



H44F/H44H/H44Y 系列

旋启式止回阀使用说明书

Series H44F/H44H/H44Y Swing Check Valve Manual



太原太航德克森自控工程股份有限公司

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一、概述

本阀门用于化工、石油、天然气、电力、冶金、环保、轻纺等行业的管道上，作为防止介质回流、保证管路装置安全的一种装置。介质从进口端流入，阀瓣绕销轴旋转，打开阀瓣，接通介质；当管路介质被截断时，介质倒流，推动阀瓣往回旋转，密封面吻合，切断介质。既能防止介质倒流，又能有效地限制破坏性水锤，保护近线的使用安全。

1、Introduction

This valve is used in the pipelines of chemical, petroleum, natural gas, electric power, metallurgy, environmental protection, textile and other industries, as a device to prevent the backflow of medium and ensure the safety of pipeline devices. The medium flows in from the inlet end, and the valve disc rotates around the pin shaft, opens the valve disc and connects the medium; When the pipeline medium is cut off, the medium flows backwards, pushes the valve disc to rotate back, the sealing surface is anastomosed, and the medium is cut off. It can not only prevent the backflow of the medium, but also effectively limit the destructive water hammer and protect the safety of the near line.

二、性能特点

该阀门是严格按 GB/T12236、GB/T12221、美国 API 6D 等国际和国内



标准设计制造的。销轴采用内置式，不存在外漏点，使用安全可靠。经过精心选材，精细设计，精心加工，精准检测，严格控制，阀门的各项技术水平，技术参数均达到了国际二十世纪末的水平。密封副配对合理，使用寿命长。是值得用户信赖的优质、安全、环保、节能、成熟的产品。

2、Performance characteristics

The valve is designed and manufactured in strict accordance with international and domestic standards such as GB/T12236, GB/T12221, and American API 6D. The pin shaft is built-in, there is no external leakage point, and the use is safe and reliable. After careful material selection, fine design, careful processing, accurate testing, and strict control, the technical level and technical parameters of the valve have reached the international level at the end of the twentieth century. The sealing pair is reasonably paired and has a long service life. It is a high-quality, safe, environmentally friendly, energy-saving and mature product worthy of users' trust.

三、技术参数及性能规范

3. Specifications

表 1 技术参数及性能规范

Table 1 Technical parameters and performance specifications

型 号 Model	公称压力 Nominal pressure	试 验 压 力 (MPa) Test pressure	
	PN (MPa)	强度试验 Strength test	密封试验 Seal test



H44-16	1.6	2.4	1.76
H44-25	2.5	3.75	2.75
H44-40	4.0	6.0	4.4
H44-64	6.4	9.6	7.04
H44-100	10.0	15.0	11.0
H44-160	16.0	24.0	17.6

适用温度 (°C) Applicable Temperature		适用介质 Applicable media
主体材质 Main material	≤	
WCB	-29~425	水、蒸汽、油品 Water、steam、oil
ZG1Cr18Ni9Ti CF8、CF3	-29~200	硝酸、氨、 苛性碱、乙烯 Sulfuric acid、ammonia、 caustic、ethylene
ZG1Cr18Ni12Mo2Ti CF8M、CF3M	-29~200	醋酸、磷酸、尿素、 甲氨液、硫 Acetic acid、phosphoric acid、 urea、methylamine solution、 sulfur
ZG1Cr5Mo、C5	650	油品、蒸汽、SO2 Oil、steam、SO2

四、标准与规范

4、Standards and specifications

表 2 标准与规范

Table 2 Standards and specifications

设计与制造 Design and Production	结构长度 Structure length	连接端 Connecting ends	压力—温度等 级 Pressure- temperature level	检验与试验 Inspection and Testing	主体材料 Main material
GB/T12236	GB/T12221	JB/T79	GB/T12224	JB/T9092	见上表 See table above
API 6D			ANSI B16.34	API 598	

五、产品结构简图

5、Structure

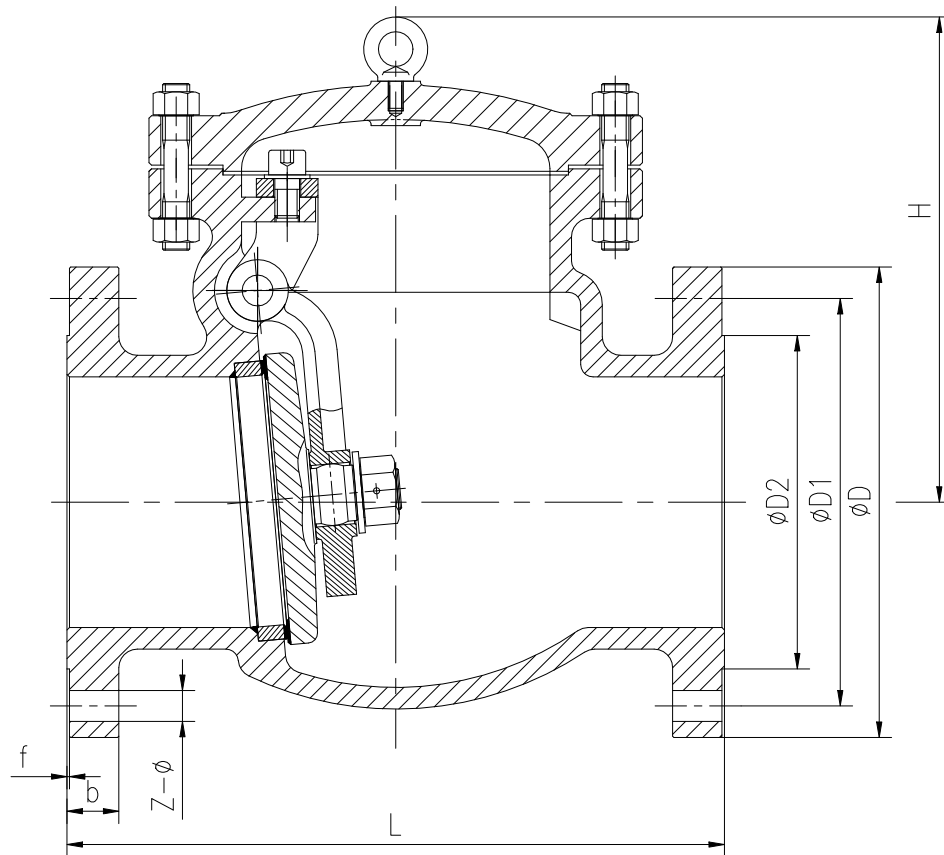


图 1 外型尺寸图

Fig. 1 Outline dimension diagram



六、主要零件名称和材质

6、Primary part name and material

表 3 主要零件名称和材质

Table 3 Materials for main parts

序号 No	名称 Name	材质 Texture of material		
1	阀体 Body	WCB	ZG1Cr18Ni9Ti	ZG1Cr5Mo
2	阀盖 Bonnet		ZG1Cr18Ni12Mo2Ti	A217 C5
3	阀瓣 Disc	13Cr/STL	18-8SS/STL	STL
4	密封圈 Sealing ring	13Cr/STL	18-8SS/STL	STL
5	销轴 Pins	2Cr13/F6a	18-8SS/304、316SS	25Cr2Mo1VA
6	垫片 Gasket	柔性石墨+304 Flexible graphite		
7	螺柱 Stud	35CrMo/A193 B7	18-8SS/A193 B8	25Cr2Mo1VA
8	螺母 Nut	45/A194 2H	18-8SS/A194 8	35CrMo

七、主要外形尺寸、连接尺寸和质量

7、Main external dimensions、connection dimensions and quality

表 4 主要外型尺寸和连接尺寸

Table 3 Main external dimensions and connection dimensions



PN16

DN	标准值 Standard value							参考值 Reference value
	L	D	D1	D2	b	Z-φ	D0	H
40	200	145	110	85	16	4-φ18	160	150
50	230	160	125	100	16	4-φ18	185	160
65	290	180	145	120	18	4-φ18	215	175
80	310	195	160	135	20	8-φ18	235	185
100	350	215	180	155	20	8-φ18	255	200
125	400	245	210	185	22	8-φ18	285	225
150	480	280	240	210	24	8-φ23	330	260
200	550	335	295	265	26	12-φ23	385	290
250	650	405	355	320	30	12-φ25	455	330
300	750	460	410	375	30	12-φ25	515	380
350	850	520	470	435	34	16-φ25	545	430
400	950	580	525	485	36	16-φ30	600	480
500	1150	705	650	608	44	20-φ34	730	560

PN25

DN	标准值 Standard value							参考值 Reference value
	L	D	D1	D2	b	Z-φ	D0	H
40	200	145	110	85	16	4-φ18	160	160
50	230	160	125	100	20	4-φ18	185	175
65	290	180	145	120	22	4-φ18	215	180
80	310	195	160	135	22	8-φ18	235	190
100	350	230	190	160	24	8-φ23	260	215
125	400	245	220	188	28	8-φ25	296	250
150	480	300	250	218	30	8-φ25	330	270
200	550	360	310	278	34	12-φ25	380	350



250	650	425	370	332	36	12- ϕ 30	430	410
300	750	485	430	390	40	16- ϕ 30	490	430
350	850	550	490	448	44	16- ϕ 34	545	450
400	950	610	550	505	48	16- ϕ 34	600	560
500	1150	730	660	650	52	20- ϕ 41	730	620

PN40

DN	标准值 Standard value							参考值 Reference value
	L	D	D1	D2	b	Z- ϕ	D0	H
40	200	145	110	85	18	4- ϕ 18	160	160
50	230	160	125	100	20	4- ϕ 18	185	175
65	290	180	145	120	22	8- ϕ 18	215	190
80	310	195	160	135	22	8- ϕ 18	235	190
100	350	230	190	160	24	8- ϕ 23	260	215
125	400	270	220	188	28	8- ϕ 25	296	260
150	480	300	250	218	30	8- ϕ 25	340	270
200	550	375	320	282	38	12- ϕ 30	450	340
250	650	445	385	345	42	12- ϕ 34	500	400
300	750	510	450	408	46	16- ϕ 34	545	425
350	850	570	510	465	52	16- ϕ 34	570	460
400	950	655	585	535	58	16- ϕ 41	625	490
500	1150	755	670	612	62	20- ϕ 48	730	620

PN63

DN	标准值 Standard value							参考值 Reference value
	L	D	D1	D2	b	Z- ϕ	D0	H
50	300	175	135	105	26	4- ϕ 23	210	190
65	340	200	160	130	28	8- ϕ 23	235	205
80	380	210	170	140	30	8- ϕ 23	235	205
100	430	250	200	168	32	8- ϕ 25	270	235



125	500	295	240	202	36	8- ϕ 30	315	265
150	550	340	280	240	38	8- ϕ 34	360	295
200	650	405	345	300	44	12- ϕ 34	420	355
250	775	470	400	352	48	12- ϕ 41	480	405
300	900	530	460	412	54	16- ϕ 41	560	465
350	1025	595	525	475	60	16- ϕ 41	615	515
400	1150	670	585	525	66	16- ϕ 48	675	570
500	1400	800	705	640	70	20- ϕ 54	735	620

PN100

DN	标准值 Standard value							参考值 Reference value
	L	D	D1	D2	b	Z- ϕ	D0	H
50	300	195	145	112	28	4- ϕ 25	210	192
65	340	220	170	138	32	8- ϕ 25	235	207
80	380	230	180	148	34	8- ϕ 25	260	235
100	430	265	210	175	38	8- ϕ 30	295	265
125	500	310	250	210	42	8- ϕ 34	335	313
150	550	350	290	250	46	12- ϕ 34	425	360
200	650	430	360	312	54	12- ϕ 41	450	420
250	775	500	430	382	60	12- ϕ 41	535	480
300	900	585	500	442	70	16- ϕ 48	635	540

PN160

DN	标准值 Standard value							参考值 Reference value
	L	D	D1	D2	b	Z- ϕ	D0	H
50	300	215	165	132	28	8- ϕ 25	140	251
65	340	245	190	152	32	8- ϕ 30	160	282
80	380	260	205	168	34	8- ϕ 30	180	320
100	430	300	240	200	38	8- ϕ 34	210	356



125	500	355	285	238	42	8- ϕ 41	250	393
150	550	390	318	270	46	12- ϕ 41	300	430
200	650	480	400	345	54	12- ϕ 48	360	470
250	775	580	485	425	60	12- ϕ 54	400	514
300	900	665	570	510	70	16- ϕ 54	480	580

八、运输及存贮

1. 运输过程中阀门应全开，两端盖好闷盖，阀瓣、每台包装箱固定好，防止运输过程中磕碰损坏。
2. 阀门到用户仓库或施工现场，应存放在干燥、通风的场所，不得乱仍、乱堆、乱放及露天存放。
3. 存贮的阀门应使其密封副轻微关闭，两端盖好闷盖，以免灰、砂等污物进入内腔。
4. 阀门不能堆叠存放，至使阀门严重变形而影响阀门的使用性能。

8、Transportation and storage

(1). During transportation, the valve should be fully opened, the two ends should be covered with stuffy covers, and the valve disc and each packing box should be fixed to prevent bumps and damage during transportation.

(2). The valve should be stored in a dry and ventilated place when it arrives in the user's warehouse or construction site, and shall not be stored in the open air.

(3). The storage valve should be slightly closed with the sealing pair, and the two ends should be covered with stuffy covers, so as to prevent ash, sand



and other dirt from entering the inner cavity.

(4). The valves cannot be stacked and stored, so that the valve is seriously deformed and affects the performance of the valve.

九、安装、使用和维护

1. 安装前应仔细核查阀门的型号、规格、适用介质、适用温度是否与管道设计相符合。
2. 仔细检查阀门，确认其运输或存贮过程中无脏、污、损坏，清洁完好后才进行安装。
3. 安装时管路的重力不允许施加在阀门上，以免使阀门变形，影响密封性能。
4. 使用前应仔细检查管道内有无残留的锈物、硬物、杂物等，并彻底清除管道内的灰、砂、焊渣、焊条头、氧化皮，清洗洁净管道，以免运行时由于杂物而损坏阀门密封面。
5. 如果管道具有足够的强度能承受对阀门的重量，则支撑是不需要的。否则应设置支撑
6. 如果介质管道温度超过 100℃，在阀门上装烫伤警示牌。

9. Installation, use and maintenance

(1). Before installation, carefully check whether the model, specification, applicable medium and applicable temperature of the valve are consistent with the pipeline design.

(2). Carefully inspect the valve to confirm that it is not dirty, dirty, or



damaged during transportation or storage, and that it is clean and intact before installation.

(3). The gravity of the pipeline is not allowed to be applied to the valve during installation, so as not to deform the valve and affect the sealing performance.

(4). Before use, carefully check whether there is any residual rust, hard matter, sundries, etc. in the pipeline, and thoroughly remove the ash, sand, welding slag, welding rod head, oxide scale in the pipeline, and clean the pipeline, so as to avoid damaging the valve sealing surface due to debris during operation.

(5). If the pipe has enough strength to withstand the weight of the valve, the support is not needed. Otherwise, supports should be set

(6). If the temperature of the medium pipeline exceeds 100° C, install a scald warning sign on the valve.

十、常见故障及排除方法（见表 5）

10. Common faults and troubleshooting methods (Table 5)

表 5 常见故障及排除方法

Table 5 Common faults and troubleshooting methods

故障的描述 Describe the causes of the problem	原因分析 Cause analyze	预防和排除方法 Prevention and elimination methods
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<p>一、摇杆机构损坏 1. Damage to the rocker mechanism</p>	<p>1. 阀前阀后压力接近平衡或波动密大, 使阀瓣反复拍打而损坏阀瓣和其他件 2. 摇杆机构装配不正产生阀瓣掉上掉下缺陷 3. 摇杆与阀瓣和芯轴连接处松动或磨损 4. 摇杆变形或断裂 1. The pressure before and after the valve is close to equilibrium or fluctuates densely, so that the valve disc is repeatedly patted and the valve disc and other parts are damaged 2. The rocker mechanism is not properly assembled, resulting in defects such as the valve disc falling up and down 3. The connection between the rocker rod and the valve disc and the mandrel is loose or worn 4. Deformation or fracture of the rocker 1.1 Stabilize the pressure of the pipeline</p>	<p>1.1 稳定管路的压力 2.1 装配和和要正确, 阀瓣关闭后应密合良好 3.1 连接处松动、磨损后要及时修理, 损坏严重的应更换 4.1 摇杆变形要校正, 断裂应更换 1.1 Stabilize the pressure of the pipeline 2.1 The assembly and harmony should be correct, and the valve disc should be well sealed after closing 3.1 The connection should be repaired in time after it is loose and worn, and it should be replaced if the damage is serious 4.1 The deformation of the joystick should be corrected, and the fracture should be replaced</p>
<p>二、介质倒流 2. Medium backflow</p>	<p>1. 摇杆机构磨损严重, 使密封面不重合 2. 密封面磨损严重 3. 密封面间有杂质, 硬物压伤密封面 1. The rocker mechanism is seriously worn, so that the sealing surface does not coincide 2. The sealing surface is seriously worn 3. There are impurities between the sealing surfaces, and hard objects crush the sealing surfaces</p>	<p>1.1 稳定管路的压力更换销轴、芯轴、轴套等严重磨损零件 2.1 研磨密封面 3.1 彻底清理杂物, 清洗管道 3.2 研磨密封面 3.3 压痕很深用氩弧焊补焊后修磨 3.4 含杂质的介质应阀设置过滤器或排污管线 1.1 Stabilize the pressure of the pipeline and replace the pins, mandrels, shafts and other seriously worn parts 2.1 Grinding the sealing surface 3.1 Clean up debris thoroughly and clean pipes 3.2 Grinding the sealing surface</p>

		<p>3.3 The indentation is very deep, and it is reground after repair welding with argon arc welding</p> <p>3.4 The medium containing impurities should be equipped with a filter or sewage pipeline</p>
<p>二、中头外漏</p> <p>3. Leakage of the middle head</p>	<p>1. 密封垫压紧力不够</p> <p>2. 螺栓受力不均</p> <p>3. 密封垫弹性已失效、老化</p> <p>1. The gasket grip is not strong enough</p> <p>2. The bolt is stressed unevenly</p> <p>3. The elasticity of the gasket has failed and aged</p>	<p>1.1 带压情况下拧紧压紧螺栓或螺母</p> <p>2.1 螺栓或螺母应对角线均匀拧紧</p> <p>3.1 更换缠绕式垫片</p> <p>1.1 Tighten the compression bolt or nut under pressure</p> <p>2.1 The bolt or nut should be tightened evenly in the diagonal line</p> <p>3.1 Replace the spiral wound gasket</p>

☆ 制造商提示:

本产品必须在额定压力、额定温度范围内使用，切不得超出适用介质的范围。否则，若发生事故，后果自负。

☆ Manufacturer's Tips:

This product must be used within the rated pressure and temperature range, and must not exceed the range of applicable media. Otherwise, if an accident occurs, you will bear the consequences.



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