hand tighten the nuts. Slowly open the valve to full OPEN position and close it again to ensure that there is no disc fouling on the adjacent pipe ID.

使閥門處於法蘭片中間。將雙頭螺柱/螺栓插入閥體的上下定位支耳孔並擰緊。然後閥體上剩下的所有支耳孔統統插入雙頭螺柱/螺栓並擰緊。慢慢將閥門打到全開狀態，然後再關閉。確保蝶板與鄰近的管道沒有干涉。

Open the valve fully and tighten all the bolts / nuts. While tightening ensure that diametrically opposite bolts / nuts are tightened in sequence.(Ref fig.1-in ANNEXURE for preferred tightening sequence).

Finally repeat a full OPEN to CLOSE to OPEN cycle of the valve to ensure smooth operation.

完全開啓閥門並鎖緊所有螺栓/螺母。螺母需依照直徑對角方向逐一縮徑（參考圖中附上的緊縮次序）。最後再重複迴圈打開和關閉閥門，確保閥門順利運行。

Lugged body valves are installed in the same manner as wafer type valves except for the type of



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fasteners to be used.

Lugged 型蝶閥和Wafer 型蝶閥採用一樣的安裝方式，除緊固件不同之外。

Lugged body valves with through drilled holes require though studs / bolts exactly identical to the ones used for wafer valves. Valves with threaded holes require studs of shorter length inserted from either side.

Lugged 型蝶閥，需要通過雙頭螺柱或者螺栓來完全穿過的支耳孔，這一點與Wafer 型蝶閥上的應用完全一致。帶有螺紋支耳孔的蝶閥需要較短的螺栓從其中一側插入。

## Flow Handling Limitations 操作的局限性

High performance Butterfly valves are not recommended for flow velocities exceeding 8 m/sec in case of liquids and 100m/sec in case of gases. Please ensure that fluid velocities are well under the above-specified limits.

高性能蝶閥是不建議使用於流速超過每秒8 米的液體和每秒100 米的氣體介質。請確認流體速度低於上述規定的限度。

Butterfly valves employed for throttling duties shall be limited to a max. pressure drop of 30% of the inlet pressure at max. open position.

蝶閥被用於調節時，受限於在全開的位置，其最大的壓降是30%的入口壓力的前提。

## Valve Operation 閥的操作

Butterfly valves OPER and CLOSE through a 90°(quarter turn) rotation of the disc. Conventionally the valve CLOSE by clockwise rotation of the hand lever / hand wheel and OPEN by counter-clock-wise rotation.

蝶閥的開和關，是通過蝶板90 度的旋轉。通常情況下，順時針方向閥門關閉，逆時針方向閥門打開。

## Operator Types 操作模式

JDV Butterfly valves are fitted with any one of the following operators:

JDV 蝶閥適合下列任何一種執行器操作:

- Manual hand lever 手柄
- Manual worm gear box 手動齒輪箱
- Pneumatic actuators with or without manual override 氣動執行機構或氣動執行器帶手輪裝置
- Electrical actuators with or without manual override 電動執行機構或電動執行器帶手輪裝置



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## **Maintenance & Repair 維護和維修**

Many of the major design features incorporated in the valve minimizes wear and maintenance requirements to a minimum. As such there is no routine maintenance to be carried out to the high performance butterfly valves, except for the gland packing adjustments if required.

許多重要的設計特點都使閥座磨損最小化及維護工作量最下化。就其本身而言，無需對高性能蝶閥實施常規化的維修。除有時對中軸填料的壓蓋的調整。

All components viz. Disc, seat, shaft, bearing, clamp ring, bottom plug, taper pins, gland packing etc. are all field replaceable. The seat is field replaceable and can be accessed after removal of the clamping ring.

蝶閥所有的部件，即閥板，閥座，閥軸，軸承，壓緊環，底部心軸，錐形插銷，填料函等等，都可以在現場實施更換動作。當拆下壓緊環（側蓋）後，閥座部分在現場即可更換。

In case of component replacements, the valve has to be removed from the pipeline (disc should be place fully closed position) by isolating the line or using line blinds or dummies. Use jack bolts to widen the flanges to facilitate easy removal of valve.

假如需要更換閥門元件，閥門必須從管線上卸下（閥板處於完全關閉狀態），然後用盲板堵掉管道口或者用短接管道插入卸下閥門的位置。卸閥門時可以使用如果在更換元件時，閥門已經脫離管道（閥板應在完全封閉位置）。使用雙頭螺柱（千斤頂原理）擴大法蘭片間隙以此來方便拆卸閥。

## **Recommended Spares 推薦的備件**

Seats, gland packing, support ring, taper pins, etc.

閥座，填料，壓蓋，支持環，錐銷，等等。

## **Disassembly & Assembly 拆卸和組裝**

Remove valve from pipeline and bring valve to a convenient location where it can be disassembled conveniently and required toolings are available.

將閥門從管線上卸下，然後將閥門放到便利的地方。既可以方便拆卸，並且有所需的工具。

Remove the operator from the (hand lever, worm gear box, pneumatic actuator or electrical actuator) actuator mounting bracket of the valve. Remove the bottom plug or bottom cover, as the case may be



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先拆卸下蝶閥的操作機構部分（手柄，齒輪箱，氣動執行器或電動執行器）。再拆卸閥體底蓋和頂蓋。

Keep the valves fully closed, with the clamp ring facing upwards. Loosen & remove the clamp ring screws and take out the clamping ring. The seat and support ring can be accessed now. Remove the same from the body step.

將閥門保持全關，使壓緊環朝上。擰松和取下壓緊環（側蓋）上的內六角螺絲後，取出壓緊環（即側蓋）此時閥座和閥座支撐環可以取下了。同樣從閥門的同一側取出。

Reverse the body & keep the disc nearly closed. Remove the taper pin from the top shaft and bottom shaft end by striking it with a mallet from the bigger end side or pulling it out using pullers. In case of taper pin jamming use unlocking sprays or removes the taper pin by drilling out the same.

反轉閥體部分，然後將蝶板保持在接近全關的位置。通過用木槌或者拔卸器將閥軸上下端的錐銷從大頭側拆除。假如錐銷已經卡住，請使用除鏽噴霧劑或者通過鑽孔的方式將錐銷取出。

Loosen the gland bolts and remove the gland flange and gland. Pull out the top shaft and bottom shaft from the disc. Threaded holes are provided at the outer ends of the top and bottom shaft for insertion of puller bolts. The top shaft will come along with the packing rings and split rings. The disc will come out free once the shafts are removed.

鬆開填料壓蓋的螺絲，再取下壓蓋。從蝶板中抽出上部和下部的心軸。在上部和下部的心軸上均有帶螺紋孔，用來裝入拔出心軸用的螺絲。上部心軸會伴隨帶有填料環和分散的密封環。當心軸被抽出後，蝶板也就可以輕鬆取下。

Carry out the replacement of the parts required to be changed; and reassemble the valve with new parts. 按要求更換需要更換的零件；並且重新更換閥門新的零件。

## **Assembly 裝配**

Follow the steps mentioned for disassembly in the reverse order for re-assembling the valve. Collect all the parts, clean them thoroughly and check whether the parts to be replaced are in order. Check the condition of bush bearings inside body bore. Replacements of bearings are normally not required 根據拆卸過程中提到的步驟，依照相反的順序重新裝配閥門。收集好所有零部件，徹底地擦乾淨以上零部件，同時檢查要求更換的部件按次序放好。檢查閥腔內的心軸軸套的狀況是否完好？通常情況下是不需要更換Bearing 件的。



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Keep the body horizontally on the table. Place the disc inside the body bore. Insert the bottom shafts through the body bore and into the disc shoulder. The top shaft is required to be inserted with split rings in position on the shaft groove. Push the shaft inside till it enters the disc shoulders. Insert the packing rings and gland into the packing bore. Place the gland flange in position and hand tighten.

將閥體平放在操作臺上。在閥腔中正確放置好蝶板。從閥腔下方內孔先將下方用心軸插入蝶板中。上部心軸部分先將分散的密封件套入其合適的位置，然後推動上方心軸直到進入蝶板中心。然後再插入 Packing 填料函，及插入壓蓋。將壓蓋放置在合適的位置，並鎖緊。

Position the disc inside the body. Push the shaft inside till it enters the disc bore to the required depth. Check the condition of the packing rings (gaskets) on the body and clamping ring-sealing face. Repeat with new packing rings if required.

為了將在閥體內的閥板進行定位。沿著蝶板孔推動心軸一直進入到達要求的深度。檢查閥體 Gasket 和壓緊環密封面，若有必要的情況下更換其新的 Gasket。

Position the disc to CLOSED position. Place the seat on the body-locating groove. For soft seated and fire safe valves a support ring or backup ring respectively is required to be assembled with the valve seat. Place the clamping ring above the seat/support ring/backup ring.

閥板定位與關閉位置。在閥體定位槽側插入閥座。針對軟密封防火型蝶閥，支撐環和後援環需要各自與閥座搭配組裝好。把壓緊環放在上述的閥座/支撐環/後備環上面。

Locate the clamping ring to align with the body-threaded holes & assemble the socket head screws. Tighten the screws uniformly to get equal clamping force all around.(Do not tighten fully!)

使壓緊環上的螺栓孔與閥體上的螺栓孔一一對應好。使用內六角扳手將螺絲對角均勻地擰緊。（不要擰太緊）

Check correct taper pin hole positions and clean ream the taper pinholes. Drive the pins through the holes to position. Avoid excess hammering.

檢查正確的錐銷孔位置，清理乾淨錐銷孔，將對應的錐銷敲入到錐銷孔內。避免過度錘擊。

Remove all metal chips and foreign particle from the seat/disc face. Check the valve for correctness of assembly and for fixing of the operator. Tighten the clamping ring screws fully. Mount the operator on the bracket. Tighten the nuts/bolts and operate the valves 5 times to see functional performance.



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清理閥座和蝶板表面上所有金屬碎片和外界的顆粒雜誌。檢查閥門是否被正確組裝，同時固定好對應的操作機構。將壓緊環（即側蓋）的螺絲全部上緊。安裝執行器在支架上面。擰緊螺栓和螺絲，操作閥門5次看其動作表現是否好。

## Test 测试

Carry out body test and seat leakage test corresponding to the valve pressure rating (Body test is carried out at 1.5 times the rated pressure & seat test is carried out at 1.1 times the rated pressure with water).

根據閥體的公稱壓力進行閥體強度測試和閥座密封洩漏試驗。（強度試驗的操作壓力實施 1.5 倍額定壓力，閥座洩漏測試的操作壓力實施 1.1 倍額定壓力；介質是水）

Drain & dry the valve after testing & bring the disc to nearly closed position (Do not close fully! ) Valve is now ready for installation.

測試完畢後，排淨殘留在閥體內的水，將閥門乾燥處理，然後把閥板處於關閉位置（請不要全部關閉！），這樣閥門現在可以準備安裝了。

## Warning and attention 警示、注意

The installation of valves and actuators, to confirm the position indicating device driving device at the top right indicates the position of the valve. If these parts assembly is not correct error indicating the location of the valve, will lead to personal injury.

安裝閥門和驅動裝置前，要確認驅動裝置上端的定位指示器正確指示了閥門的位置。如果這些部件裝配不正確錯誤指示了閥門的位置，會導致人身傷害。



**Warning:** when installing the drive device to confirm the valve and drive device is in the same bit set. The opening of the drive device installed in the closed valve can cause damage to the valve stem.

**警示：**安裝驅動裝置時要確認閥門和驅動裝置是在同一位元置。將開啓的驅動裝置裝在關閉的閥門上可能會導致閥杆 損壞。



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**Note:** when installing a connector or servicing the valve / drive device, it is better to remove the entire drive device from the device.

**注意：**安裝連接器或維修閥門 / 驅動裝置元件時，最好從設備上拆下整個驅動裝置。

**Note:** remove the drive unit should be re installed on the valve. Each time the drive device is re installed, it must be re adjusted to the correct opening and closing position.

**注意：**拆下的驅動裝置應重新裝到閥門上。每次重新安裝驅動裝置，都必須重新調節到正確開啓和關閉位置。

**Note:** when the single acting spring re - Fixed pneumatic device is installed on the clamp valve door, only to spring off (gas open) mode of installation.

**注意：**當單作用彈簧重定氣動裝置安裝到對夾式閥門上時，只能以彈簧關（氣開）模式安裝。

**Note:** the valve position should be consistent with the indication of the drive unit when installing an electric or double acting pneumatic drive.

**注意：**當安裝電動或雙作用氣動驅動裝置時，閥門位置應和驅動裝置指示的位置一致。

**Note:** according to the instructions of the drive device, the drive device can be adjusted to the correct opening and closing position of the valve.

**注意：**按照驅動裝置說明書的說明，將驅動裝置行程調整到該閥門正確的開啓和關閉位置

This manual includes a clip on butterfly valve installation, maintenance and use of the important content. Please read the instructions carefully and keep accurate check.

本說明書包括了對夾式蝶閥的安裝，維修和使用的重要內容。請仔細閱讀說明，並妥善保存准查。



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