

Building Service Application

Class 100 / Class 125 / Class 150 / Class 200
TYPE 600 / PN16 / PN25 / JIS 10K

Gate Valve / Globe Valve / Swing Check Valve / Wafer Check Valve
Ball Valve / Butterfly Valve / Y-Pattern Strainer
NSF / ANSI / CAN 61 and 372 Drinking Water Certified



BRONZE GATE VALVE		BRONZE GATE VALVE		BRONZE GATE VALVE		BRONZE GATE VALVE	
150-BS-N 204A	Class 150	125E-BS-N 206A	Class 125	150-BSR-N 209	Class 150	H-BS-PN16 275P	PN16
							
Screwed Bonnet		Screwed Over Bonnet (Size 1/4" to 2") Screwed Bonnet (Size 2-1/2" to 4")		Screwed Bonnet		Screwed Bonnet	
Inside Screw		Inside Screw		Inside Screw		Inside Screw	
Non Rising Stem		Non Rising Stem		Rising Stem		Non Rising Stem	
Body Material: Bronze		Body Material: Bronze		Body Material: Bronze		Body Material: Bronze	
End Connection: Threaded (Rc)		End Connection: Threaded (Rc)		End Connection: Threaded (Rc)		End Connection: Threaded (Rc)	
Size: 3/8" to 3"		Size: 1/4" to 4"		Size: 1/2" to 2"		Size: 3/8" to 3"	
BRONZE GLOBE VALVE		BRONZE GLOBE VALVE		BRONZE SWING CHECK VALVE		BRONZE SWING CHECK VALVE	
100N-BG-N 210A	Class 100	150E-BG-N 213A	Class 150	125H-BNS-N 236A	Class 125	125-BNS-N 234	Class 125
							
Screwed Bonnet		Screwed Bonnet		Screwed Cap		Screwed Cap	
Inside Screw		Inside Screw		Y Pattern		T Pattern	
Metal seat		Metal seat		Metal seat		Metal Seat	
Body Material: Bronze		Body Material: Bronze		Body Material: Bronze		Body Material: Bronze	
End Connection: Threaded (Rc)		End Connection: Threaded (Rc)		End Connection: Threaded (Rc)		End Connection: Threaded (Rc)	
Size: 1/2" to 3"		Size: 1/4" to 3"		Size: 1/4" to 3"		Size: 3/8" to 3"	
BRONZE STRAINER		BRONZE STRAINER		BRASS BALL VALVE		BRASS BALL VALVE	
150-BT-N 380	Class 150 (10K)	PN16-BTE	PN16	600RC-N 5026	Type 600	RP-NK-NPT 5044A	Type 600
							
Screwed Cap		Screwed Cap		Full Bore		Full Bore	
Y Type		Y Type		2 Piece Type		2 Piece Type	
Body Material: Bronze		Body Material: Bronze		Body Material: Brass		Body Material: Brass	
Screen Material: Stainless Steel		Screen Material: Stainless Steel		Seat Material: PTFE		Seat Material: PTFE	
End Connection: Threaded (Rc)		End Connection: Thread (Rc)		End Connection: Threaded (Rc)		End Connection: Thread (NPT)	
Size: 1/2" to 3"		Size: 1/2" to 2"		Size: 1/4" to 3"		Size: 1/4" to 3"	
CAST IRON WAFER CHECK VALVE		CAST IRON GATE VALVE		CAST IRON GATE VALVE		CAST IRON GATE VALVE	
125-FNW 445	Class 125	125-FSRF 514	Class 125	EA125-FSRF10KFF<GA101> 420AF	Class 125	EA125-FSF<GA101> 415AF	Class 125
							
Non-Bypass Type		Bolted Bonnet		Bolted Bonnet		Bolted Bonnet	
Body Material: Cast Iron		Outside Screw & Yoke (Rising Stem)		Outside Screw & Yoke (Rising Stem)		Inside Screw (Non Rising Stem)	
Disc Material: Bronze		Body Material: Cast Iron		Body Material: Cast Iron		Body Material: Cast Iron	
Seat Material: NBR		Seat Material: Bronze		Seat Material: Bronze		Seat Material: Bronze	
End Connection: Wafer (ASME Class 125)		End Connection: Flanged (ASME Class 125)		End Connection: Flanged (JIS 10K)		End Connection: Flanged (ASME Class 125)	
Size: 2" to 12"		Size: 2" to 12"		Size: 2" to 12"		Size: 2" to 12"	

CAST IRON GATE VALVE (PHOX)EN25-FSRF 423E	CAST IRON GLOBE VALVE EA125-FGF<GA101> 400AF	CAST IRON GLOBE VALVE EA125-FGF10KFF<GA101> 405AF	CAST IRON SWING CHECK VALVE EA125-FNSF<GA101> 435AF
			
Bolted Bonnet	Bolted Bonnet	Bolted Bonnet	Bolted Cover
Outside Screw & Yoke (Rising Stem)	Outside Screw & Yoke	Outside Screw & Yoke	Metal seat
Body Material: Cast Iron	Body Material: Cast Iron	Body Material: Cast Iron	Body Material: Cast Iron
Seat Material: Bronze	Seat Material: Bronze	Seat Material: Bronze	Seat Material: Bronze
End Connection: Flanged (PN25)	End Connection: Flanged (ASME Class 125)	End Connection: Flanged (JIS 10K)	End Connection: Flanged (ASME Class 125)
Size: 2" to 12"	Size: 2" to 8"	Size: 2" to 8"	Size: 2" to 20"
CAST IRON SWING CHECK VALVE EA125-FNSF10KFF<GA101> 430AF	CAST IRON STRAINER EA125-FTF<GA101> 381AF	CAST IRON STRAINER EA125-FTF10KFF<GA101> 450AF	DUCTILE IRON STRAINER (PHOX)EN25-DTF 678E
			
Bolted Cover	Bolted Cover	Bolted Cover	Bolted Cover
Metal seat	Y Type	Y Type	Y Type
Body Material: Cast Iron	Body Material: Cast Iron	Body Material: Cast Iron	Body Material: Ductile Iron
Seat Material: Bronze	Screen Material: Stainless Steel	Screen Material: Stainless Steel	Screen Material: Stainless Steel
End Connection: Flanged (JIS 10K)	End Connection: Flanged (ASME Class 125)	End Connection: Flanged (JIS 10K)	End Connection: Flanged (PN25)
Size: 2" to 20"	Size: 2" to 20"	Size: 2" to 20"	Size: 2" to 12"
ALUMINUM BUTTERFLY VALVE 10ALM-N-LU<Z0T01> 550LA	ALUMINUM BUTTERFLY VALVE 10ALM-N-LUE<Z0T01> 550LA	ALUMINUM BUTTERFLY VALVE 10ALM-N-GU<Z0T01> 550GA	ALUMINUM BUTTERFLY VALVE 10ALM-N-GUE<Z0T01> 550GA
			
Lever Operated	Lever Operated	Gear Operated	Gear Operated
Body Material: Aluminum	Body Material: Aluminum	Body Material: Aluminum	Body Material: Aluminum
Seat Material: NBR	Seat Material: EPDM	Seat Material: NBR	Seat Material: EPDM
Disc Material: SCS13A (equivalent CF8)	Disc Material: SCS13A (equivalent CF8)	Disc Material: SCS13A (equivalent CF8)	Disc Material: SCS13A (equivalent CF8)
End Connection: Wafer (JIS 5K/10K)	End Connection: Wafer (JIS 5K/10K)	End Connection: Wafer (JIS 5K/10K)	End Connection: Wafer (JIS 5K/10K)
Size: 1-1/2" to 6"	Size: 1-1/2" to 6"	Size: 1-1/2" to 8"	Size: 1-1/2" to 12"
DUCTILE IRON BUTTERFLY VALVE 200L1-N-UE<Z0T06> 917-UESL	DUCTILE IRON BUTTERFLY VALVE 200L2-N-UE<Z0T06> 917-UESG	DUCTILE IRON BUTTERFLY VALVE 150L2-N-UE<Z0T05> 907-UESG	DUCTILE IRON BUTTERFLY VALVE 150L2-N-UME<Z0T05> 907-MESG
			
Lever Operated	Gear Operated	Gear Operated	Gear Operated
Body Material: Ductile Iron	Body Material: Ductile Iron	Body Material: Ductile Iron	Body Material: Ductile Iron
Seat Material: EPDM	Seat Material: EPDM	Seat Material: EPDM	Seat Material: EPDM
Disc Material: SCS13A (equivalent CF8)	Disc Material: SCS13A (equivalent CF8)	Disc Material: SCS13A (equivalent CF8)	Disc Material: SCS14A (equivalent CF8M)
End Connection: Wafer (ASME Class 150)	End Connection: Wafer (ASME Class 150)	End Connection: Wafer (ASME Class 150)	End Connection: Wafer (ASME Class 150)
Size: 2" to 8"	Size: 6" to 12"	Size: 14" to 16"	Size: 18" to 24"

DUCTILE IRON BUTTERFLY VALVE		DUCTILE IRON BUTTERFLY VALVE		DUCTILE IRON BUTTERFLY VALVE		STAINLESS STEEL GATE VALVE	
200L1L-N-UE<Z0T06> 918-UESL	Class 200	200L2L-N-UE<Z0T06> 918-UESG	Class 200	150L2L-N-UE<Z0T05> 908-UESG	Class 150	US-N 802	10K
							
Lever Operated		Gear Operated		Gear Operated		Screwed Bonnet	
Body Material: Ductile Iron		Body Material: Ductile Iron		Body Material: Ductile Iron		Inside Screw	
Seat Material: EPDM		Seat Material: EPDM		Seat Material: EPDM		Non Rising Stem	
Disc Material: SCS13A (equivalent CF8)		Disc Material: SCS13A (equivalent CF8)		Disc Material: SCS13A (equivalent CF8)		Body Material: Stainless Steel	
End Connection: Lug (ASME Class 150)		End Connection: Lug (ASME Class 150)		End Connection: Lug (ASME Class 150)		End Connection: Threaded (Rc)	
Size: 2" to 8"		Size: 8" to 12"		Size: 14" to 16"		Size: 1/2" to 2"	
STAINLESS STEEL GLOBE VALVE		STAINLESS STEEL SWING CHECK VALVE		STAINLESS STEEL STRAINER		STAINLESS STEEL BALL VALVE	
UG-N 800	10K	UNS-N 804	10K	UT-N 809	10K	UZ-N 3550	Type 600
							
Screwed Bonnet		Screwed Cap		Screwed Cap		Reduced Bore	
Inside Screw		T Pattern		Y Type		Uni body Type	
Metal Seat		Metal Seat		Body Material: Stainless Steel		Body Material: Stainless Steel	
Body Material: Stainless Steel		Body Material: Stainless Steel		Screen Material: Stainless Steel		Seat Material: G/F PTFE	
End Connection: Threaded (Rc)		End Connection: Threaded (Rc)		End Connection: Thread (Rc)		End Connection: Thread (Rc)	
Size: 1/4" to 2"		Size: 1/2" to 2"		Size: 1/2" to 2"		Size: 1/4" to 2"	

Pressure-Temperature Ratings

Bronze and Brass Valves (Extracted from MSS SP-80)

Class 100, 125, 150, 200, 300							Unit: MPa
Service Temperature		100	125	150	200	300	
°C	°F	THD	THD	THD	FLG	THD	THD
-29 - 66	-20 - 150	1.03	1.37	2.06	1.55	2.75	4.13
93	200	0.93	1.27	1.86	1.44	2.58	3.86
121	250	0.86	1.17	1.65	1.34	2.41	3.62
149	300	0.79	1.06	1.44	1.24	2.23	3.37
177	350	0.68	0.96	1.24	1.13	2.06	3.10
204	400	0.63	—	—	—	1.89	2.82
208	406	0.62	0.86	1.03	1.03	—	—
232	450	—	—	—	—	1.72	2.58
260	500	—	—	—	—	1.55	2.34
288	550	—	—	—	—	1.37	2.06
Saturated Steam		0.68	0.86	1.03	1.03	1.37	2.06
Test Pressure	Shell	1.55	2.06	3.10	2.41	4.13	6.20
	Seat	0.55	0.55	0.55	0.55	0.55	0.55

Note : Class 100 outside of MSS SP-80

PN16, PN25		Unit: MPa	
Service Temperature		PN16	PN25
°C			
-10 - 100		1.60	2.5
120		0.95	2.18
150		1.35	1.65
170		0.70	1.28
180		—	1.13
186		—	1.05
198		—	—
200		—	—

Cast Iron Valves (Extracted from MSS SP-70, 71, 85)

Class 125 Gate, Globe and Check Valves				Unit: MPa
Service Temperature		Size 50-300		Size 350 and above
°C	°F			
-29 - 66	-20 - 150	1.37		1.03
93	200	1.31		0.93
107	225	1.24		0.90
121	250	1.21		0.86
135	275	1.17		0.83
149	300	1.14		0.76
163	325	1.07		0.72
178	350	1.03		0.69
191	375	1.00		—
208	400	0.97		—
218	425	0.90		—
232	450	0.86		—
Saturated Steam		0.86		0.68
Test Pressure	Shell	2.41		1.83
	Seat	0.55		0.55

PN16		Unit: MPa
Service Temperature		PN16
°C		
-10 - 66		
100		1.6
120		
150		1.44
170		1.37
180		1.34
186		1.32
198		1.29
200		1.28

NSF BRONZE GATE VALVE		NSF BRONZE GLOBE VALVE		NSF BRONZE SWING CHECK		NSF BRASS BALL VALVE	
L125E-BS-NR-NPT<UC8R1> 206ALF	Class 125	L125C-BG-NR-NPT<UC8R1> 211ALF	Class 125	L125H-BNS-NR-NPT<UC8R1> 236ALF	Class 125	LRP-NK-NPT 5044ALF	Type 600
							
Screwed Over Bonnet		Screwed Bonnet		Screwed Cap		Full Bore	
Inside Screw		Inside Screw		Y Pattern		2 Piece Type	
Non Rising Stem		Metal seat		Metal seat		Body Material: Brass	
Body Material: Bronze		Body Material: Bronze		Body Material: Bronze		Seat Material: PTFE	
End Connection: Threaded (NPT)		End Connection: Threaded (NPT)		End Connection: Threaded (NPT)		End Connection: Thread (NPT)	
Size: 1/2" to 2"		Size: 1/2" to 2"		Size: 1/2" to 2"		Size: 1/4" to 3"	
NSF DUCTILE IRON BUTTERFLY VALVE		NSF DUCTILE IRON BUTTERFLY VALVE		NSF DUCTILE IRON BUTTERFLY VALVE		NSF DUCTILE IRON BUTTERFLY VALVE	
200L1-NR-BE 917-BESL-2	Class 200	200L2-NR-BE 917-BESG-2	Class 200	200L1L-NR-BE 918-BESL-2	Class 200	200L2L-NR-BE 918-BESG-2	Class 200
							
Lever Operated		Gear Operated		Lever Operated		Gear Operated	
Body Material: Ductile Iron		Body Material: Ductile Iron		Body Material: Ductile Iron		Body Material: Ductile Iron	
Seat Material: EPDM		Seat Material: EPDM		Seat Material: EPDM		Seat Material: EPDM	
Disc Material: Aluminium-Bronze		Disc Material: Aluminium-Bronze		Disc Material: Aluminium-Bronze		Disc Material: Aluminium-Bronze	
End Connection: Wafer (ASME Class 150)		End Connection: Wafer (ASME Class 150)		End Connection: Lug (ASME Class 150)		End Connection: Lug (ASME Class 150)	
Size: 2" to 8"		Size: 2" to 12"		Size: 2" to 8"		Size: 2" to 12"	



What Does NSF International Do?

Founded in 1944 as an offshoot of the University of Michigan's School of Public Health, NSF International's (originally known as the National Sanitation Foundation) mission is protecting and improving global human health through standards development and food safety requirements.

Since their auspicious beginning, NSF International has promulgated more than 80 public health and safety American National Standards, including NSF/ANSI/CAN 61 and 372.

NSF/ANSI/CAN 61

In 1985, the EPA contracted with the National Sanitation Foundation (NSF International) to develop standards and a certification program for products used to treat or distribute drinking water. In 1988, NSF delivered NSF 61 Drinking Water System Components - Health Effects.

In 1989, NSF 61 became an American National Standards Institute (ANSI) accredited standard, and NSF began certifying products to this standard.

In 2008, an Annex G lead content requirement was introduced, stemming from legislation setting maximum allowable lead in potable water. California Assembly Bill 1953 and Vermont Senate Bill S.152 are examples of this legislation.

In 2010, the Safe Drinking Water Act (SDWA) amendments required the change of "Lead-Free" to reflect a maximum of 0.25% weighted average lead content. This revision was incorporated into NSF/ANSI 372, and Annex G of NSF/ANSI 61 was subsequently removed in 2013.

This new legislation went into effect in January 2014 compliance date was stipulated. Furthermore, NSF/ANSI 61 Section 3.5 also required all affected products meet the lead-free definition of the SDWA.

In 2019, NSF/ANSI 61 and 372 were approved as national standards in Canada, so now both are referred to as NSF/ANSI/CAN standards.

How are NSF/ANSI/CAN 61 Certified Products Tested?

The testing of finished products is performed by exposing them to pH 5 and pH 10 waters at specified temperatures and analyzing the leachate for regulated metals such as antimony, arsenic, barium, cadmium, chromium, copper, lead, mercury, selenium, thallium, and nickel. Products are also exposed to pH 8 water and tested for organic chemical contaminants.

The pH of the water is a number that expresses its acidity or alkalinity on a logarithmic scale on which 7 is neutral with lower values being more acidic and higher values more alkaline.

To pass NSF/ANSI/CAN 61, the leachate from the testing must have contaminant levels below the total allowed concentrations for each that are deemed safe for human ingestion.

What is NSF 372?

NSF/ANSI/CAN 372 Drinking Water System Components - Lead Content is an American National Standard that establishes a methodology for the determination and verification of product compliance to minimize lead contaminants.

The NSF/ANSI/CAN 372 standard includes a formula for calculating the weighted average lead content of each product and specific procedures for lead content testing.

NSF/ANSI/CAN 372 addresses lead content only by establishing a limit on the amount of lead that may be contained within individual plumbing products.

NSF/ANSI/CAN 61 establishes limits for lead and other contaminants that may migrate into drinking water from the plumbing products it flows through.