



## Nil-Cor Flanged Ball Check Valves

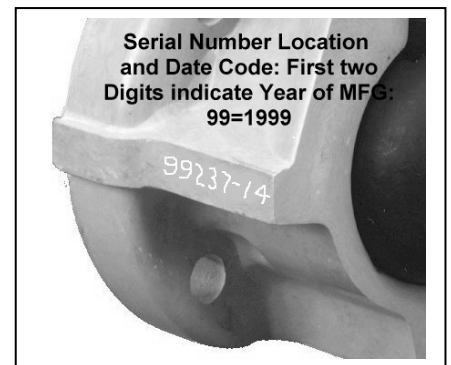
### Installation, Maintenance and Operating Instructions

#### Series 300, 310 and 410

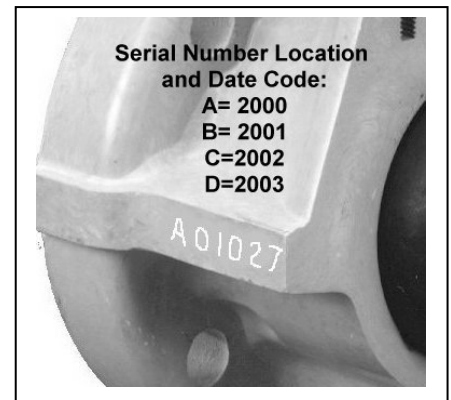
**Nil-Cor Check Valves** have been designed for easy installation, assembly and maintenance. We recommend installation in piping systems with flat face flanges. When installing against raised face flanges, spacer rings should be used to provide a flat surface to the face of the valve flange. The ball and seat assembly are retained by a threaded body insert that can be removed for inspection and can be serviced by qualified maintenance personnel.



Serial Number  
Date Code  
Prior to Jan. 2,  
2000



Serial Number  
Date Code  
After Jan. 2,  
2000



**CAUTION:** Refer to the Nil-Cor Corrosion Guide, Catalog 1000, to verify suitability for chemical applications. Contact factory for assistance for chemicals not listed.

**Installation**

- 1) Because Nil-Cor Check Valves are unidirectional, it is important to ensure that the arrow on valve points in the direction of free flow.
- 2) Pipe must be properly aligned and provisions made to minimize stress from thermal expansion. Always review pipe manufacturer's recommendations.
- 3) TFE envelope or 50 Durometer Rubber gaskets are recommended.
- 4) Flange bolts should be evenly torqued, using a torque wrench, in cross rotation to prevent flange damage. We recommend installation in piping systems with flat face flanges. When installing against raised face flanges, spacer rings should be used to provide a flat surface to the face of the valve flange. Bolts should be lubricated for ease of installation.

**Removal/Disassembly**

For your safety, it is important that these precautions be taken before removal of the valve from the line or before disassembly:

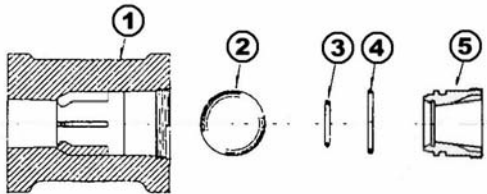
- 1) Wear protective clothing or equipment appropriate for the particular fluid.
- 2) Observe the precautions and follow the procedures in Disassembly Item 1.

**Disassembly**

- 1) Isolate and depressurize the valve.
  - a. Take precaution to properly support pipeline.
  - b. Temporarily cap off exposed pipeline to prevent infiltration of debris.
- 2) Remove valve from line.
- 3) Use insert removal tool to remove threaded insert. Remove ball.

**Assembly**

- 1) Inspect and clean all parts to make sure they are free of dust, grit or other material. New O-ring and ball seat should be used after the valve has been in service. Inspect seat and body retainer rings for damage. If damaged, a complete seat kit should be used.
- 2) A good lubricant compatible with fluid service should be applied lightly to seat, seal and body insert threads.
- 3) Replace ball.
- 4) Screw body insert into the valve body (flange serrations between body and insert are flush when properly installed). Tighten to torque values in table below.



Item	Description	Material
1	Body	Vinyl ester w/Glass Fiber or Graphite Fiber/Polysulfone w/Glass Fiber
2	Ball	Solid Virgin PTFE
3	Seat O-Ring	PTFE Coated Viton
4	Body O-Ring	PTFE Coated Viton
5	Body Insert	Vinyl ester w/Glass Fiber or Graphite Fiber/Polysulfone w/Glass Fiber

Valve Size	Flange Bolt Torque Range (ft. lbs.)	Insert Tightening Torque (ft. lbs.)
1"	20-30	4
1.5"	20-30	6
2"	20-45	8
3"	25-50	14
4"	25-50	20

