

快速关闭抽汽止回阀

用途

快速关闭抽汽止回阀又名快关逆止阀或快关门，该阀主要用于紧急止回和电厂汽轮机管路系统，在汽轮机突然失压的情况下，能在0.5~1s关闭、防止管路系统蒸汽和冷凝水倒流而导致汽轮机损坏。

特点

该阀由阀门本体、快速助关装置与控制系统组成。

阀瓣采用大角度斜置式，也有旋启及升降接触式，由气(液)压缸助关，使阀瓣在0.5~1s的时间内实现快速关闭。

阀瓣采用金属硬密封结构，通过气(液)压缸作用在阀瓣的推力，不仅可以达到快速关闭、止回的作用，在低压差的情况下还可以起到截止的作用。

密封副采用硬面接触，阀瓣密封面使用高耐磨材料对焊加工而成，提高了阀瓣在高流速的介质下的耐磨性和冲刷性能，并且提高了阀门在高温、高压的工况下的密封性能。

该阀可适用于水、气体、蒸汽、油品等场合，适用温度为-29~590°C

工作原理

(1)正常状态

当汽轮机开始工作时，电磁铁得电、高压油(压缩空气)经电磁阀进入抽汽止回阀的动作油(气)缸的有杆腔，推动活塞向上移动，阀瓣在介质的压力下打开，动作油缸的无杆腔通过电磁阀回油、气动则通过快速式排气阀排气。电磁铁失电，高压油(压缩空气)经电磁阀进入抽汽止回阀的动作油(气)缸的有杆腔，使阀瓣快速关闭，并保持抽(气)缸内的压力。

(2)事故状态

事故电信号使电磁铁失电，电磁阀复位，动作油(气)缸的有杆腔切换到回油(排气)，同时动作油(气)缸的无杆腔进高压油(压缩气)，使阀瓣动作，快速切断管路。

Use

Quick closure steam extraction check valve is also called quick closure inverted valve or quick shutdown. This valve is mainly applied to the emergent non-return and pipeline system of power plant steam turbine. It can shut down within 0.5~1s to avoid damaging steam turbine due to the inverse flow of steam and condensed water inside pipeline system

Feature

This valve consists of valve body, quick closedown assistance device and control system. Valve flap adopts large angle oblique placement to shorten on-off stroke of startup and shutoff. There are also gas(liquid) cylinder to help closure and quickly shut down valve flap within 0.5~1s.

This valve adopts eccentric metal hard seal structure. Through the thrust functioned by gas (liquid) cylinder on valve flap, the valve can not only achieve quick closure and non-return function but also perform disconnection function under the condition of low pressure difference.

Seal gland adopts hard surface contact and valve flap seal surface is processed through resurfacing welding by utilizing high-abrasion material to have enhanced abrasion and flushing performance of valve flap under the medium with high flow speed, thus enhancing seal performance of valve under operating condition of high temperature and pressure. Optimized valve rod eccentric position makes valve flap at smaller rotary moment of inertia in time of closure to reduce the impact of valve flap seal surface on valve seat. Unique oblique cone seal surface structure can ensure reliable seal as well as smooth startup and shutoff, and will not result in seizure phenomenon of valve flap due to quick closure and high pressure. Three-dimensional eccentric hard seal structure realizes non-friction of seal gland in time of startup and shutoff, namely separation after startup and seal after closing contact. It can automatically compensate the abrasion of seal surface caused by long-term use, thus greatly enhancing service lifetime of valve. This valve can be applied to occasions such as water, gas, steam, petroleum products. Applicable temperature: -29~425°C(carbon steel), -29~550°C. (alloy steel), -196~600°C(stainless steel).

Working Principle

(1) normal state

When the turbine starts to work, the electromagnet is energized and the high pressure oil (compressed air) enters the rod of the action oil (gas) cylinder of the extraction check valve via the solenoid valve to push the piston upwards and the valve is under pressure Open, action cylinder rodless cavity through the solenoid valve back to the oil, pneumatic exhaust through the exhaust valve. Electromagnet loss of power, high pressure oil (compressed air) through the solenoid valve into the extraction valve check valve action oil (gas) cylinder of the rod cavity, so that the valve quickly closed, and keep pumping (gas) cylinder pressure.

(2) the state of the accident

The electric signal of the accident causes the electromagnet to lose power, the solenoid valve is reset, the lever of the action oil (gas) cylinder is switched to the oil return (exhaust), and the rod of the action oil (gas), So that the valve flap action, quickly cut off the pipeline.

主要零件材料 Material Formain Parts

序号 No.	名称 Name	材料 Material
1	支架 Yoke	WCB
2	活塞杆 cylinder rod	1Cr18Ni9Ti
3	密封材料 sealing material	石墨、聚四氟乙烯 Graphite, PTFE
4	阀体 Body	碳钢, 合金钢 Carbon steel, alloy steel
5	密封面 seal face	W, 507/507Mo, STL6/STL12
6	阀瓣 Dise	碳钢, 合金钢 Carbon steel, alloy steel
7	阀杆 stem	1Cr18Ni9Ti

注：如有产品参数疑问请致电上海电站阀门有限公司详询，电话：021-59222288

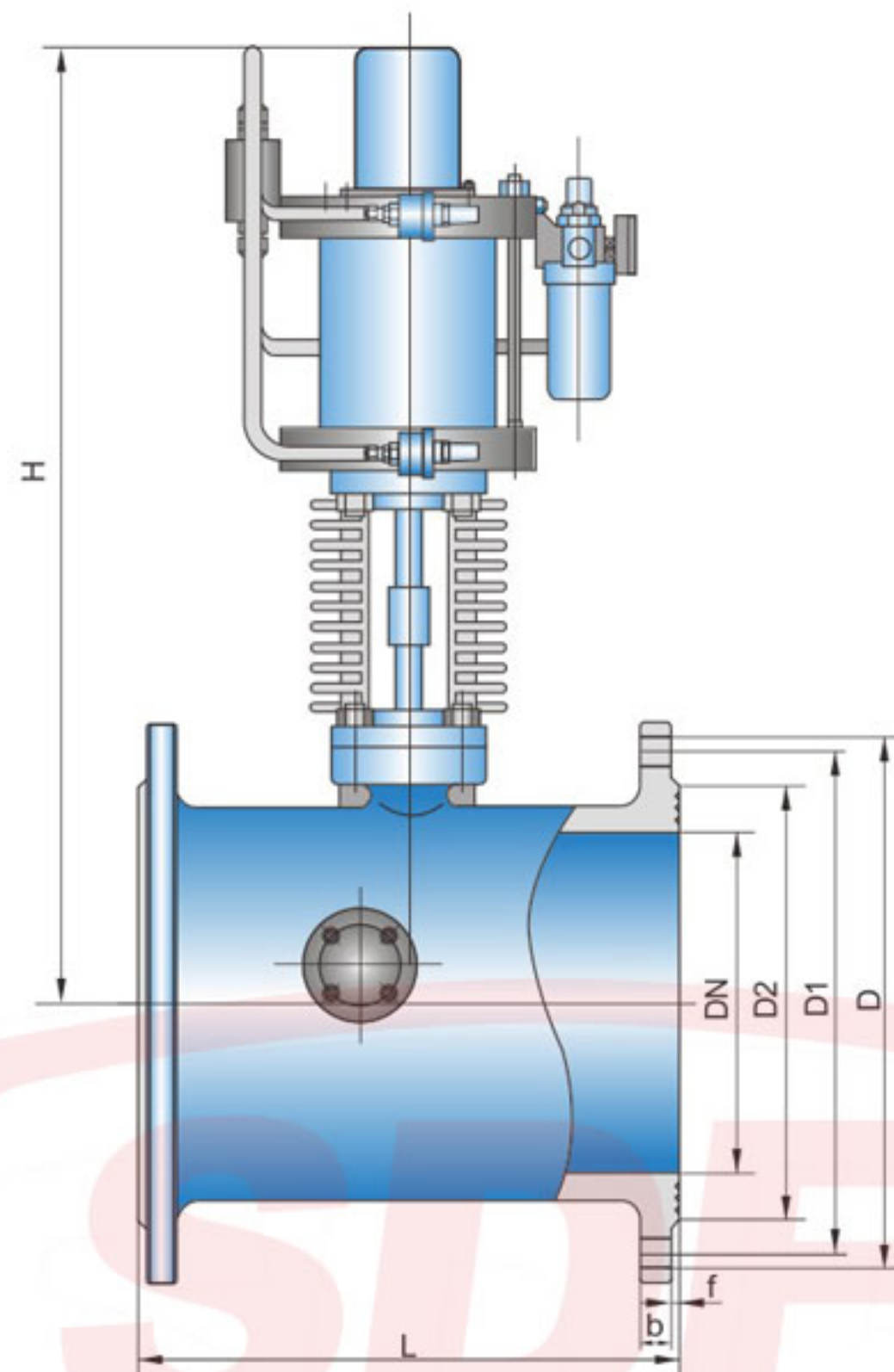
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Quick Closure Steam Extraction Check Valve

快速关闭抽汽止回阀

快速关闭抽汽止回阀简图(如下所示)

Quick Close Steam Extraction Check Valve (see below)



主要外形尺寸和连接尺寸 Main Dimensions And Connection Dimensions

DN(mm)	D	D1	D2	b	f	Z-Φd	L	H
100	215	180	155	20	3	8-18	250	610
125	245	210	185	22	3	8-18	280	645
150	280	240	210	24	3	8-23	300	675
200	335	295	265	26	3	12-23	330	692
250	405	355	320	30	3	12-25	370	670
300	460	410	375	30	4	12-25	400	845
350	520	470	435	34	4	16-25	450	877
400	580	525	485	36	4	16-30	500	925
450	640	585	545	40	4	20-30	550	1025
500	705	650	608	44	4	20-34	600	1120
600	840	770	718	48	5	20-41	650	1350
700	910	840	788	50	5	24-41	700	1480
800	1020	950	898	52	5	24-41	740	1670

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