

CHECK VALVE QUICK CLOSING NON-RETURN VALVE

Quick closing non-return valves mainly used in the turbine extraction pipelines that supply steam to the primary-secondary heater, auxiliary turbines and other equipment. They prevent reversal of flow and provide a quick positive shut off, thus limiting damage to the source equipment in the event of a trip.



KEY FEATURES

- Closing in less than a second
- Complete disc closure at no flow condition
- Reliable reverse flow prevention
- Side mounted pneumatic spring return actuator

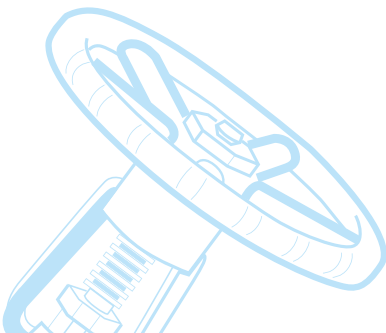
BENEFITS

- Protects sophisticated systems & equipment from damage
- Compact actuator for reduced footprint
- Reduced pressure loss

SPECIFICATIONS

Codes & Standards

● Pressure rating	#150 through #2500
● Sizes	4" TO 24" (DN-100 TO DN-600)
● Mfg. standards	API 594 / BS 1868 / ASME B16.34
● Flange details	STD AS PER ASME B16.5; OTHERS AS PER BS, AWWA, EN, DIN
● End to end dimensions	AS PER ASME B16.10
● Testing standards	API 598 / BS EN 12266-Part 1 & Part 2
● Buttweld end details	AS PER ASME B 16.25





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OPERATION

These special type of swing-disk check valves are usually installed on the turbine steam bleeding lines of the feedwater preheating stages of modern power station cycles. The main function is the quick shut Off Of the bleeding steam pipes, in case of loss of turbine load, to prevent the dangerous water carryover from the preheater back to the turbine.

Usually the actuator is composed of a pneumatic single acting actuator (Spring Return).

The actuator is mounted on one side of the swing check valve body and connected to the valve disk through shaft.

The actuator air pressure range is typically between 4 and 8 bar.

Under manual operation conditions, compressed air is fed in the cylinder to load the spring and the check valve is free to operate automatically in conventional way.

In the upset or emergency condition of the turbine the compressed air is vented, the spring is free to extend inside the cylinder and the actuator piston rotates the valve disk to intercept the steam bleeding pipe. The main function of the spring is to overrun the starting friction on the packing and pivot bearings.

Besides the usual optional, we can supply also valves with:

- Antirotating, anti-oscillating feature;
- Damping device on the shaft operating the valve disk;
- Three-way valve (to be installed on the compressed air feed line) manually operated by a spring loaded lever (the spring is needed to run back the lever in the valve closed position) to test during maintenance the operation Of the check valve and actuator;
- Micros-witches on the actuator for the indication of:
 - Check valve open during normal Operation,
 - Check valve closed.



CONTROL CIRCUIT

Control Circuit could be different depending on application. Please apply to our sale or technical department if you need to obtain more information about the control circuit.

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INTEGRAL PROCESS CONTROLS INDIA PVT. LTD.

Registered Office & Works

W-55, S Block, MIDC, Bhosari, Pune - 411026, Maharashtra, India.

☎ +91 20 66304580 / 83 ✉ sales.ipc@ipcvalves.com 🌐 www.ipcvalves.com

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