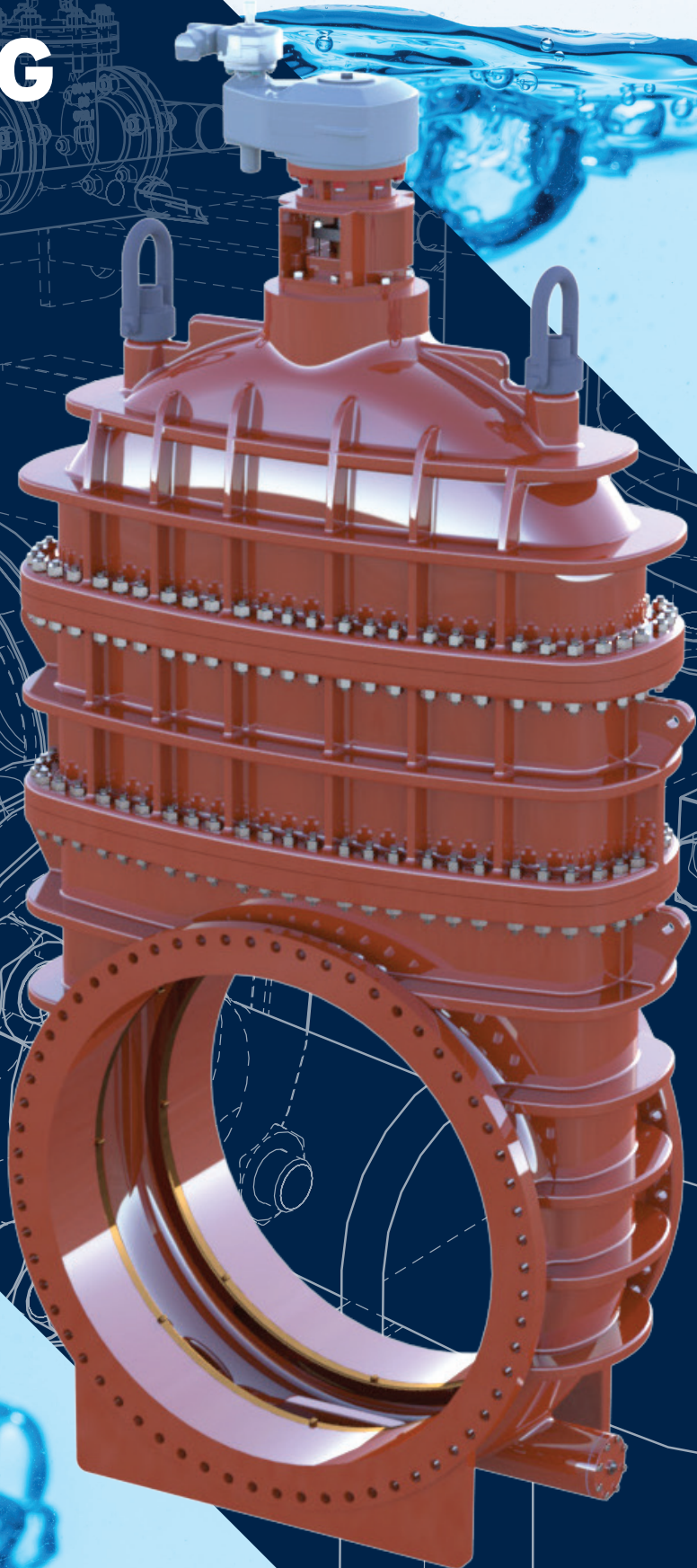


ROTATING DISC GATE VALVE

AWWA C500
3"-108"

mcwanepi.com



A detailed technical line drawing of a mechanical assembly, likely a pump or motor component, rendered in white lines on a dark blue background. The drawing shows various parts including a central shaft, a large circular flange with multiple bolt holes, and various mounting brackets and bolts. The perspective is a three-quarter view, showing the internal and external structure of the assembly.

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THE INTEGRATED SOLUTION FOR TREATMENT PLANT NEEDS

Combining expertise from eight key water infrastructure brands in the McWane family of companies, McWane Plant & Industrial (MPI) provides a singular access point for the essential products and service required for any water or wastewater plant project.

WHY MPI?

We're a new kind of company formed on the basis of three simple goals:

- To provide a primary source for best-in-class products from time-tested brands
- Offer veteran specialists as resources for any plant project of any scale
- Increase the ease and efficiency of the planning and completion of our clients' projects

Our dedicated team is comprised of dozens of treatment plant specialists with decades of experience. We work cooperatively with industry

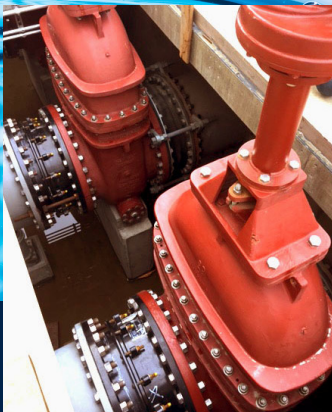
partners to give each project the attention it deserves, providing unprecedented levels of communication, access and collaboration. Our support teams work within dedicated service regions allowing our experts to apply regionally specific knowledge, including state regulations, codes and environmental specifications. Our nationally certified Associate Design-Build Professionals are a valuable asset to Design-Build projects.

The extended manufacturing capabilities of MPI mean your precise requirements are closer in reach and delivered faster with less legwork from you. We offer products that conform to rigorous industry standards and can work with your team to customize and fulfill unique requests. As part of our commitment to American workers and industries, we're proud of our ability to provide products from domestic facilities and to meet all domestic funding requirements.

MPI – best in-class

ROTATING DISC GATE VALVE

SIZES 3"-108"



PRODUCT OVERVIEW

MPIs line of rotating disc gate valves has been utilized successfully since 1908 in water/wastewater treatment plants and water lines all over the United States. If you are looking for an extended life valve, this valve is your choice for generations of service.

MPIs rotating disc gate valves clean themselves with every operation. Deposits are removed in travel, so nothing builds up on the seating surfaces that could cause leakage. Discs are free of pockets that could collect solids. The rotating action of the discs creates a different seating position each time the valve is closed. Uneven or excessive wear is prevented, so the sealing components remain smooth and operational years longer without maintenance or replacement. Since the discs rotate, they cannot foul on the body guides.

This superior valve design provides independent wedging and seating action for smoother valve opening and closing with less operating force. Discs are fully interchangeable and reversible, ensuring simple and inexpensive maintenance.

These advantages, along with uncompromising quality control, ensure that MPIs rotating disc gate valves are ideal for water and wastewater applications. The unique valve design features make these valves fully capable of taking on services no other metal-seated gate valve can handle.

So for reliability, versatility, and long-life, specify MPIs line of rotating gate valves.

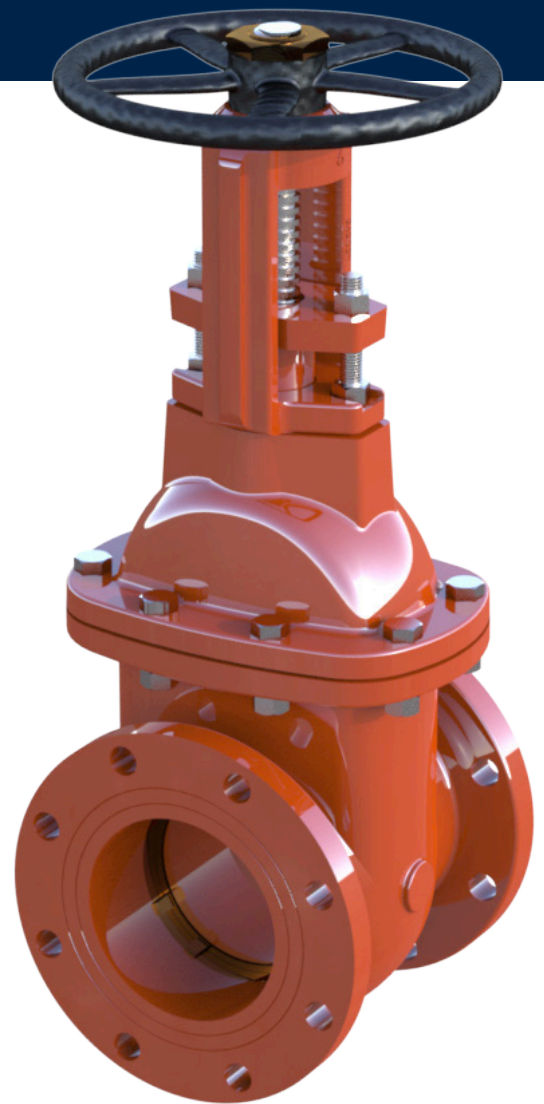
KEY CHARACTERISTICS	
Size Range	3"-108"
Materials	Ductile Iron ASTM A536, Iron Body Bronze Mounting (IBBM), 304 SS Stems
Pressure Range	Rated pressure up to 300PSI
Temperature Range	33°F-160°F
Body Style and Connections	NRS or OS&Y FLG, MJ, or FLJ x MJ
Actuator Types	Spur or Bevel Gear, Electric Motor Operator
Standards	AWWA C500, NSF/ANSI 61/372 certified

ROTATING DISC GATE VALVE

FEATURES & BENEFITS

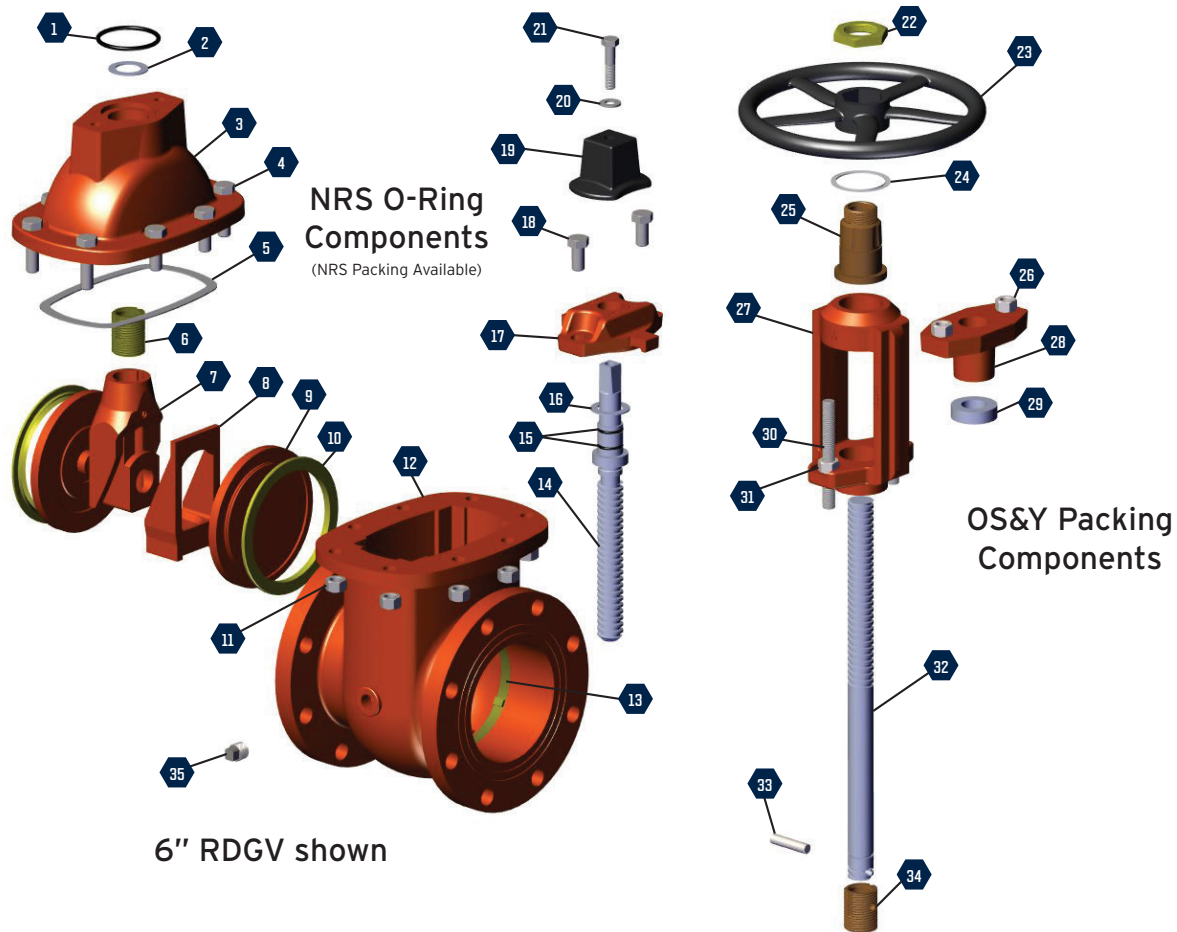
STANDARD FEATURES

- **Rotating Disc Creates A Different Seating Position Each Time The Valve Is Closed** - Adds years of operation without maintenance or replacement.
- **Self-Cleaning Seat** - Deposits are removed in travel, so nothing builds up on the seat surface that could cause leaks. Discs are free of pockets that could collect solids.
- **Independent Wedging Design And Seating Action** - For smoother valve opening and closing. Uses less force.
- **Discs Are Fully Interchangeable And Reversible** - Ensures simple and inexpensive maintenance.
- **Optional Flushing Ports** - Help clean out the extra waste that can settle in the bottom of the valve.
- **Rollers, Tracks, & Scraper System** - Available on size 14" and up horizontal valves.
- **Bypass Valves** - Side or bottom bypass valves on size 16" and up.
- **Internal and External Coating** - Suitable for potable water and compliant with AWWA C550.
- **Self-Adjusting Bronze Scrapers** - Allow valve mounting in horizontal position or angle as specified from vertical or horizontal center lines.
- **End Connections:**
 - Flanged ASME B16.1 Class 125 or 250
 - Mechanical Joint
 - Mechanical Joint by Flange



ENGINEERING FEATURES

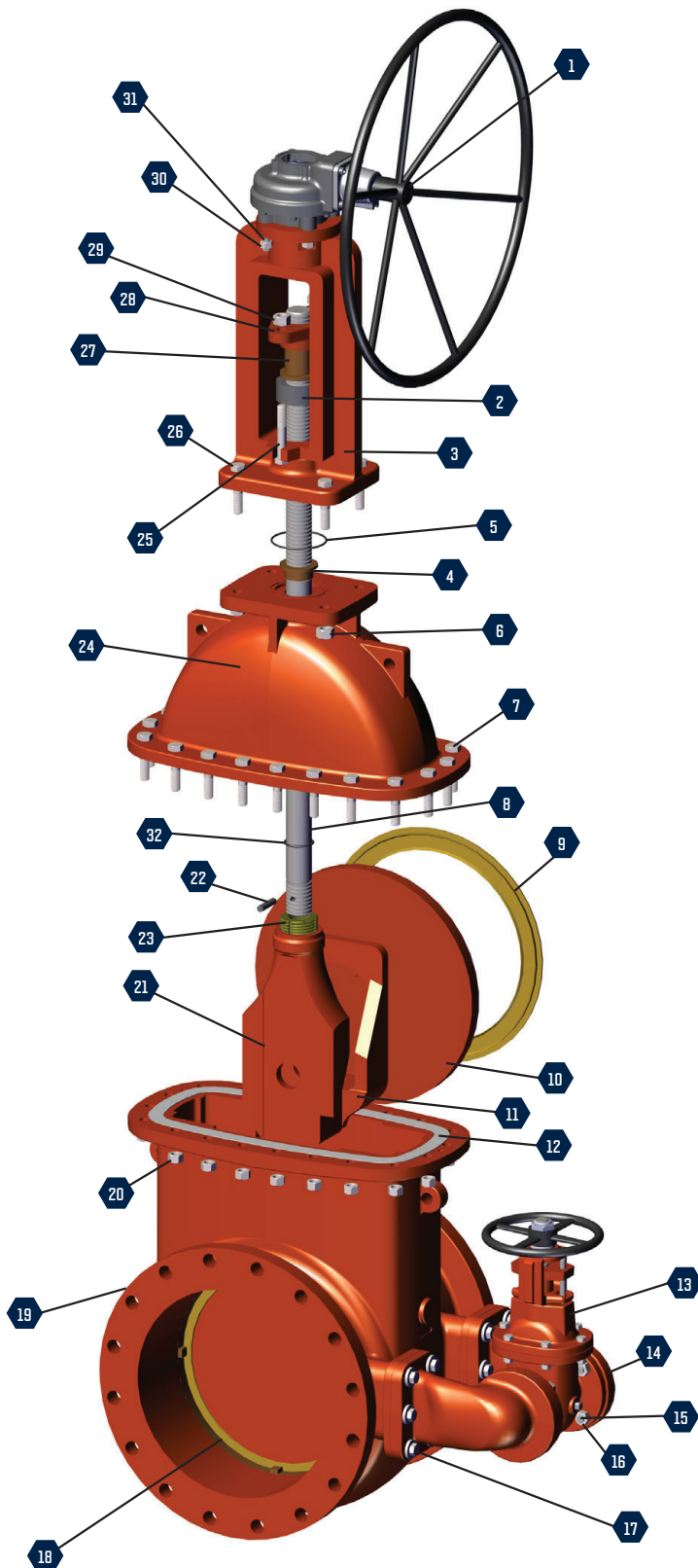
3"-12" COMPONENTS



No.	Description	Material	No.	Description	Material
1	Stuffing Box O-Ring	Rubber	19	Op-Nut	Cast Iron
2	Thrust Washer	Plastic	20	Op-Nut Washer	Stainless Steel
3	Bonnet	Ductile Iron	21	Op-Nut Hex Bolt	Stainless Steel
4	Bonnet / Body Hex Bolt	Stainless Steel	22	OS&Y Wheel Nut	Bronze
5	Bonnet / Body Gasket	Garlock #3200	23	Handwheel	Cast Iron
6	NRS Stem Nut	Bronze	24	Yoke Nut Washer	Plastic
7	Upper Wedge	Ductile Iron	25	Yoke Nut	Bronze
8	Lower Wedge	Ductile Iron	26	Packing Gland Nut	Brass
9	Disc	Ductile Iron	27	Yoke	Ductile Iron
10	Disc Seat Ring	Bronze	28	Packing Gland	Ductile Iron
11	Bonnet / Body Hex Nut	Stainless Steel	29	Packing	Garlock Style 18
12	Body	Ductile Iron	30	Yoke Stud	Stainless Steel
13	Body Seat Ring	Bronze	31	Yoke Hex Nut	Stainless Steel
14	NRS O-Ring Stem	Stainless Steel	32	OS&Y Stem	Stainless Steel
15	Stem O-Rings	Rubber	33	OS&Y Stem Pin	Stainless Steel
16	Thrust Washer	Delrin	34	OS&Y Stem Nut	Bronze
17	NRS O-Ring Stuffing Box	Bronze	35	Pipe Plug	Stainless Steel
18	Stuffing Box Hex Bolt	Stainless Steel			

ENGINEERING FEATURES

14"-24" COMPONENTS



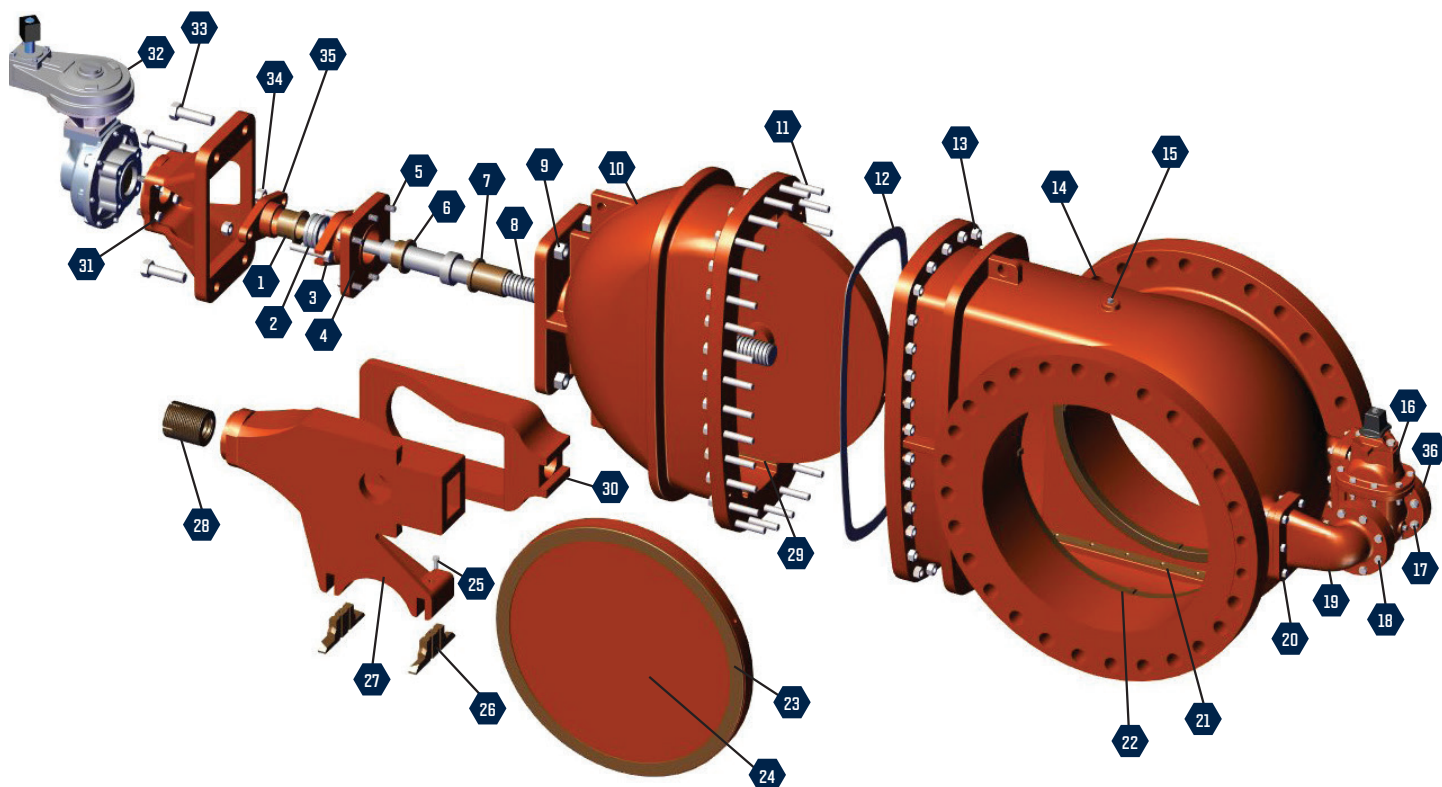
18" OS&Y Packing 125# Flange
with Side Bypass shown

No.	Description	Material
1	Gear with Handwheel	---
2	Packing	Garlock Style 18
3	Yoke Stand	Ductile Iron
4	Bonnet Bushing	Bronze
5	Stand / Bonnet O-Ring	Stainless Steel
6	Stand / Bonnet Nut	Stainless Steel
7	Bonnet / Body Bolt	Stainless Steel
8	OS&Y Stem	Stainless Steel
9	Disc Seat Ring	Brass
10	Disc	Ductile Iron
11	Lower Wedge	Ductile Iron
12	Bonnet / Body Gasket	Garlock #3200
13	Bypass Valve	see page 5
14	Elbow	Ductile Iron
15	Bypass Nut	Stainless Steel
16	Bypass Stud	Stainless Steel
17	Elbow Bolt	Stainless Steel
18	Body Seat Ring	Bronze
19	Body	Ductile Iron
20	Bonnet / Body Nut	Stainless Steel
21	Upper Wedge	Ductile Iron
22	OS&Y Stem Pin	Stainless Steel
23	OS&Y Stem Nut	Bronze
24	Bonnet	Ductile Iron
25	Packing Gland Bolt	Stainless Steel
26	Stand / Bonnet Bolt	Stainless Steel
27	Packing Gland Bushing	Bronze
28	Packing Gland	Ductile Iron
29	Packing Gland Nut	Brass
30	Gear Nut	Stainless Steel
31	Gear Stud	Stainless Steel
32	OS&Y Stem O-Ring	Rubber

ENGINEERING FEATURES

30"-48" COMPONENTS

30" NRS Packing 250# Flange with Bottom Bypass shown



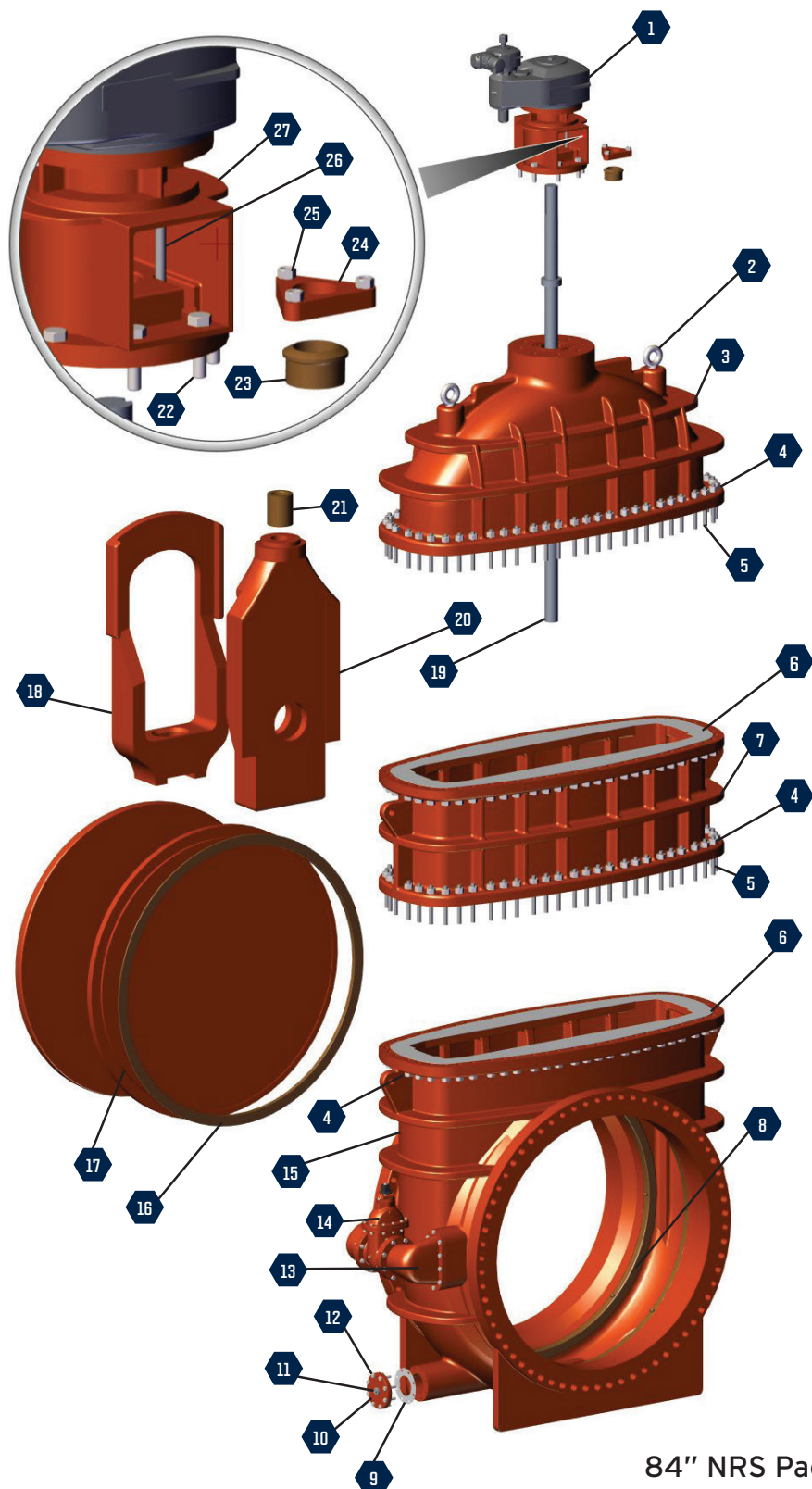
No.	DESCRIPTION	MATERIAL	No.	DESCRIPTION	MATERIAL
1	Packing Gland Bushing	Bronze	19	Bypass Elbow [†]	Ductile Iron
2	Packing	Garlock Style 18	20	Bypass Elbow Bolt [†]	Stainless Steel
3	Packing Gland Bolt	Stainless Steel	21	Body Guide *	Bronze
4	Stuffing Box	Ductile Iron	22	Body Seat Ring	Bronze
5	Stuffing Box Bolt	Stainless Steel	23	Disc Seat Ring	Brass
6	Stuffing Box Bushing	Bronze	24	Disc	Ductile Iron
7	Bonnet Bushing	Bronze	25	Scraper Bolt *	Stainless Steel
8	NRS Stem	Stainless Steel	26	Scraper *	Bronze
9	Stand / Bonnet Nut	Stainless Steel	27	Upper Wedge with Scraper Arm *	Ductile Iron
10	Bonnet	Ductile Iron	28	Stem Nut	Bronze
11	Bonnet / Body Bolt	Stainless Steel	29	Bonnet Guide *	Bronze
12	Bonnet / Body Gasket	Garlock #3200	30	Lower Wedge	Ductile Iron
13	Bonnet / Body Nut	Stainless Steel	31	Gear Bolts	Stainless Steel
14	Series 42 BPB Body	Ductile Iron	32	Gearing	--
15	Pipe Plug	Stainless Steel	33	Stand Bolt	Stainless Steel
16	Bypass Valve [†]	see page 5	34	Packing Gland Nut	Brass
17	Bypass Valve Stud [†]	Stainless Steel	35	Packing Gland	Ductile Iron
18	Bypass Valve Nut [†]	Stainless Steel	36	Bypass Valve Gasket	Garlock #3200

* Only Available in Horizontal Applications

[†] Optional

ENGINEERING FEATURES

54" AND UP COMPONENTS



No.	DESCRIPTION	MATERIAL
1	Gearing	---
2	Eye Bolt	Stainless Steel
3	Bonnet	Ductile Iron
4	Bonnet / Intermediate / Body Nut	Stainless Steel
5	Bonnet / Intermediate / Body Stud	Stainless Steel
6	Bonnet / Intermediate / Body Gasket	Garlock #3200
7	Intermediate	Ductile Iron
8	Body Seat Ring	Bronze
9	Flushing Port Gasket *	Garlock #3200
10	Flushing Port Bolt *	Stainless Steel
11	2" Pipe Plug *	Stainless Steel
12	Flushing Port Plate *	Ductile Iron
13	Elbow	Ductile Iron
14	Bypass Valve *	see page 5
15	Body with BPS & FP	Ductile Iron
16	Disc Seat Ring	Bronze
17	Disc	Ductile Iron
18	Lower Wedge	Ductile Iron
19	NRS Stem	Stainless Steel
20	Upper Wedge	Ductile Iron
21	Stem Nut	Bronze
22	Stand / Bonnet Bolt	Stainless Steel
23	Follower Gland Bushing	Bronze
24	Follower Gland	Ductile Iron
25	Follower Gland Nut	Brass
26	Follower Gland Bolt	Stainless Steel
27	NRS Packing Stand	Ductile Iron

* Optional

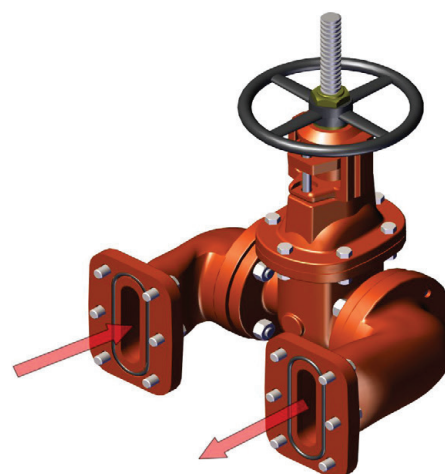
84" NRS Packing with Side Bypass
& Flushing Point shown
Note: 66" & up require intermediate



ADDITIONAL PARTS & ACCESSORIES

BYPASS VALVES

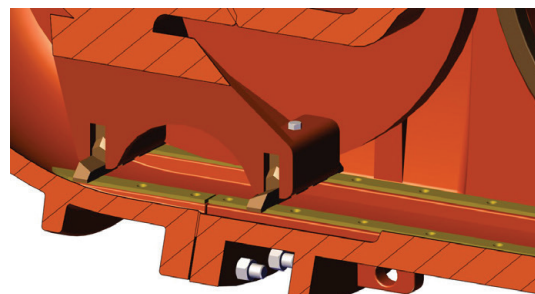
The main purpose of a bypass valve is to help with direct pressure on the disc seat. It is safer and helps prevent damaging the main valve seat when operating the bypass valve prior to the main valve. A bypass valve is offered in both vertical and horizontal positions, and in either packing, o-ring, NRS, or OS&Y. Bypass valves are only offered on valves 16" and up.



3" Bypass Valve

TRACKS & SCRAPERS

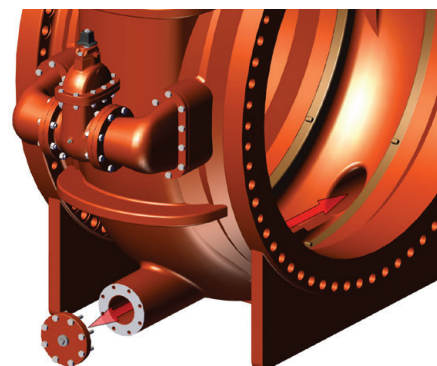
Sediment build up is a common problem in most valves due to a lack of being cycled often. Rotating disc valves get their name from the rotating disc and disc ring action that acts as a scraper across the seat rings that are in the body. The other components that help against sediment build up are the two scrapers that are attached to a modified upper wedge with an arm. The bronze scrapers ride on brass body and bonnet guides that are screwed into place while the valve operating. In the horizontal position the scraper arm and scrapers also act as a guide to keep the disc assembly from putting extra stress on the stem while the valve is being opened. Tracks and scrapers are only offered in 14" and up valves in the horizontal position.



18" Scraper

FLUSHING PORTS

Another tool to help sediment build up in valves that aren't operated regularly is flushing ports. The purpose of flushing ports are to help clean out the extra waste that can settle in the bottom of the valve. Flushing ports are offered in valves 14" and up and can be placed in the vertical valve position.



84" Flushing Port



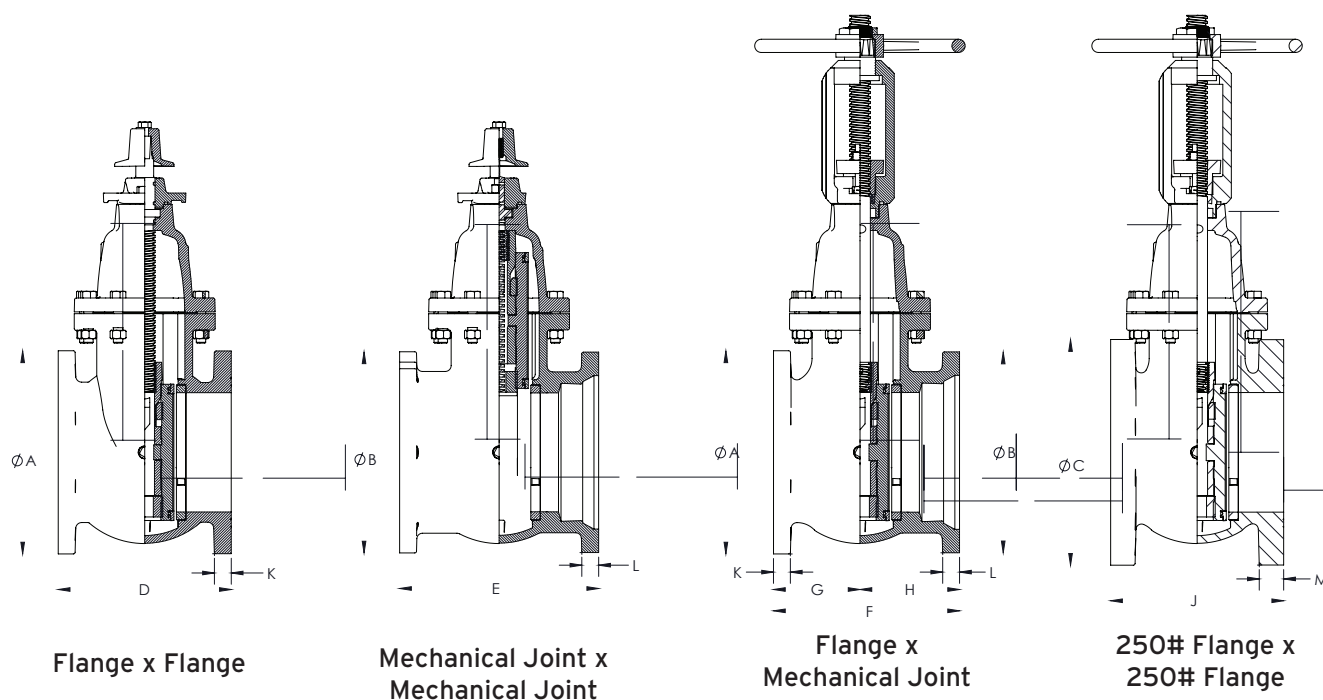
RECOMMENDED SPECIFICATIONS

ROTATING DISC GATE VALVES 3" - 108"

- **Compliant with AWWA C500 (latest revision)**
- **Materials:**
 - a. Valve body, bonnet, discs, wedges: ductile iron ASTM-A536 (65/45/12).
 - b. Scraper, stem nut, disc and body seat rings: bronze, B62/B505.
 - c. Ductile iron wedge bearing surfaces: type 316 stainless steel.
 - d. Stem: 304 stainless steel ASTM-A276 (standard). (consult factory for other stem materials.)
 - e. Valve bolts and nuts: type 304 or 316 stainless steel ASTM F593/F594
- **Valve Construction:** Rated working pressure:
 - a. Valves 3"-108": up to 250 psi (standard).
 - b. Customer to specify working and test pressure.
- **Stem Seals:** OS&Y and NRS valves equipped with conventional packing (standard). NRS valves with redundant o-ring seals available (consult factory).
- **Two 360-degree ductile iron rotating discs:** Interchangeable and field replaceable without removal of valve body from pipeline. Discs and wedges free of any type pockets, linkages and pins
- **Self-adjusting bronze scrapers:** Allow valve mounting in horizontal position or angle as specified from vertical or horizontal center lines.
- **Provide stems (NRS) with integral thrust collar:** (304 Stainless Steel, standard).
- **Where specified, valve body to have electric motor mounting pads.**
- **Full port body design shall provide clear and unobstructed waterway for pigging of pipelines.**
- **Horizontally installed valves shall be equipped with bronze tracks on the bottom side, providing smooth bearing surfaces for the discs to rotate freely throughout the entire travel.**
- **Valve design to allow complete re-packing of valve stem under pressure when valve is in full open position.**
- **Where specified, provide bypass valve bolted to bottom or side of main valve body. Provide valve type and material as specified.**
- **Where specified, provide valve body with two integrally cast flushing ports for gate valve sized 14" and larger for valve in upright installation orientation. Drain plugs will not be accepted.**
- **End connections, provide type as specified:**
 - a. Flanged ASME B16.1 Class 125 or 250.
 - b. Mechanical Joint.
 - c. Mechanical Joint by Flange.
- **Geared Operators for all 14" and larger valves (as required).**
 - a. Spur or bevel gearing as determined by valve application and orientation.
 - b. Buried valves shall have totally enclosed gear cases.
- **Factory test each valve per AWWA C-500 (latest revision).**
- **Two part NSF-61 approved epoxy on the exterior and interior of valve.**

ROTATING DISC GATE VALVE

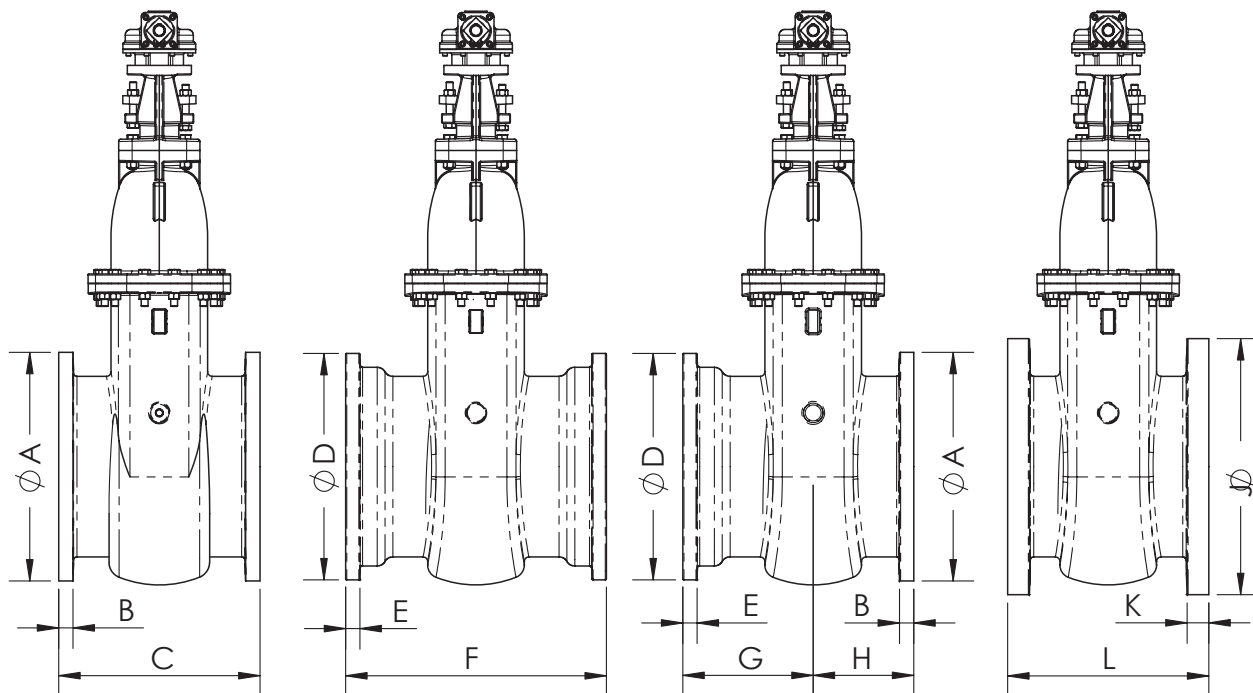
GENERAL DIMENSIONS 3"-12"



3" -12" General Dimensions												
Size	A	B	C	D	E	F	G	H	J	K	L	M
3"	7.50	7.68	8.25	8.00	9.00	8.50	4.00	4.50	8.00	0.75	0.94	1.12
4"	9.00	9.12	10.00	9.00	11.00	10.00	4.50	5.50	9.00	0.95	1.00	1.25
6"	11.00	11.12	12.50	10.50	12.00	11.25	5.25	6.00	10.50	1.00	1.06	1.44
8"	13.50	13.38	15.00	11.50	13.00	12.25	5.75	6.50	11.50	1.12	1.12	1.63
10"	16.00	15.67	17.50	13.00	14.00	13.75	6.50	7.25	13.00	1.19	1.19	1.88
12"	19.00	17.94	20.50	14.00	15.00	14.50	7.00	7.50	14.00	1.25	1.25	2.00

ROTATING DISC GATE VALVE

GENERAL DIMENSIONS 14"-60"



Flange x Flange

Mechanical Joint x
Mechanical Joint

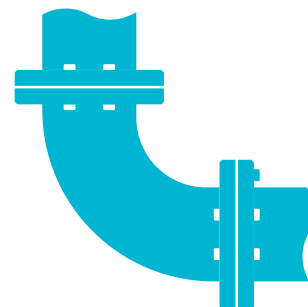
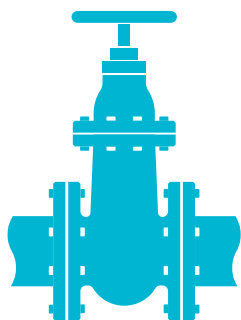
Flange x
Mechanical Joint

250# Flange x
250# Flange

14"-60" General Dimensions											
Size	A	B	C	D	E	F	G	H	J	K	L
14	21.00	1.38	15.00	20.25	1.31	21.00	7.50	7.50	23.00	2.13	15.00
16	23.50	1.44	20.50	22.56	1.38	21.00	10.50	10.25	25.50	2.25	20.50
18	25.00	1.56	22.00	24.75	1.44	28.50	14.25	11.00	28.00	2.38	22.00
20	27.50	1.69	22.75	27.00	1.50	25.75	12.88	11.38	30.50	2.50	22.75
24	32.00	2.00	27.00	31.63	1.63	28.50	14.25	13.50	36.00	2.75	27.00
30	38.75	2.12	30.00	39.13	1.63	38.50	19.25	15.00	43.00	3.00	30.00
36	46.00	2.38	33.00	46.00	2.00	42.00	21.00	16.50	50.00	3.38	33.00
42	53.00	2.63	35.75	53.13	2.00	44.00	22.00	17.88	57.00	3.69	35.75
48	59.50	2.75	40.00	60.00	2.00	48.00	24.00	20.00	65.00	4.00	40.00
54	66.25	3.13	46.25								
60	73.00	3.13	36.75								

MPI PRODUCT LINE

VALVES • GATES • PIPE & FITTINGS



VALVES

SOLUTIONS:

- Rotating Disc Gate Valves (AWWA C500)
- Eccentric Plug Valves (AWWA C517)
- Butterfly Valves (AWWA C504)
- High Performance Butterfly Valves (API 609)
- Swing Check Valve (AWWA C508)
- Ken-Flex Resilient Hinged Check Valve
- Telescoping Valve
- Resilient Seat Gate Valve (AWWA C509/C515)
- Pressure Relief Valves (Floor & Wall)
- Mud Valves
- Shear Gate Valves
- Solid Wedge Gate Valve

GATES

SOLUTIONS:

- Fabricated Stainless Steel Gates
- Fabricated Aluminum Gates
- Stop Logs & Stop Gates
- Cast Iron Slide (Sluice) Gates
- Rectangular Butterfly Gates
- Automatic Level Control Gates
- Flap Gates

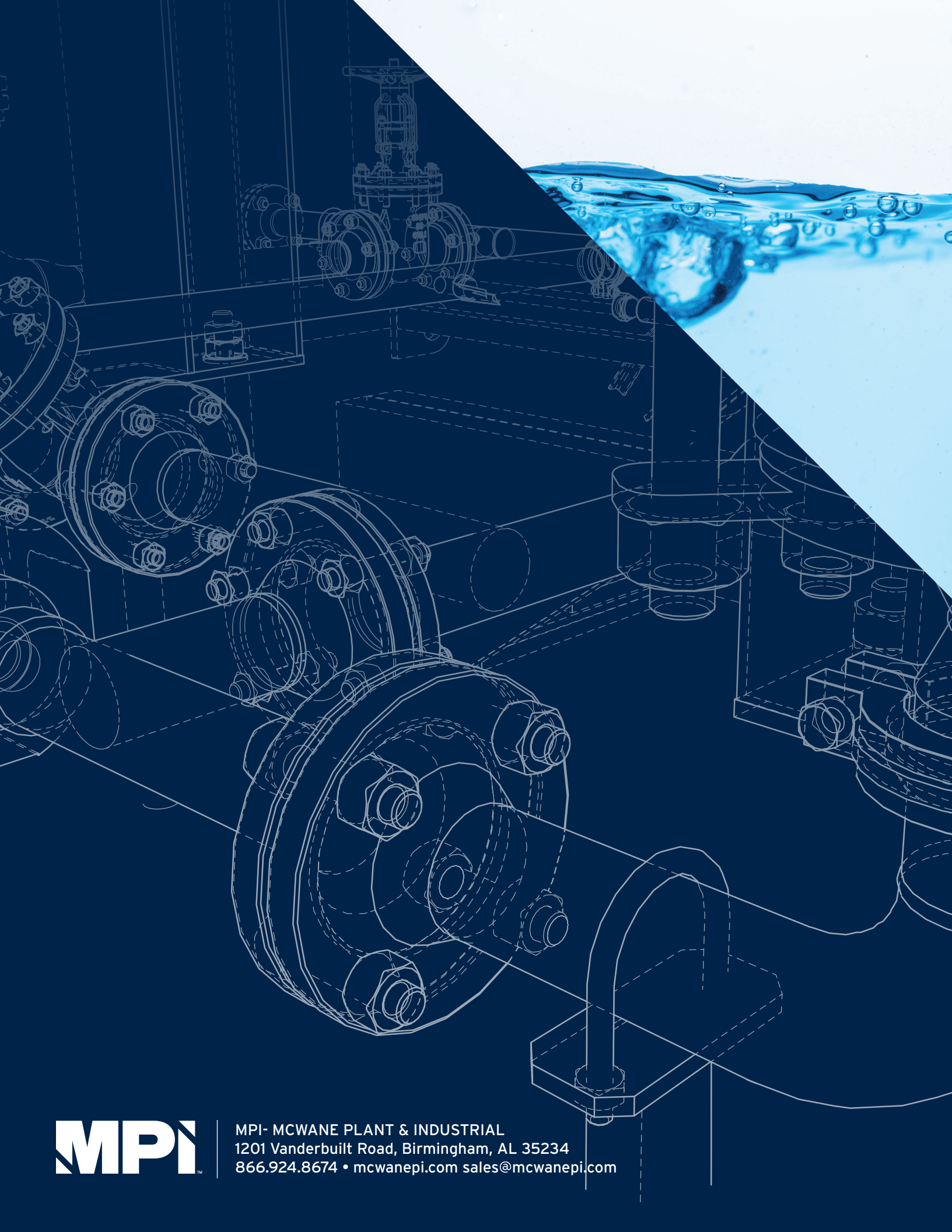
PIPE & FITTINGS

SOLUTIONS:

- Fabricated Flange and Wall Pipe
- Ductile Iron Pipe
- Grooved Pipe & Fittings
- Pipe Linings: cement, glass, Protecto 401™
- Welded Outlets, Thread-O-Lets, Welded Boss
- Restrained Joint Fittings
- Seismic Solutions



NOTES:



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