

# Installation & Operating Instructions

For

**Dixon Bayco**

## 3" Swing Check Valves for Pneumatic Service

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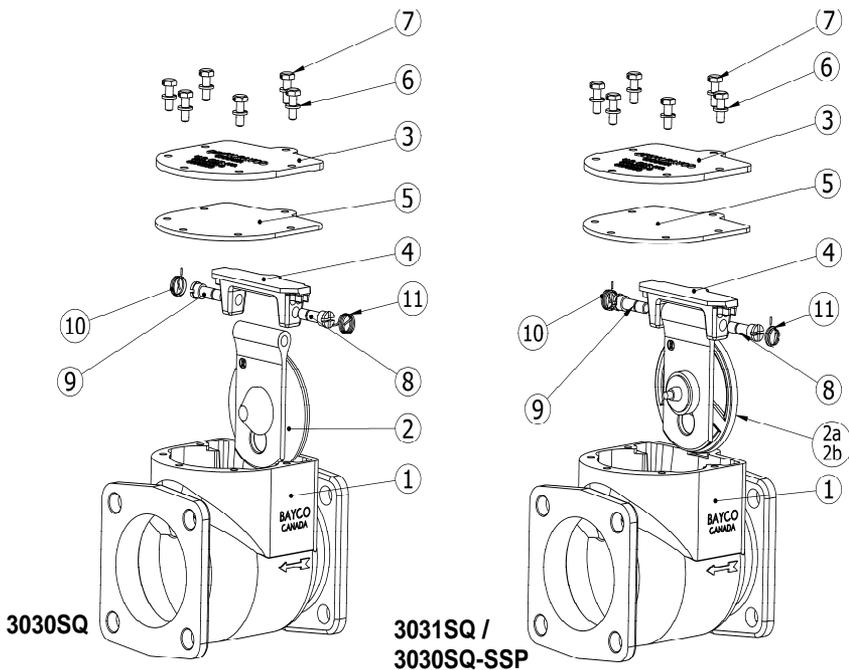
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## 3" Swing Check Valves for Pneumatic Service



Item	Qty.	Description
1	1	Body, Square, Flange
2	1	Flapper Assembly- 2a (Metal Flapper) 2b (Silicone Flapper)
3	1	Top Cap
4	1	Flap Valve Yoke
5	1	Gasket
6	6	Bolt
7	6	Washer
8	1	Shaft LH, SS
9	1	Shaft RH, SS
10	1	Spring RH
11	1	Spring LH
Repair Kit 3030RK3 includes items 10 and 11		
Security Kit 3030SK includes two drilled bolts (6) and a wire lead seal		
Repair Kit 3090RK2 includes items 2b, 4, 5, 6, 7, 8, 9, 10 and 11		
Repair Kit 3091RK1 includes items 2a, 4, 5, 6, 7, 8, 9, 10 and 11		

To properly operate and maintain your Dixon Bayco 3030 / 3031 swing check valve the following instructions are provided. Please read with care as improper handling or maintenance may cause a hazardous condition.



**Do not modify your Dixon Bayco swing check valve for any reason. It can result in a hazardous condition due to operating difficulties or operation malfunction. Disassembly or tampering will void the product warranty.**

Immediately remove from service any swing check valve that is not performing satisfactorily.

### Installation

Dixon Bayco swing check valves are properly adjusted and ready to use upon leaving the factory. Swing check valves are designed to be tough and to provide long service with reasonable care and handling.

1. Ensure arrow is pointing downstream of product flow when installing.
2. Apply appropriate gasket for square-flanged (3030SQ / 3031SQ) and round-flanged (3030RD / 3031RD) models.

### Temperature

Dixon Bayco 3030 series swing check valves with molded flappers are not recommended for direct blower mounted service. For direct blower mounted service use 3031 (or 3030-SSP) series swing checks valves.

### Inspection and Maintenance

Swing check valves can fail to operate if not properly maintained. Frequently check for damage, loose or missing parts.

Swing check valves assure one-way airflow during the off loading or unloading of product. Swing check valves prevent back flow of product into the blower or piping system. These safety devices consist of a simple flapper valve that swings clear of the air stream during the normal off-loading operation, but will immediately close when there is an air stoppage or airline pressure reversal. Once installed, the valves are often ignored. However, they are a crucial element in the proper operation of the dry bulk air transfer systems and the protection of expensive blower equipment.

Swing check valve simplicity and historical durability are probably the reason for inspection complacency. But, swing checks are subject to temperature extremes and vibration fatigue that can affect wear and longevity. Wear in particular can result as flapper and hinge mechanisms vibrate constantly during road travel. Also remember that blowers raise intake air temperatures by as much as 200°F. That means if the outside is 100°F, then airline plumbing (including swing checks) can reach 300°F. High temperatures combined with pulsation stress from the blower and road travel vibration creates a hostile working environment that warrants performance inspections on a regular basis.

There are two basic ways to inspect swing checks: (a) visual/manual, on the tanker and (b) removed from tanker, on a test stand.



**Do not attempt to inspect the valve while in use; this may result in severe damage or injury.**

### How to Inspect

The complete valve assembly may be removed and replaced without removing the valve body from the system. Please note that the shafts and springs are designed for left and right orientation, ensure that these components are located correctly. The colored spring should be used in conjunction with the right hand threaded shaft.

1. Remove the inspection cap/cover and hand operate valve to ensure springs are in good working order and flapper seats properly without restriction.
2. Whilst pulling the flapper forwards, pull upwards on the valve yoke to withdraw the complete flapper assembly (take care to ensure that springs are secure during valve withdrawal).
3. Inspect valve seat and valve for wear or gaps.
4. Inspect for product stuck in flapper assembly or valve seat causing the flapper to hang open.
5. If springs are replaced, please ensure that, after replacement, the valve assembly is free to swing to the fully open position (90°) without excessive resistance. If excessive resistance is felt:
  - Ensure that the springs are fully pressed onto the shaft.
  - Reduce spring pre-load by moving torsion spring legs to alternative pre-load stop. The correct amount of pre-load allows the valve to be freely opened to 90°.

Should problems be encountered replace valve immediately.

Your Dixon Bayco 3030 / 3031 swing check valve is designed for minimal flow restriction and low pressure drop during operation. The valve return springs are designed to provide sufficient pre-load to return the valve to the closed position with only limited pre-load. Excessive pre-loading of the return springs may lead to premature failure.

### Inspection Frequency

Swing check valves should be routinely inspected as part of a preventative maintenance schedule for dry bulk tankers. The units should be given, at a minimum, a visual/manual inspection every 2-3 months.

Do not use anything other than genuine Dixon Bayco parts in your Dixon Bayco swing check valve. Repair kits are available for all replaceable parts (refer to parts breakdown for details). Use of non-approved or modified parts can result in a hazardous condition due to operating difficulties or operation malfunction. Modification or tampering will void the product warranty.

### Dixon Bayco Warranty

For complete warranty information, please refer to the latest Dixon catalog.