PIP PNSMV055
Nickel and Nickel Alloy
Check Valve Descriptions
PURPOSE AND USE OF PROCESS INDUSTRY PRACTICES

In an effort to minimize the cost of process industry facilities, this Practice has been prepared from the technical requirements in the existing standards of major industrial users, contractors, or standards organizations. By harmonizing these technical requirements into a single set of Practices, administrative, application, and engineering costs to both the purchaser and the manufacturer should be reduced. While this Practice is expected to incorporate the majority of requirements of most users, individual applications may involve requirements that will be appended to and take precedence over this Practice. Determinations concerning fitness for purpose and particular matters or application of the Practice to particular project or engineering situations should not be made solely on information contained in these materials. The use of trade names from time to time should not be viewed as an expression of preference but rather recognized as normal usage in the trade. Other brands having the same specifications are equally correct and may be substituted for those named. All Practices or guidelines are intended to be consistent with applicable laws and regulations including OSHA requirements. To the extent these Practices or guidelines should conflict with OSHA or other applicable laws or regulations, such laws or regulations must be followed. Consult an appropriate professional before applying or acting on any material contained in or suggested by the Practice.

This Practice is subject to revision at any time.

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1. Introduction

1.1 Purpose
This Practice provides requirements for suppliers providing nickel and nickel alloy check valves included in PIP Piping Line Class Material Specifications.

1.2 Scope
This Practice describes the requirements for nickel and nickel alloy check valves.

2. References
Applicable parts of the following Practice shall be considered an integral part of this Practice. The edition in effect on the date of contract award shall be used, except as otherwise noted. Short titles will be used herein where appropriate.

2.1 Process Industry Practices (PIP)
- PIP PNCM0004 - Valve Commodity Codes Designator System

3. Valve Designation System
3.1 For a full explanation of the format used to structure the valve numbers listed within this Practice, refer to PIP PNCM0004.

3.2 This Practice provides descriptions for three types of check valves: dual plate, lift, and swing. Therefore, the first two characters in the valve numbers are CD (dual plate), CL (lift), and CS (swing).

3.3 The valves listed in Sections 5 and 6 of this Practice are sorted by the unique valve number designation in ascending alphanumeric sequence (e.g., CD01NU700, CS01NU500, CS03NU500).

4. Notes
4.1 Occasionally, valve size ranges listed in this Practice are broader than the size ranges shown for the same valves on a given piping line class material specification. While the “most common practice” has been used to specify valve size ranges on line class specifications, a purchaser may need to utilize a valve in a size outside this “common practice” choice. Thus, for reference purposes, the full size range for which a given valve is typically manufactured is shown in this Practice.

4.2 Requirements for accessories (e.g., dampeners, dash pots, slam retarders, power assists) for swing check valves are not specified in piping line specifications of valve specifications. Purchasers shall define the requirements for such accessories in their specifications.
5. **Cross Reference**

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<thead>
<tr>
<th>Valve Number</th>
<th>Applicable Line Classes</th>
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<td>1NM0B01, 1NM0S01</td>
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<td>CS06NM501</td>
<td>6NM0B02</td>
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</table>
6. Valve Descriptions

Description of CHECK Valve (CD01NC500):
- Type: Check
- Design Type: Dual Plate, Retainerless
- Valve Size: NPS 8 -to- NPS 24
- Class: ASME 150
- Ends: Flanged RF
- Body: Alloy C (ASTM A494-CW-12MW)
- Trim: ASTM A494-CW-12MW
- Hinge Pin: Alloy C or Alloy C276
- Springs: Inconel X-750
- Stop Pin: Alloy C or Alloy C276
- Body Type: Double Flanged
- Installation: Horizontal - Hinge Pin Vertical or Vertical - Upward Flow

The standards are:
- DESIGN: API 594 Type A
- ENDS: ASME B16.5
- RATING: ASME B16.34
- TESTING: API 598
- DIMENSIONAL: API 594

Description of CHECK Valve (CD01NC700):
- Type: Check
- Design Type: Dual Plate, Retainerless
- Valve Size: NPS 2 -to- NPS 8
- Class: ASME 150
- Ends: RF
- Body: Alloy C (ASTM A494-CW-12MW)
- Trim: ASTM A494-CW-12MW
- Hinge Pin: Alloy C or Alloy C276
- Springs: Inconel X-750
- Stop Pin: Alloy C or Alloy C276
- Body Type: Wafer
- Installation: Horizontal - Hinge Pin Vertical or Vertical - Upward Flow

The standards are:
- DESIGN: API 594 Type A
- ENDS: ASME B16.5
- RATING: ASME B16.34
- TESTING: API 598
- DIMENSIONAL: API 594

Description of CHECK Valve (CD01NM500):
- Type: Check
- Design Type: Dual Plate, Retainerless
- Valve Size: NPS 8 -to- NPS 24
- Class: ASME 150
- Ends: Flanged RF
- Body: Alloy 400 (ASTM A494-M-35-1)
- Trim: API 594 TRIM 9
- Hinge Pin: Alloy 400
- Springs: Inconel X-750
- Stop Pin: Alloy 400
- Body Type: Double Flanged
- Installation: Horizontal - Hinge Pin Vertical or Vertical - Upward Flow

The standards are:
- DESIGN: API 594 Type A
- ENDS: ASME B16.5
- RATING: ASME B16.34
- TESTING: API 598
- DIMENSIONAL: API 594
Description of CHECK Valve (CD01NM501):

Type: Check  
Design Type: Dual Plate, Retainerless  
Valve Size: NPS 8 -to- NPS 24  
Class: ASME 150  
Ends: Flanged RF  
Body: Alloy 400 (ASTM A494-M-35-1)  
Trim: API 594 TRIM 9  
Hinge Pin: Alloy 400  
Springs: Inconel X-750  
Stop Pin: Alloy 400  
Body Type: Double Flanged  
Installation: Horizontal - Hinge Pin Vertical or Vertical - Upward Flow  
The standards are:  
DESIGN: API 594 Type A  
ENDS: ASME B16.5  
RATING: ASME B16.34  
TESTING: API 598  
DIMENSIONAL: API 594

Description of CHECK Valve (CD01NM700):

Type: Check  
Design Type: Dual Plate, Retainerless  
Valve Size: NPS 2 -to- NPS 24  
Class: ASME 150  
Ends: RF  
Body: Alloy 400 (ASTM A494-M-35-1)  
Trim: API 594 TRIM 9  
Hinge Pin: Alloy 400  
Springs: Inconel X-750  
Stop Pin: Alloy 400  
Body Type: Wafer  
Installation: Horizontal - Hinge Pin Vertical or Vertical - Upward Flow  
The standards are:  
DESIGN: API 594 Type A  
ENDS: ASME B16.5  
RATING: ASME B16.34  
TESTING: API 598  
DIMENSIONAL: API 594

Description of CHECK Valve (CD01NM701):

Type: Check  
Design Type: Dual Plate, Retainerless  
Valve Size: NPS 3 -to- NPS 24  
Class: ASME 150  
Ends: RF  
Body: Alloy 400 (ASTM A494-M-35-1)  
Trim: API 594 TRIM 9  
Hinge Pin: Alloy K500  
Springs: Inconel X-750  
Stop Pin: Alloy K500  
Body Type: Wafer  
Installation: Horizontal - Hinge Pin Vertical or Vertical - Upward Flow  
The standards are:  
DESIGN: API 594 Type A  
ENDS: ASME B16.5  
RATING: ASME B16.34  
TESTING: API 598  
DIMENSIONAL: API 594
Description of CHECK Valve (CD01NM702):

Type: ........................................ Check
Design Type: ............................... Dual Plate, Retainerless
Valve Size: .................................. NPS 2 -to- NPS 24
Class: ........................................ ASME 150
Ends: ......................................... RF
Body: ............................. Alloy 400 (ASTM A494-M-35-1)
Trim: .......................................... API 594 TRIM 9
Hinge Pin: .................................. Alloy 400
Springs: ................................. Inconel X-750
Stop Pin: ................................. Alloy 400
Body Type: ................................. Lugged
Installation: ............................... Horizontal - Hinge Pin Vertical or Vertical - Upward Flow

The standards are:
DESIGN: ................................. API 594 Type A
ENDS: ...................................... ASME B16.5
RATING: .................................... ASME B16.34
TESTING: ................................. API 598
DIMENSIONAL: ........................... API 594

Description of CHECK Valve (CD01NM703):

Type: ........................................ Check
Design Type: ............................... Dual Plate, Retainerless
Valve Size: .................................. NPS 2 -to- NPS 24
Class: ........................................ ASME 150
Ends: ......................................... RF
Body: ............................. Alloy 400 (ASTM A494-M-35-1)
Trim: .......................................... API 594 TRIM 9
Hinge Pin: .................................. Alloy 400
Springs: ................................. Inconel X-750
Stop Pin: ................................. Alloy 400
Body Type: ................................. Lugged
Installation: ............................... Horizontal - Hinge Pin Vertical or Vertical - Upward Flow

The standards are:
DESIGN: ................................. API 594 Type A
ENDS: ...................................... ASME B16.5
RATING: .................................... ASME B16.34
TESTING: ................................. API 598
DIMENSIONAL: ........................... API 594

Description of CHECK Valve (CD01NU700):

Type: ........................................ Check
Design Type: ............................... Dual Plate, Retainerless
Valve Size: .................................. NPS 2 -to- NPS 12
Class: ........................................ ASME 150
Ends: ......................................... RF
Body: ............................. Alloy 20 (ASTM A351-CN7M)
Trim: .......................................... API 594 TRIM 13
Hinge Pin: .................................. Alloy 20
Springs: ................................. Inconel X-750
Stop Pin: ................................. Alloy 20
Body Type: ................................. Wafer
Installation: ............................... Horizontal - Hinge Pin Vertical or Vertical - Upward Flow

The standards are:
DESIGN: ................................. API 594 Type A
ENDS: ...................................... ASME B16.5
RATING: .................................... ASME B16.34
TESTING: ................................. API 598
DIMENSIONAL: ........................... API 594
Description of CHECK Valve (CD03NC700):

Type: Check
Design Type: Dual Plate, Retainerless
Valve Size: NPS 2 -to- NPS 8
Class: ASME 300
Ends: RF
Body: Alloy C (ASTM A494-CW-12MW)
Trim: Alloy C or Alloy C276
Hinge Pin: Alloy C or Alloy C276
Springs: Inconel X-750
Stop Pin: Alloy C or Alloy C276
Body Type: Wafer
Installation: Horizontal - Hinge Pin Vertical or Vertical - Upward Flow

The standards are:

- DESIGN: API 594 Type A
- ENDS: ASME B16.5
- RATING: ASME B16.34
- TESTING: API 598
- DIMENSIONAL: API 594

Description of CHECK Valve (CD03NM500):

Type: Check
Design Type: Dual Plate, Retainerless
Valve Size: NPS 12 -to- NPS 24
Class: ASME 300
Ends: Flanged RF
Body: Alloy 400 (ASTM A494-M-35-1)
Trim: API 594 TRIM 9
Hinge Pin: Alloy 400
Springs: Inconel X-750
Stop Pin: Alloy 400
Body Type: Double Flanged
Installation: Horizontal - Hinge Pin Vertical or Vertical - Upward Flow

The standards are:

- DESIGN: API 594 Type A
- ENDS: ASME B16.5
- RATING: ASME B16.34
- TESTING: API 598
- DIMENSIONAL: API 594

Description of CHECK Valve (CD03NM501):

Type: Check
Design Type: Dual Plate, Retainerless
Valve Size: NPS 12 -to- NPS 12
Class: ASME 300
Ends: Flanged RF
Body: Alloy 400 (ASTM A494-M-35-1)
Trim: API 594 TRIM 9
Hinge Pin: Alloy 400
Springs: Inconel X-750
Stop Pin: Alloy 400
Body Type: Double Flanged
Installation: Horizontal - Hinge Pin Vertical or Vertical - Upward Flow

The standards are:

- DESIGN: API 594 Type A
- ENDS: ASME B16.5
- RATING: ASME B16.34
- TESTING: API 598
- DIMENSIONAL: API 594
Description of CHECK Valve (CD03NM700):

Type: Check
Design Type: Dual Plate, Retainerless
Valve Size: NPS 2 -to- NPS 24
Class: ASME 300
Ends: RF
Body: Alloy 400 (ASTM A494-M-35-1)
Trim: Alloy 400
Hinge Pin: Alloy 400
Springs: Inconel X-750
Stop Pin: Alloy 400
Body Type: Wafer
Installation: Horizontal - Hinge Pin Vertical or Vertical - Upward Flow

The standards are:
DESIGN: API 594 Type A
ENDS: ASME B16.5
RATING: ASME B16.34
TESTING: API 598
DIMENSIONAL: API 594

Description of CHECK Valve (CD03NM701):

Type: Check
Design Type: Dual Plate, Retainerless
Valve Size: NPS 3 -to- NPS 24
Class: ASME 300
Ends: RF
Body: Alloy 400 (ASTM A494-M-35-1)
Trim: Alloy 400
Hinge Pin: Alloy K500
Springs: Inconel X-750
Stop Pin: Alloy 400
Body Type: Wafer
Installation: Horizontal - Hinge Pin Vertical or Vertical - Upward Flow

The standards are:
DESIGN: API 594 Type A
ENDS: ASME B16.5
RATING: ASME B16.34
TESTING: API 598
DIMENSIONAL: API 594

Description of CHECK Valve (CD03NM702):

Type: Check
Design Type: Dual Plate, Retainerless
Valve Size: NPS 2 -to- NPS 24
Class: ASME 300
Ends: RF
Body: Alloy 400 (ASTM A494-M-35-1)
Trim: API 594 TRIM 9
Hinge Pin: Alloy 400
Springs: Inconel X-750
Stop Pin: Alloy 400
Body Type: Lugged
Installation: Horizontal - Hinge Pin Vertical or Vertical - Upward Flow

The standards are:
DESIGN: API 594 Type A
ENDS: ASME B16.5
RATING: ASME B16.34
TESTING: API 598
DIMENSIONAL: API 594
Description of CHECK Valve (CD03NM703):

Type: Check
Design Type: Dual Plate, Retainerless
Valve Size: NPS 2 -to- NPS 24
Class: ASME 300
Ends: RF
Body: Alloy 400 (ASTM A494-M-35-1)
Trim: API 594 TRIM 9
Hinge Pin: Alloy 400
Springs: Inconel X-750
Stop Pin: Alloy 400
Body Type: Lugged
Installation: Horizontal - Hinge Pin Vertical or Vertical - Upward Flow

The standards are:

DESIGN: API 594 Type A
ENDS: ASME B16.5
RATING: ASME B16.34
TESTING: API 598
DIMENSIONAL: API 594

Description of CHECK Valve (CD03NU700):

Type: Check
Design Type: Dual Plate, Retainerless
Valve Size: NPS 2 -to- NPS 12
Class: ASME 300
Ends: RF
Body: Alloy 20 (ASTM A351-CN7M)
Trim: API 594 TRIM 13
Hinge Pin: Alloy 20
Springs: Inconel X-750
Stop Pin: Alloy 20
Body Type: Wafer
Installation: Horizontal - Hinge Pin Vertical or Vertical - Upward Flow

The standards are:

DESIGN: API 594 Type A
ENDS: ASME B16.5
RATING: ASME B16.34
TESTING: API 598
DIMENSIONAL: API 594

Description of CHECK Valve (CD06NM501):

Type: Check
Design Type: Dual Plate, Retainerless
Valve Size: NPS 12 -to- NPS 24
Class: ASME 600
Ends: Flanged RF
Body: Alloy 400 (ASTM A494-M-35-1)
Trim: API 594 TRIM 9
Hinge Pin: Alloy 400
Springs: Inconel X-750
Stop Pin: Alloy 400
Body Type: Double Flanged
Installation: Horizontal - Hinge Pin Vertical or Vertical - Upward Flow

The standards are:

DESIGN: API 594 Type A
ENDS: ASME B16.5
RATING: ASME B16.34
TESTING: API 598
DIMENSIONAL: API 594
Description of CHECK Valve (CD06NM701):

Type: Check
Design Type: Dual Plate, Retainerless
Valve Size: NPS 3 -to- NPS 24
Class: ASME 600
Ends: RF
Body: Alloy 400 (ASTM A494-M-35-1)
Trim: Alloy 400
Hinge Pin: Alloy K500
Springs: Inconel X-750
Stop Pin: Alloy K500
Body Type: Wafer
Installation: Horizontal - Hinge Pin Vertical or Vertical - Upward Flow
The standards are:
DESIGN: API 594 Type A
ENDS: ASME B16.5
RATING: ASME B16.34
TESTING: API 598
DIMENSIONAL: API 594

Description of CHECK Valve (CD06NM703):

Type: Check
Design Type: Dual Plate, Retainerless
Valve Size: NPS 2 -to- NPS 24
Class: ASME 600
Ends: RF
Body: Alloy 400 (ASTM A494-M-35-1)
Trim: API 594 TRIM 9
Hinge Pin: Alloy 400
Springs: Inconel X-750
Stop Pin: Alloy 400
Body Type: Lugged
Installation: Horizontal - Hinge Pin Vertical or Vertical - Upward Flow
The standards are:
DESIGN: API 594 Type A
ENDS: ASME B16.5
RATING: ASME B16.34
TESTING: API 598
DIMENSIONAL: API 594

Description of CHECK Valve (CL00NM900):

Type: Check
Design Type: Piston Lift
Valve Size: NPS 0.25 -to- NPS
Ends: Compression Tubing
Body: Alloy 400
Trim: Alloy 400
Poppet: Alloy 400
Body Type: Union
Installation: Horizontal - Cover Up
The standards are:
DESIGN: MFG STD
ENDS: MFG STD
RATING: MFG STD
TESTING: MFG STD
DIMENSIONAL: MFG STD
Description of CHECK Valve (CL00NM901):

Type: Check
Design Type: In-line Axial Poppet
Valve Size: NPS 0.25 -to- NPS
Ends: Compression Tubing
Body: Alloy 400
Cover/Bonnet: Alloy 400
Trim: Alloy 400
Seat Ring: Viton
Poppet: Alloy 400
Installation: Horizontal or Vertical - Upward Flow

The standards are:

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<thead>
<tr>
<th>DESIGN</th>
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<th>RATING</th>
<th>TESTING</th>
<th>DIMENSIONAL</th>
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<td>MFG STD</td>
<td>MFG STD</td>
<td>MFG STD</td>
<td>MFG STD</td>
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Description of CHECK Valve (CS01NC500):

Type: Check
Design Type: Swing
Valve Size: NPS 0.5 -to- NPS 8
Class: ASME 150
Ends: Flanged RF
Body: Alloy C (ASTM A494-CW-12MW)
Cover/Bonnet: Alloy C (ASTM A494-CW-12MW)
Trim: Alloy C or Alloy C276
Hinge Pin: Alloy C or Alloy C276
Disc Washer, Disc Nut, Cotter Pin: Alloy C or Alloy C276
Cover/Bonnet Type: Bolted
Body-Bonnet Gaskets: PTFE
Body-Bonnet Bolting: Bolts: MFG STD
Installation: Horizontal - Cover Up or Vertical - Upward Flow

The standards are:

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<thead>
<tr>
<th>DESIGN</th>
<th>ENDS</th>
<th>RATING</th>
<th>TESTING</th>
<th>DIMENSIONAL</th>
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</thead>
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<td>ASME B16.5</td>
<td>ASME B16.34</td>
<td>API 598</td>
<td>ASME B16.10</td>
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</tbody>
</table>

Description of CHECK Valve (CS01NC501):

Type: Check
Design Type: Swing
Valve Size: NPS 0.5 -to- NPS 8
Class: ASME 150
Ends: Flanged RF
Body: Alloy C (ASTM A494-CW-12MW)
Cover/Bonnet: Alloy C (ASTM A494-CW-12MW)
Trim: Alloy C or Alloy C276
Hinge Pin: Alloy C or Alloy C276
Disc Washer, Disc Nut, Cotter Pin: Alloy C or Alloy C276
Cover/Bonnet Type: Bolted
Body-Bonnet Gaskets: Alloy C/Graphite
Body-Bonnet Bolting: Bolts: MFG STD
Installation: Horizontal - Cover Up or Vertical - Upward Flow

The standards are:

<table>
<thead>
<tr>
<th>DESIGN</th>
<th>ENDS</th>
<th>RATING</th>
<th>TESTING</th>
<th>DIMENSIONAL</th>
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<tbody>
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<td>ASME B16.5</td>
<td>ASME B16.34</td>
<td>API 598</td>
<td>ASME B16.10</td>
</tr>
</tbody>
</table>
Description of CHECK Valve (CS01NM300):

- **Type:** Check
- **Design Type:** Swing
- **Valve Size:** NPS 0.5 -to- NPS 2
- **Class:** ASME 800
- **Body:** Alloy 400 (ASTM A494-M-35-1)
- **Cover/Bonnet:** Alloy 400 (ASTM A494-M-35-1)
- **Trim:** API 602 TRIM 9
- **Hinge Pin:** Alloy 400
- **Disc Washer, Disc Nut, Cotter Pin:** Alloy 400
- **Cover/Bonnet Type:** Bolted
- **Body-Bonnet Gaskets:** Alloy 400/Graphite
- **Body-Bonnet Bolting:** Bolts: MFG STD
- **Installation:** Horizontal - Cover Up or Vertical - Upward Flow

The standards are:

- **DESIGN:** ASME B16.34 and API 602
- **ENDS:** ASME B16.11
- **RATING:** ASME B16.34
- **TESTING:** API 598
- **DIMENSIONAL:** MFG STD

Description of CHECK Valve (CS01NM500):

- **Type:** Check
- **Design Type:** Swing
- **Valve Size:** NPS 0.5 -to- NPS 24
- **Class:** ASME 150
- **Body:** Alloy 400 (ASTM A494-M-35-1)
- **Cover/Bonnet:** Alloy 400 (ASTM A494-M-35-1)
- **Trim:** API 600 TRIM 9
- **Hinge Pin:** Alloy 400
- **Disc Washer, Disc Nut, Cotter Pin:** Alloy 400
- **Cover/Bonnet Type:** Bolted
- **Body-Bonnet Gaskets:** Alloy 400/Graphite
- **Body-Bonnet Bolting:** Bolts: MFG STD
- **Installation:** Horizontal - Cover Up or Vertical - Upward Flow

The standards are:

- **DESIGN:** ASME B16.34
- **ENDS:** ASME B16.5
- **RATING:** ASME B16.34
- **TESTING:** API 598
- **DIMENSIONAL:** ASME B16.10

Description of CHECK Valve (CS01NM501):

- **Type:** Check
- **Design Type:** Swing
- **Valve Size:** NPS 0.5 -to- NPS 24
- **Class:** ASME 150
- **Body:** Alloy 400 (ASTM A494-M-35-1)
- **Cover/Bonnet:** Alloy 400 (ASTM A494-M-35-1)
- **Trim:** API 600 TRIM 9
- **Hinge Pin:** Alloy 400
- **Disc Washer, Disc Nut, Cotter Pin:** Alloy 400
- **Cover/Bonnet Type:** Bolted
- **Body-Bonnet Gaskets:** Alloy 400/Graphite
- **Body-Bonnet Bolting:** Bolts: MFG STD
- **Installation:** Horizontal - Cover Up or Vertical - Upward Flow

The standards are:

- **DESIGN:** ASME B16.34
- **ENDS:** ASME B16.5
- **RATING:** ASME B16.34
- **TESTING:** API 598
- **DIMENSIONAL:** ASME B16.10
Description of CHECK Valve (CS01NU500):
Type: Check
Design Type: Swing
Valve Size: NPS 0.5 -to- NPS 12
Class: ASME 150
Ends: Flanged RF
Body: Alloy 20 (ASTM A351-CN7M)
Cover/Bonnet: Alloy 20 (ASTM A351-CN7M)
Trim: API 594 TRIM 13
Hinge Pin: Alloy 20
Disc Washer, Disc Nut, Cotter Pin: Alloy 20
Cover/Bonnet Type: Bolted
Body-Bonnet Gaskets: PTFE
Body-Bonnet Bolting: Bolts: MFG STD
Nuts: MFG STD
Installation: Horizontal - Cover Up or Vertical - Upward Flow
The standards are:
DESIGN: ASME B16.34
ENDS: ASME B16.5
RATING: ASME B16.34
TESTING: API 598
DIMENSIONAL: ASME B16.10

Description of CHECK Valve (CS03NC500):
Type: Check
Design Type: Swing
Valve Size: NPS 0.5 -to- NPS 8
Class: ASME 300
Ends: Flanged RF
Body: Alloy C (ASTM A494-CW-12MW)
Cover/Bonnet: Alloy C (ASTM A494-CW-12MW)
Trim: Alloy C or Alloy C276
Hinge Pin: Alloy C or Alloy C276
Disc Washer, Disc Nut, Cotter Pin: Alloy C or Alloy C276
Cover/Bonnet Type: Bolted
Body-Bonnet Gaskets: PTFE
Body-Bonnet Bolting: Bolts: MFG STD
Nuts: MFG STD
Installation: Horizontal - Cover Up or Vertical - Upward Flow
The standards are:
DESIGN: ASME B16.34
ENDS: ASME B16.5
RATING: ASME B16.34
TESTING: API 598
DIMENSIONAL: ASME B16.10

Description of CHECK Valve (CS03NC501):
Type: Check
Design Type: Swing
Valve Size: NPS 0.5 -to- NPS 8
Class: ASME 300
Ends: Flanged RF
Body: Alloy C (ASTM A494-CW-12MW)
Cover/Bonnet: Alloy C (ASTM A494-CW-12MW)
Trim: Alloy C or Alloy C276
Hinge Pin: Alloy C or Alloy C276
Disc Washer, Disc Nut, Cotter Pin: Alloy C or Alloy C276
Cover/Bonnet Type: Bolted
Body-Bonnet Gaskets: Alloy C/Graphite
Body-Bonnet Bolting: Bolts: MFG STD
Nuts: MFG STD
Installation: Horizontal - Cover Up or Vertical - Upward Flow
The standards are:
DESIGN: ASME B16.34
ENDS: ASME B16.5
RATING: ASME B16.34
TESTING: API 598
DIMENSIONAL: ASME B16.10
Description of CHECK Valve (CS03NM300):

Type: Check
Design Type: Swing
Valve Size: NPS 0.5-to-NPS 2
Class: ASME 800
Ends: SW
Body: Alloy 400 (ASTM A494-M-35-1)
Cover/Bonnet: Alloy 400 (ASTM A494-M-35-1)
Trim: API 602 TRIM 9
Hinge Pin: Alloy 400
Disc Washer, Disc Nut, Cotter Pin: Alloy 400
Cover/Bonnet Type: Bolted
Body-Bonnet Gaskets: Alloy 400/Graphite
Body-Bonnet Bolting: Bolts: MFG STD
Nuts: MFG STD
Installation: Horizontal - Cover Up or Vertical - Upward Flow

The standards are:
- DESIGN: ASME B16.34 and API 602
- ENDS: ASME B16.11
- RATING: ASME B16.34
- TESTING: API 598
- DIMENSIONAL: MFG STD

Description of CHECK Valve (CS03NM500):

Type: Check
Design Type: Swing
Valve Size: NPS 0.5-to-NPS 24
Class: ASME 300
Ends: Flanged RF
Body: Alloy 400 (ASTM A494-M-35-1)
Cover/Bonnet: Alloy 400 (ASTM A494-M-35-1)
Trim: API 600 TRIM 9
Hinge Pin: Alloy 400
Disc Washer, Disc Nut, Cotter Pin: Alloy 400
Cover/Bonnet Type: Bolted
Body-Bonnet Gaskets: Alloy 400/Graphite
Body-Bonnet Bolting: Bolts: MFG STD
Nuts: MFG STD
Installation: Horizontal - Cover Up or Vertical - Upward Flow

The standards are:
- DESIGN: ASME B16.34
- ENDS: ASME B16.5
- RATING: ASME B16.34
- TESTING: API 598
- DIMENSIONAL: ASME B16.10

Description of CHECK Valve (CS03NM501):

Type: Check
Design Type: Swing
Valve Size: NPS 0.5-to-NPS 24
Class: ASME 300
Ends: Flanged RF
Body: Alloy 400 (ASTM A494-M-35-1)
Cover/Bonnet: Alloy 400 (ASTM A494-M-35-1)
Trim: API 600 TRIM 9
Hinge Pin: Alloy 400
Disc Washer, Disc Nut, Cotter Pin: Alloy 400
Cover/Bonnet Type: Bolted
Body-Bonnet Gaskets: Alloy 400/Graphite
Body-Bonnet Bolting: Bolts: MFG STD
Nuts: MFG STD
Installation: Horizontal - Cover Up or Vertical - Upward Flow

The standards are:
- DESIGN: ASME B16.34
- ENDS: ASME B16.5
- RATING: ASME B16.34
- TESTING: API 598
- DIMENSIONAL: ASME B16.10
Description of CHECK Valve (CS03NU500):

Type: Check
Design Type: Swing
Valve Size: NPS 0.5 -to- NPS 12
Class: ASME 300
Ends: Flanged RF
Body: Alloy 20 (ASTM A351-CN7M)
Cover/Bonnet: Alloy 20 (ASTM A351-CN7M)
Trim: API 594 TRIM 13
Hinge Pin: Alloy 20
Disc Washer, Disc Nut, Cotter Pin: Alloy 20
Cover/Bonnet Type: Bolted
Body-Bonnet Gaskets: PTFE
Body-Bonnet Bolting: Bolts: MFG STD
                      Nuts: MFG STD
Installation: Horizontal - Cover Up or Vertical - Upward Flow
The standards are:
DESIGN: ASME B16.34
ENDS: ASME B16.5
RATING: ASME B16.34
TESTING: API 598
DIMENSIONAL: ASME B16.10

Description of CHECK Valve (CS06NM501):

Type: Check
Design Type: Swing
Valve Size: NPS 0.5 -to- NPS 24
Class: ASME 600
Ends: Flanged RF
Body: Alloy 400 (ASTM A494-M-35-1)
Cover/Bonnet: Alloy 400 (ASTM A494-M-35-1)
Trim: API 600 TRIM 9
Hinge Pin: Alloy 400
Disc Washer, Disc Nut, Cotter Pin: Alloy 400
Cover/Bonnet Type: Bolted
Body-Bonnet Gaskets: Alloy 400/Graphite
Body-Bonnet Bolting: Bolts: MFG STD
                      Nuts: MFG STD
Installation: Horizontal - Cover Up or Vertical - Upward Flow
The standards are:
DESIGN: ASME B16.34
ENDS: ASME B16.5
RATING: ASME B16.34
TESTING: API 598
DIMENSIONAL: ASME B16.10