PIP PNSMV003
Carbon Steel Gate 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 gate valves included in PIP Piping Line Class Material Specifications.

1.2 Scope
This Practice describes the requirements for carbon steel gate valves.

2. References
Applicable parts of the following Practices 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
- PIP PNFJ8000 - Jacketed Piping Fabrication and Installation Details

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 gate valves. Therefore, the first two characters in the valve numbers are GA.

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., GA01CA500, GA01CA501, GA01CB500, GA01CB501, GA03CA500).

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 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 gear operators for gate valves are not specified in piping line class specifications or valve specifications. Purchasers shall define the requirements for gear operators in their specifications.

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

4.4 See PIP PNFJ8000, detail PNFJ8750, for typical fabrication details for weld-on jacketed valves.
5. Cross Reference

<table>
<thead>
<tr>
<th>Valve Number</th>
<th>Applicable Line Classes</th>
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<tr>
<td>GA01CA500</td>
<td>1CA1S01</td>
</tr>
<tr>
<td>GA01CA501</td>
<td>1CA1S01</td>
</tr>
<tr>
<td>GA01CA502</td>
<td>1CA1S01</td>
</tr>
<tr>
<td>GA01CB500</td>
<td>1CB1S01, 1CB2S01, 1CB3S01, 1CS1B01, 1CS1B02, 1CS1S01, 1CS2S01, 1SA0B01</td>
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<td>GA01CB501</td>
<td>1CB1S01, 1CB2S01, 1CB3S01, 1CS1B01, 1CS1B02, 1CS1S01, 1CS1S02, 1CS2S01, 1SA0B01</td>
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<td>GA01CB502</td>
<td>1CB2S01, 1CS1B02, 1CS1S01, 1CS1S02, 1CS2S01, 1CB1S01</td>
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<tr>
<td>GA01CB503</td>
<td>1CS1S02</td>
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<td>GA01CB550</td>
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<td>1CS1J01</td>
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<td>3CA1S01</td>
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<td>3CA1S01</td>
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<td>GA03CB503</td>
<td>3CS1S02</td>
</tr>
<tr>
<td>GA03CB550</td>
<td>3CS1J01</td>
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<td>3CS1J01</td>
</tr>
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<td>6CS1S01</td>
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<td>6CS1S01</td>
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<td>GA08CB302</td>
<td>1CS1S02, 3CS1S02</td>
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6. Valve Descriptions

Description of GATE Valve (GA01CA500):

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<thead>
<tr>
<th>Type</th>
<th>GATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valve Size</td>
<td>NPS 1/2 to NPS 2</td>
</tr>
<tr>
<td>Service</td>
<td>-46 to 343 degC (-50 to 650 degF)</td>
</tr>
<tr>
<td>Class</td>
<td>150</td>
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<tr>
<td>Ends</td>
<td>FLANGED RF</td>
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<tr>
<td>Body</td>
<td>ITCS (ASTM A350 - LF2 CLASS 1 or A352 - LCB or A352 - LCC)</td>
</tr>
<tr>
<td>Bonnet</td>
<td>ITCS (ASTM A350 - LF2 CLASS 1 or A352 - LCB or A352 - LCC)</td>
</tr>
<tr>
<td>Trim</td>
<td>API 602 TRIM 12</td>
</tr>
<tr>
<td>Wedge Type</td>
<td>SOLID</td>
</tr>
<tr>
<td>Bonnet Type</td>
<td>BOLTED</td>
</tr>
<tr>
<td>Bore-Port</td>
<td>STANDARD</td>
</tr>
<tr>
<td>Stem Design</td>
<td>OS&amp;Y</td>
</tr>
<tr>
<td>Operation</td>
<td>HANDWHEEL</td>
</tr>
<tr>
<td>Stem-Packing</td>
<td>FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED</td>
</tr>
<tr>
<td>Body-Bonnet Gaskets</td>
<td>SS/GRAPHITE</td>
</tr>
<tr>
<td>Body-Bonnet Bolting</td>
<td>BOLTS: MFG STD</td>
</tr>
</tbody>
</table>

The standards are:
- DESIGN - API 602
- ENDS - ASME B16.5
- RATING - ASME B16.34
- TESTING - API 598
- DIMENSIONAL - ASME B16.10

Description of GATE Valve (GA01CA501):

<table>
<thead>
<tr>
<th>Type</th>
<th>GATE</th>
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<tr>
<td>Valve Size</td>
<td>NPS 2 to NPS 24</td>
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<td>-46 to 343 degC (-50 to 650 degF)</td>
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<tr>
<td>Class</td>
<td>150</td>
</tr>
<tr>
<td>Ends</td>
<td>FLANGED RF</td>
</tr>
<tr>
<td>Body</td>
<td>ITCS (ASTM A352 - LCB or A352 - LCC)</td>
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<tr>
<td>Bonnet</td>
<td>ITCS (ASTM A352 - LCB or A352 - LCC)</td>
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<tr>
<td>Trim</td>
<td>API 600 TRIM 12</td>
</tr>
<tr>
<td>Wedge Type</td>
<td>SOLID or FLEXIBLE (NPS 2 to NPS 4), FLEXIBLE (NPS 6 and greater)</td>
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<tr>
<td>Bonnet Type</td>
<td>BOLTED</td>
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<tr>
<td>Bore-Port</td>
<td>FULL</td>
</tr>
<tr>
<td>Stem Design</td>
<td>OS&amp;Y</td>
</tr>
<tr>
<td>Operation</td>
<td>HANDWHEEL</td>
</tr>
<tr>
<td>Stem-Packing</td>
<td>FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED</td>
</tr>
<tr>
<td>Body-Bonnet Gaskets</td>
<td>SS/GRAPHITE</td>
</tr>
<tr>
<td>Body-Bonnet Bolting</td>
<td>BOLTS: MFG STD</td>
</tr>
</tbody>
</table>

The standards are:
- DESIGN - API 600
- ENDS - ASME B16.5
- RATING - ASME B16.34
- TESTING - API 598
- DIMENSIONAL - ASME B16.10
### Description of GATE Valve (GA01GA502):

- **Type:** GATE
- **Valve Size:** NPS 26 to NPS 48
- **Service:** -46 to 343 degC (-50 to 650 degF)
- **Class:** 150
- **Ends:** FLANGED RF
- **Body:** ITCS (ASTM A352 - LCB or A352 - LCC)
- **Bonnet:** ITCS (ASTM A352 - LCB or A352 - LCC)
- **Trim:** API 602 TRIM 12
- **Wedge Type:** FLEXIBLE
- **Bonnet Type:** BOLTED
- **Bore-Port:** FULL
- **Stem Design:** OS&Y
- **Operation:** HANDWHEEL
- **Stem Packing:** FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED
- **Body Bonnet Gaskets:** SS/GRAPHITE
- **Body Bonnet Bolting:** BOLTS: MFG STD
  NUTS: MFG STD

The standards are:
- **DESIGN** - API 600, as applicable
- **ENDS** - ASME B16.47 SERIES B
- **RATING** - ASME B16.34
- **TESTING** - API 598
- **DIMENSIONAL** - ASME B16.10 (NPS 26 to NPS 36)
  MFG STD (NPS 38 to NPS 48)

### Description of GATE Valve (GA01CB500):

- **Type:** GATE
- **Valve Size:** NPS 1/2 to NPS 2
- **Class:** 150
- **Ends:** FLANGED RF
- **Body:** CS (ASTM A105 or A216 - WCB)
- **Bonnet:** CS (ASTM A105 or A216 - WCB)
- **Trim:** API 602 TRIM 8
- **Wedge Type:** SOLID
- **Bonnet Type:** BOLTED
- **Bore-Port:** STANDARD
- **Stem Design:** OS&Y
- **Operation:** HANDWHEEL
- **Stem Packing:** FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED
- **Body Bonnet Gaskets:** SS/GRAPHITE
- **Body Bonnet Bolting:** BOLTS: API 602
  NUTS: API 602

The standards are:
- **DESIGN** - API 602
- **ENDS** - ASME B16.5
- **RATING** - ASME B16.34
- **TESTING** - API 598
- **DIMENSIONAL** - ASME B16.10

### Description of GATE Valve (GA01CB501):

- **Type:** GATE
- **Valve Size:** NPS 2 to NPS 24
- **Class:** 150
- **Ends:** FLANGED RF
- **Body:** CS (ASTM A105 or A216 - WCB)
- **Bonnet:** CS (ASTM A105 or A216 - WCB)
- **Trim:** API 600 TRIM 8
- **Wedge Type:** SOLID or FLEXIBLE (NPS 2 to NPS 4), FLEXIBLE (NPS 6 and greater)
- **Bonnet Type:** BOLTED
- **Bore-Port:** FULL
- **Stem Design:** OS&Y
- **Operation:** HANDWHEEL
- **Stem Packing:** FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED
- **Body Bonnet Gaskets:** SS/GRAPHITE
- **Body Bonnet Bolting:** BOLTS: API 600
  NUTS: API 600

The standards are:
- **DESIGN** - API 600
- **ENDS** - ASME B16.5
- **RATING** - ASME B16.34
- **TESTING** - API 598
- **DIMENSIONAL** - ASME B16.10
### Description of GATE Valve (GA01CB502):

- **Type:** GATE
- **Valve Size:** NPS 26 to NPS 48
- **Class:** 150
- **Ends:** FLANGED RF
- **Body:** CS (ASTM A216 - WCB)
- **Bonnet:** CS (ASTM A216 - WCB)
- **Trim:** API 600 TRIM 8
- **Wedge Type:** FLEXIBLE
- **Bonnet Type:** BOLTED
- **Bore-Port:** FULL
- **Stem Design:** OS&Y
- **Operation:** HANDWHEEL
- **Stem Packing:** FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED
- **Body-Bonnet Gaskets:** SS/GRAPHITE
- **Body-Bonnet Bolting:** BOLTS: API 600
  NUTS: API 600

The standards are:
- **DESIGN:** API 600, as applicable
- **ENDS:** ASME B16.47 SERIES B
- **RATING:** ASME B16.34
- **TESTING:** API 598
- **DIMENSIONAL:** ASME B16.10 (NPS 26 to NPS 36)
- **MFG STD (NPS 38 to NPS 48):**

### Description of GATE Valve (GA01CB503):

- **Type:** GATE
- **Valve Size:** NPS 1/2 to NPS 2
- **Class:** 150
- **Ends:** FLANGED RF
- **Body:** CS (ASTM A105)
- **Bonnet:** CS (ASTM A105)
- **Trim:** API 602 TRIM 8
- **Wedge Type:** SOLID
- **Bonnet Type:** WELDED
- **Bore-Port:** STANDARD
- **Stem Design:** OS&Y
- **Operation:** HANDWHEEL
- **Stem Packing:** FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED

The standards are:
- **DESIGN:** API 602
- **ENDS:** ASME B16.5
- **RATING:** ASME B16.34
- **TESTING:** API 598
- **DIMENSIONAL:** ASME B16.10

### Description of GATE Valve (GA01CB550):

- **Type:** GATE
- **Valve Size:** NPS 1/2 to NPS 2
- **Class:** 150
- **Ends:** FLANGED RF and OVERSIZED REDUCING FLANGES
- **Body:** CS (ASTM A105)
- **Bonnet:** CS (ASTM A105)
- **Trim:** API 602 TRIM 8
- **Wedge Type:** SOLID
- **Bonnet Type:** BOLTED
- **Jacket:** FULL JACKET - PIP PNFJ8750 and FNPT CONNECTIONS
- **Bore-Port:** STANDARD
- **Stem Design:** OS&Y
- **Operation:** HANDWHEEL
- **Stem Packing:** FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED

The standards are:
- **DESIGN:** API 602
- **ENDS:** ASME B16.5
- **RATING:** ASME B16.34
- **TESTING:** API 598
- **DIMENSIONAL:** ASME B16.10
Description of GATE Valve (GA01CB551):
Type: ........................................... GATE
Valve Size: .................................... NPS 3 to NPS 12
Class: ........................................ 150
Ends: ........................................... FLANGED RF and OVERSIZED REDUCING FLANGES
Body: ........................................... CS (ASTM A216 - WCB)
Bonnet: ......................................... CS (ASTM A216 - WCB)
Trim: ........................................... API 600 TRIM 8
Wedge Type: ................................... SOLID or FLEXIBLE (NPS 2 to NPS 4), FLEXIBLE (NPS 6 and greater)
Bonnet Type: .................................. BOLTED
Jacket: ......................................... FULL JACKET - PIP PNFJ8750 and FNPT CONNECTIONS
Bore-Port: .................................... FULL
Stem Design: ................................... OS&Y
Operation: ..................................... HANDWHEEL
Stem-Packing: ................................. FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED
Body-Bonnet Gaskets: ......................... SS/GRAPHITE
Body-Bonnet Bolting: ......................... BOLTS: MFG STD
NUTS: MFG STD
The standards are:
DESIGN .................................. ASME B16.34
ENDS ....................................... ASME B16.5
RATING ..................................... ASME B16.34
TESTING ..................................... API 598
DIMENSIONAL ............................. ASME B16.10

Description of GATE Valve (GA03CA500):
Type: ........................................... GATE
Valve Size: .................................... NPS 1/2 to NPS 2
Service: ...................................... -46 to 343 degC (~-50 to 650 degF)
Class: ........................................ 300
Ends: ........................................... FLANGED RF
Body: ........................................... ITCS (ASTM A350 - LF2 CLASS 1 or A352 - LCB or A352 - LCC)
Bonnet: ........................................ ITCS (ASTM A350 - LF2 CLASS 1 or A352 - LCB or A352 - LCC)
Trim: ........................................... API 602 TRIM 12
Wedge Type: ................................... SOLID
Bonnet Type: .................................. BOLTED
Bore-Port: .................................... STANDARD
Stem Design: ................................... OS&Y
Operation: ..................................... HANDWHEEL
Stem-Packing: ................................. FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED
Body-Bonnet Gaskets: ......................... SS/GRAPHITE
Body-Bonnet Bolting: ......................... BOLTS: MFG STD
NUTS: MFG STD
The standards are:
DESIGN .................................. API 602
ENDS ....................................... ASME B16.5
RATING ..................................... ASME B16.34
TESTING ..................................... API 598
DIMENSIONAL ............................. ASME B16.10

Description of GATE Valve (GA03CA501):
Type: ........................................... GATE
Valve Size: .................................... NPS 2 to NPS 24
Service: ...................................... -46 to 343 degC (~-50 to 650 degF)
Class: ........................................ 300
Ends: ........................................... FLANGED RF
Body: ........................................... ITCS (ASTM A352 - LCB or A352 - LCC)
Bonnet: ........................................ ITCS (ASTM A352 - LCB or A352 - LCC)
Trim: ........................................... API 600 TRIM 12
Wedge Type: ................................... SOLID or FLEXIBLE (NPS 2 to NPS 4), FLEXIBLE (NPS 6 and greater)
Bonnet Type: .................................. BOLTED
Bore-Port: .................................... FULL
Stem Design: ................................... OS&Y
Operation: ..................................... HANDWHEEL
Stem-Packing: ................................. FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED
Body-Bonnet Gaskets: ......................... SS/GRAPHITE
Body-Bonnet Bolting: ......................... BOLTS: MFG STD
NUTS: MFG STD
The standards are:
DESIGN .................................. API 600
ENDS ....................................... ASME B16.5
RATING ..................................... ASME B16.34
TESTING ..................................... API 598
DIMENSIONAL ............................. ASME B16.10
Description of GATE Valve (GA03GA502):  
Type.............................................. GATE  
Valve Size:.............................. NPS 26 to NPS 48  
Service:................................. -46 to 343 degC (-50 to 650 degF)  
Class:................................. 300  
Ends:........................................ FLANGED RF  
Body:................................. ITCS (ASTM A352 - LCB or A352 - LCC)  
Bonnet:................................. ITCS (ASTM A352 - LCB or A352 - LCC)  
Trim:............................... API 600 TRIM 12  
Wedge Type:................................. FLEXIBLE  
Bonnet Type:................................. BOLTED  
Bore-Port:................................. FULL  
Stem Design:................................. OS&Y  
Operation:................................. HANDWHEEL  
Stem Packing:................................. FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED  
Body-Bonnet Gaskets:......................... SS/GRAPHITE  
Body-Bonnet Bolting:....................... BOLTS: MFG STD  
NUTS: MFG STD  
The standards are:  
DESIGN - API 600, as applicable  
ENDS - ASME B16.47 SERIES B  
RATING - ASME B16.34  
TESTING - API 598  
DIMENSIONAL - ASME B16.10 (NPS 26 to NPS 36)  
NPS STD (NPS 38 to NPS 48)  

Description of GATE Valve (GA03GB500):  
Type.............................................. GATE  
Valve Size:.............................. NPS 1/2 to NPS 2  
Class:................................. 300  
Ends:........................................ FLANGED RF  
Body:................................. CS (ASTM A105 or A216 - WCB)  
Bonnet:................................. CS (ASTM A105 or A216 - WCB)  
Trim:............................... API 602 TRIM 8  
Wedge Type:................................. SOLID  
Bonnet Type:................................. BOLTED  
Bore-Port:................................. STANDARD  
Stem Design:................................. OS&Y  
Operation:................................. HANDWHEEL  
Stem Packing:................................. FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED  
Body-Bonnet Gaskets:......................... SS/GRAPHITE  
Body-Bonnet Bolting:....................... BOLTS: API 602  
NUTS: API 602  
The standards are:  
DESIGN - API 602  
ENDS - ASME B16.5  
RATING - ASME B16.34  
TESTING - API 598  
DIMENSIONAL - ASME B16.10  

Description of GATE Valve (GA03GB501):  
Type.............................................. GATE  
Valve Size:.............................. NPS 2 to NPS 24  
Class:................................. 300  
Ends:........................................ FLANGED RF  
Body:................................. CS (ASTM A216 - WCB)  
Bonnet:................................. CS (ASTM A216 - WCB)  
Trim:............................... API 600 TRIM 8  
Wedge Type:................................. SOLID or FLEXIBLE (NPS 2 to NPS 4), FLEXIBLE (NPS 6 and greater)  
Bonnet Type:................................. BOLTED  
Bore-Port:................................. FULL  
Stem Design:................................. OS&Y  
Operation:................................. HANDWHEEL  
Stem Packing:................................. FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED  
Body-Bonnet Gaskets:......................... SS/GRAPHITE  
Body-Bonnet Bolting:....................... BOLTS: API 600  
NUTS: API 600  
The standards are:  
DESIGN - API 600  
ENDS - ASME B16.5  
RATING - ASME B16.34  
TESTING - API 598  
DIMENSIONAL - ASME B16.10
Description of GATE Valve (GA03CB502):
Type:............................ GATE
Valve Size:........................ NPS 26 -to- NPS 48
Class:............................ 300
Ends:............................ FLANGED RF
Body:............................ CS (ASTM A216 - WCB)
Bonnet:........................... CS (ASTM A216 - WCB)
Trim:............................. API 600 TRIM 8
Wedge Type:...................... FLEXIBLE
Bonnet Type:....................... BOLTED
Bore-Port:........................ FULL
Stem Design:...................... OS&Y
Operation:........................ HANDWHEEL
Stem Packing:..................... FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED
Body-Bonnet Gaskets:............ SS/GRAPHITE
Body-Bonnet Bolting:............. BOLTS: API 600
NUTS: API 600
The standards are:
DESIGN - API 600, as applicable
ENDS - ASME B16.47 SERIES B
RATING - ASME B16.34
TESTING - API 598
DIMENSIONAL - ASME B16.10 (NPS 26 -to- NPS 36)
WFG STD (NPS 38 -to- NPS 48)

Description of GATE Valve (GA03CB503):
Type:............................ GATE
Valve Size:........................ NPS 1/2 -to- NPS 2
Class:............................ 300
Ends:............................ FLANGED RF
Body:............................ CS (ASTM A105 or A216 - WCB)
Bonnet:........................... CS (ASTM A105 or A216 - WCB)
Trim:............................. API 602 TRIM 8
Wedge Type:...................... SOLID
Bonnet Type:....................... WELDED
Bore-Port:........................ STANDARD
Stem Design:...................... OS&Y
Operation:........................ HANDWHEEL
Stem Packing:..................... FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED
The standards are:
DESIGN - API 602
ENDS - ASME B16.5
RATING - ASME B16.34
TESTING - API 598
DIMENSIONAL - ASME B16.10

Description of GATE Valve (GA03CB550):
Type:............................ GATE
Valve Size:........................ NPS 1/2 -to- NPS 2
Class:............................ 300
Ends:............................ FLANGED RF and OVERSIZED REDUCING FLANGES
Body:............................ CS (ASTM A105 or A216 - WCB)
Bonnet:........................... CS (ASTM A105 or A216 - WCB)
Trim:............................. API 602 TRIM 8
Wedge Type:...................... SOLID
Bonnet Type:....................... BOLTED
Jacket:........................... FULL JACKET - PIP PNFJ8750 and FNPT CONNECTIONS
Bore-Port:........................ STANDARD
Stem Design:...................... OS&Y
Operation:........................ HANDWHEEL
Stem Packing:..................... FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED
Body-Bonnet Gaskets:............ SS/GRAPHITE
Body-Bonnet Bolting:............. BOLTS: API 602
NUTS: API 602
The standards are:
DESIGN - API 602
ENDS - ASME B16.5
RATING - ASME B16.34
TESTING - API 598
DIMENSIONAL - ASME B16.10
Description of GATE Valve (GA03CB551):
Type:............................................ GATE
Valve Size:................................ NPS 3 to NPS 12
Class:........................................... 300
Ends:............................................ FLANGED RF and OVERSIZED REDUCING FLANGES
Body:........................................... CS (ASTM A216 - WCB)
Bonnet:........................................ CS (ASTM A216 - WCB)
Trim:........................................... API 600 TRIM 8
Wedge Type:................................ SOLID or FLEXIBLE (NPS 2 to NPS 4), FLEXIBLE (NPS 6 and greater)
Bonnet Type:................................ BOLTED
Jacket:........................................... FULL JACKET - PIP PNFJ8750 and FNPT CONNECTIONS
Bore-Port:.................................... FULL
Stem Design:.................................. O/S & Y
Operation:.................................... HANDWHEEL
Stem-Packing:................................ FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED
Body-Bonnet Gaskets:.................... SS/GRAPHITE
Body-Bonnet Bolting:..................... BOLTS: MFG STD
NUTS: MFG STD
The standards are:
DESIGN - ASME B16.34
ENDS - ASME B16.5
RATING - ASME B16.34
TESTING - API 598
DIMENSIONAL - ASME B16.10

Description of GATE Valve (GA06CA500):
Type:............................................ GATE
Valve Size:................................ NPS 1/2 to NPS 2
Service:........................................ -46 to 343 degC (-50 to 650 degF)
Class:........................................... 600
Ends:............................................ FLANGED RF
Body:........................................... ITCS (ASTM A350 - LF2 CLASS 1 or A352 - LCB or A352 - LCC)
Bonnet:........................................ ITCS (ASTM A350 - LF2 CLASS 1 or A352 - LCB or A352 - LCC)
Trim:........................................... API 602 TRIM 12
Wedge Type:................................ SOLID
Bonnet Type:................................ BOLTED
Bore-Port:.................................... STANDARD
Stem Design:.................................. O/S & Y
Operation:.................................... HANDWHEEL
Stem-Packing:................................ FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED
Body-Bonnet Gaskets:.................... SS/GRAPHITE
Body-Bonnet Bolting:..................... BOLTS: MFG STD
NUTS: MFG STD
The standards are:
DESIGN - API 602
ENDS - ASME B16.5
RATING - ASME B16.34
TESTING - API 598
DIMENSIONAL - ASME B16.10

Description of GATE Valve (GA06CA501):
Type:............................................ GATE
Valve Size:................................ NPS 2 to NPS 24
Service:........................................ -46 to 343 degC (-50 to 650 degF)
Class:........................................... 600
Ends:............................................ FLANGED RF
Body:........................................... ITCS (ASTM A352 - LCB or A352 - LCC)
Bonnet:........................................ ITCS (ASTM A352 - LCB or A352 - LCC)
Trim:........................................... API 600 TRIM 12
Wedge Type:................................ SOLID or FLEXIBLE (NPS 2 to NPS 4), FLEXIBLE (NPS 6 and greater)
Bonnet Type:................................ BOLTED
Bore-Port:.................................... FULL
Stem Design:.................................. O/S & Y
Operation:.................................... HANDWHEEL
Stem-Packing:................................ FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED
Body-Bonnet Gaskets:.................... SS/GRAPHITE
Body-Bonnet Bolting:..................... BOLTS: MFG STD
NUTS: MFG STD
The standards are:
DESIGN - API 600
ENDS - ASME B16.5
RATING - ASME B16.34
TESTING - API 598
DIMENSIONAL - ASME B16.10
Description of GATE Valve (GA06GA502):  
Type: GATE  
Valve Size: NPS 26 to NPS 48  
Service: -46 to 343 degC (-50 to 650 degF)  
Class: 600  
Ends: FLANGED RF  
Body: ITCS (ASTM A352 - LCB or A352 - LCC)  
Bonnet: ITCS (ASTM A352 - LCB or A352 - LCC)  
Trim: API 600 TRIM 12  
Wedge Type: FLEXIBLE  
Bonnet Type: BOLTED  
Bore-Port: FULL  
Stem Design: OS&Y  
Operation: HANDWHEEL  
Stem-Packing: FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED  
Body-Bonnet Gaskets: SS/GRAPHITE  
Body-Bonnet Bolting: BOLTS: MFG STD  
NUTS: MFG STD  
The standards are:  
DESIGN - API 600, as applicable  
ENDS - ASME B16.47 SERIES B  
RATING - ASME B16.34  
TESTING - API 598  
DIMENSIONAL - ASME B16.10 (NPS 26 to NPS 30)  
MFG STD (NPS 32 to NPS 48)  

Description of GATE Valve (GA06CB500):  
Type: GATE  
Valve Size: NPS 1/2 to NPS 2  
Class: 600  
Ends: FLANGED RF  
Body: CS (ASTM A105 or A216 - WCB)  
Bonnet: CS (ASTM A105 or A216 - WCB)  
Trim: API 602 TRIM 8  
Wedge Type: SOLID  
Bonnet Type: BOLTED  
Bore-Port: STANDARD  
Stem Design: OS&Y  
Operation: HANDWHEEL  
Stem-Packing: FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED  
Body-Bonnet Gaskets: SS/GRAPHITE  
Body-Bonnet Bolting: BOLTS: API 602  
NUTS: API 602  
The standards are:  
DESIGN - API 602  
ENDS - ASME B16.5  
RATING - ASME B16.34  
TESTING - API 598  
DIMENSIONAL - ASME B16.10  

Description of GATE Valve (GA06CB501):  
Type: GATE  
Valve Size: NPS 2 to NPS 24  
Class: 600  
Ends: FLANGED RF  
Body: CS (ASTM A216 - WCB)  
Bonnet: CS (ASTM A216 - WCB)  
Trim: API 600 TRIM 8  
Wedge Type: SOLID or FLEXIBLE (NPS 2 to NPS 4), FLEXIBLE (NPS 6 and greater)  
Bonnet Type: BOLTED  
Bore-Port: FULL  
Stem Design: OS&Y  
Operation: HANDWHEEL  
Stem-Packing: FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED  
Body-Bonnet Gaskets: SS/GRAPHITE  
Body-Bonnet Bolting: BOLTS: API 600  
NUTS: API 600  
The standards are:  
DESIGN - API 600  
ENDS - ASME B16.5  
RATING - ASME B16.34  
TESTING - API 598  
DIMENSIONAL - ASME B16.10
Description of Gate Valve (GA06CB502):
Type: GATE
Valve Size: NPS 2 to NPS 24
Class: 600
Ends: FLANGED RF
Body: CS (ASTM A216 - WCB)
Bonnet: CS (ASTM A216 - WCB)
Trim: API 600 TRIM 5
Wedge Type: SOLID or FLEXIBLE (NPS 2 to NPS 4), FLEXIBLE (NPS 6 and greater)
Bonnet Type: BOLTED
Bore-Port: FULL
Stem Design: OS&Y
Operation: HANDWHEEL
Stem-Packing: FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED
Body-Bonnet Gaskets: SS/GRAPHITE
Body-Bonnet Boltin: BOLTS: API 600
NUTS: API 600

The standards are:
DESIGN - API 600
ENDS - ASME B16.5
RATING - ASME B16.34
TESTING - API 598
DIMENSIONAL - ASME B16.10

Description of Gate Valve (GA06CB503):
Type: GATE
Valve Size: NPS 26 to NPS 48
Class: 600
Ends: FLANGED RF
Body: CS (ASTM A216 - WCB)
Bonnet: CS (ASTM A216 - WCB)
Trim: API 600 TRIM 9
Wedge Type: FLEXIBLE
Bonnet Type: BOLTED
Bore-Port: FULL
Stem Design: OS&Y
Operation: HANDWHEEL
Stem-Packing: FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED
Body-Bonnet Gaskets: SS/GRAPHITE
Body-Bonnet Boltin: BOLTS: API 600
NUTS: API 600

The standards are:
DESIGN - API 600, as applicable
ENDS - ASME B16.47 SERIES B
RATING - ASME B16.34
TESTING - API 598
DIMENSIONAL - ASME B16.10 (NPS 26 to NPS 30)
MFG STD (NPS 32 to NPS 48)

Description of Gate Valve (GA06CB504):
Type: GATE
Valve Size: NPS 1/2 to NPS 2
Class: 600
Ends: FLANGED RF
Body: CS (ASTM A105 or A216 - WCB)
Bonnet: CS (ASTM A105 or A216 - WCB)
Trim: API 602 TRIM 5
Wedge Type: SOLID
Bonnet Type: WELDED
Bore-Port: STANDARD
Stem Design: OS&Y
Operation: HANDWHEEL
Stem-Packing: FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED
Body-Bonnet Gaskets: SS/GRAPHITE
Body-Bonnet Boltin: BOLTS: API 602
NUTS: API 602

The standards are:
DESIGN - API 602
ENDS - ASME B16.5
RATING - ASME B16.34
TESTING - API 598
DIMENSIONAL - ASME B16.10
### Description of GATE Valve (GA06CB505):

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<td>Body</td>
<td>CS (ASTM A216 - WCB)</td>
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<tr>
<td>Bonnet</td>
<td>CS (ASTM A216 - WCB)</td>
</tr>
<tr>
<td>Trim</td>
<td>API 600 TRIM 5</td>
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<td>Bonnet Type</td>
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<td>Bore-Port Type</td>
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<td>Stem Design</td>
<td>OS&amp;Y</td>
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<tr>
<td>Operation</td>
<td>HANDWHEEL</td>
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<tr>
<td>Stem-Packing</td>
<td>FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED</td>
</tr>
<tr>
<td>Body-Bonnet Gaskets</td>
<td>SS/GRAPHITE</td>
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<tr>
<td>Body-Bonnet Bolting</td>
<td>BOLTS: API 600</td>
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<td>NUTS: API 600</td>
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The standards are:
- **DESIGN**: API 600, as applicable
- **ENDS**: ASME B16.47 SERIES B
- **RATING**: ASME B16.34
- **TESTING**: API 598
- **DIMENSIONAL**: ASME B16.10 (NPS 26 -to- NPS 30), MFG STD (NPS 32 -to- NPS 48)

### Description of GATE Valve (GA06CB800):

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<td>Ends</td>
<td>BW</td>
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<td>Body</td>
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<td>Bonnet</td>
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<td>Trim</td>
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<td>Bonnet Type</td>
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<td>Bore-Port Type</td>
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<td>Stem Design</td>
<td>OS&amp;Y</td>
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<tr>
<td>Operation</td>
<td>HANDWHEEL</td>
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<tr>
<td>Stem-Packing</td>
<td>FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED</td>
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<td>Body-Bonnet Gaskets</td>
<td>SS/GRAPHITE</td>
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<tr>
<td>Body-Bonnet Bolting</td>
<td>BOLTS: API 600</td>
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The standards are:
- **DESIGN**: API 600
- **ENDS**: ASME B16.25
- **RATING**: ASME B16.34
- **TESTING**: API 598
- **DIMENSIONAL**: ASME B16.10

### Description of GATE Valve (GA06CB801):

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<td>Class</td>
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<tr>
<td>Ends</td>
<td>BW</td>
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<tr>
<td>Body</td>
<td>CS (ASTM A216 - WCB)</td>
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<tr>
<td>Bonnet</td>
<td>CS (ASTM A216 - WCB)</td>
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<tr>
<td>Trim</td>
<td>API 600 TRIM 5</td>
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<tr>
<td>Bonnet Type</td>
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<tr>
<td>Bore-Port Type</td>
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<td>Stem Design</td>
<td>OS&amp;Y</td>
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<tr>
<td>Operation</td>
<td>HANDWHEEL</td>
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<tr>
<td>Stem-Packing</td>
<td>FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED</td>
</tr>
<tr>
<td>Body-Bonnet Gaskets</td>
<td>SS/GRAPHITE</td>
</tr>
<tr>
<td>Body-Bonnet Bolting</td>
<td>BOLTS: API 600</td>
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<tr>
<td>NUTS: API 600</td>
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The standards are:
- **DESIGN**: API 600, as applicable
- **ENDS**: ASME B16.25
- **RATING**: ASME B16.34
- **TESTING**: API 598
- **DIMENSIONAL**: ASME B16.10 (NPS 26 -to- NPS 30), MFG STD (NPS 32 -to- NPS 48)
Description of GATE Valve (GA08CA200):

Type: GATE
Valve Size: NPS 1/2 to NPS 2
Service: -46 to 343 degC (-50 to 650 degF)
Class: 800

Ends: T/SW

Body: ITCS (ASTM A350 - LF2 CLASS 1 or A352 - LCB or A352 - LCC)
Bonnet: ITCS (ASTM A350 - LF2 CLASS 1 or A352 - LCB or A352 - LCC)
Trim: API 602 TRIM 12

Wedge Type: SOLID
Bonnet Type: BOLTED
Bore-Port: STANDARD
Stem Design: OS&Y
Operation: HANDWHEEL
Stem-Packing: FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED

Body-Bonnet Gaskets: SS/GRAPHITE
Body-Bonnet Bolting: BOLTS: MFG STD
NUTS: MFG STD

The standards are:

DESIGN - API 602
ENDS - SW: ASME B16.11, THD: ASME B1.20.1
RATING - API 602
TESTING - API 598
DIMENSIONAL - MFG STD

Description of GATE Valve (GA08CA300):

Type: GATE
Valve Size: NPS 1/2 to NPS 2
Service: -46 to 343 degC (-50 to 650 degF)
Class: 800

Ends: SW

Body: ITCS (ASTM A350 - LF2 CLASS 1 or A352 - LCB or A352 - LCC)
Bonnet: ITCS (ASTM A350 - LF2 CLASS 1 or A352 - LCB or A352 - LCC)
Trim: API 602 TRIM 12

Wedge Type: SOLID
Bonnet Type: BOLTED
Bore-Port: STANDARD
Stem Design: OS&Y
Operation: HANDWHEEL
Stem-Packing: FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED

Body-Bonnet Gaskets: SS/GRAPHITE
Body-Bonnet Bolting: BOLTS: MFG STD
NUTS: MFG STD

The standards are:

DESIGN - API 602
ENDS - ASME B16.11
RATING - API 602
TESTING - API 598
DIMENSIONAL - MFG STD

Description of GATE Valve (GA08CB000):

Type: GATE
Valve Size: NPS 1/2 to NPS 2
Service: -46 to 343 degC (-50 to 650 degF)
Class: 800

Ends: THD

Body: CS (ASTM A105)
Bonnet: CS (ASTM A105)
Trim: API 602 TRIM 8

Wedge Type: SOLID
Bonnet Type: BOLTED
Bore-Port: STANDARD
Stem Design: OS&Y
Operation: HANDWHEEL
Stem-Packing: FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED

Body-Bonnet Gaskets: SS/GRAPHITE
Body-Bonnet Bolting: BOLTS: API 602
NUTS: API 602

The standards are:

DESIGN - API 602
ENDS - ASME B1.20.1
RATING - API 602
TESTING - API 598
DIMENSIONAL - MFG STD
Description of GATE Valve (GA08CB200):
Type: ......................... GATE
Valve Size: ...................... NPS 1/2 –to- NPS 2
Class: .......................... 800

| Ends: ...................... T/SW |
| Body: ......................... CS (ASTM A105 or A216 – WCB) |
| Bonnet: ........................ CS (ASTM A105 or A216 – WCB) |
| Trim: ........................ API 602 TRIM 8 |
| Wedge Type: .................... SOLID |
| Bonnet Type: .................... BOLTED |
| Bore-Port: ...................... STANDARD |
| Stem Design: .......................... OS&Y |
| Operation: ...................... HANDWHEEL |
| Stem-Packing: ................... FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED |

| Body-Bonnet Gaskets: ............... SS/GRAPHITE |
| Body-Bonnet Bolting: .............. BOLTS: API 602 |
| .......................... NUTS: API 602 |

The standards are:
- DESIGN – API 602
- ENDS – SW: ASME B16.11, THD: ASME B1.20.1
- RATING – API 602
- TESTING – API 598
- DIMENSIONAL – MFG STD

Description of GATE Valve (GA08CB201):
Type: ......................... GATE
Valve Size: ...................... NPS 1/2 –to- NPS 2
Class: .......................... 800

| Ends: ...................... T/SW |
| Body: ......................... CS (ASTM A105 or A216 – WCB) |
| Bonnet: ........................ CS (ASTM A105 or A216 – WCB) |
| Trim: ........................ API 602 TRIM 5 |
| Wedge Type: .................... SOLID |
| Bonnet Type: .................... WELDED |
| Bore-Port: ...................... STANDARD |
| Stem Design: .......................... OS&Y |
| Operation: ...................... HANDWHEEL |
| Stem-Packing: ................... FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED |

The standards are:
- DESIGN – API 602
- ENDS – SW: ASME B16.11, THD: ASME B1.20.1
- RATING – API 602
- TESTING – API 598
- DIMENSIONAL – MFG STD

Description of GATE Valve (GA08CB202):
Type: ......................... GATE
Valve Size: ...................... NPS 1/2 –to- NPS 2
Class: .......................... 800

| Ends: ...................... T/SW |
| Body: ......................... CS (ASTM A105 or A216 – WCB) |
| Bonnet: ........................ CS (ASTM A105 or A216 – WCB) |
| Trim: ........................ API 602 TRIM 8 |
| Wedge Type: .................... SOLID |
| Bonnet Type: .................... WELDED |
| Bore-Port: ...................... STANDARD |
| Stem Design: .......................... OS&Y |
| Operation: ...................... HANDWHEEL |
| Stem-Packing: ................... FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED |

The standards are:
- DESIGN – API 602
- ENDS – SW: ASME B16.11, THD: ASME B1.20.1
- RATING – API 602
- TESTING – API 598
- DIMENSIONAL – MFG STD
Description of GATE Valve (GA08CB203):
Type: GATE
Valve Size: NPS 1/2 -to- NPS 2
Class: 800
Ends: PE x THD
Body: CS (ASTM A105 or A216 - WCB)
Bonnet: CS (ASTM A105 or A216 - WCB)
Trim: API 602 TRIM 8
Wedge Type: SOLID
Bonnet Type: WELDED
Bore-Port: STANDARD
Stem Design: OS&Y
Operation: HANDWHEEL
Stem-Packing: FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED
Body-Bonnet Gaskets: SS/GRAPHITE
Body-Bonnet Bolting: BOLTS: API 602
NUTS: API 602

The standards are:
DESIGN - API 602
ENDS - SW: ASME B16.11, THD: ASME B1.20.1
RATING - API 602
TESTING - API 598
DIMENSIONAL - MFG STD

Description of GATE Valve (GA08CB300):
Type: GATE
Valve Size: NPS 1/2 -to- NPS 2
Class: 800
Ends: SW
Body: CS (ASTM A105 or A216 - WCB)
Bonnet: CS (ASTM A105 or A216 - WCB)
Trim: API 602 TRIM 8
Wedge Type: SOLID
Bonnet Type: BOLTED
Bore-Port: STANDARD
Stem Design: OS&Y
Operation: HANDWHEEL
Stem-Packing: FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED
Body-Bonnet Gaskets: SS/GRAPHITE
Body-Bonnet Bolting: BOLTS: API 602
NUTS: API 602

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

Description of GATE Valve (GA08CB301):
Type: GATE
Valve Size: NPS 1/2 -to- NPS 2
Class: 800
Ends: SW
Body: CS (ASTM A105 or A216 - WCB)
Bonnet: CS (ASTM A105 or A216 - WCB)
Trim: API 602 TRIM 5
Wedge Type: SOLID
Bonnet Type: WELDED
Bore-Port: STANDARD
Stem Design: OS&Y
Operation: HANDWHEEL
Stem-Packing: FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED
Body-Bonnet Gaskets: SS/GRAPHITE
Body-Bonnet Bolting: BOLTS: API 602
NUTS: API 602

The standards are:
DESIGN - API 602
ENDS - SW: ASME B16.11
RATING - API 602
TESTING - API 598
DIMENSIONAL - MFG STD
### Description of GATE Valve (GA08CB302):

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<td>Class</td>
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<td>SW</td>
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<tr>
<td>Body</td>
<td>CS (ASTM A105 or A216-WCB)</td>
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<tr>
<td>Bonnet</td>
<td>CS (ASTM A105 or A216-WCB)</td>
</tr>
<tr>
<td>Trim</td>
<td>API 602 TRIM 8</td>
</tr>
<tr>
<td>Wedge Type</td>
<td>SOLID</td>
</tr>
<tr>
<td>Bonnet Type</td>
<td>WELDED</td>
</tr>
<tr>
<td>Stem Design</td>
<td>OS&amp;Y</td>
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<tr>
<td>Operation</td>
<td>HANDWHEEL</td>
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<tr>
<td>Stem Packing</td>
<td>FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED</td>
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The standards are:

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

### Description of GATE Valve (GA09CB500):

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<tr>
<td>Class</td>
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<tr>
<td>Ends</td>
<td>FLANGED RF</td>
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<tr>
<td>Body</td>
<td>CS (ASTM A216-WCB)</td>
</tr>
<tr>
<td>Bonnet</td>
<td>CS (ASTM A216-WCB)</td>
</tr>
<tr>
<td>Trim</td>
<td>API 600 TRIM 8</td>
</tr>
<tr>
<td>Wedge Type</td>
<td>SOLID or FLEXIBLE (NPS 2 to NPS 4), FLEXIBLE (NPS 6 and greater)</td>
</tr>
<tr>
<td>Bonnet Type</td>
<td>BOLTED</td>
</tr>
<tr>
<td>Bore-Port</td>
<td>FULL</td>
</tr>
<tr>
<td>Stem Design</td>
<td>OS&amp;Y</td>
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<tr>
<td>Operation</td>
<td>HANDWHEEL</td>
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<tr>
<td>Stem Packing</td>
<td>FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED</td>
</tr>
<tr>
<td>Body-Bonnet Gaskets</td>
<td>SS/GRAPHITE</td>
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<td>Body-Bonnet Bolting</td>
<td>BOLTS: API 600</td>
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The standards are:

- DESIGN: API 600
- ENDS: ASME B16.5
- RATING: ASME B16.34
- TESTING: API 598
- DIMENSIONAL: ASME B16.10

### Description of GATE Valve (GA09CB501):

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<td>Class</td>
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<tr>
<td>Ends</td>
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<tr>
<td>Body</td>
<td>CS (ASTM A216-WCB)</td>
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<tr>
<td>Bonnet</td>
<td>CS (ASTM A216-WCB)</td>
</tr>
<tr>
<td>Trim</td>
<td>API 600 TRIM 5</td>
</tr>
<tr>
<td>Wedge Type</td>
<td>SOLID or FLEXIBLE (NPS 2 to NPS 4), FLEXIBLE (NPS 6 and greater)</td>
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<tr>
<td>Bonnet Type</td>
<td>PRESSURE SEAL</td>
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<td>Bore-Port</td>
<td>FULL</td>
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<td>Stem Design</td>
<td>OS&amp;Y</td>
</tr>
<tr>
<td>Operation</td>
<td>HANDWHEEL</td>
</tr>
<tr>
<td>Stem Packing</td>
<td>FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED</td>
</tr>
<tr>
<td>Body-Bonnet Gaskets</td>
<td>MFG STD</td>
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<tr>
<td>Body-Bonnet Bolting</td>
<td>BOLTS: MFG STD</td>
</tr>
</tbody>
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The standards are:

- DESIGN: ASME B16.34 and MSS SP-144
- ENDS: ASME B16.5
- RATING: ASME B16.34
- TESTING: API 598
- DIMENSIONAL: ASME B16.10 - LONG PATTERN
Description of GATE Valve (GA09CB800):

| Type: GATE |
| Valve Size: NPS 2 to NPS 24 |
| Class: 900 |
| Ends: BW |
| Body: CS (ASTM A216 - WCB) |
| Bonnet: CS (ASTM A216 - WCB) |
| Trim: API 600 TRIM 5 |
| Wedge Type: SOLID or FLEXIBLE (NPS 2 to NPS 4), FLEXIBLE (NPS 6 and greater) |
| Bonnet Type: PRESSURE SEAL |
| Stem Design: OS&Y |
| Operation: HANDWHEEL |
| Stem Packing: FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED |
| Body-Bonnet Bolting: BOLTS: MFG STD |
| Body-Bonnet Gaskets: SS/GRAPHITE |
| The standards are: |
| DESIGN - ASME B16.34 and MSS SP-144 |
| ENDS - ASME B16.25 |
| RATING - ASME B16.34 |
| TESTING - API 598 |
| DIMENSIONAL - ASME B16.10 - SHORT PATTERN (NPS 2 to NPS 16) |
| ASME B16.10 - LONG PATTERN (NPS 18 to NPS 24) |

Description of GATE Valve (GA15CB200):

| Type: GATE |
| Valve Size: NPS 1/2 to NPS 2 |
| Class: 1500 |
| Ends: T/SW |
| Body: CS (ASTM A105 or A216 - WCB) |
| Bonnet: CS (ASTM A105 or A216 - WCB) |
| Trim: API 602 TRIM 8 |
| Wedge Type: SOLID |
| Bonnet Type: BOLTED |
| Bore-Port: STANDARD |
| Stem Design: OS&Y |
| Operation: HANDWHEEL |
| Stem Packing: FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED |
| Body-Bonnet Bolting: BOLTS: API 602 |
| Body-Bonnet Gaskets: SS/GRAPHITE |
| The standards are: |
| DESIGN - API 602 |
| ENDS - SW: ASME B16.11, THD: ASME B1.20.1 |
| RATING - ASME B16.34 |
| TESTING - API 598 |
| DIMENSIONAL - MFG STD |

Description of GATE Valve (GA15CB201):

| Type: GATE |
| Valve Size: NPS 1/2 to NPS 2 |
| Class: 1500 |
| Ends: T/SW |
| Body: CS (ASTM A105 or A216 - WCB) |
| Bonnet: CS (ASTM A105 or A216 - WCB) |
| Trim: API 602 TRIM 5 |
| Wedge Type: SOLID |
| Bonnet Type: WELDED |
| Bore-Port: STANDARD |
| Stem Design: OS&Y |
| Operation: HANDWHEEL |
| Stem Packing: FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED |
| The standards are: |
| DESIGN - API 602 |
| ENDS - SW: ASME B16.11, THD: ASME B1.20.1 |
| RATING - ASME B16.34 |
| TESTING - API 598 |
| DIMENSIONAL - MFG STD |
Description of GATE Valve (GA15CB300):

| Type: | GATE |
| Valve Size: | NPS 1/2 -to- NPS 2 |
| Class: | 1500 |
| Ends: | SW |
| Body: | CS (ASTM A105 or A216 - MCB) |
| Bonnet: | CS (ASTM A105 or A216 - MCB) |
| Trim: | API 602 TRIM 8 |
| Wedge Type: | BOLTED |

Bonnet Type: BOLTED

Bore-Port: STANDARD

Operation: HANDWHEEL

Stem Packing: FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED

Body-Bonnet Gaskets: SS/GRAPHITE

Body-Bonnet Bolting: BOLTS: API 602

NUTS: API 602

The standards are:

| DESIGN | API 602 |
| ENDS | ASME B16.11 |
| RATING | ASME B16.34 |
| TESTING | API 598 |
| DIMENSIONAL | MFG STD |

Description of GATE Valve (GA15CB301):

| Type: | GATE |
| Valve Size: | NPS 1/2 -to- NPS 2 |
| Class: | 1500 |
| Ends: | SW |
| Body: | CS (ASTM A105 or A216 - MCB) |
| Bonnet: | CS (ASTM A105 or A216 - MCB) |
| Trim: | API 602 TRIM 5 |
| Wedge Type: | BOLTED |

Bonnet Type: BOLTED

Bore-Port: STANDARD

Stem Design: OS&Y

Operation: HANDWHEEL

Stem Packing: FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED

Body-Bonnet Gaskets: SS/GRAPHITE

Body-Bonnet Bolting: BOLTS: API 602

NUTS: API 602

The standards are:

| DESIGN | API 602 |
| ENDS | ASME B16.11 |
| RATING | ASME B16.34 |
| TESTING | API 598 |
| DIMENSIONAL | MFG STD |

Description of GATE Valve (GA15CB500):

| Type: | GATE |
| Valve Size: | NPS 1/2 -to- NPS 2 |
| Class: | 1500 |
| Ends: | FLANGED RF |
| Body: | CS (ASTM A105 or A216 - MCB) |
| Bonnet: | CS (ASTM A105 or A216 - MCB) |
| Trim: | API 602 TRIM 8 |
| Wedge Type: | BOLTED |

Bonnet Type: BOLTED

Bore-Port: STANDARD

Stem Design: OS&Y

Operation: HANDWHEEL

Stem Packing: FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED

Body-Bonnet Gaskets: SS/GRAPHITE

Body-Bonnet Bolting: BOLTS: API 602

NUTS: API 602

The standards are:

| DESIGN | API 602 |
| ENDS | ASME B16.5 |
| RATING | ASME B16.34 |
| TESTING | API 598 |
| DIMENSIONAL | MFG STD |

| DESIGN | ASME B16.10 - GLOBE PATTERN (NPS 1/2 -to- NPS 3/4) |
| ASME B16.10 (NPS 1 -to- NPS 2) |
**Description of Gate Valve (GA15CB501):**

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<tr>
<td>Body:</td>
<td>CS (ASTM A105 or A216 - WCB)</td>
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<td>Trim:</td>
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<tr>
<td>Wedge Type:</td>
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<td>Bonnet Type:</td>
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<td>Stem Design:</td>
<td>OS&amp;Y</td>
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<td>Operation:</td>
<td>HANDWHEEL</td>
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<tr>
<td>Stem Packing:</td>
<td>FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED</td>
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The standards are:
- DESIGN - API 602
- ENDS - ASME B16.5
- RATING - ASME B16.34
- TESTING - API 598
- DIMENSIONAL - ASME B16.10 - GLOBE PATTERN (NPS 1/2 -to- NPS 3/4) ASME B16.10 (NPS 1 -to- NPS 2)

**Description of Gate Valve (GA15CB502):**

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<td>Bonnet:</td>
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<td>Trim:</td>
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<td>Wedge Type:</td>
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<td>Bonnet Type:</td>
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<td>Bore-Port:</td>
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<td>Stem Design:</td>
<td>OS&amp;Y</td>
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<td>Stem Packing:</td>
<td>FLEXIBLE GRAPHITE, ANTI-EXTRUSION RINGS and CORROSION INHIBITED</td>
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<tr>
<td>Body-Bonnet Gaskets:</td>
<td>SS/GRAPHITE</td>
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<tr>
<td>Body-Bonnet Bolting:</td>
<td>BOLTS: API 600</td>
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<td>NUTS: API 600</td>
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The standards are:
- DESIGN - API 600 |
- ENDS - ASME B16.5 |
- RATING - ASME B16.34 |
- TESTING - API 598 |
- DIMENSIONAL - ASME B16.10 |

**Description of Gate Valve (GA15CB503):**

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<td>Bonnet Type:</td>
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<td>Stem Packing:</td>
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<td>Body-Bonnet Gaskets:</td>
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The standards are:
- DESIGN - ASME B16.34 and MSS SP-144 |
- ENDS - ASME B16.5 |
- RATING - ASME B16.34 |
- TESTING - API 598 |
- DIMENSIONAL - ASME B16.10 - LONG PATTERN
Description of GATE Valve (GA15CB800):

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<td>Stem-Packing</td>
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<td>Body-Bonnet Gaskets</td>
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The standards are:

- DESIGN - ASME B16.34 and MSS SP-144
- ENDS - ASME B16.25
- RATING - ASME B16.34
- TESTING - API 598
- DIMENSIONAL - ASME B16.10 (NPS 2 -to- NPS 20) MFG STD (NPS 24)