PIP PNSMV006
Carbon Steel Ball 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 carbon steel ball valves included in PIP Piping Line Class Material Specifications.

1.2 Scope
This Practice describes the requirements for carbon steel ball 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

2.2 Industry Codes and Standards
   • American Petroleum Institute (API)
     – API 6FA - Specification for Fire Test for Valves
     – API 607 - Fire Test for Soft-Seated Quarter Turn Valves

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 ball valves. Therefore, the first two characters in the valve numbers are BA.

3.3 The valves listed in Section 5 and Section 6 of this Practice are sorted by the unique valve number designation in ascending alphanumeric sequence (e.g., BA01CA500, BA01CA501, BA01CB500, BA01CB501, BA03CA500).

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 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 Gear operators are specified in some, but not all, ball valve descriptions. If not specified in the valve description, the purchaser shall specify that gear operators are needed. One
method of specifying this need is by using Field 5 of the valve designation system as described in PIP PNCM0004.

4.3 Many ball valve manufacturers offer numerous operator options (e.g., locking/nonlocking, latching/nonlatching, oval, tee). As a default, valve descriptions within this Practice only specify the manufacturer’s standard lever. The purchaser shall specify a different operator if required.

4.4 If fluids can be trapped (e.g., in double-seated valves) and subject to heating and subsequent expansion, means of pressure relief shall be considered to avoid excessive pressure built-up.

5. Cross Reference

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6. Valve Descriptions

Description of BALL Valve (BA01CA500):
Type: BALL
Valve Size: NPS 1/2 -to- NPS 6
Class: 150
Ends: FLANGED RF
Body: ITCS (ASTM A350 - LF2 CLASS 1 or A352 - LCB or A352 - LCC)
Ball: 316 SS
Seat: R-PTE
Stem: 316 SS
Design: FLOATING BALL, FIRE SAFE API 607
Bore-Port: SINGLE REDUCED
Operation: LEVER
Stem Seals: FLEXIBLE GRAPHITE
Stem-Packing: FLEXIBLE GRAPHITE
Body-Bonnet Gaskets: FLEXIBLE GRAPHITE

The standards are:
- DESIGN ASME B16.34 or API 608
- ENDS ASME B16.5
- RATING ASME B16.34
- TESTING API 598
- DIMENSIONAL ASME B16.10 - SHORT PATTERN

Description of BALL Valve (BA01CA501):
Type: BALL
Valve Size: NPS 1/2 -to- NPS 6
Class: 150
Ends: FLANGED RF
Body: ITCS (ASTM A350 - LF2 CLASS 1 or A352 - LCB or A352 - LCC)
Ball: 316 SS
Seat: R-PTE
Stem: 316 SS
Design: FLOATING BALL, FIRE SAFE API 607
Bore-Port: FULL
Operation: LEVER
Stem Seals: FLEXIBLE GRAPHITE
Stem-Packing: FLEXIBLE GRAPHITE
Body-Bonnet Gaskets: FLEXIBLE GRAPHITE

The standards are:
- DESIGN ASME B16.34 or API 608
- ENDS ASME B16.5
- RATING ASME B16.34
- TESTING API 598
- DIMENSIONAL ASME B16.10 - SHORT PATTERN (NPS 1/2 -to- NPS 4)
- ASME B16.10 - LONG PATTERN (NPS 6)

Description of BALL Valve (BA01CA502):
Type: BALL
Valve Size: NPS 8 -to- NPS 10
Class: 150
Ends: FLANGED RF
Body: ITCS (ASTM A350 - LF2 CLASS 1 or A352 - LCB or A352 - LCC)
Ball: 316 SS
Seat: R-PTE
Stem: 316 SS
Design: FLOATING BALL, FIRE SAFE API 607
Bore-Port: SINGLE REDUCED
Operation: GEAR
Stem Seals: FLEXIBLE GRAPHITE
Stem-Packing: FLEXIBLE GRAPHITE
Body-Bonnet Gaskets: FLEXIBLE GRAPHITE

The standards are:
- DESIGN ASME B16.34 or API 608
- ENDS ASME B16.5
- RATING ASME B16.34
- TESTING API 598
- DIMENSIONAL ASME B16.10 - SHORT PATTERN
Description of BALL Valve (BA01CA503):

Type: BALL
Valve Size: NPS 8 -to- NPS 10
Class: 150
Ends: FLANGED RF
Body: ITCS (ASTM A350 - LF2 CLASS 1 or A352 - LCB or A352 - LCC)
Ball: 316 SS
Seat: R-PTFE
Stem: 316 SS

Design: FLOATING BALL or TRUNNION BALL, FIRE SAFE API 607
Bore-Port: FULL
Operation: GEAR
Stem-Seals: FLEXIBLE GRAPHITE
Stem-Packing: FLEXIBLE GRAPHITE
Body-Bonnet Gaskets: FLEXIBLE GRAPHITE

The standards are:
- DESIGN ASME B16.34 or API 608
- ENDS ASME B16.5
- RATING ASME B16.34
- TESTING API 598
- DIMENSIONAL ASME B16.10 - LONG PATTERN

Description of BALL Valve (BA01CA504):

Type: BALL
Valve Size: NPS 12 -to- NPS 24
Class: 150
Ends: FLANGED RF
Body: ITCS (ASTM A350 - LF2 CLASS 1 or A352 - LCB or A352 - LCC)
Ball: 316 SS
Seat: R-PTFE
Stem: 316 SS

Design: TRUNNION BALL, FIRE SAFE API 607
Bore-Port: FULL
Operation: GEAR
Stem-Seals: FLEXIBLE GRAPHITE
Stem-Packing: FLEXIBLE GRAPHITE
Body-Bonnet Gaskets: FLEXIBLE GRAPHITE

The standards are:
- DESIGN ASME B16.34 or API 608
- ENDS ASME B16.5
- RATING ASME B16.34
- TESTING API 598
- DIMENSIONAL ASME B16.10 - LONG PATTERN

Description of BALL Valve (BA01CA505):

Type: BALL
Valve Size: NPS 12 -to- NPS 24
Class: 150
Ends: FLANGED RF
Body: ITCS (ASTM A350 - LF2 CLASS 1 or A352 - LCB or A352 - LCC)
Ball: 316 SS
Seat: R-PTFE
Stem: 316 SS

Design: TRUNNION BALL, FIRE SAFE API 607
Bore-Port: SINGLE REDUCED
Operation: GEAR
Stem-Seals: FLEXIBLE GRAPHITE
Stem-Packing: FLEXIBLE GRAPHITE
Body-Bonnet Gaskets: FLEXIBLE GRAPHITE

The standards are:
- DESIGN ASME B16.34 or API 608
- ENDS ASME B16.5
- RATING ASME B16.34
- TESTING API 598
- DIMENSIONAL ASME B16.10 - SHORT PATTERN (NPS 12 -to- NPS 16)
                        ASME B16.10 - LONG PATTERN (NPS 18 -to- NPS 24)
Description of BALL Valve (BA01CA506):

Type: BALL
Valve Size: NPS 26 -to- NPS 48
Class: 150
Ends: FLANGED RF
Body: ITCS (ASTM A350 - LF2 CLASS 1 or A352 - LCB or A352 - LCC)
Trim: 316 SS
Seat: R-PTFE
Stem: 17-4 PH SS
Springs: INCONEL X-750
Design: TRUNNION BALL, FIRE SAFE API 6FA
Bore-Port: SINGLE REDUCED
Operation: GEAR
Stem Seals: FLEXIBLE GRAPHITE
Stem-Packing: FLEXIBLE GRAPHITE
Body-Bonnet Gaskets: FLEXIBLE GRAPHITE

The standards are:
- DESIGN - ASME B16.34 and API 6D
- ENDS - ASME B16.47 SERIES B
- RATING - API 6D
- TESTING - API 6D
- DIMENSIONAL - API 6D (NPS 26 -to- NPS 36)
  WPS STD (NPS 38 -to- NPS 48)

Description of BALL Valve (BA01CA507):

Type: BALL
Valve Size: NPS 26 -to- NPS 48
Class: 150
Ends: FLANGED RF
Body: ITCS (ASTM A350 - LF2 CLASS 1 or A352 - LCB or A352 - LCC)
Trim: 316 SS
Seat: R-PTFE
Stem: 17-4 PH SS
Springs: INCONEL X
Design: TRUNNION BALL, FIRE SAFE API 6FA
Bore-Port: FULL
Operation: GEAR
Stem Seals: FLEXIBLE GRAPHITE
Stem-Packing: FLEXIBLE GRAPHITE
Body-Bonnet Gaskets: FLEXIBLE GRAPHITE

The standards are:
- DESIGN - ASME B16.34 and API 6D
- ENDS - ASME B16.47 SERIES B
- RATING - API 6D
- TESTING - API 6D
- DIMENSIONAL - API 6D (NPS 26 -to- NPS 36)
  WPS STD (NPS 38 -to- NPS 48)

Description of BALL Valve (BA01CB500):

Type: BALL
Valve Size: NPS 1/2 -to- NPS 6
Class: 150
Ends: FLANGED RF
Body: CS (ASTM A105 or A216 - WCB)
Ball: 316 SS
Seat: R-PTFE
Stem: 316 SS
Design: FLOATING BALL, FIRE SAFE API 607
Bore-Port: SINGLE REDUCED
Operation: LEVER
Stem Seals: FLEXIBLE GRAPHITE
Stem-Packing: FLEXIBLE GRAPHITE
Body-Bonnet Gaskets: FLEXIBLE GRAPHITE

The standards are:
- DESIGN - ASME B16.34 or API 608
- ENDS - ASME B16.5
- RATING - ASME B16.34
- TESTING - API 598
- DIMENSIONAL - ASME B16.10 - SHORT PATTERN
Description of BALL Valve (BA01CB501):
Type: BALL
Valve Size: NPS 1/2 -to- NPS 6
Class: 150
Ends: FLANGED RF
Body: CS (ASTM A105 or A216 - WCB)
Ball: 316 SS
Seat: R-PTFE
Stem: 316 SS
Design: FLOATING BALL, FIRE SAFE API 607
Bore-Port: FULL
Operation: LEVER
Stem Seals: FLEXIBLE GRAPHITE
Stem-Packing: FLEXIBLE GRAPHITE
Body-Bonnet Gaskets: FLEXIBLE GRAPHITE

The standards are:
DESIGN - ASME B16.34 or API 608
ENDS - ASME B16.5
RATING - ASME B16.34
TESTING - API 598
DIMENSIONAL - ASME B16.10 - SHORT PATTERN (NPS 1/2 -to- NPS 4)
- ASME B16.10 - LONG PATTERN (NPS 6)

Description of BALL Valve (BA01CB502):
Type: BALL
Valve Size: NPS 12 -to- NPS 24
Class: 150
Ends: FLANGED RF
Body: CS (ASTM A105 or A216 - WCB)
Ball: 316 SS
Seat: R-PTFE
Stem: 316 SS
Design: TRUNNION BALL, FIRE SAFE API 607
Bore-Port: SINGLE REDUCED
Operation: GEAR
Stem Seals: FLEXIBLE GRAPHITE
Stem-Packing: FLEXIBLE GRAPHITE
Body-Bonnet Gaskets: FLEXIBLE GRAPHITE

The standards are:
DESIGN - ASME B16.34 or API 608
ENDS - ASME B16.5
RATING - ASME B16.34
TESTING - API 598
DIMENSIONAL - ASME B16.10 - SHORT PATTERN (NPS 12 -to- NPS 16)
- ASME B16.10 - LONG PATTERN (NPS 18 -to- NPS 24)

Description of BALL Valve (BA01CB503):
Type: BALL
Valve Size: NPS 12 -to- NPS 24
Class: 150
Ends: FLANGED RF
Body: CS (ASTM A105 or A216 - WCB)
Ball: 316 SS
Seat: R-PTFE
Stem: 316 SS
Design: TRUNNION BALL, FIRE SAFE API 607
Bore-Port: FULL
Operation: GEAR
Stem Seals: FLEXIBLE GRAPHITE
Stem-Packing: FLEXIBLE GRAPHITE
Body-Bonnet Gaskets: FLEXIBLE GRAPHITE

The standards are:
DESIGN - ASME B16.34 or API 608
ENDS - ASME B16.5
RATING - ASME B16.34
TESTING - API 598
DIMENSIONAL - ASME B16.10 - LONG PATTERN
### Description of BALL Valve (BA01CB504):

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<th>Valve Size: NPS 8 -to- NPS 10</th>
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<td>Flanged RF Body: CS (ASTM A105 or A216 - WCB)</td>
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<tr>
<td>Ball: 316 SS</td>
<td>Seat: R-PTFE</td>
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<tr>
<td>Stem: 316 SS</td>
<td>Design: FLOATING BALL or TRUNNION BALL, FIRE SAFE API 607</td>
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<tr>
<td>Bore-Port: FULL</td>
<td>Operation: GEAR</td>
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<td>Stem Seals: FLEXIBLE GRAPHITE</td>
<td>Stem-Packing: FLEXIBLE GRAPHITE</td>
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<td>Body-Bonnet Gaskets: FLEXIBLE GRAPHITE</td>
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The standards are:
- **DESIGN**: ASME B16.34 or API 608
- **ENDS**: ASME B16.5
- **RATING**: ASME B16.34
- **TESTING**: API 598
- **DIMENSIONAL**: ASME B16.10 - LONG PATTERN

### Description of BALL Valve (BA01CB505):

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<td>Ball: 316 SS</td>
<td>Seat: R-PTFE</td>
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<td>Stem: 316 SS</td>
<td>Design: FLOATING BALL, FIRE SAFE API 607</td>
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<tr>
<td>Bore-Port: SINGLE REDUCED</td>
<td>Operation: GEAR</td>
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<tr>
<td>Stem Seals: FLEXIBLE GRAPHITE</td>
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<tr>
<td>Body-Bonnet Gaskets: FLEXIBLE GRAPHITE</td>
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The standards are:
- **DESIGN**: ASME B16.34 or API 608
- **ENDS**: ASME B16.5
- **RATING**: ASME B16.34
- **TESTING**: API 598
- **DIMENSIONAL**: ASME B16.10 - SHORT PATTERN

### Description of BALL Valve (BA01CB506):

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<th>Type: BALL</th>
<th>Valve Size: NPS 26 -to- NPS 48</th>
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<td>Class: 150</td>
<td>Flanged RF Body: CS (ASTM A105 or A216 - WCB)</td>
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<td>Trim: 316 SS</td>
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<td>Stem: 17-4 PH SS</td>
<td>Springs: INCONEL X</td>
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<tr>
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<td>Operation: GEAR</td>
<td>Stem Seals: FLEXIBLE GRAPHITE</td>
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<tr>
<td>Stem-Packing: FLEXIBLE GRAPHITE</td>
<td>Body-Bonnet Gaskets: FLEXIBLE GRAPHITE</td>
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The standards are:
- **DESIGN**: ASME B16.34 and API 6D
- **ENDS**: ASME B16.47 SERIES B
- **RATING**: API 6D
- **TESTING**: API 6D
- **DIMENSIONAL**: API 6D (NPS 26 -to- NPS 36) MFG STD (NPS 38 -to- NPS 48)
Description of BALL Valve (BA01CB507):

- Type: BALL
- Valve Size: NPS 26 -to- NPS 48
- Class: 150
- Ends: FLANGED RF
- Body: CS (ASTM A105 or A216 - WCB)
- Trim: 316 SS
- Seat: R-PTFE
- Stem: 17-4 PH SS
- Springs: INCONEL X
- Design: TRUNNION BALL, FIRE SAFE API 6FA
- Bore-Port: FULL
- Operation: GEAR

The standards are:
- DESIGN - ASME B16.34 and API 6D
- ENDS - ASME B16.47 SERIES B
- RATING - API 6D
- TESTING - API 6D
- DIMENSIONAL - API 6D (NPS 26 -to- NPS 36)
  MFG STD (NPS 38 -to- NPS 48)

Description of BALL Valve (BA03CA300):

- Type: BALL
- Valve Size: NPS 1/2 -to- NPS 2
- Class: 300
- Ends: SW
- Body: ITCS (ASTM A350 - LF2 CLASS 1 or A352 - LCB or A352 - LCC)
- Ball: 316 SS
- Seat: R-PTFE
- Stem: 316 SS
- Body Type: 3-PIECE BOLTED
- Design: FLOATING BALL, FIRE TESTED
- Bore-Port: SINGLE REDUCED
- Operation: LEVER
- Stem Seals: FLEXIBLE GRAPHITE
- Stem-Packing: FLEXIBLE GRAPHITE
- Body-Bonnet Gaskets: FLEXIBLE GRAPHITE

The standards are:
- DESIGN - ASME B16.34 or API 608
- ENDS - ASME B16.11
- RATING - ASME B16.34
- DIMENSIONAL - MFG STD

Description of BALL Valve (BA03GA500):

- Type: BALL
- Valve Size: NPS 1/2 -to- NPS 4
- Class: 300
- Ends: FLANGED RF
- Body: ITCS (ASTM A350 - LF2 CLASS 1 or A352 - LCB or A352 - LCC)
- Ball: 316 SS
- Seat: R-PTFE
- Stem: 316 SS
- Design: FLOATING BALL, FIRE SAFE API 607
- Bore-Port: SINGLE REDUCED
- Operation: LEVER
- Stem Seals: FLEXIBLE GRAPHITE
- Stem-Packing: FLEXIBLE GRAPHITE
- Body-Bonnet Gaskets: FLEXIBLE GRAPHITE

The standards are:
- DESIGN - ASME B16.34 or API 608
- ENDS - ASME B16.5
- RATING - ASME B16.34
- TESTING - API 598
- DIMENSIONAL - ASME B16.10 - SHORT PATTERN
Description of BALL Valve (BA03CA501):

Type:............................ BALL
Valve Size:...................... NPS 1/2 -to- NPS 4
Class:............................ 300
Ends:............................ FLANGED RF
Body:............................ ITCS (ASTM A350 - LF2 CLASS 1 or A352 - LCB or A352 - LCC)
Ball:.................... 316 SS
Seat:............................ R-PTFE
Stem:............................ 316 SS
Design:......................... FLOATING BALL, FIRE SAFE API 607
Bore-Port:..................... FULL
Operation:..................... LEVER
Stem Seals:.................... FLEXIBLE GRAPHITE
Stem-Packing:................ FLEXIBLE GRAPHITE
Body-Bonnet Gaskets:........ FLEXIBLE GRAPHITE

The standards are:
- DESIGN - ASME B16.34 or API 608
- ENDS - ASME B16.5
- RATING - ASME B16.34
- TESTING - API 598
- DIMENSIONAL - ASME B16.10 - SHORT PATTERN

Description of BALL Valve (BA03CA502):

Type:............................ BALL
Valve Size:...................... NPS 12 -to- NPS 24
Class:............................ 300
Ends:............................ FLANGED RF
Body:............................ ITCS (ASTM A350 - LF2 CLASS 1 or A352 - LCB or A352 - LCC)
Ball:.................... 316 SS
Seat:............................ R-PTFE
Stem:............................ 316 SS
Design:......................... TRUNNION BALL, FIRE SAFE API 607
Bore-Port:..................... SINGLE REDUCED
Operation:..................... GEAR
Stem Seals:.................... FLEXIBLE GRAPHITE
Stem-Packing:................ FLEXIBLE GRAPHITE
Body-Bonnet Gaskets:........ FLEXIBLE GRAPHITE

The standards are:
- DESIGN - ASME B16.34 or API 608
- ENDS - ASME B16.5
- RATING - ASME B16.34
- TESTING - API 598
- DIMENSIONAL - ASME B16.10 - SHORT PATTERN (NPS 12 -to- NPS 16)
- ASME B16.10 - LONG PATTERN (NPS 18 -to- NPS 24)

Description of BALL Valve (BA03CA503):

Type:............................ BALL
Valve Size:...................... NPS 10 -to- NPS 24
Class:............................ 300
Ends:............................ FLANGED RF
Body:............................ ITCS (ASTM A350 - LF2 CLASS 1 or A352 - LCB or A352 - LCC)
Ball:.................... 316 SS
Seat:............................ R-PTFE
Stem:............................ 316 SS
Design:......................... TRUNNION BALL, FIRE SAFE API 607
Bore-Port:..................... FULL
Operation:..................... GEAR
Stem Seals:.................... FLEXIBLE GRAPHITE
Stem-Packing:................ FLEXIBLE GRAPHITE
Body-Bonnet Gaskets:........ FLEXIBLE GRAPHITE

The standards are:
- DESIGN - ASME B16.34 or API 608
- ENDS - ASME B16.5
- RATING - ASME B16.34
- TESTING - API 598
- DIMENSIONAL - ASME B16.10 - LONG PATTERN
Description of BALL Valve (BA03CA504):

Type: BALL
Valve Size: NPS 6 -to- NPS 8
Class: 300
Ends: FLANGED RF
Body: ITCS (ASTM A350 - LF2 CLASS 1 or A352 - LCB or A352 - LCC)
Ball: 316 SS
Seat: R-PTFE
Stem: 316 SS
Design: FLOATING BALL or TRUNNION BALL, FIRE SAFE API 607
Bore-Port: FULL
Operation: GEAR
Stem-Seals: FLEXIBLE GRAPHITE
Stem-Packing: FLEXIBLE GRAPHITE
Body-Bonnet Gaskets: FLEXIBLE GRAPHITE

The standards are:
- DESIGN - ASME B16.34 or API 608
- ENDS - ASME B16.5
- RATING - ASME B16.34
- TESTING - API 598
- DIMENSIONAL - ASME B16.10 - SHORT PATTERN (NPS 6)
- ASME B16.10 - LONG PATTERN (NPS 8)

Description of BALL Valve (BA03CA505):

Type: BALL
Valve Size: NPS 6 -to- NPS 10
Class: 300
Ends: FLANGED RF
Body: ITCS (ASTM A350 - LF2 CLASS 1 or A352 - LCB or A352 - LCC)
Ball: 316 SS
Seat: R-PTFE
Stem: 316 SS
Design: FLOATING BALL or TRUNNION BALL, FIRE SAFE API 607
Bore-Port: SINGLE REDUCED
Operation: GEAR
Stem-Seals: FLEXIBLE GRAPHITE
Stem-Packing: FLEXIBLE GRAPHITE
Body-Bonnet Gaskets: FLEXIBLE GRAPHITE

The standards are:
- DESIGN - ASME B16.34 or API 608
- ENDS - ASME B16.5
- RATING - ASME B16.34
- TESTING - API 598
- DIMENSIONAL - ASME B16.10 - SHORT PATTERN

Description of BALL Valve (BA03CA506):

Type: BALL
Valve Size: NPS 26 -to- NPS 48
Class: 300
Ends: FLANGED RF
Body: ITCS (ASTM A350 - LF2 CLASS 1 or A352 - LCB or A352 - LCC)
Trim: 316 SS
Seat: R-PTFE
Stem: 17-4 PH SS
Springs: INCONEL X
Design: TRUNNION BALL, FIRE SAFE API 6FA
Bore-Port: SINGLE REDUCED
Operation: GEAR
Stem-Seals: FLEXIBLE GRAPHITE
Stem-Packing: FLEXIBLE GRAPHITE
Body-Bonnet Gaskets: FLEXIBLE GRAPHITE

The standards are:
- DESIGN - ASME B16.34 and API 6D
- ENDS - ASME B16.47 SERIES B
- RATING - API 6D
- TESTING - API 6D
- DIMENSIONAL - API 6D (NPS 26 -to- NPS 36)
- MFG STD (NPS 38 -to- NPS 48)
Description of BALL Valve (BA03CA507):
Type: BALL
Valve Size: NPS 26 to NPS 48
Class: 300
 Ends: FLANGED RF
Body: ITCS (ASTM A350 - LF2 CLASS 1 or A352 - LCB or A352 - LCC)
Trim: 316 SS
Seat: R-PTFE
Stem: INCONEL X
Springs: INCONEL X
 Design: TRUNNION BALL, FIRE SAFE API 6FA
Bore-Port: FULL
Operation: GEAR
Body-Bonnet Gaskets: FLEXIBLE GRAPHITE

The standards are:
- DESIGN - ASME B16.34 and API 6D
- ENDS - ASME B16.47 SERIES B
- RATING - API 6D
- TESTING - API 6D
- DIMENSIONAL - API 6D (NPS 26 to NPS 36)

Description of BALL Valve (BA03CB300):
Type: BALL
Valve Size: NPS 1/2 to NPS 2
Class: 300
 Ends: SW
Body: CS (ASTM A105 or A216 - WCB)
Ball: 316 SS
Seat: R-PTFE
Stem: 316 SS
Body Type: 3-PIECE BOLTED
Design: FLOATING BALL, FIRE TESTED
Bore-Port: SINGLE REDUCED
Operation: LEVER
Stem-Packing: FLEXIBLE GRAPHITE
Body-Bonnet Gaskets: FLEXIBLE GRAPHITE

The standards are:
- DESIGN - ASME B16.34 or API 608
- ENDS - ASME B16.11
- RATING - ASME B16.34
- DIMENSIONAL - MFG STD

Description of BALL Valve (BA03CB500):
Type: BALL
Valve Size: NPS 1/2 to NPS 4
Class: 300
 Ends: FLANGED RF
Body: CS (ASTM A105 or A216 - WCB)
Ball: 316 SS
Seat: R-PTFE
Stem: 316 SS
Design: FLOATING BALL, FIRE SAFE API 607
Bore-Port: SINGLE REDUCED
Operation: LEVER
Stem-Packing: FLEXIBLE GRAPHITE
Stem-Packing: FLEXIBLE GRAPHITE
Body-Bonnet Gaskets: FLEXIBLE GRAPHITE

The standards are:
- DESIGN - ASME B16.34 or API 608
- ENDS - ASME B16.5
- RATING - ASME B16.34
- TESTING - API 598
- DIMENSIONAL - ASME B16.10 - SHORT PATTERN
Description of BALL Valve (BA03CB501):
Type: BALL
Valve Size: NPS 1/2 -to- NPS 4
Class: 300
Ends: FLANGED RF
Body: CS (ASTM A105 or A216 - WCB)
Ball: 316 SS
Seat: R-PTFE
Stem: 316 SS
Design: FLOATING BALL, FIRE SAFE API 607
Bore-Port: FULL
Operation: LEVER
Stem Seals: FLEXIBLE GRAPHITE
Stem-Packing: FLEXIBLE GRAPHITE
Body-Bonnet Gaskets: FLEXIBLE GRAPHITE

The standards are:

- DESIGN: ASME B16.34 or API 608
- ENDS: ASME B16.5
- RATING: ASME B16.34
- TESTING: API 598
- DIMENSIONAL: ASME B16.10 - SHORT PATTERN

Description of BALL Valve (BA03CB502):
Type: BALL
Valve Size: NPS 12 -to- NPS 24
Class: 300
Ends: FLANGED RF
Body: CS (ASTM A105 or A216 - WCB)
Ball: 316 SS
Seat: R-PTFE
Stem: 316 SS
Design: TRUNNION BALL, FIRE SAFE API 607
Bore-Port: SINGLE REDUCED
Operation: GEAR
Stem Seals: FLEXIBLE GRAPHITE
Stem-Packing: FLEXIBLE GRAPHITE
Body-Bonnet Gaskets: FLEXIBLE GRAPHITE

The standards are:

- DESIGN: ASME B16.34 or API 608
- ENDS: ASME B16.5
- RATING: ASME B16.34
- TESTING: API 598
- DIMENSIONAL: ASME B16.10 - SHORT PATTERN (NPS 12 -to- NPS 16)

Description of BALL Valve (BA03CB503):
Type: BALL
Valve Size: NPS 10 -to- NPS 24
Class: 300
Ends: FLANGED RF
Body: CS (ASTM A105 or A216 - WCB)
Ball: 316 SS
Seat: R-PTFE
Stem: 316 SS
Design: TRUNNION BALL, FIRE SAFE API 607
Bore-Port: FULL
Operation: GEAR
Stem Seals: FLEXIBLE GRAPHITE
Stem-Packing: FLEXIBLE GRAPHITE
Body-Bonnet Gaskets: FLEXIBLE GRAPHITE

The standards are:

- DESIGN: ASME B16.34 or API 608
- ENDS: ASME B16.5
- RATING: ASME B16.34
- TESTING: API 598
- DIMENSIONAL: ASME B16.10 - LONG PATTERN
Description of BALL Valve (BA03CB504):
Type: BALL
Valve Size: NPS 6 -to- NPS 8
Class: 300
Ends: FLANGED RF
Body: CS (ASTM A105 or A216 - WCB)
Ball: 316 SS
Seat: R-PTFE
Stem: 316 SS
Design: FLOATING BALL or TRUNNION BALL, FIRE SAFE API 607
Bore-Port: FULL
Operation: GEAR
Stem Seals: FLEXIBLE GRAPHITE
Stem Packing: FLEXIBLE GRAPHITE
Body-Bonnet Gaskets: FLEXIBLE GRAPHITE

The standards are:
- DESIGN - ASME B16.34 or API 608
- ENDS - ASME B16.5
- RATING - ASME B16.34
- TESTING - API 598
- DIMENSIONAL - ASME B16.10 - SHORT PATTERN (NPS 6)
- ASME B16.10 - LONG PATTERN (NPS 8)

Description of BALL Valve (BA03CB505):
Type: BALL
Valve Size: NPS 6 -to- NPS 10
Class: 300
Ends: FLANGED RF
Body: CS (ASTM A105 or A216 - WCB)
Ball: 316 SS
Seat: R-PTFE
Stem: 316 SS
Design: FLOATING BALL or TRUNNION BALL, FIRE SAFE API 607
Bore-Port: SINGLE REDUCED
Operation: GEAR
Stem Seals: FLEXIBLE GRAPHITE
Stem Packing: FLEXIBLE GRAPHITE
Body-Bonnet Gaskets: FLEXIBLE GRAPHITE

The standards are:
- DESIGN - ASME B16.34 or API 608
- ENDS - ASME B16.5
- RATING - ASME B16.34
- TESTING - API 598
- DIMENSIONAL - ASME B16.10 - SHORT PATTERN

Description of BALL Valve (BA03CB506):
Type: BALL
Valve Size: NPS 26 -to- NPS 48
Class: 300
Ends: FLANGED RF
Body: CS (ASTM A105 or A216 - WCB)
Trim: 316 SS
Seat: R-PTFE
Stem: 17-4 PH SS
Springs: INCONEL X
Body Type: BOLTED or UNIBODY
Design: TRUNNION BALL, FIRE SAFE API 6FA
Bore-Port: SINGLE REDUCED
Operation: GEAR
Stem Seals: FLEXIBLE GRAPHITE
Stem Packing: FLEXIBLE GRAPHITE
Body-Bonnet Gaskets: FLEXIBLE GRAPHITE

The standards are:
- DESIGN - ASME B16.34 and API 6D
- ENDS - ASME B16.47 SERIES B
- RATING - API 6D
- TESTING - API 6D
- DIMENSIONAL - API 6D (NPS 26 -to- NPS 36) MFG STD (NPS 38 -to- NPS 48)
Description of BALL Valve (BA03CB507):
Type: ...................... BALL
Valve Size: ................ NPS 26 - to- NPS 48
Class: ...................... 300
Ends: ...................... FLANGED RF
Body: ...................... CS (ASTM A105 or A216 - WCB)
Trim: ...................... 316 SS
Seat: ...................... R-PTFE
Stem: ...................... 17-4 PH SS
Springs: .................. INCONEL X
Body Type: ................ BOLTED or UNIBODY
Design: ................... TRUNNION BALL, FIRE SAFE API 6FA
Bore-Port: ................ FULL
Operation: ................ GEAR
Stem Seals: ............. FLEXIBLE GRAPHITE
Stem Packing: .......... FLEXIBLE GRAPHITE
Body-Bonnet Gaskets: .... FLEXIBLE GRAPHITE

The standards are:
DESIGN - ASME B16.34 and API 608
ENDS - ASME B16.47 SERIES B
RATING - API 6D
TESTING - API 6D
DIMENSIONAL - API 6D (NPS 26 - to- NPS 36)
MFG STD (NPS 38 - to- NPS 48)

Description of BALL Valve (BA06CA300):
Type: ...................... BALL
Valve Size: ................ NPS 1/2 - to- NPS 2
Class: ...................... 600
Ends: ...................... SW
Body: ...................... ITCS (ASTM A350 - LF2 CLASS 1 or A352 - LCB or A352 - LCC)
Ball: ...................... 316 SS
Seat: ...................... R-PTFE
Stem: ...................... 316 SS
Body Type: ................ 3-PIECE BOLTED
Design: ................... FLOATING BALL, FIRE TESTED
Bore-Port: ................ SINGLE REDUCED
Operation: ................ LEVER
Stem Seals: ............. FLEXIBLE GRAPHITE
Stem Packing: .......... FLEXIBLE GRAPHITE
Body-Bonnet Gaskets: .... FLEXIBLE GRAPHITE

The standards are:
DESIGN - ASME B16.34 or API 608
ENDS - ASME B16.11
RATING - ASME B16.34
DIMENSIONAL - MFG STD

Description of BALL Valve (BA06GA500):
Type: ...................... BALL
Valve Size: ................ NPS 1/2 - to- NPS 4
Class: ...................... 600
Ends: ...................... FLANGED RF
Body: ...................... ITCS (ASTM A350 - LF2 CLASS 1 or A352 - LCB or A352 - LCC)
Ball: ...................... 316 SS
Seat: ...................... R-PTFE
Stem: ...................... 316 SS
Design: ................... FLOATING BALL or TRUNNION BALL, FIRE SAFE API 607
Bore-Port: ................ SINGLE REDUCED
Operation: ................ LEVER
Stem Seals: ............. FLEXIBLE GRAPHITE
Stem Packing: .......... FLEXIBLE GRAPHITE
Body-Bonnet Gaskets: .... FLEXIBLE GRAPHITE

The standards are:
DESIGN - ASME B16.34 or API 608
ENDS - ASME B16.5
RATING - ASME B16.34
TESTING - API 59B
DIMENSIONAL - ASME B16.10 - LONG PATTERN
Description of BALL Valve (BA06CA501):
Type:............................. BALL
Valve Size:...................... NPS 1/2 -to- NPS 3
Class:............................ 600
Ends:............................ FLANGED RF
Body:..................ITCS (ASTM A350 - LF2 CLASS 1 or A352 - LCB or A352 - LCC)
Ball:......................316 SS
Seat:............................. R-PTFE
Stem:............................ 316 SS
Design:......................... FLOATING BALL or TRUNNION BALL, FIRE SAFE API 607
Bore-Port:..................... FULL
Operation:..................... LEVER
Stem-Seals:.................... FLEXIBLE GRAPHITE
Stem-Packing:................ FLEXIBLE GRAPHITE
Body-Bonnet Gaskets:........ FLEXIBLE GRAPHITE
The standards are:
DESIGN - ASME B16.34 or API 608
ENDS - ASME B16.5
RATING - ASME B16.34
TESTING - API 598
DIMENSIONAL - ASME B16.10 - LONG PATTERN

Description of BALL Valve (BA06CA502):
Type:............................. BALL
Valve Size:...................... NPS 6 -to- NPS 24
Class:............................ 600
Ends:............................ FLANGED RF
Body:..................ITCS (ASTM A350 - LF2 CLASS 1 or A352 - LCB or A352 - LCC)
Ball:......................316 SS
Seat:............................. R-PTFE
Stem:............................ 316 SS
Design:......................... TRUNNION BALL, FIRE SAFE API 607
Bore-Port:..................... SINGLE REDUCED
Operation:..................... GEAR
Stem-Seals:.................... FLEXIBLE GRAPHITE
Stem-Packing:................ FLEXIBLE GRAPHITE
Body-Bonnet Gaskets:........ FLEXIBLE GRAPHITE
The standards are:
DESIGN - ASME B16.34 or API 608
ENDS - ASME B16.5
RATING - ASME B16.34
TESTING - API 598
DIMENSIONAL - ASME B16.10 - LONG PATTERN

Description of BALL Valve (BA06CA503):
Type:............................. BALL
Valve Size:...................... NPS 4 -to- NPS 24
Class:............................ 600
Ends:............................ FLANGED RF
Body:..................ITCS (ASTM A350 - LF2 CLASS 1 or A352 - LCB or A352 - LCC)
Ball:......................316 SS
Seat:............................. R-PTFE
Stem:............................ 316 SS
Design:......................... TRUNNION BALL, FIRE SAFE API 607
Bore-Port:..................... FULL
Operation:..................... GEAR
Stem-Seals:.................... FLEXIBLE GRAPHITE
Stem-Packing:................ FLEXIBLE GRAPHITE
Body-Bonnet Gaskets:........ FLEXIBLE GRAPHITE
The standards are:
DESIGN - ASME B16.34 or API 608
ENDS - ASME B16.5
RATING - ASME B16.34
TESTING - API 598
DIMENSIONAL - ASME B16.10 - LONG PATTERN
Description of BALL Valve (BA06CA504):

- **Type**: BALL
- **Valve Size**: NPS 26-to- NPS 48
- **Class**: 600
- **Body**: ITCS (ASTM A350 - LF2 CLASS 1 or A352 - LCB or A352 - LCC)
- **Trim**: 316 SS
- **Seat**: R-PTFE
- **Stem**: 17-4 PH SS
- **Springs**: INCONEL X
- **Design**: TRUNNION BALL, FIRE SAFE API 6FA
- **Bore-Port**: SINGLE REDUCED
- **Operation**: GEAR
- **Stem Seals**: FLEXIBLE GRAPHITE
- **Stem-Packing**: FLEXIBLE GRAPHITE
- **Body-Bonnet Gaskets**: FLEXIBLE GRAPHITE

The standards are:
- **DESIGN**: ASME B16.34 and API 6D
- **ENDS**: ASME B16.47 SERIES B
- **RATING**: API 6D
- **TESTING**: API 6D
- **DIMENSIONAL**: API 6D (NPS 26-to- NPS 36)
  - MFG STD (NPS 38-to- NPS 48)

Description of BALL Valve (BA06CA505):

- **Type**: BALL
- **Valve Size**: NPS 26-to- NPS 48
- **Class**: 600
- **Body**: ITCS (ASTM A350 - LF2 CLASS 1 or A352 - LCB or A352 - LCC)
- **Trim**: 316 SS
- **Seat**: R-PTFE
- **Stem**: 17-4 PH SS
- **Springs**: INCONEL X
- **Design**: TRUNNION BALL, FIRE SAFE API 6FA
- **Bore-Port**: FULL
- **Operation**: GEAR
- **Stem Seals**: FLEXIBLE GRAPHITE
- **Stem-Packing**: FLEXIBLE GRAPHITE
- **Body-Bonnet Gaskets**: FLEXIBLE GRAPHITE

The standards are:
- **DESIGN**: ASME B16.34 and API 6D
- **ENDS**: ASME B16.47 SERIES B
- **RATING**: API 6D
- **TESTING**: API 6D
- **DIMENSIONAL**: API 6D (NPS 26-to- NPS 36)
  - MFG STD (NPS 38-to- NPS 48)

Description of BALL Valve (BA06CB300):

- **Type**: BALL
- **Valve Size**: NPS 1/2-to- NPS 2
- **Class**: 600
- **Body**: CS (ASTM A105 or A216 - WCB)
- **Ball**: 316 SS
- **Seat**: R-PTFE
- **Stem**: 316 SS
- **Body Type**: 3-PIECE BOLTED
- **Design**: FLOATING BALL, FIRE TESTED
- **Bore-Port**: SINGLE REDUCED
- **Operation**: LEVER
- **Stem Seals**: FLEXIBLE GRAPHITE
- **Stem-Packing**: FLEXIBLE GRAPHITE
- **Body-Bonnet Gaskets**: FLEXIBLE GRAPHITE

The standards are:
- **DESIGN**: ASME B16.34 or API 608
- **ENDS**: ASME B16.11
- **RATING**: ASME B16.34
- **DIMENSIONAL**: MFG STD
Description of BALL Valve (BA06CB500):

Type: BALL
Valve Size: NPS 1/2 -to- NPS 4
Class: 600
Ends: FLANGED RF
Body: CS (ASTM A105 or A216 - MCB)
Ball: 316 SS
Seat: R-PTFE
Stem: 316 SS
Design: FLOATING BALL or TRUNNION BALL, FIRE SAFE API 607
Bore-Port: SINGLE REDUCED
Operation: LEVER
Stem Seals: FLEXIBLE GRAPHITE
Stem-Packing: FLEXIBLE GRAPHITE
Body-Bonnet Gaskets: FLEXIBLE GRAPHITE

The standards are:
- DESIGN - ASME B16.34 or API 608
- ENDS - ASME B16.5
- RATING - ASME B16.34
- TESTING - API 598
- DIMENSIONAL - ASME B16.10 - LONG PATTERN

Description of BALL Valve (BA06CB501):

Type: BALL
Valve Size: NPS 1/2 -to- NPS 3
Class: 600
Ends: FLANGED RF
Body: CS (ASTM A105 or A216 - MCB)
Ball: 316 SS
Seat: R-PTFE
Stem: 316 SS
Design: FLOATING BALL or TRUNNION BALL, FIRE SAFE API 607
Bore-Port: SINGLE REDUCED
Operation: LEVER
Stem Seals: FLEXIBLE GRAPHITE
Stem-Packing: FLEXIBLE GRAPHITE
Body-Bonnet Gaskets: FLEXIBLE GRAPHITE

The standards are:
- DESIGN - ASME B16.34 or API 608
- ENDS - ASME B16.5
- RATING - ASME B16.34
- TESTING - API 598
- DIMENSIONAL - ASME B16.10 - LONG PATTERN

Description of BALL Valve (BA06CB502):

Type: BALL
Valve Size: NPS 6 -to- NPS 24
Class: 600
Ends: FLANGED RF
Body: CS (ASTM A105 or A216 - MCB)
Ball: 316 SS
Seat: R-PTFE
Stem: 316 SS
Design: TRUNNION BALL, FIRE SAFE API 607
Bore-Port: SINGLE REDUCED
Operation: GEAR
Stem Seals: FLEXIBLE GRAPHITE
Stem-Packing: FLEXIBLE GRAPHITE
Body-Bonnet Gaskets: FLEXIBLE GRAPHITE

The standards are:
- DESIGN - ASME B16.34 or API 608
- ENDS - ASME B16.5
- RATING - ASME B16.34
- TESTING - API 598
- DIMENSIONAL - ASME B16.10 - LONG PATTERN
Description of BALL Valve (BA06CB503):

Type:......................... BALL
Valve Size:.................... NPS 4 -to- NPS 24
Class:.......................... 600
Ends:.......................... FLANGED RF
Body:......................... CS (ASTM A105 or A216 - WCB)
Ball:.......................... 316 SS
Seat:......................... R-PTFE
Stem:.......................... 316 SS
Design:....................... TRUNNION BALL, FIRE SAFE API 607
Bore-Port:.................... FULL
Operation:..................... GEAR
Stem Seals:................... FLEXIBLE GRAPHITE
Stem-Packing:................. FLEXIBLE GRAPHITE
Body-Bonnet Gaskets:........ FLEXIBLE GRAPHITE

The standards are:

- DESIGN - ASME B16.34 or API 608
- ENDS - ASME B16.5
- RATING - ASME B16.34
- TESTING - API 598
- DIMENSIONAL - ASME B16.10 - LONG PATTERN

Description of BALL Valve (BA06CB504):

Type:......................... BALL
Valve Size:.................... NPS 26 -to- NPS 48
Class:.......................... 600
Ends:.......................... FLANGED RF
Body:......................... CS (ASTM A105 or A216 - WCB)
Trim:.......................... 316 SS
Seat:......................... R-PTFE
Stem:.......................... 17-4 PH SS
Springs:....................... INCONEL X
Design:....................... TRUNNION BALL, FIRE SAFE API 6D
Bore-Port:................. SINGLE REDUCED
Operation:..................... GEAR
Stem Seals:................... FLEXIBLE GRAPHITE
Stem-Packing:................. FLEXIBLE GRAPHITE
Body-Bonnet Gaskets:........ FLEXIBLE GRAPHITE

The standards are:

- DESIGN - ASME B16.34 and API 6D
- ENDS - ASME B16.47 SERIES B
- RATING - API 6D
- TESTING - API 6D
- DIMENSIONAL - API 6D (NPS 26 -to- NPS 36)
  NFG STD (NPS 38 -to- NPS 48)

Description of BALL Valve (BA06CB505):

Type:......................... BALL
Valve Size:.................... NPS 26 -to- NPS 48
Class:.......................... 600
Ends:.......................... FLANGED RF
Body:......................... CS (ASTM A105 or A216 - WCB)
Trim:.......................... 316 SS
Seat:......................... R-PTFE
Stem:.......................... 17-4 PH SS
Springs:....................... INCONEL X
Design:....................... TRUNNION BALL, FIRE SAFE API 6D
Bore-Port:................... FULL
Operation:..................... GEAR
Stem Seals:................... FLEXIBLE GRAPHITE
Stem-Packing:................. FLEXIBLE GRAPHITE
Body-Bonnet Gaskets:........ FLEXIBLE GRAPHITE

The standards are:

- DESIGN - ASME B16.34 and API 6D
- ENDS - ASME B16.47 SERIES B
- RATING - API 6D
- TESTING - API 6D
- DIMENSIONAL - API 6D (NPS 26 -to- NPS 36)
  NFG STD (NPS 38 -to- NPS 48)