

Mechanical
ASSOCIATES



PRODUCT INFORMATION

First Edition

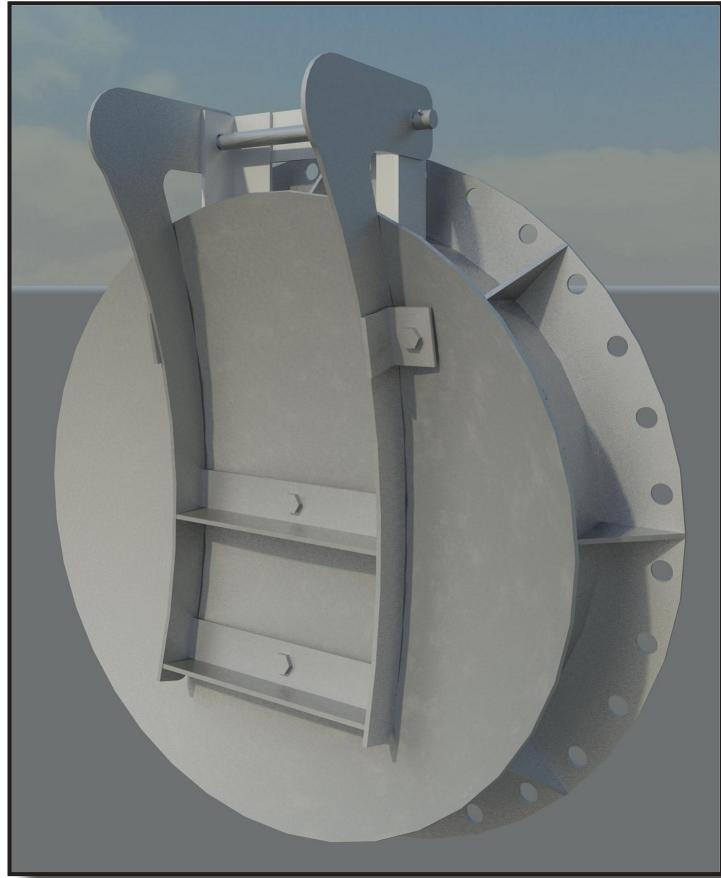


Mechanical Associates began manufacturing in 1993. Over the past 22 years we have developed or improved many of the products used in the water control gate market today.

Mechanical Associates introduced a domed flap gate shown in the picture to the right. The domed cover concept is based on the fact that a dome provides greater strength than a flat plate, thus eliminating the need for adding welded reinforcement on the flap gate cover. This design allows for light weight stainless steel flap gates to compete in performance and price with the heavier cast iron gates being offered today.

Today Mechanical Associates offers a full product line of water control gates as well as mud & telescoping valves.

Please contact Mechanical Associates for current prices and information on these or any new product which may have been added to our product line since the publication of this edition of our product catalog.



CONTACT INFORMATION

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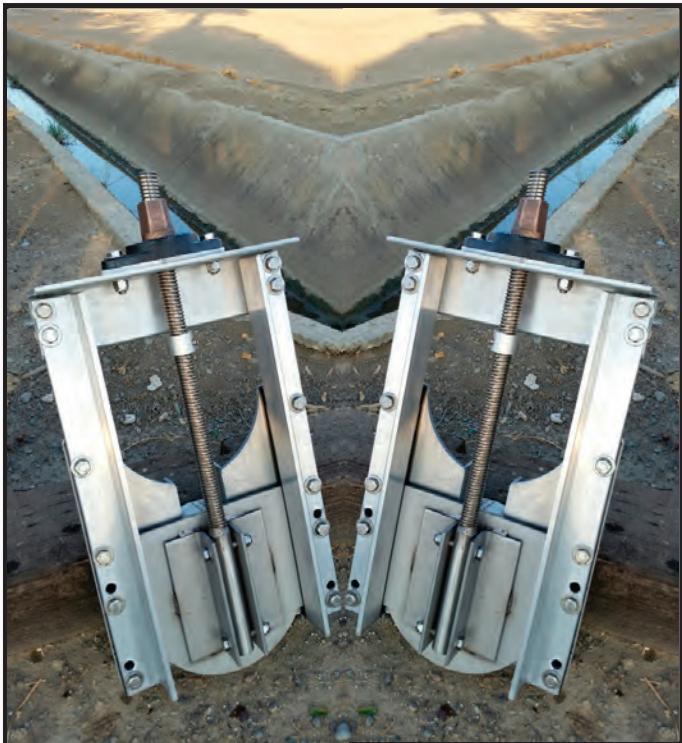
John Guerber

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Save Time and Money with Stainless Steel...

US-SS STAINLESS STEEL CANAL GATE SIZES 6"-48"



With the **US- SS - Canal Gate**, the flat back, non-grout design allows the rubber gasket to seal against the wall, thus eliminating the cost of installing the gate with a grout pad. Spigot back frame can be provided for any type pipe.

ALL Stainless Steel Canal Gate

Model: US-SS - CANAL GATE

- All Stainless Steel construction
- Special "non-grout gasket"
- Neoprene seal is easily replaceable
- Bi-Directional upon request
- UHMWPE Guides for easy operation
- Easy to use, effortless open and close
- Metal to J-bulb seating surface
- Bolted together for easy field maintenance
- Flat back or spigot back frames
- Flat reinforced slide
- Rolled threads on stem, minimal wear on lift nut
- Designed head pressure up to 15ft.
- **Environmentally friendly materials**
- **Non environmentally degrading**
- **No toxic paints or coatings**
- **Sustainability**

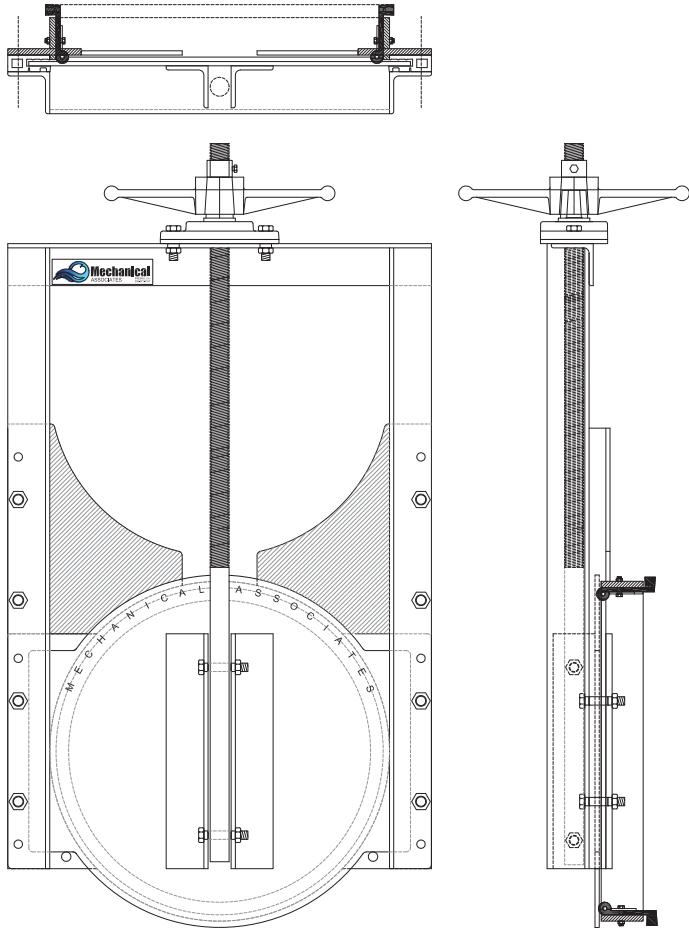
FLOW CHARTS AVAILABLE ON REQUEST

Save Time and Money by replacing worn out gates and valves with a new generation of stainless steel and aluminum gates and valves, made by **Mechanical Associates** in Fresno, California.

Mechanical Associates' stainless steel and aluminum gates provide long life and excellent value for the investment. Installation is quick and easy. Field replaceable neoprene seats gives a drip tight seal. Stainless steel and aluminum construction will provide long life in corrosive conditions, with little or no maintenance or replacement parts required.

Also available from Mechanical Associates
Line Gates, Slide Gates, Pressure Gates, Canal Gates, Flap Gates, and more..

UNIVERSAL SERVICE (US) CANAL GATE US-SS



FEATURES:

- All Stainless Steel Construction
- Special "Groutless Gasket"
- Neoprene Seal is Easily Replaceable
- B-Directional Upon Request
- UHMW PE Guides
- Easy to use, Effortless Open and Close
- Metal to J-Bulb Seating Surface
- Bolted Together for Field Maintenance
- Flat Reinforces Slide
- Rolled Threads on Stem, Minimal Wear
- Hand Wheel Operation Standard
- Environmentally friendly
- Non environmentally degrading
- No toxic paints or coatings

OPTIONS:

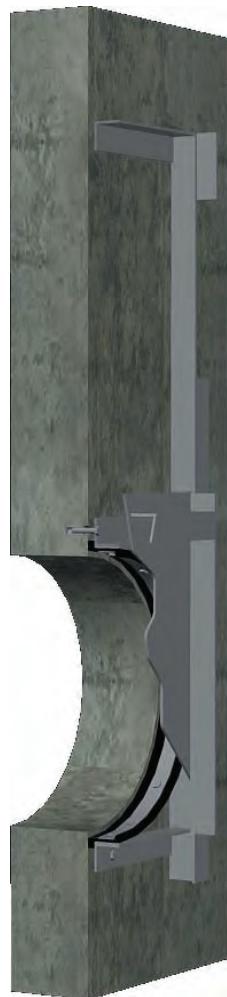
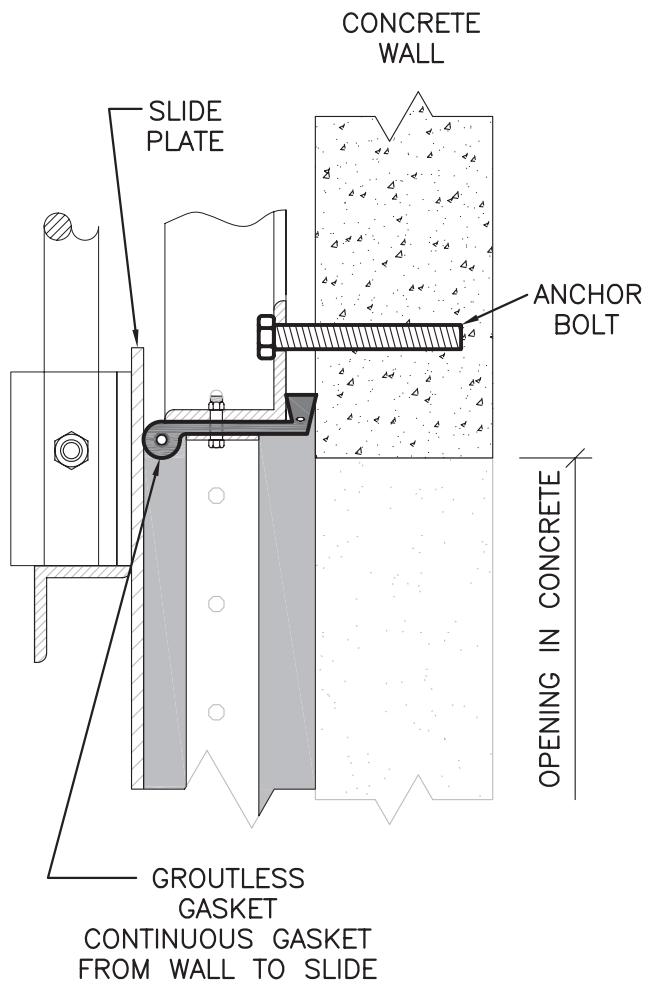
- Flat Back or Spigot Back Frames
- Electric Actuator
- Gear Actuator
- Non-Rising Stem

PARTS & MATERIALS

Handwheel	Cast Iron: ASTM-A126 CL. B
Lift Nut	Commercial Bronze
Base Plate	Aluminum Alloy 6061-T6
Collar	Cast Iron: ASTM-A126 CL. B
Bolts & Nuts	Stainless Steel ASTM A-276 TY.304
Stem	Stainless Steel ASTM A-276 TY.304
Frame Weldament	Stainless Steel ASTM A-276 TY.304
Cover Guide	Stainless Steel ASTM A-276 TY.304
Groutless Gasket	Neoprene Rubber: ASTM D-2000
Slide Weldament	Stainless Steel ASTM A-276 TY.304
Neoprene Seal	Neoprene Rubber: ASTM D-2000

PATENT PENDING

GROUTLESS GASKET:



Our Groutless Gasket was developed in conjunction with our Stainless Steel Canal Gate. This system was designed to eliminate the process of using grout for gate installation, which can be costly and time consuming.

The Groutless Gasket can be used in any shape wall opening, traditional or custom. Installation is simple and straightforward. Install anchors into the wall, mount the gate, and tighten anchor nuts for a snug fit. On walls that are uneven or pitted due to age, we recommend a bead of urethane sealant be applied to the gasket before installing it against the wall. The sealant will fill voids in the wall, allowing for a tight seal.

This gasket can also be used with Flap Gates. The gasket is installed between the gate and flange when installed on pipe.



US CANAL GATE (US-SS) TECHNICAL SPEC

US-SS DESIGN CRITERIA

DESIGN FEATURES:

- UP TO 35 FEET OF SEATING HEAD (see chart)
- UP TO 10 FEET OF OFF-SEATING HEAD (see chart)
- ALL STAINLESS STEEL CONSTRUCTION
- UHMWPE GUIDES FOR EASE OF OPERATION
- REINFORCED SLIDE
- MULTIPLE LIFT CONFIGURATIONS
- GROUTLESS INSTALLATION
- BOLT TOGETHER DESIGN FOR EASE OF MAINTENANCE
- FIXTURE WELDED
- GATES ARE DESIGNED FOR WATER, WASTEWATER, & AGRICULTURAL APPLICATIONS
- CUSTOM SIZES AVAILABLE ON REQUEST
- FLOW CHARTS AVAILABLE ON REQUEST

GENERAL

The US-SS Series gate has been designed for Water and Wastewater treatment facilities, Flood Control, Irrigation Canals, Dairy Farms, and Diversion Stands.

FRAME OPTIONS

The gates shall be either self-contained with yoke and bench stand operators, or non-self-contained with separate stem guides and operator, in accordance with the requirements of the specifications. Specific configurations shall be as noted on the gate schedule or as shown on the plans.

SEAL

Mechanical Associates' exclusive "Groutless" Neoprene J-Bulb Gasket. These shall form a tight seal between the frame and the slide (disc). This tight seal shall provide an allowable leakage rate of no more than 0.1 gallons per minute (GPM) per peripheral foot of perimeter opening for seating heads and 0.1 GPM per peripheral foot for unseating heads. The clear opening shall be the same size as the waterway, unless otherwise specified.

FRAME AND GUIDES

The gate frame shall be a rigid unit composed of stainless steel guide rails with UHMW guides upstream and downstream. The guides will be of sufficient length to support two-thirds of the height of the slide when in the full open position.

SLIDE COVER (DISC)

The slide cover (disc) shall be stainless steel reinforced plate. The slide cover shall not deflect more than 1/360th of the span of the gate under the maximum head. The stem connection shall be either the clevis type, with structural members welded to the slide and a bolt to act as a pivot pin, or a threaded and bolted (or keyed) thrust nut supported in a welded nut pocket. The clevis or pocket and yoke of the gate shall be capable of taking, without damage, at least twice the rated thrust output of the operator at 40 pounds pull.

MOUNTING OPTIONS

Groutless Gasket (Flush Mounting to Wall)

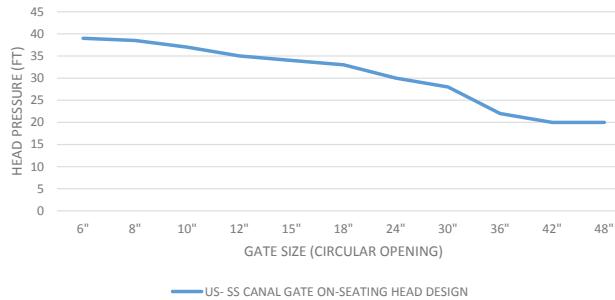
Flange Back (Flange to Flange)

Spigot Back (In Pipe or Over Pipe)

US-SS STAINLESS STEEL CANAL GATE



US- SS CANAL GATE ON-SEATING HEAD DESIGN
5-10 FEET OF OFF-SEATING HEAD (SEE CHART)



RECOMMENDED MAXIMUM SEATING AND UNSEATING HEADS		
GATE SIZE	RECOMMENDED MAXIMUM SEATING HEAD	RECOMMENDED MAXIMUM UNSEATING HEAD
6"-12"	35 FEET	10 FEET
15" & 18"	32 FEET	10 FEET
24" & 30"	28 FEET	10 FEET
36" & 42"	20 FEET	10 FEET
48"	20 FEET	5 FEET

* These recommendations are based on testing and engineering data.

US CANAL GATE (US-SS) TECHNICAL SPEC

TYPICAL SPECIFICATIONS FOR US-SS-SERIES FABRICATED SLIDE GATE

MECHANICAL ASSOCIATES' - US CANAL GATE (US-SS)

GENERAL

The gates shall be either self-contained with yoke and bench stand operators, or non-self-contained with separate stem guides and operator, in accordance with the requirements of these specifications. Specific configurations shall be as noted on the gate schedule or as shown on the plans.

SEALS

Mechanical Associates' exclusive "Groutless" Neoprene J-Bulb Gasket. These shall form a tight seal between the frame and the slide (disc). This tight seal shall provide an allowable leakage rate of no more than 0.1 gallons per minute (GPM) per peripheral foot of perimeter opening for seating heads and 0.1 GPM per peripheral foot for unseating heads. The clear opening shall be the same size as the waterway, unless otherwise specified.

FRAME AND GUIDES

The gate frame shall be a rigid unit composed of stainless steel guide rails with UHMW guides upstream and downstream. The guides will be of sufficient length to support two-thirds of the height of the slide when in the full open position.

SLIDE COVER (DISC)

The slide cover (disc) shall be stainless steel plate reinforced with structural shapes welded to the plate. The slide cover shall not deflect more than 1/720th of the span of the gate under the maximum head. The stem connection shall be either the clevis type, with structural members welded to the slide and a bolt to act as a pivot pin, or a threaded and bolted (or keyed) thrust nut supported in a welded nut pocket. The clevis or pocket and yoke of the gate shall be capable of taking, without damage, at least twice the rated thrust output of the operator at 40 pounds pull.

MATERIALS

Frames, Rails, Cover Slides, Yokes

Stainless Steel - ASTM A-276, Type 304 or 316, as specified

Fasteners and Anchor Bolts

Stainless Steel - ASTM F-593 and 594, Type 304 or 316, as specified

Stems

Stainless Steel - ASTM A-276, Type 304 or 316, as specified

Seals

Neoprene Rubber - ASTM D-2000 BC 615/625 Grade BE 625

Guides

Ultra High Molecular Weight Polyethylene (UHMW PE)

Finish

Mill finish on all stainless steel surfaces

CONTRACTOR NOTE	SUPPLEMENTAL FABRICATION SHEET ATTACHED (FOR MECHANICAL ASSOCIATES SHOP USE ONLY)	Y	N	MATERIAL KEY	FINISH KEY																																																																																																																																																																																																																																																
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8. ANCHOR BOLTS (BY CONTRACTOR)	9A		1/2" X 8" ALL THREAD STUDS	A/R																																																																																																																																																																																																																																																	
9. BOLTS, NUTS & WASHERS																																																																																																																																																																																																																																																					
a) HEX HD. BOLT & NUT COVER GUIDE	9A		1/2" X 2 1/2" HEX	6																																																																																																																																																																																																																																																	
d) HEX HD BOLT & NUT (RETAINER)	9A		3/8" HEX	A/R																																																																																																																																																																																																																																																	
e) HEX HD. BOLT & NUT STEM HANGER	N/A		1/2" HEX	2																																																																																																																																																																																																																																																	
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<p>MECHANICAL ASSOCIATES - 745 BROADWAY STREET - FRESNO, CA 93721 (559) 272-8157</p> <p> Mechanical ASSOCIATES</p>																																																																																																																																																																																																																																																					
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<p>IT IS YOUR RESPONSIBILITY TO REVIEW EACH DRAWING AND MAKE ANY CORRECTIONS THAT ARE REQUIRED. WHEN THE DOCUMENT IS SIGNED YOU ARE APPROVING MECHANICAL ASSOCIATES TO MOVE FORWARD INTO PRODUCTION WITH THE GATE AS SHOWN. MECHANICAL ASSOCIATES WILL ASSUME NO RESPONSIBILITY FOR ERRORS, CORRECTIONS, OR REVISIONS AFTER SIGNED DATE.</p> <p>SIGNED: _____ DATE: _____</p>				<table border="1"> <tr><td>1. CAST IRON: ASTM A-126 CL. B</td><td>37. M.S. STEEL HDW: ASTM A-449</td><td>1. AS CAST</td></tr> <tr><td>6. STRUCTURAL STEEL: ASTM A-36</td><td>38. POLYETHYLENE U.H.M.W.</td><td>2. MILL</td></tr> <tr><td>9A. STN. STEEL: ASTM A-276 TY.304</td><td>39. MYLAR</td><td>3. MACHINED</td></tr> <tr><td>9B. STN. STEEL: ASTM A-276 TY.316</td><td>40. CLEAR POLYCARBONATE PIPE</td><td>4. GALVANIZE-ASTM A-123</td></tr> <tr><td>9C. STN. STEEL: ASTM A-276 TY.304L</td><td>41. PVC PIPE</td><td>5. GALVANIZE-ASTM A-153</td></tr> <tr><td>12. COMMERCIAL BRONZE</td><td>13. NEOPRENE RUBBER: ASTM D-2000</td><td>6. SEE PAINT KEY</td></tr> <tr><td>12A. MANGANESE BRONZE: ASTM B584 UNS-C8650</td><td>15A. STN. STL. HDW.: ASTM F-593 &</td><td>7. ZINC PLATED</td></tr> <tr><td>594 TYPE 304 (GRADE 8 & B8)</td><td>594 TYPE 304 (GRADE 8 & B8)</td><td>PAINT KEY</td></tr> <tr><td>17. ALUMINUM: ALLOY 6061-T6</td><td>18. STANDARD ALUMINUM: ALLOY 6061-T6</td><td>6A STANDARD SHOPCOAT</td></tr> <tr><td></td><td></td><td>RUST OLEUM</td></tr> </table>		1. CAST IRON: ASTM A-126 CL. B	37. M.S. STEEL HDW: ASTM A-449	1. AS CAST	6. STRUCTURAL STEEL: ASTM A-36	38. POLYETHYLENE U.H.M.W.	2. MILL	9A. STN. STEEL: ASTM A-276 TY.304	39. MYLAR	3. MACHINED	9B. STN. STEEL: ASTM A-276 TY.316	40. CLEAR POLYCARBONATE PIPE	4. GALVANIZE-ASTM A-123	9C. STN. STEEL: ASTM A-276 TY.304L	41. PVC PIPE	5. GALVANIZE-ASTM A-153	12. COMMERCIAL BRONZE	13. NEOPRENE RUBBER: ASTM D-2000	6. SEE PAINT KEY	12A. MANGANESE BRONZE: ASTM B584 UNS-C8650	15A. STN. STL. HDW.: ASTM F-593 &	7. ZINC PLATED	594 TYPE 304 (GRADE 8 & B8)	594 TYPE 304 (GRADE 8 & B8)	PAINT KEY	17. ALUMINUM: ALLOY 6061-T6	18. STANDARD ALUMINUM: ALLOY 6061-T6	6A STANDARD SHOPCOAT			RUST OLEUM
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<p>TOP OF GATE ASSEMBLY</p> <p>HEAD RAIL</p> <p>STEM GUIDES</p> <p>GATE SIZE</p> <p>GATE SIZE-4</p> <p>GUIDE RAIL</p> <p>TOP OF GUIDE RAILS</p> <p>LIFT ASSEMBLY</p> <p>ANCHOR BOLTS (BY OTHERS)</p> <p>BOLTS, NUTS& WASHERS</p> <p>NOTES:</p> <p>1. MAXIMUM ON SEATING HEAD PRESSURE - 10 FT., MAXIMUM OFF SEATING HEAD PRESSURE - 0 FT.</p> <p>2. MAXIMUM ALLOWABLE GATE LEAKAGE = 0.10 GPM PER LINEAL FOOT OF SEATING PERIMETER.</p> <p>ALL GATES CONFORM TO LATEST AWWA 561 STANDARDS</p> <p>ALL COVER GUIDE BOLTS @ 8" O.C. UNLESS NOTED OTHERWISE</p> <p>() GATE(S) REQUIRED GATE CALLOUT:</p>																																			
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