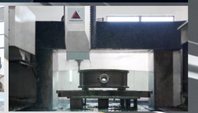
精心制造，巧夺天工















CTGV

天工阀门集团有限公司

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CTGV 天工阀门集团 TIANGONG VALVE GROUP



企业简介 ABOUT US

天工阀门集团有限公司成立于1985年，拥有30多年的阀门设计、制造、销售经验。公司现有员工160-200人，年产量20000吨。

主要市场:

亚洲: 中国、日本、印度、马来西亚;
欧洲: 德国、意大利、西班牙、俄罗斯、土耳其;
北美: 美国、加拿大、墨西哥;
南美洲: 智利、阿根廷、巴西。

Tiangong Valve Group Co., Ltd. established in 1985, has more than 30 years' experience of valve designing, manufacturing and distributing. We have 160-200 employees and the annual output is 20000 tons.

Main Market:

Asia: China, Japan, India, Malaysia;
Europe: Germany, Italy, Spain, Russia, Turkey;
North America: the United States, Canada, Mexico;
South America: Chile, Argentina, Brazil.

资质认证 (Certification):

TS API



供热管网专用蝶阀

HEAT-SUPPLY NETWORK SPECIALIZED BUTTERFLY VALVE

概述 Description

天工蝶阀在吸取、总结其他品牌供热管网蝶阀的基础上，通过自主研发，推出了独具特色的供热管网专用蝶阀。

On the basis of absorbing and summing up the heat- supply networks of other brand butterfly valves, Tiangong butterfly valve has developed and launched our own specialized butterfly valve for heating-supply network.

产品设计规范 Product Design Specification:

设计标准 Design Criteria

JB/T8527 EN593 API609

结构长度 Face-to-face Dimension

GB/T12221 EN12982

连接标准 Connection Criteria

GB/T12224 EN12627 ASME B16.25

防火要求 Fire-proof Criteria

API607 ISO10497

主体材质 Main Materials

A105, CF8, CF3, CF8M, CF8M

压力试验 Pressure Test

GB/T13927, GB/T26480, EN12266, API598

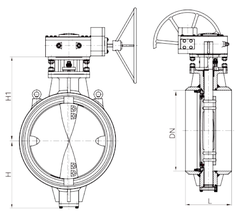
公称通径 Nominal Diameter

DN200~DN1600

压力范围 Pressure Range

PN16-PN100, CLASS150~CLASS600

主要外形尺寸 Main overall dimensions



DN200-DN1600 PN25/PN30 -29-350°C

水、蒸汽 双向密封 Water, steam Bidirectional seal

DN	L	ISO5211	Nm	Weight	Cv	H	H1	H2
DN200	230	F14	1020	70	1970	210	295	60
DN250	250	F14	1300	100	2689	245	340	60
DN300	270	F16	1800	140	3930	272	395	60
DN350	290	F16	3200	200	5290	307	430	80
DN400	310	F16	3600	270	7726	330	470	90
DN450	330	F25	5200	310	9856	363	510	90
DN500	350	F25	6200	380	12180	420	565	90
DN600	390	F25	10600	600	19800	470	615	125
DN700	430	F30	18000	785	27600	536	675	125
DN800	470	F35	30000	950	35800	620	790	150
DN900	510	F35	38000	1300	45600	675	845	150
DN1000	550	F40	42000	1870	65320	774	985	200
DN1100	590	F40	50000	2280	84300	820	1030	200
DN1200	630	F40	58000	2700	96000	896	1100	200
DN1400	710	F48	88000	3800	139700	1030	1240	250
DN1600	790	F48	140000	6400	165000	1160	1390	250

三偏心结构设计 Designed with Triple Offsets

1ST OFFSET

第一个偏心：

轴向偏心，密封面置于阀杆一侧，密封面偏心于阀杆；
The axis of the shaft is behind the centerline of the sealing point of the disc to seat.

2ND OFFSET

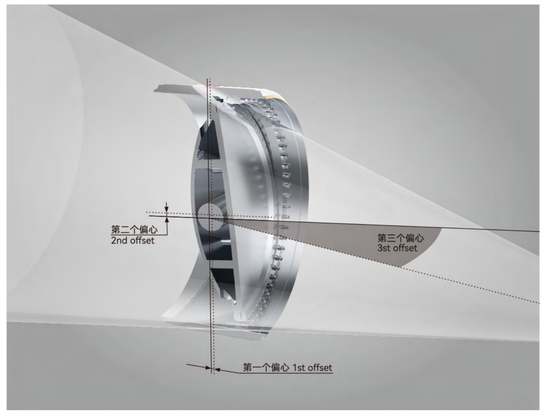
第二个偏心：

径向偏心，阀杆中心线偏离管道中心线，阀杆偏心于通道中心；
The axis of the shaft is eccentric to the center of the valve/pipe line.

3RD OFFSET

第三个偏心：

圆锥顶尖偏心，椭圆密封环环周线延长形成了一个正圆锥体，其正圆锥的顶尖偏心于通道中心。
The geometry of the seating surface, creating a type of cone shape of the disc and seat.



结构特点 Structural Characteristics

锻造式阀体
Forging Body

采用整体锻焊结构，避免了铸造材料可能带来的砂眼、疏松气孔等缺陷。阀体强度高刚性好、重量轻。无需任何阀体支撑即可满足长输管线要求：即管线蝶阀应与管道同寿命。

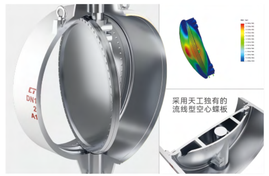
The whole forging welding structure is adopted to avoid the defects such as sand holes and loose pores which may be brought by casting material. The valve body is of high strength, fine rigidity and light weight, and it can meet the requirements of long distance pipeline without any body support: that is, the piping butterfly valve should have the same life as the pipeline.

空心流线型蝶板
Hollow Disc

采用天工独有的流线型空心蝶板，采用薄壳结构设计。
通过SolidWorks Simulation 有限元分析进行应力分析和结构优化，通过SolidWorks FlowSimulation 流体有限元分析使之具有优良的水力特性，减小水头损失和振动，该结构强度高刚性好，重量轻，铸造工艺性好，有效过流面积大，流态稳定。

The thin shell structure is designed by using the unique streamline hollow disc of Tiangong.
The SolidWorks Simulation finite element analysis is used to analyze the stress and optimize the structure; And the the SolidWorks Flow Simulation fluid finite element analysis is used to create excellent hydraulic characteristics, reduce the head loss and vibration. This structure has great strength, exceptional rigidity, light weight, excellent casting technology, large effective flow area and steady flow state.





全金属阀座结构
Full Metal to Metal Seat

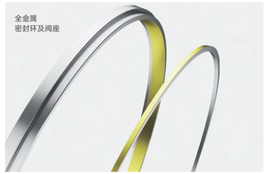
全金属密封环及阀座，可堆焊各种耐磨耐腐密封材料，密封环堆焊层硬度最高超过HRC60，有效地防止介质中的微小固形物冲刷的影响和热能所可能引起的密封面咬合，即使出现微小的损伤也不会产生泄漏。

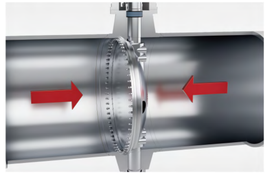
All metal seal ring and seat, are able to overlay all kinds of wear-resistant and corrosion-resistant sealing materials, and the highest rigidity of the seal ring surfacing layer can be over HRC60. It can effectively prevent the effect of the scour caused by small solid objects in the medium and the sealing surface occlusion caused by thermal expansion. Even if there's a small damage, it will cause no leakage.

无死区设计，双向密封零泄漏
No-dead-zone Design, Bidirectional Deal - Zero Leakage

通过计算机分析及优化三个偏心参数，提高阀体、蝶板、阀杆刚度，减少弹性变形量，增加密封处供应量，足够的密封圈强度并提高关键零件的形位公差和尺寸公差精度等手段，实现阀门90°行程中，密封副之间无摩擦的无死区设计，实现阀门双向零泄漏。

By means of computer analysis and optimization of triple offsets parameters, improving the rigidity of the body, disc and stem; reducing elastic deformation, increasing the supply of seal area and sufficient intensity of seal ring, improving the precision of geometric and dimension tolerance, etc., we can realize design of the non-friction-free no-dead-zone design between the sealing pairs while the valve opening to 90 °, and then realize the bidirectional seal - zero leakage.





结构特点 Structural Characteristics

可更换式密封副
Replaceable Sealing Pair

可更换密封副均可现场更换，大大减少了维修工时和检修强度与难度！

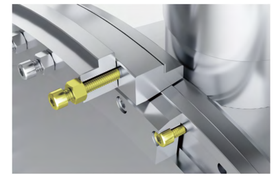
All replaceable sealing pairs can be replaced on the spot, which should greatly reduce the maintenance hours as well as maintenance intensity and difficulty!



均衡固定结构
Balanced Fixed Structure

天工蝶阀的密封副固定方式采用了螺栓等强度分布固定，不但定位精确，而且还使每个螺栓都均衡受力，杜绝了因应力分布不均而产生的密封副松动与泄漏。

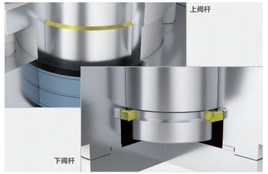
The fixed structure of Tiangong butterfly valve sealing pair is fixed with equal intensity distribution of bolts, which not only makes the orientation accurate, but also causes each bolt to balance the force equally. Therefore, it will eliminate situations like the loosening and leakage of the sealing pair caused by uneven stress distribution.



双重阀杆防飞出结构设计
Double Anti-Blowout Proof Stem

在阀门填料和端盖两处设计了各自独立的阀杆防飞出结构，保证了阀门在任何工况下的正常工作。

Independent stem anti-fly-out structure is designed in the valve packing and on the end cover, which ensures the valve to maintain normally working under any operating conditions.



填料设计
Valve Packing Design

采用碟簧加EagleBurgmann低逸散组合填料，其端环采用碳纤维及膨胀石墨编织而成，端环内边夹有高密度的石墨环，中间是杯锥状高密度膨胀石墨环，满足TA-luft、ISO15848、API622、API589等标准。

The valve packing adopts the combination of disc springs and Eagle Burgmann low divergence packing. The end ring is woven with carbon fiber and expanded graphite. The inner side of the end ring is carrying high density graphite ring, and in the middle there is high density expanded graphite ring in the shape of a cup-cone, which met the standards of TA-luft, ISO15848, API622, API589 and so on.

