

# VALVE SELECTION GUIDE

For water and wastewater treatment,  
agricultural and industrial applications.

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# AWWA C504 BUTTERFLY VALVES

Designed for years of dependable service, the superior design of our butterfly valve provides ease of adjustment along with the ensured dependability expected in any distribution system or plant installation. MPI offers both seat-on-disc and seat-on-body valve designs with both using EPDM rubber seats as standard. The rubber seat provides a 'zero leakage' alternative to metal-seated valves.

For pump station and treatment plant applications, butterfly valves offer flow control advantages (such as throttling) over gate valves, and are much more economical. Our butterfly valves are manufactured in accordance with the American Water Works Association (AWWA) C504 standard. Butterfly valves are constructed of ductile iron, stainless steel, rubber seats & seals. The strength of ductile iron along with stainless steel components provide corrosion resistance for buried service applications.

KEY CHARACTERISTICS	SEAT-ON-DISC
Size Range	3"-72"
Materials	Ductile iron ASTM A536 body and disc, 316SS seat ring, EPDM seat, SS hardware
Pressure Rating	AWWA CL 150B (150psi) or 250B (250psi)
Temperature Range	0°F-250°F
Body Style	FLG, MJ or MJxFLG
Actuator Types	Lever, traveling nut, worm gear, electric motor, pneumatic, hydraulic
Standards	AWWA C504, NSF/ANSI 61/372 certified (4"-48")



KEY CHARACTERISTICS	SEAT-ON-BODY
Size Range	3"-36"
Materials	Ductile iron ASTM A536 body and disc (316SS disc for 3" size), 316SS disc edge, 316SS stem and fasteners (630SS stem on CL 250B), EPDM seat and packing
Pressure Class	AWWA CL 150B (150psi) or 250B (250psi)
Temperature Range	0°F-250°F
Body Style	FLG, MJ
Actuator Types	Lever, traveling nut, worm gear, electric motor, pneumatic, hydraulic
Standards	AWWA C504, NSF/ANSI 61/372 certified



# ROTATING DISC GATE VALVES

MPI rotating disc gate valves are prized for their reliability and low maintenance. They have been utilized successfully for decades in water/wastewater treatment plants and water lines all over the United States. The rotating action of the discs cleans deposits during travel and 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.



KEY CHARACTERISTICS	
Size Range	3" - 108"
Materials	Ductile iron ASTM A536, iron body bronze mounting (IBBM), Stem: 304SS (3"-24"), 316SS (30"-54"), 630SS (60" and larger)
Pressure Rating	Rated pressure up to 300psi (250psi standard)
Temperature Range	33°F-160°F
Body Style	Non-rising stem: FLG, MJ, FLG x MJ Outside stem & yoke: FLG
Actuator Types	Direct-drive hand wheel or 2" operating nut, spur or bevel gear, electric motor operator
Standards	AWWA C500, NSF/ANSI 61/372 certified

# RESILIENT SEATED GATE VALVES

Resilient seated gate valves were introduced to the waterworks industry in the 1980s and became a dominant preference for use in distribution systems. Valves comply with AWWA C515 reduced wall standard. The valve contains a wedge fully encapsulated with EPDM rubber that is permanently bonded to the wedge and meets ASTM D429. The valve body, bonnet, and stuffing plate are coated with fusion bonded epoxy (FBE) and applied in accordance with AWWA C550 and is ANSI/NSF 61/372 certified. Optional configurations also include non-rising stem (NRS) or outside screw and yoke (OS&Y) and can be ordered with a spur or bevel gear.



KEY CHARACTERISTICS	
Size Range	2"-54"
Materials	ASTM A536 ductile iron body & bonnet, fully encapsulated EPDM wedge per ASTM D429, stainless steel hardware
Stem Materials	Bronze, 304SS, 316SS
Pressure Rating	250psi
Temperature Range	33°F-125°F
Body Style	Non-rising stem: FLG, MJ, FLG x MJ, MJ x tap Outside stem & yoke: FLG
Actuator Types	Direct-drive handwheel or 2" operating nut, spur or bevel gear, electric motor operator
Standards	AWWA C515, AWWA C509 (up to 12"), NSF/ANSI 61/372 certified

# SOLID WEDGE GATE VALVES

Kennedy Solid Wedge Gate Valves are available in both NRS and OS&Y bonnet configuration options. Both styles are available with Flanged ends and MJ ends. The Flanged ends valve available in nominal pipe sizes, MJ ends valve available in sizes 3" through 48" NPS. The valves are designed, manufactured and tested in accordance with AWWA C500. Available with hand wheels, operating nuts and when required, integrally cast mounting pads for gears or electric actuators. Valves are protected externally and internally with coatings conforming with AWWA C550.

KEY CHARACTERISTICS	
Size Range	Flanged ends and mechanical joint ends 3" to 48"
Materials	Ductile iron body, SS stems, 2 part epoxy interior & exterior coating
Pressure Rating	CL 150 or CL 250
Temperature Range	33°F-180°F
Body Style	NRS or OS&Y style, FLG or MJ ends
Actuator Types	Manual, spur or bevel gear, electric motor operator
Standard	AWWA C500



# MUD VALVES

MPI NRS style ductile iron/stainless steel mud valves are designed primarily for use in settling tanks of water and wastewater treatment plants. They are available in both ductile iron and stainless steel bodies. Their intended use is to drain tanks for maintenance or cleaning. Mud Valves are furnished with a 2" square operating nut; however, they can be supplied with optional extension stem or handwheel. The valve uses a NBR resilient seat on the plug. The ductile iron/stainless steel body assembly features ASTM A276 stainless steel stems and fasteners to prevent corrosion from years of submerged service.

KEY CHARACTERISTICS	
Size Range	3"-12"
Materials	Ductile iron or stainless steel body, plug and stem cap; NBR gasket and stainless steel hardware
Temperature Range	0°F-250°F
Body Style	ANSI CL 125-lb. flange



# ECCENTRIC PLUG VALVES

MPI Eccentric Plug Valves are designed for consistent performance, durability and longevity. Built to the AWWA C517 standard, the Eccentric Plug Valves are available in sizes 3"-48" for 100% port with a variety of end connections. A reliable and engineered product capable of bi-directional flow at fully rated pressures. Dependable in a variety of service applications.



KEY CHARACTERISTICS	
Size Range	3"-48"
Materials	Ductile iron ASTM A536, 95% pure nickel welded seat, NBR encapsulated plug
Pressure Rating	3"-12" to 175psi; 14"-48" to 150psi
Temperature Range	0°F-250°F
Body Style	FLG or MJ
Actuator Types	Direct nut (8" & smaller), worm gear, electric motor, pneumatic, hydraulic
Standard	AWWA C517

# DOUBLE DISC SWING CHECK VALVES

MPI Double Disc Swing Check Valves are designed and produced with the AWWA C518 standard and certified NSF 61/372 for drinking water applications. The valves operate automatically and close quickly with a compact installation profile making them ideal for pump isolation in clean water applications.



KEY CHARACTERISTICS	
Size Range	2" - 24"
Materials	Ductile iron body, CF8M discs, EPDM seat, 316SS springs and pins
Pressure Rating	250psi
Temperature Range	0°F-250°F
Body Style	Wafer
Standards	AWWA C518, NSF/ANSI 61/372 certified

# AWWA C508 SWING CHECK VALVES

MPI swing check valves are designed and manufactured in conformance with AWWA C508. They are self-contained, free-swinging disc style which can be purchased with an outside lever and weight or outside lever and spring options. The valves can also be purchased with outside air or oil cylinders when required by customer requirements or project specifications. Valves sizes 2"-24" can be ordered with double lever arms. Valve sizes 30" come with standard double lever arms.



KEY CHARACTERISTICS	
Size Range	2"-36"
Materials	Cast or ductile iron body construction, bronze or resilient disc seat options, bronze body seat ring
Pressure Range	2"-12" to 250psi (globally sourced), 2"-12" to 200psi (domestic), 14"-36" to 150psi
Temperature Range	0°F-250°F
Body Style	FLG, Increasing FLG
Standards	AWWA C508, NSF/ANSI 61/372 certified

# KEN-FLEX™ CHECK VALVES

The KEN-FLEX™ resilient-hinged check valve provides reduced maintenance and faster closing than most traditional swing check valves. The rubber-encapsulated flapper assembly is the only moving part and is easily accessed through a full-size cover with the valve in line. The resilient flapper material makes KEN-FLEX™ ideal for "dirty water" applications, and the fast-closing action is ideal for surge prevention. The optional position indicator is spring loaded and provides the added benefit of accelerated closing speed.



KEY CHARACTERISTICS	
Size Range	3"-36"
Materials	Ductile iron body, EPDM or NBR flapper, 316SS hardware, EPDM or NBR O-rings
Pressure Rating	250psi
Temperature Range	0°F-250°F
Body Style	FLG
Standards	AWWA C508, NSF/ANSI 61/372 certified

# RESILIENT-SEATED BUTTERFLY VALVES

The MPI Resilient Seated Butterfly Valve combines robust construction materials and reliable sealing capabilities, making this suitable for a diverse range of industrial applications. Our valve features a one-piece ductile iron body with a T431SS stem standard on all our valves, bubble tight shutoff and availability of a wide selection of resilient seat materials. The MPI Resilient Seated Butterfly Valves are designed to handle a wide variety of applications such as water treatment, pulp and paper, power, automotive, mining, ethanol, oil, gas and other general service applications where a resilient seated butterfly valve is required.



KEY CHARACTERISTICS	
Size Range	2"-36"
Materials	Ductile iron body, CF8M disc, T630SS shaft
Pressure Rating	ASME B16.5 Class 150 (230psi)
Temperature Rating	-20°F-400°F
Body Style	Lugged, wafer
Actuator Type	Lever, worm gear, electric motor, pneumatic, hydraulic
Standards	API 609 Category B, NSF 61/372, API 598 Seat Leakage

# HIGH PERFORMANCE BUTTERFLY VALVES

Tri-Seal Quarter-Flex Butterfly Valves contain improvements and refinements not found in any other high-performance butterfly valves. These features serve to insure a long and trouble-free life as well as providing simple and less expensive maintenance when required. The valves are manufactured to meet or exceed API 609 standard. Tri-Seal valve applications included air, water, steam, oxygen, and NACE service. Tri-Seal ANSI CL 150 valves are rated up to 285PSI while ANSI CL 300 valves are rated up to 740PSI.



KEY CHARACTERISTICS	
Size Range	2"-36"
Materials	WCB or CF8M body, CF8M disc, T630SS shaft
Pressure Rating	ASME B16.5 Class 150 (285psi (WCB), 275psi (CF8M))
Temperature Rating	-20°F-400°F
Body Style	Lugged, wafer
Actuator Type	Lever, worm gear, electric motor, pneumatic, hydraulic
Standards	API 609 Category B, NSF 61/372, API 607 Fire Safe, API 598 Seat Leakage

# VALVE SELECTION GUIDE

AWWA C504 Butterfly Valve  
 Eccentric Plug Valve  
 Rotating Disc Gate Valve  
 Resilient Seat Gate Valve  
 Solid Wedge Gate Valve  
 AWWA C508 Swing Check Valve  
 KEN-FLEX Check Valve  
 AWWA C518 Double Disc Check Valve  
 Mud Valve  
 High-Performance BFV  
 Resilient Seated BFV

Size/Pressure Range	3"-72" CL 150 or CL 250	3"-48" 175 psi 3 "-12" 150 psi 14"-48"	3"-108" Rated pressure up to 300 psi	2"-54" 250 psi working pressure	2.5"-72" FLG 3"-48" MJ CL 150 or CL 250	2"-36" 200 psi 2"-12" 150 psi 14"-36"	2"-24" 250 psi	2"-24" 250 psi	4"-12" N/A	2.5"-36" ANSI CL 150 275 psi, ANSI CL 300 740 psi	2"-36" 230 psi
<b>SERVICE APPLICATIONS</b>											
On/Off	X	X	X	X	X	X	X	X		X	X
Throttling	X	X								X	X
Buried/Vault Service	X	X	X	X	X	Vault not burried	Vault not burried		X	Vault not burried	Vault not burried
Potable Water	X	X	X	X	X	X	X	X	X	X	X
Raw Water		X	X		X	X	X		X		
Industrial Wastewater		X	X	X	X	X	X		X	X	X
Industrial Water		X	X	X	X	X	X	X	X	X	X
Industrial Spill/Overflow Containment Basin									X		
Water/Wastewater Treatment Basin									X		
Irrigation	X	X	X		X	X	X				X
Slurries (Sludge)		X	X		X	X	X				
Gritty Service		X	X		X		X				
Slurries (Fibrous)		X	X		X						
Primary Effluent		X	X		X	X	X				
Secondary Effluent	X	X	X	X	X	X	X				X
Raw Sewage		X	X		X	X	X				
Screened Sewage		X	X		X						
Air Service	Consult Factory									X	X
Low Pressure Gas	Consult Factory	Consult Factory								X	X
Pigging		X	X	X	X						
Tapping			X	X	X						
High Pressure	Up to 250 psi	Up to 175 psi	Up to 300 psi	Up to 350 psi	Up to 250 psi	Up to 200 psi	Up to 250 psi	Up to 250 psi		Up to 740 psi	Up to 230 psi
Low Head Loss	X	X	X	X	X					X	X
Horizontal Installation	X	X	X	X	X	X	X	X		X	X
Vertical Installation	X	X	X	X	X	Yes-Flow Up	Yes-Flow Up	Yes-Flow Up		X	X
Intermittent Submersion (fresh water)	X	Consult Factory	X	X	X						X
Continuous Submersion (fresh water)	Consult Factory	Consult Factory	X	Consult Factory	X	Consult Factory					



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