

# INDUSTRIAL BRONZE VALVES

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YARMOUTH RESEARCH AND TECHNOLOGY





# WALWORTH

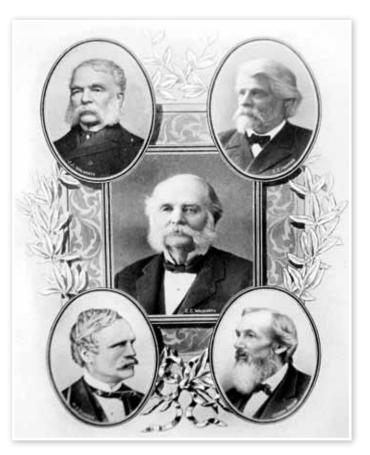
WALWORTH is one of the world's most comprehensive industrial valve manufacturers. Founded in 19th century by James WALWORTH, the Company has consistently dedicated itself to improvements in design and manufacturing of an array of valves exceptionally suited for the world's fluid control sector. We satisfy all end use industries and comprehensive customer requirements by adhering to the most demanding quality standards.

WALWORTH relies on its broad experience in supplying valves to the petrochemical, oil & gas, petroleum, power generation, pulp and paper, cryogenic and geothermal industries, among others.

Over the years, WALWORTH has produced over 40,000 different types of products; by utilizing the expertise of over 500 trained employees, we serve as a global supplier to various markets.

Our manufacturing system includes: utilization of Company directed raw material warehouses; modern and newly acquired specialized machinery; welding processes such as SMAW, GMAW, SAW, PAW; assembly and testing for low pressure, high pressure, and low or high temperatures; painting and coating processes; export crating and shipment.

WALWORTH is capable of providing the world's most comprehensive industrial valve line to the North American, Central American, South American, European and African markets. WALWORTH is proud to meet and satisfy the precise demands of our customers throughout the world by providing quality products, competitive costs and excellent service.



## WALWORTH VALUES

### MISSION

WALWORTH manufactures and supplies world-class valves and components for the flow control industry through exceptional service, competitive pricing, and consistent on-time deliveries.





### VISION

To be the world leader of unparalleled valve manufacturing and supply, WALWORTH:

- Sets the standard for product quality in the flow control industry
- Exceeds the service expectations of our customers
- Forges enduring relationships with customers, team members, and community
- Hires, developes, and retains experienced and dedicated team members





# WALWORTH ENGINEERING CONTROL

WALWORTH products are manufactured strictly following the most recognized international standards in the world, such as API, ANSI, ASME, ASTM, MSS, NACE, BSI and CSA, among others. As a leader in new developments, our Engineering team is constantly studying updates to these standards to incorporate any changes that may affect the design, regulation and/or performance of our products.

Design is produced using the most advanced technology and equipment, finite elements and CAD system programs to ensure proper assembly and performance of products - from concept to calculation to detailed drawings for manufacturing. WALWORTH is a leader in the development of new products according to current valve market needs.



# WALWORTH QUALITY SYSTEM

Throughout the years, WALWORTH has developed its Quality System which is an integral part of our manufacturing policy. Our primary goal is to provide products that meet and exceed market standards. In this sense, WALWORTH is an ISO-9001 Audited and Certified Company that has achieved major certifications worldwide. Our system includes the selection of raw materials from approved vendors, and rigorous oversight of our manufacturing process that is vital to quality control. The use of serial numbers allows WALWORTH the ability to not only ensure the quality of components used but to monitor and trace the fabrication process as well.

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	Expiration Date: NOVEMBER 4, 2014



### Certificate API-6D No. 6D-0097

Issued by American Petroleum Institute to apply on Gate valves, Plug valves, Ball valves and Check valves manufactured in accordance with API-6D specification.

### Certificate API-6A No. 6A-0234

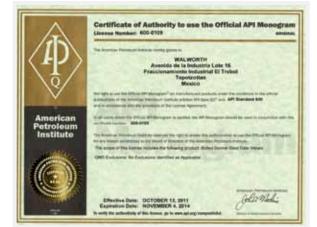
From American Petroleum Institute to apply on valves at PSI, 1 through 4.





### Certificate API-594 No. 594-0007

Issued by American Petroleum Institute to apply on Check Valves-Type A; Check Valves Type B manufactured in accordance with API-594 specification.



### API-600 Certificate No. 600-0109

Issued by American Petroleum Institute to apply on Bolted Bonnet Steel Gate Valves manufactured in accordance with API-600 specification.



### API-602 Certificate No. 602-0024

Issued by American Petroleum Institute to apply on Compact Steel Gate Valves, Compact Steel Globe Valves, and Compact Steel Check Valves manufactured in accordance with API-602 specification.



Certificate ISO-9001 No. 0038 Issued by American Petroleum Institute since April 1999.

Certificat	e
	Quality-Assurance System
	acc. to Directive \$7/33/EC
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Certificate as per PED 97/23/EC Module H To stamp CE products.



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Issued by the Equipment and Materials Testing Laboratory, CFE

Supplier Qualification Certificate NO. 279/13

(LAPEM in Spanish)

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Certificate NMX-CC-9001 (Mexican Standards ISO-9001) No. 0552/2007 Issued by PEMEX in accordance with ISO-9001 Quality Assurance System.



# **PRODUCT CERTIFICATIONS**



### Emissions after 500 cycles at ambient and 350 °F

Issued by Yarmouth Research and Technology Lab for 3 inch Class 300 Gate Valve After 500 cycles the measurement result was less than 50 ppm.



Emissions after 500 cycles at ambient and 350 °F Issued by Yarmouth Research and Technology Lab for 16 inch Class 150 Gate Valve After 500 cycles the measurement result was less than 50 ppm.

### Emissions after 500 cycles at ambient and 350 °F Issued by Yarmouth Research and Technology Lab for

Issued by Yarmouth Research and Technology Lab for 8 inch Class 300 Gate Valve After 500 cycles the measurement result was less than 50 ppm.





	PROJECT SUMMARY
Project Numbers	BROOM
Continuery	The Walworth Company
Context	David Cortectors
Date(s) of Test-	13999 - 12/2298
Production Tenned:	One 6" Class 200 Gate Valve with Empsk 5los EAP 100.001 psecking
Purpose of Tests	The test was similaried to evaluate the endrois zero scaling performance of ambient and at 2027 F as related to the 1990 Associations to the Chera Ark Stringstremants, Leskage measurements were conducted in screenstered with 10 CPR Part 60, Agenetic A, Michael 21.
Conclusion	There theread cipilss from anihars to Mo dig. Force conducted theraping of 2000 specular cycles with the value per-waving of the star of the star of the star of the star per ensure magnification the family below. One particular with a 4.8 RPM gave more magnification the family below. One particular with adjustment was required at cycle sensities 2001to manifestion hadagas levels below 100 PFDs.
	At cycle mandrer 3500, the packing backage was 25-29 FPMs with the stem static. The packing must were tightened from 1211 0.0 back to 20 8-0 s and leakage decreased to about 1 FPMs.
	Not the attached data about fire source information:
Test Witness	Matthew 2. Manufereda P. E., President Vasiliant in Research and Technical
	Plana of fax (202) 440 http: of the forces of 10 fax 140 "Annual Manas (2010-0710)

Certificates of Ultra Low Fugitive Emissions No. 20985-3, 8 & 16 in accordance with ISO-15848-1 "Industrial Valves" Measurement, Test and Qualification Procedures for Fugitive Emissions "Part 1: Classification System and Qualification Procedures for Type Testing of Valves".



### Fire Test Certificate No. 01-1/05

In accordance with API-6FA and API Standard API-607 for Trunnion Ball Valves in accordance with API-6D.



### TÜV Rheinland Certificate No. TRASA 700-13-0019

API-6D Trunnion mounted bolted body ball valves, carbon steel (A105-WCB) construction, double block and bleed service, primarily used but not limited to the oil and gas standard and severe applications.

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Conce	ming the Agreement	with the Technical Re	nguimmenta in:
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**TA Luft Certificate (Fugitive Emission) Approval** ISO-5211 Top Flange, Anti-Static Device.



# **QUALITY CONTROL EQUIPMENT**

In order to assure that **WALWORTH** products comply with international quality standards, in-house equipment is used for quality control, some of this equipment includes:



**X-Ray Examination Equipment.-** WALWORTH has its own Ir-92 source in-house for the radiographic examination (RT) of castings from 0.100" up to 2 1/2" wall thickness to verify the soundness of the raw casting material.

**PMI Equipment**.- New generation of Positive Material Identification Equipment gives WALWORTH the capability to perform quick chemical analysis on incoming raw materials and on pieces after assembly to certify that materials used were produced and assembled in accordance with WALWORTH and the Customer's specifications.





**Magnetic Particle Test**.- On a random basis for standard products or when a Customer requests MT Certification, WALWORTH uses Magnetic Particle Testing Equipment on ferromagnetic materials.

**Penetrant Test Examination**.- WALWORTH has the personnel and materials to perform PT examination by solvent removable or water washable techniques. The NDT personnel are ASNT Certified.





**Test Loop.** A complete Laboratory Test loop exists for design validation of WALWORTH products, performing the test at maximum design pressure and cycling the valves from 3000 to 5000 cycles. The test takes more than four months to be completed.

**Pressure Gradient Test Loop**.- This test exposes Plug valves to the extremes of both positive and negative pressure gradients to verify that the plug in a balanced plug design will prevent lock-up in the body.







**Metrology Laboratory**.- WALWORTH developed a calibration and/or verification system in all the equipment used in its facilities to ensure the traceability of measurements to international standards. In this way, WALWORTH gets measurement control of its products to comply with international standards.

**Fire Test Facilities**.- Facilities to perform fire test in accordance to API requirements. The test exposes the valve to a flame at 1400 to 1800°F (761 to 980°C) to verify proper sealing of the valve.





**Low Fugitive Emissions Test**.- When a Customer requires low fugitive emissions certification, the Lab has its own LFE Test Equipment capable of measuring less than 20 ppm in either static or mechanical conditions at ambient temperature or thermal cycle operations.

**Ultrasonic Testing Equipment**.- Using ultrasonic techniques, WALWORTH can detect sub-surface flaws in materials and evaluate castings and forgings that cannot be radiographed. In addition, WALWORTH utilizes these techniques to measure the wall thickness of castings and forgings.





**Tensile Test Equipment**.- To verify the mechanical properties of materials used for manufacturing, WALWORTH tests samples on a random basis even though we receive MTR's from our suppliers and foundries.

**Hardness Test Equipment.**- In either lab or shop tests, WALWORTH uses hardness testing equipment such as Rockwell B, C Brinell or Vickers to check compliance against specifications.





# INDUSTRIAL BRONZE GATE, GLOBE & SWING CHECK VALVES

### STRUCTURAL FEATURES

WALWORTH Bronze Valves are used for many services in different kind of industries; applications include general uses, industrial installation, commercial building and construction industry, chemical and petrochemical process, and in maritime services.

WALWORTH Bronze Vales are manufactured in accordance with MSS-SP-80. Pressure Classes 125 (200 WOG), 150 (300 WOG) & 200 (400 WOG), 300 (600 WOG) and sizes from  $\frac{1}{2}$ " up to 2" nominal diameter.

WALWORTH offers this product line in the following base materials:

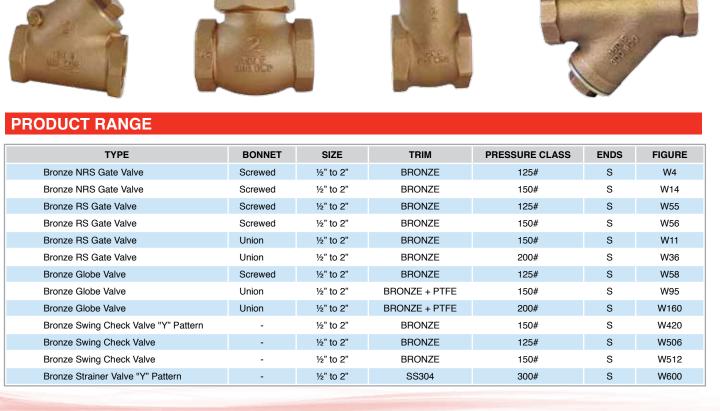
- A. Bronze as per ASTM B62 grade C83600.
- B. Bronze as per ASTM B61 grade C92200.

WALWORTH offers this product line in the following standard trim:

- A. Bronze trim in accordance with ASTM B62 grade C83600.
- B. Bronze trim in accordance ASTM B584 Grade 875.
- C. Brass trim in accordance ASTM B16 Grade C36000.

### **DESIGN FEATURES**

- Design in accordance with MSS-SP-80
- WALWORTH offer; Gate, Globe, Strainer "Y Pattern", Swing Check & Swing Check "Y Pattern"
- Rising (gate and globe valves) and Non Rising Stem (only gate valves)
- Screwed or Union Bonnet design
- · Metal and Non-Metal seated
- Threaded ends as per ANSI B1.20.1
- Test in accordance with MSS-SP-80



# WALWORTH INDUSTRIAL BRONZE NRS GATE VALVE CLASS 125 (200 WOG)

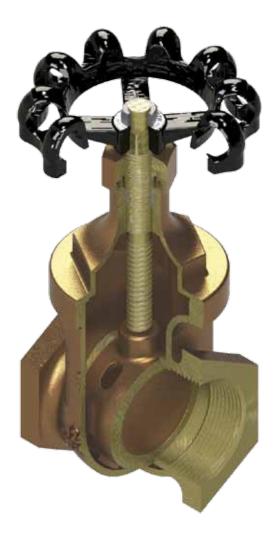
### INDUSTRIAL BRONZE NON-RISING STEM GATE VALVES

WALWORTH Bronze Gate Valves are used when there is a need to interrupt or cut some fluid. Gate valves are primarily used to permit or prevent flow of a fluid, so they should only be used as fully open or fully closed. The main characteristic of Non-Rising Stem is that design and performance are compact; it not takes more space to open or close the valve. When the valve needs to be open or closed, only the disc goes up or down. Non-Rising Stem is commonly used in underground or where the vertical spaced is limited.

### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- · Body and bonnet of bronze
- Non-Rising Stem
- · Screwed bonnet design
- Solid wedge design
- Threaded ends as per ANSI B1.20.1
- Face to face dimensions as per WALWORTH design
- Test in accordance with MSS-SP-80
- · Handwheel operated

- · Bronze gate valves are provided with disc and stem of bronze
- · PTFE stem packing
- Integral seat rings
- Bronze trim valves are recommended for steam, water, air and non-corrosive oil or gas





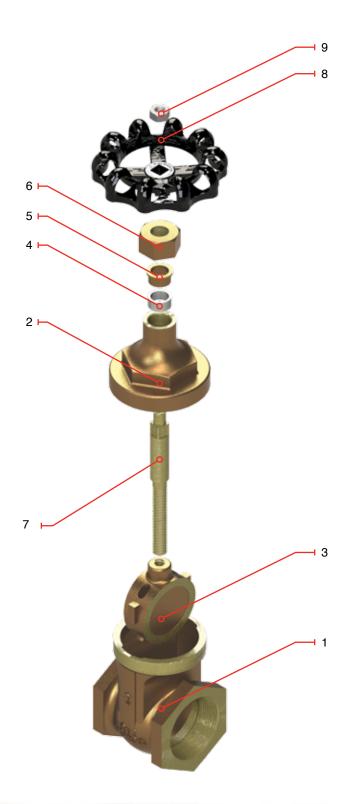
# WALWORTH INDUSTRIAL BRONZE NRS GATE VALVE CLASS 125 (200 WOG)

### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- Non-Rising Stem
- Bronze construction
- Integral seat rings
- Screwed bonnet design
- Threaded ends as per ANSI B1.20.1
- · Face to face dimensions as per WALWORTH design
- · Handwheel operated

CATALOG FIGURE NO.	TYPE OF ENDS
W4	Threaded Ends

NO.	DESCRIPTION	MATERIALS
1	Body	Bronze B62
2	Bonnet	Bronze B62
3	Disc	Bronze B62
4	Stem Packing	Non Asbestus
5	Gland	Brass B16
6	Packing Nut	Bronze B62
7	Stem	Bronze B62
8	Handwheel	Ductile Iron A536
9	Handwheel nut	Galvanized Steel

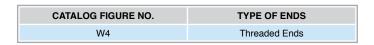


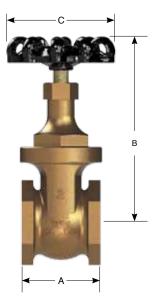


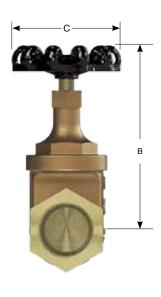
# WALWORTH INDUSTRIAL BRONZE NRS GATE VALVE CLASS 125 (200 WOG)

### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- Non-Rising Stem
- Bronze construction
- · Integral seat rings
- Screwed bonnet design
- Threaded ends as per ANSI B1.20.1
- · Face to face dimensions as per WALWORTH design
- · Handwheel operated









D	mm	13	19	25	30	40	50
NOMINAL DIAMETER	in	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	mm	45.97	51.81	58.92	62.48	66.04	72.39
A	in	1.81	2.04	2.32	2.46	2.6	2.85
В	mm	86.36	95.75	112.64	130.3	144.78	201.29
B	in	3.4	3.77	4.43	5.13	5.7	7.92
С	mm	50.8	63.5	66.54	76.2	82.55	91.94
C	in	2	2.5	2.62	3	3.25	3.62
Weight W4	kg	0.35	0.51	0.68	0.98	1.32	2.06
vveignt vv4	lb	0.77	1.122	1.5	2.15	2.9	4.53
Cv	Flow coefficient	16.08	37.6	69.7	111.36	164.13	306.76



# WALWORTH INDUSTRIAL BRONZE NRS GATE VALVE CLASS 150 (300 WOG)

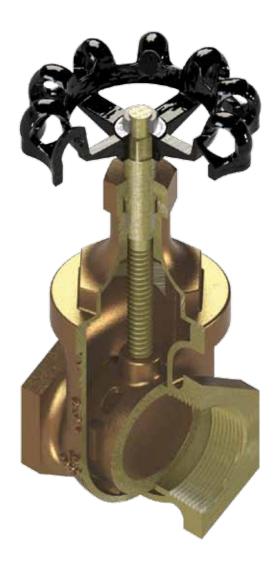
### INDUSTRIAL BRONZE NON-RISING STEM GATE VALVES

WALWORTH Bronze Gate Valves are used when there is a need to interrupt or cut some fluid. Gate valves are primarily used to permit or prevent flow of a fluid, so they should only be used as fully open or fully closed. The main characteristic of Non-Rising Stem is that design and performance are compact; it not takes more space to open or close the valve. When the valve needs to be open or closed, only the disc goes up or down. Non-Rising Stem is commonly used in underground or where the vertical spaced is limited.

### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- Body and bonnet of bronze
- Non-Rising Stem
- · Screwed bonnet design
- Solid wedge design
- Threaded ends as per ANSI B1.20.1
- · Face to face dimensions as per WALWORTH design
- Test in accordance with MSS-SP-80
- · Handwheel operated

- · Bronze gate valves are provided with disc and stem of bronze
- · PTFE stem packing
- Integral seat rings
- Bronze trim valves are recommended for steam, water, air and non-corrosive oil or gas



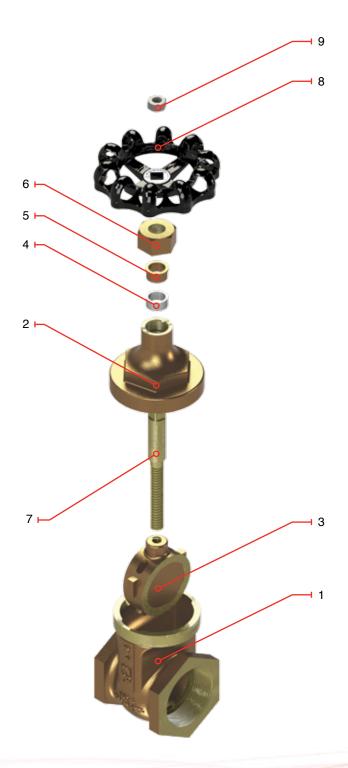


# WALWORTH INDUSTRIAL BRONZE NRS GATE VALVE CLASS 150 (300 WOG)

### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- Non-Rising Stem
- Bronze construction
- Integral seat rings
- Screwed bonnet design
- Threaded ends as per ANSI B1.20.1
- · Face to face dimensions as per WALWORTH design
- · Handwheel operated

CATALOG FIGURE NO.	TYPE OF ENDS
W14	Threaded Ends



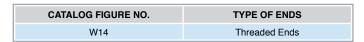
NO.	DESCRIPTION	MATERIALS
1	Body	Bronze B62
2	Bonnet	Bronze B62
3	Disc	Bronze B62
4	Stem Packing	Non Asbestus
5	Gland	Brass B16
6	Packing Nut	Bronze B62
7	Stem	Bronze B62
8	Handwheel	Ductile Iron A536
9	Handwheel nut	Galvanized Steel

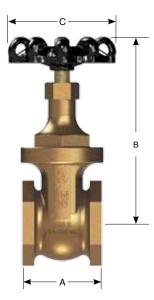


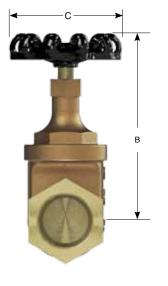
# WALWORTH INDUSTRIAL BRONZE NRS GATE VALVE CLASS 150 (300 WOG)

### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- Non-Rising Stem
- Bronze construction
- · Integral seat rings
- · Screwed bonnet design
- Threaded ends as per ANSI B1.20.1
- · Face to face dimensions as per WALWORTH design
- · Handwheel operated









D	mm	13	19	25	30	40	50
NOMINAL DIAMETER	in	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
٨	mm	45.97	51.81	58.92	62.48	66.04	72.39
A	in	1.81	2.04	2.32	2.46	2.6	2.85
В	mm	86.36	95.75	112.64	130.3	144.78	201.29
D	in	3.4	3.77	4.43	5.13	5.7	7.92
С	mm	50.8	63.5	66.54	76.2	82.55	91.94
U	in	2	2.5	2.62	3	3.25	3.62
Weight W14	kg	0.35	0.51	0.68	0.98	1.32	2.06
	lb	0.77	1.122	1.5	2.15	2.9	4.53
Cv	Flow coefficient	16.08	37.6	69.7	111.36	164.13	306.76



# WALWORTH INDUSTRIAL BRONZE RS GATE VALVE CLASS 125 (200 WOG)

### INDUSTRIAL BRONZE RISING STEM GATE VALVES

WALWORTH Bronze Gate valves are used when there is a need to interrupt or cut some flow fluid. Gate valves are primarily used to permit or prevent the flow of a fluid, so they should only be used as fully open or fully closed. Gate valves shouldn't be used to regulate the flow, because the high velocities through a partially open valve may result in erosive damage to the wedge and seats. Installation of Gate Valve doesn't depend on the flow direction because it is a Bidirectional valve.

### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- · Body and bonnet of bronze
- · Rising Stem
- · Screwed bonnet design
- Solid wedge design
- Threaded ends as per ANSI B1.20.1
- Face to face dimensions as per WALWORTH design
- Test in accordance with MSS-SP-80
- · Handwheel operated

- · Bronze gate valves are provided with disc and stem of bronze
- · PTFE stem packing
- Integral seat rings
- Bronze trim valves are recommended for steam, water, air and non-corrosive oil or gas





# WALWORTH INDUSTRIAL BRONZE RS GATE VALVE CLASS 125 (200 WOG)

### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- Rising Stem
- Bronze construction
- Integral seat rings
- Screwed bonnet design
- Threaded ends as per ANSI B1.20.1

**REGULAR BILL OF MATERIALS** 

- · Face to face dimensions as per WALWORTH design
- · Handwheel operated

CATALOG FIGURE NO.	TYPE OF ENDS
W55	Threaded Ends

NO.	DESCRIPTION	MATERIALS
1	Body	Bronze B62
2	Bonnet	Bronze B62
3	Disc	Bronze B62
4	Stem Packing	Non Asbestus
5	Gland	Brass B16
6	Packing Nut	Bronze B62
7	Stem	Bronze B62
8	Handwheel	Ductile Iron A536
9	Handwheel nut	Galvanized Steel

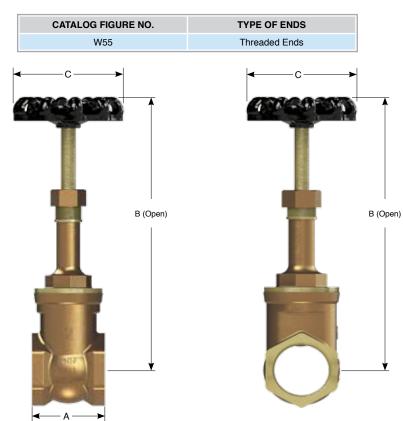
# 9 8 6 5 4 2 1 7 - 3 1



# WALWORTH INDUSTRIAL BRONZE RS GATE VALVE CLASS 125 (200 WOG)

### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- Rising Stem
- Bronze construction
- · Integral seat rings
- Screwed bonnet design
- Threaded ends as per ANSI B1.20.1
- · Face to face dimensions as per WALWORTH design
- · Handwheel operated





D	mm	13	19	25	30	40	50
NOMINAL DIAMETER	in	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
А	mm	48	51.81	59.18	64	68.07	73.66
A	in	1.89	2.04	2.33	2.52	2.68	2.9
В	mm	118.11	140.97	169.67	200.02	226.06	276.86
D	in	4.65	5.55	6.68	7.87	8.9	10.9
С	mm	47.75	57.15	66.54	76.2	82.55	91.94
U	in	1.88	2.25	2.62	3	3.25	3.62
Weight W55	kg	0.38	0.60	0.82	1.14	1.46	2.50
vveignt vv55	lb	0.83	1.32	1.80	2.5	3.21	5.5
Cv	Flow coefficient	16.08	37.6	69.7	111.36	164.13	306.76



# WALWORTH INDUSTRIAL BRONZE RS GATE VALVE CLASS 150 (300 WOG)

### INDUSTRIAL BRONZE RISING STEM GATE VALVES

WALWORTH Bronze Gate valves are used when there is a need to interrupt or cut some flow fluid. Gate valves are primarily used to permit or prevent the flow of a fluid, so they should only be used as fully open or fully closed. Gate valves shouldn't be used to regulate the flow, because the high velocities through a partially open valve may result in erosive damage to the wedge and seats. Installation of Gate Valve doesn't depend on the flow direction because it is a Bidirectional valve.

### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- Body and bonnet of bronze
- Rising Stem
- Screwed bonnet design
- · Solid wedge design
- Threaded ends as per ANSI B1.20.1
- · Face to face dimensions as per WALWORTH design
- Test in accordance with MSS-SP-80
- · Handwheel operated

- · Bronze gate valves are provided with disc and stem of bronze
- · PTFE stem packing
- Integral seat rings
- Bronze trim valves are recommended for steam, water, air and non-corrosive oil or gas



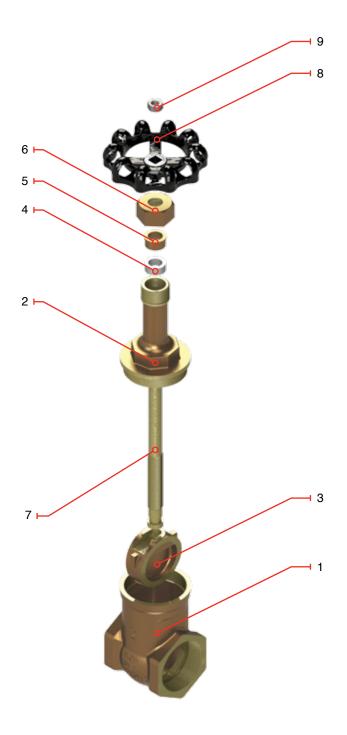


# WALWORTH INDUSTRIAL BRONZE RS GATE VALVE CLASS 150 (300 WOG)

### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- Rising Stem
- Bronze construction
- Integral seat rings
- Screwed bonnet design
- Threaded ends as per ANSI B1.20.1
- · Face to face dimensions as per WALWORTH design
- · Handwheel operated

CATALOG FIGURE NO.	TYPE OF ENDS
W56	Threaded Ends



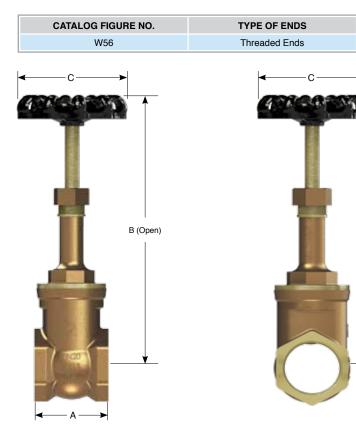
NO.	DESCRIPTION	MATERIALS
1	Body	Bronze B62
2	Bonnet	Bronze B62
3	Disc	Bronze B62
4	Stem Packing	Non Asbestus
5	Gland	Brass B16
6	Packing Nut	Bronze B62
7	Stem	Bronze B62
8	Handwheel	Ductile Iron A536
9	Handwheel nut	Galvanized Steel



# WALWORTH INDUSTRIAL BRONZE RS GATE VALVE CLASS 150 (300 WOG)

### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- Rising Stem
- Bronze construction
- · Integral seat rings
- · Screwed bonnet design
- Threaded ends as per ANSI B1.20.1
- · Face to face dimensions as per WALWORTH design
- · Handwheel operated





### **DIMENSIONS AND WEIGHTS**

D	mm	13	19	25	30	40	50
NOMINAL DIAMETER	in	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
А	mm	48	51.81	59.18	64	68.32	73.66
A	in	1.89	2.04	2.33	2.52	2.69	2.9
В	mm	118.11	140.97	169.67	200.02	225.93	276.86
D	in	4.65	5.55	6.68	7.87	8.89	10.9
С	mm	50.8	63.5	66.54	76.2	82.55	91.94
C	in	2	2.5	2.62	3	3.25	3.62
Weight W56	kg	0.38	0.60	0.82	1.14	1.46	2.50
	in	0.83	1.32	1.80	2.5	3.21	5.5
Cv	Flow coefficient	16.08	37.6	69.7	111.36	164.13	306.76

B (Open)

# WALWORTH INDUSTRIAL BRONZE RS GATE VALVE UNION BONNET, CLASS 150 (300 WOG)

### INDUSTRIAL BRONZE RISING STEM GATE VALVES (UNION BONNET)

WALWORTH Bronze Gate valves are used when there is a need to interrupt or cut some flow fluid. Gate valves are primarily used to permit or prevent the flow of a fluid, so they should only be used as fully open or fully closed. Gate valves shouldn't be used to regulate the flow, because the high velocities through a partially open valve may result in erosive damage to the wedge and seats. Installation of Gate Valve doesn't depend on the flow direction because it is a Bidirectional valve. Gate Valves with union bonnet are used for applications that require frequent inspection or cleaning. This type of bonnet gives the body added strength.

### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- · Body and bonnet of bronze
- Rising Stem
- Union Bonnet Design
- Solid wedge design
- Threaded ends as per ANSI B1.20.1
- · Face to face dimensions as per WALWORTH design
- Test in accordance with MSS-SP-80
- Handwheel operated

- · Bronze gate valves are provided with disc and stem of bronze
- · PTFE stem packing
- · Integral seat rings
- Bronze trim valves are recommended for steam, water, air and non-corrosive oil or gas



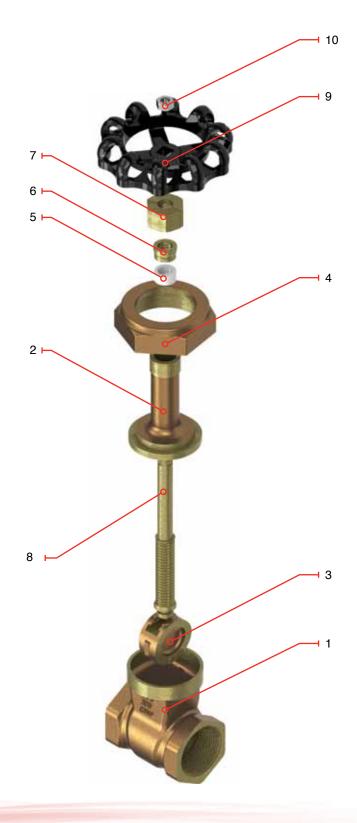


# WALWORTH INDUSTRIAL BRONZE RS GATE VALVE UNION BONNET, CLASS 150 (300 WOG)

### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- Rising Stem
- Bronze construction
- Integral seat rings
- Union Bonnet Design
- Threaded ends as per ANSI B1.20.1
- · Face to face dimensions as per WALWORTH design
- · Handwheel operated

CATALOG FIGURE NO.	TYPE OF ENDS
W11	Threaded Ends



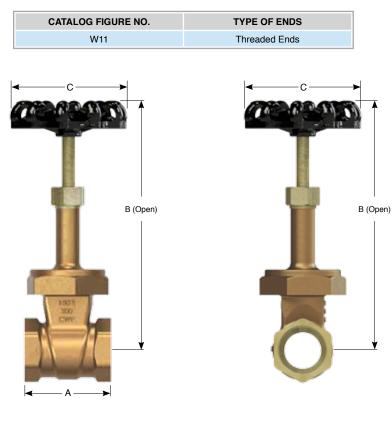
NO.	DESCRIPTION	MATERIALS
1	Body	Bronze B62
2	Bonnet	Bronze B62
3	Disc	Bronze B62
4	Union Ring	Bronze B62
5	Stem Packing	Non Asbestus
6	Gland	Brass B16
7	Packing Nut	Bronze B62
8	Stem	Bronze B62
9	Handwheel	Ductile Iron A536
10	Handwheel nut	Galvanized Steel



# WALWORTH INDUSTRIAL BRONZE RS GATE VALVE UNION BONNET, CLASS 150 (300 WOG)

### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- Rising Stem
- Bronze construction
- · Integral seat rings
- Union Bonnet Design
- Threaded ends as per ANSI B1.20.1
- · Face to face dimensions as per WALWORTH design
- · Handwheel operated





D	mm	13	19	25	30	40	50
NOMINAL DIAMETER	in	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	mm	60.96	57.78	65.40	100.96	83.82	86.86
A	in	2.4	2.27	2.57	3.97	3.3	3.42
В	mm	134.62	159.06	183.51	219.07	244.47	298.45
B	in	5.3	6.26	7.22	8.62	9.62	11.75
С	mm	50.8	63.5	66.54	76.2	82.55	91.94
U	in	2	2.5	2.62	3	3.25	3.62
Weight W11	kg	1,10	1,40	2,20	3,70	4,90	7,00
	lb	2.42	3.08	4.84	8.14	10.78	15.4
Cv	Flow coefficient	16.08	37.6	69.7	111.36	164.13	306.76



# WALWORTH INDUSTRIAL BRONZE RS GATE VALVE UNION BONNET, CLASS 200 (400 WOG)

### INDUSTRIAL BRONZE RISING STEM GATE VALVES (UNION BONNET)

WALWORTH Bronze Gate valves are used when there is a need to interrupt or cut some flow fluid. Gate valves are primarily used to permit or prevent the flow of a fluid, so they should only be used as fully open or fully closed. Gate valves shouldn't be used to regulate the flow, because the high velocities through a partially open valve may result in erosive damage to the wedge and seats. Installation of Gate Valve doesn't depend on the flow direction because it is a Bidirectional valve. Gate Valves with union bonnet are used for applications that require frequent inspection or cleaning. This type of bonnet gives the body added strength.

### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- · Body and bonnet of bronze
- Rising Stem
- Union Bonnet Design
- Solid wedge design
- Threaded ends as per ANSI B1.20.1
- · Face to face dimensions as per WALWORTH design
- Test in accordance with MSS-SP-80
- · Handwheel operated

- · Bronze gate valves are provided with disc and stem of bronze
- PTFE stem packing
- Integral seat rings
- Bronze trim valves are recommended for steam, water, air and non-corrosive oil or gas



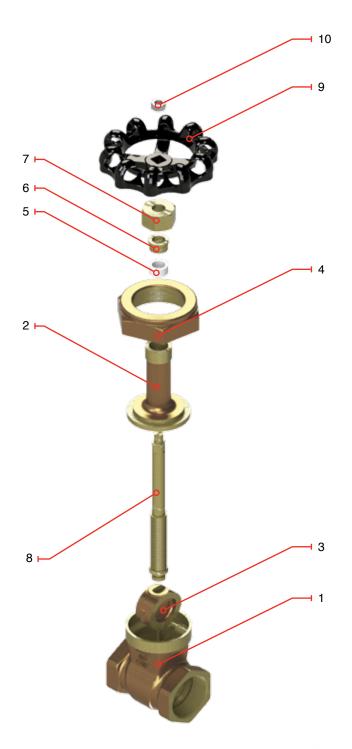


# WALWORTH INDUSTRIAL BRONZE RS GATE VALVE UNION BONNET, CLASS 200 (400 WOG)

### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- Rising Stem
- Bronze construction
- Integral seat rings
- Union Bonnet Design
- Threaded ends as per ANSI B1.20.1
- · Face to face dimensions as per WALWORTH design
- Handwheel operated

CATALOG FIGURE NO.	TYPE OF ENDS
W36	Threaded Ends



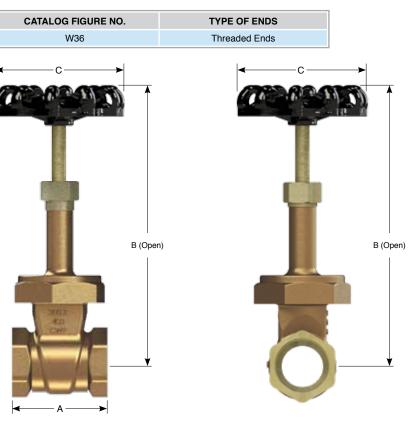
NO.	DESCRIPTION	MATERIALS
1	Body	Bronze B61
2	Bonnet	Bronze B61
3	Disc	Bronze B61
4	Union Ring	Bronze B62
5	Stem Packing	Non Asbestus
6	Gland	Brass B16
7	Packing Nut	Bronze B61
8	Stem	Bronze B584
9	Handwheel	Ductile Iron A536
10	Handwheel nut	Galvanized Steel



# WALWORTH INDUSTRIAL BRONZE RS GATE VALVE UNION BONNET, CLASS 200 (400 WOG)

### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- Rising Stem
- Bronze construction
- Integral seat rings
- Union Bonnet Design
- Threaded ends as per ANSI B1.20.1
- · Face to face dimensions as per WALWORTH design
- · Handwheel operated





D	mm	13	19	25	30	40	50
NOMINAL DIAMETER	in	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
•	mm	60.9	57.78	65.40	76.2	83.82	86.86
A	in	2.4	2.27	2.57	3	3.3	3.42
В	mm	134.62	159.06	183.51	219.07	244.47	298.45
D	in	5.3	6.26	7.22	8.62	9.62	11.75
С	mm	50.8	63.5	66.54	76.2	82.55	91.94
U	in	2.25	2.5	2.75	3.25	3.62	4
Weight W36	kg	1,40	2,10	2,60	4,00	6,20	9,60
Weight W30	lb	3.08	4.62	5.72	8.8	13.64	21.12
Cv	Flow coefficient	16.08	37.6	69.7	111.36	164.13	306.76

# WALWORTH INDUSTRIAL BRONZE GLOBE VALVE CLASS 125 (200 WOG)

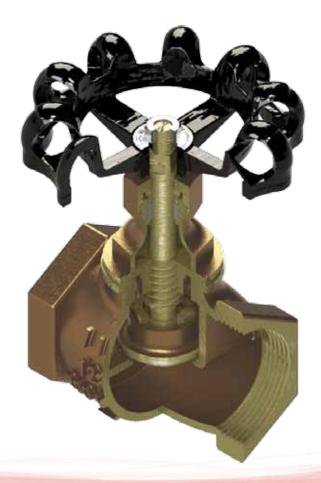
### **INDUSTRIAL BRONZE GLOBE VALVES**

WALWORTH Bronze Globe valves are used when there is a need to regulate the volume of the flow. Globe valves are not recommended when a continuous full flow of fluid is required due to the high pressure drop inherent to the design. Globe valves are unidirectional and, always, they should be installed so the flow intake enters through the base of the valve seat, an arrow stamped on the body indicates direction of flow. Globe valves may be used with fluids containing particles in suspension.

### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- · Body and bonnet of bronze
- · Rising Stem
- Screwed bonnet design
- Conical Plug type disc
- Threaded ends as per ANSI B1.20.1
- Face to face dimensions as per WALWORTH design
- Test in accordance with MSS-SP-80
- · Handwheel operated

- · Bronze globe valves are provided with plug and stem of bronze
- · PTFE stem packing
- Integral seat rings
- Bronze trim valves are recommended for steam, water, air and non-corrosive oil or gas





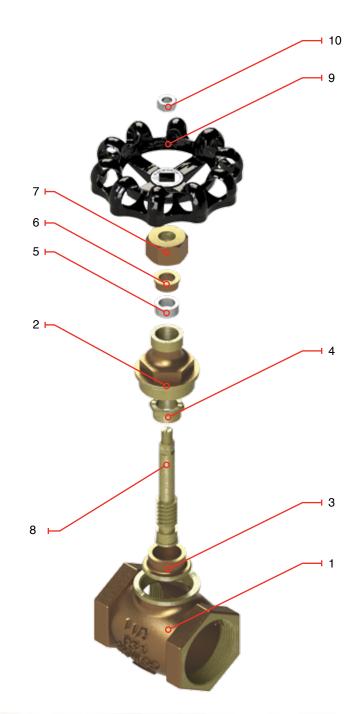
# WALWORTH INDUSTRIAL BRONZE GLOBE VALVE CLASS 125 (200 WOG)

### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- Rising Stem
- Bronze construction
- · Integral seat rings
- · Screwed bonnet design
- Threaded ends as per ANSI B1.20.1
- Face to face dimensions as per WALWORTH design
- Handwheel operated

CATALOG FIGURE NO.	TYPE OF ENDS		
W58	Threaded Ends		

NO.	DESCRIPTION	MATERIALS		
1	Body	Bronze B62		
2	Bonnet	Bronze B62		
3	Disc	Bronze B62		
4	Disc Holder	Bronze B62		
5	Stem Packing	Non Asbestus		
6	Gland	Brass B16		
7	Packing Nut	Bronze B62		
8	Stem	Bronze B62		
9	Handwheel	Ductile Iron A536		
10	Handwheel nut	Galvanized Steel		

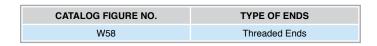


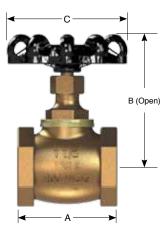


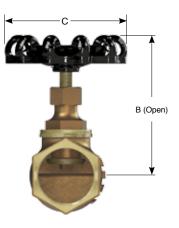
# WALWORTH INDUSTRIAL BRONZE GLOBE VALVE CLASS 125 (200 WOG)

### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- Rising Stem
- Bronze construction
- Integral seat rings
- · Screwed bonnet design
- Threaded ends as per ANSI B1.20.1
- · Face to face dimensions as per WALWORTH design
- · Handwheel operated









D NOMINAL DIAMETER	mm	13	19	25	30	40	50
	in	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
А	mm	49.02	55.11	64	73.66	83.56	96.52
A	in	1.93	2.17	2.52	2.9	3.29	3.8
В	mm	87.12	89.40	103.88	120.14	134.87	152.01
B	in	3.43	3.52	4.09	4.73	5.31	5.98
С	mm	50.8	63.5	69.85	76.2	88.9	101.6
U	in	2	2.5	2.75	3	3.5	4
Weight W58	kg	0,46	0,65	1,00	1,46	2,19	3,33
	lb	1.01	1.43	2.2	3.21	4.81	7.32
Cv	Flow coefficient	2.46	5.76	10.69	17.08	25.17	47.05



# WALWORTH INDUSTRIAL BRONZE GLOBE VALVE CLASS 150 (300 WOG)

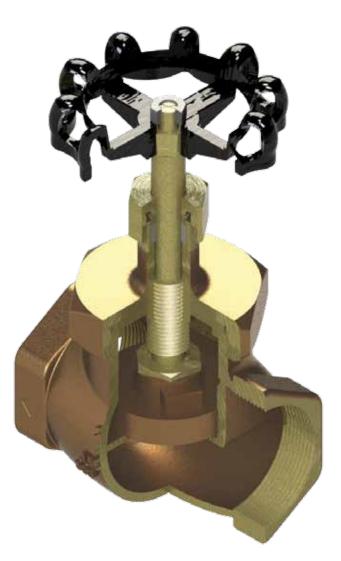
### INDUSTRIAL BRONZE GLOBE VALVES HANDWHEEL OPERATED WITH RISING STEM

WALWORTH Bronze Globe valves are used when there is a need to regulate the volume of the flow. Globe valves are not recommended when a continuous full flow of fluid is required due to the high pressure drop inherent to the design. Globe valves are unidirectional and, always, they should be installed so the flow intake enters through the base of the valve seat, an arrow stamped on body indicates direction of flow. Globe valves may be used with fluids containing particles in suspension.

### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- · Body and bonnet of bronze
- Rising Stem
- · Screwed bonnet design
- Soft Seat
- Threaded ends as per ANSI B1.20.1
- · Face to face dimensions as per WALWORTH design
- Test in accordance with MSS-SP-80
- · Handwheel operated

- · Bronze globe valves are provided with plug and stem of bronze
- PTFE Insert on plug
- PTFE stem packing
- Integral seat rings
- Bronze trim valves are recommended for steam, water, air and non-corrosive oil or gas



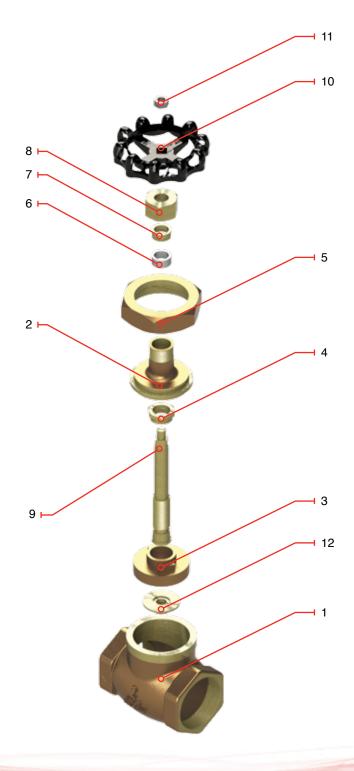


# WALWORTH INDUSTRIAL BRONZE GLOBE VALVE CLASS 150 (300 WOG)

### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- Rising Stem
- Bronze construction
- Integral seat rings
- Union Bonnet Design
- Soft Seat
- Threaded ends as per ANSI B1.20.1
- · Face to face dimensions as per WALWORTH design
- · Handwheel operated

CATALOG FIGURE NO.	TYPE OF ENDS
W95	Threaded Ends



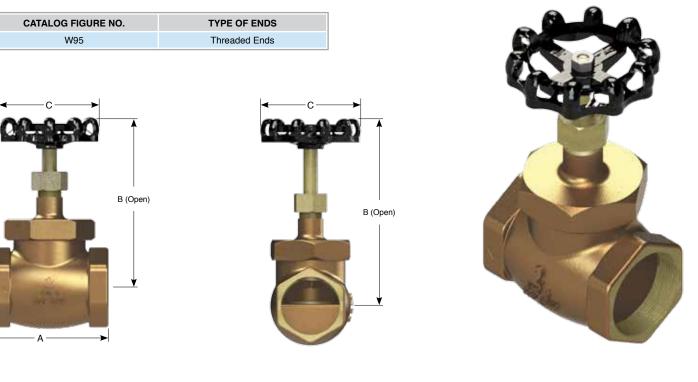
NO.	DESCRIPTION	MATERIALS
1	Body	Bronze B62
2	Bonnet	Bronze B62
3	Disc	Bronze B62
4	Disc Holder	Bronze B62
5	Union Nut	Bronze B62
6	Stem Packing	Non Asbestus
7	Gland	Brass B16
8	Packing Nut	Bronze B62
9	Stem	Bronze B62
10	Handwheel	Ductile Iron A536
11	Handwheel nut	Galvanized Steel
12	Disc Nut	Bronze B62



# WALWORTH INDUSTRIAL BRONZE GLOBE VALVE CLASS 150 (300 WOG)

### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- Rising Stem
- Bronze construction
- · Integral seat rings
- Union Bonnet Design
- · Soft Seat
- Threaded ends as per ANSI B1.20.1
- · Face to face dimensions as per WALWORTH design
- · Handwheel operated



D NOMINAL DIAMETER	mm	13	19	25	30	40	50
	in	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
А	mm	57.15	67.31	76.7	89.66	101.6	122.42
A	in	2.25	2.65	3.02	3.53	4	4.82
В	mm	104.9	125.47	140.84	155.19	172.84	200.66
D	in	4.13	4.94	5.54	6.11	6.8	7.9
0	mm	50.8	63.5	69.85	76.2	88.9	101.6
С	in	2	2.5	2.75	3	3.5	4
Weight W95	kg	0,46	0,65	1,00	1,46	2,19	3,33
	lb	1.01	1.43	2.2	3.21	4.81	7.32
Cv	Flow coefficient	2.46	5.76	10.69	17.08	25.17	47.05

# WALWORTH INDUSTRIAL BRONZE GLOBE VALVE CLASS 200 (400 WOG)

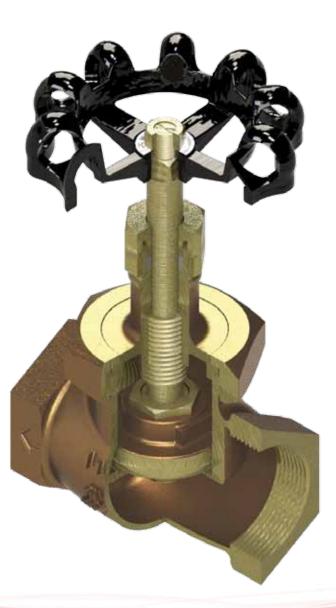
### INDUSTRIAL BRONZE GLOBE VALVES HANDWHEEL OPERATED WITH RISING STEM

WALWORTH Bronze Globe valves are used when there is a need to regulate the volume of the flow. Globe valves are not recommended when a continuous full flow of fluid is required due to the high pressure drop inherent to the design. Globe valves are unidirectional and, always, they should be installed so the flow intake enters through the base of the valve seat, an arrow stamped on body indicates direction of flow. Globe valves may be used with fluids containing particles in suspension.

### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- · Body and bonnet of bronze
- · Rising Stem
- Union Bonnet Design
- · Conical Plug type disc
- · Soft Seat
- Threaded ends as per ANSI B1.20.1
- · Face to face dimensions as per WALWORTH design
- Test in accordance with MSS-SP-80
- Handwheel operated

- Bronze globe valves are provided with plug and stem of bronze
- PTFE Insert on plug
- PTFE stem packing
- · Integral seat rings
- Bronze trim valves are recommended for steam, water, air and non-corrosive oil or gas



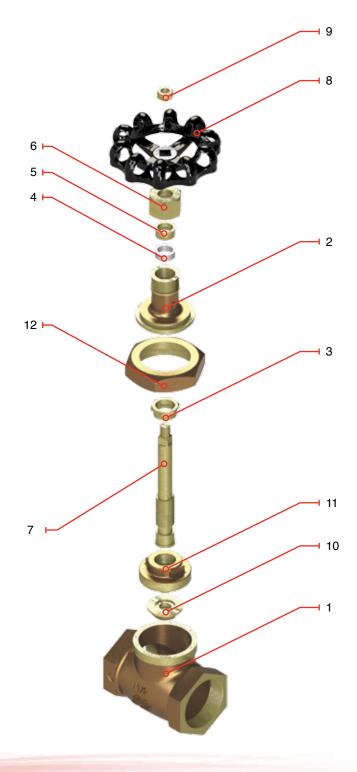


## WALWORTH INDUSTRIAL BRONZE GLOBE VALVE CLASS 200 (400 WOG)

#### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- Rising Stem
- Bronze construction
- · Integral seat rings
- Union Bonnet Design
- · Soft Seat
- Threaded ends as per ANSI B1.20.1
- · Face to face dimensions as per WALWORTH design
- · Handwheel operated

CATALOG FIGURE NO.	TYPE OF ENDS
W160	Threaded Ends



NO.	DESCRIPTION	MATERIALS
1	Body	Bronze B62
2	Bonnet	Bronze B62
3	Disc Holder	Bronze B62
4	Stem Packing	Non Asbestus
5	Gland	Brass B16
6	Packing Nut	Bronze B62
7	Stem	Bronze B62
8	Handwheel	Ductile Iron A536
9	Handwheel nut	Galvanized Steel
10	Disc Nut	Bronze B62
11	Disc	Bronze B62
12	Union Nut	Bronze 61

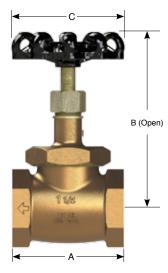


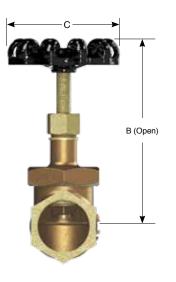
## WALWORTH INDUSTRIAL BRONZE GLOBE VALVE CLASS 200 (400 WOG)

#### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- Rising Stem
- Bronze construction
- Integral seat rings
- Union Bonnet Design
- · Soft Seat
- Threaded ends as per ANSI B1.20.1
- · Face to face dimensions as per WALWORTH design
- · Handwheel operated

CATALOG FIGURE NO.	TYPE OF ENDS
W160	Threaded Ends







D NOMINAL DIAMETER	mm	13	19	25	30	40	50
	in	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
А	mm	57.15	66.8	76.2	88.9	101.6	121.41
A	in	2.25	2.63	3	3.5	4	4.78
В	mm	109.85	125.73	142.87	154.94	176.21	212.09
D	in	4.32	4.95	5.62	6.1	6.93	8.35
С	mm	50.8	63.5	69.85	76.2	88.9	101.6
U	in	2	2.5	2.75	3	3.5	4
Weight W160	kg	0,46	0,65	1,00	1,46	2,19	3,33
	lb	1.01	1.43	2.2	3.21	4.81	7.32
Cv	Flow coefficient	2.46	5.76	10.69	17.08	25.17	47.05



## WALWORTH INDUSTRIAL BRONZE SWING CHECK VALVE CLASS 125 (200 WOG)

### INDUSTRIAL BRONZE SWING CHECK VALVES

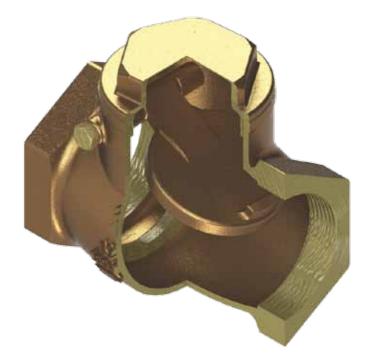
WALWORTH Bronze Swing Check Valves are generally used to protect pumps or similar equipment, allowing the flow only in one direction and preventing flow reversal due to back pressure. Swing Check valves are unidirectional; an arrow stamped on body always indicates direction of flow.

### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- "T" Pattern
- Body Bronze
- · Threaded cover design
- · Swing type disc
- Threaded ends as per ANSI B1.20.1
- · Face to face dimensions as per WALWORTH design
- Test in accordance with MSS-SP-80

### TRIM MATERIALS

- Trim of Bronze
- · Integral seat ring
- Bronze trim valves are recommended for steam, water, air and non-corrosive oil or gas





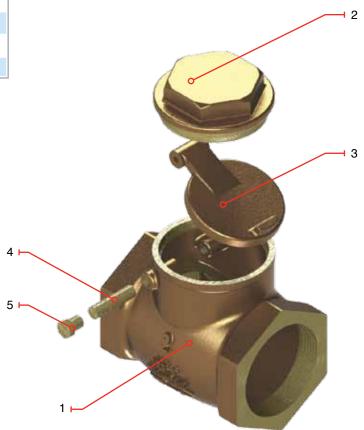
## WALWORTH INDUSTRIAL BRONZE SWING CHECK VALVE CLASS 125 (200 WOG)

#### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- "T" Pattern
- Bronze construction
- Integral seat ring
- Threaded cover design
- · Swing type disc
- Threaded ends as per ANSI B1.20.1
- · Face to Face dimensions as per WALWORTH design

CATALOG FIGURE NO.	TYPE OF ENDS
W506	Threaded Ends

NO.	DESCRIPTION	MATERIALS
1	Body	Bronze B62
2	Сар	Bronze B62
3	Disc	Bronze B62
4	Hanger Pin	Brass B16
5	Plug	Bronze B16





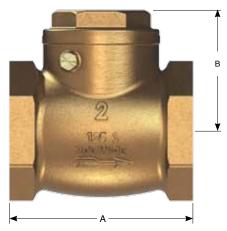
## WALWORTH INDUSTRIAL BRONZE SWING CHECK VALVE CLASS 125 (200 WOG)

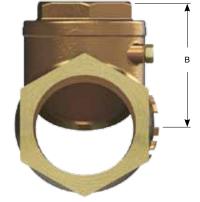
#### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- "T" Pattern
- Bronze construction
- Integral seat ring
- Threaded cover design
- · Swing type disc
- Threaded ends as per ANSI B1.20.1
- Face to Face dimensions as per WALWORTH design

CATALOG FIGURE NO.	TYPE OF ENDS		
W506	Threaded Ends		







D NOMINAL DIAMETER	mm	13	19	25	30	40	50
	in	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
•	mm	57.15	60.96	69.85	82.55	91.44	109.85
A	in	2.25	2.4	2.75	3.25	3.6	4.32
В	mm	46.99	49.21	56.19	63.5	70.48	46.99
D	in	1.85	1.93	2.21	2.5	2.775	3.3
Weight W506	kg	0,29	0,29	0,44	0,65	0,89	1,33
weight wood	lb	0.638	0.638	0.968	1.43	1.95	2.92
Cv	Flow coefficient	6.43	15.04	27.88	44.54	65.65	122.7

## WALWORTH INDUSTRIAL BRONZE SWING CHECK VALVE CLASS 150 (300 WOG)

### INDUSTRIAL BRONZE SWING CHECK VALVES

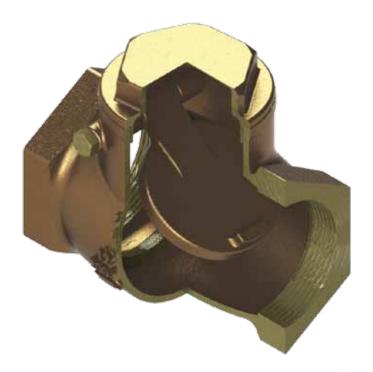
WALWORTH Bronze Swing Check Valves are generally used to protect pumps or similar equipment, allowing the flow only in one direction and preventing flow reversal due to back pressure. Swing Check valves are unidirectional; an arrow stamped on body always indicates direction of flow.

### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- "T" Pattern
- Bronze construction
- · Threaded cover design
- · Swing type disc
- Threaded Ends as per ANSI B1.20. 1
- · Face to face dimensions as per WALWORTH design
- Test in accordance with MSS-SP-80

### TRIM MATERIALS

- Trim of Bronze
- · Integral seat rings
- Bronze trim valves are recommended for steam, water, air and non-corrosive oil or gas





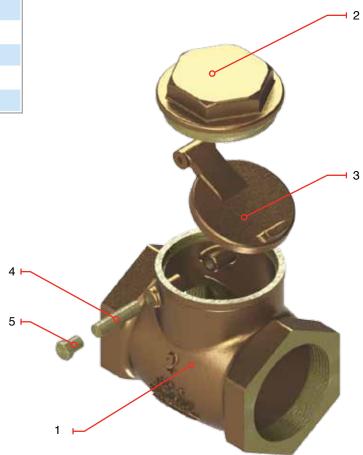
## WALWORTH INDUSTRIAL BRONZE SWING CHECK VALVE CLASS 150 (300 WOG)

#### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- "T" Pattern
- Bronze construction
- · Integral seat ring
- · Threaded cover design
- · Swing type disc
- Threaded ends as per ANSI B1.20.1
- Face to Face dimensions as per WALWORTH design

CATALOG FIGURE NO.	TYPE OF ENDS
W512	Threaded Ends

NO.	DESCRIPTION	MATERIALS
1	Body	Bronze B62
2	Сар	Bronze B62
3	Disc	Bronze B62
4	Hanger Pin	Brass B16
5	Plug	Bronze B16





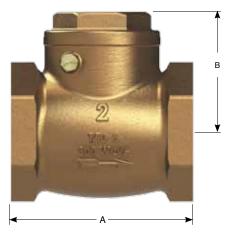
## WALWORTH INDUSTRIAL BRONZE SWING CHECK VALVE CLASS 150 (300 WOG)

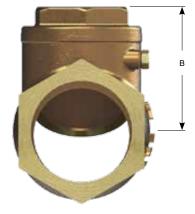
#### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- "T" Pattern
- Bronze construction
- Integral seat ring
- · Threaded cover design
- · Swing type disc
- Threaded ends as per ANSI B1.20.1
- Face to Face dimensions as per WALWORTH design

CATALOG FIGURE NO.	TYPE OF ENDS
W512	Threaded Ends







D NOMINAL DIAMETER	mm	13	19	25	30	40	50
	in	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	mm	57.15	60.96	69.85	81.28	91.44	109.22
A	in	2.25	2.4	2.75	3.2	3.6	4.3
В	mm	54.29	51.43	56.51	62.86	68.89	86.36
D	in	2.13	2.02	2.22	2.47	2.71	3.4
Waight WE10	kg	0,29	0,29	0,44	0,65	0,89	1,33
Weight W512	lb	0.638	0.638	0.968	1.43	1.95	2.92
Cv	Flow coefficient	6.43	15.04	27.88	44.54	65.65	122.7



## WALWORTH INDUSTRIAL BRONZE SWING CHECK VALVE "Y" PATTERN, CLASS 150 (300 WOG)

### INDUSTRIAL BRONZE SWING CHECK VALVES

WALWORTH Bronze Swing Check Valves are generally used to protect pumps or similar equipment, allowing the flow only in one direction and preventing flow reversal due to back pressure. Swing Check valves are unidirectional; an arrow stamped on body always indicates direction of flow. "Y" Pattern can be installed in horizontal or vertical position, allowing the disc goes down to close the valve when the fluid decreases.

### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- "Y" Pattern
- Bronze construction
- · Threaded cover design
- · Swing type disc
- Threaded ends as per ANSI B1.20.1
- · Face to face dimensions as per WALWORTH design
- Test in accordance with MSS-SP-80

### TRIM MATERIALS

- Trim of Bronze
- · Integral seat ring
- Bronze trim valves are recommended for steam, water, air and non-corrosive oil or gas





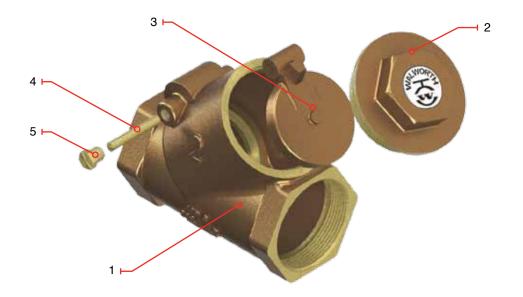
## WALWORTH INDUSTRIAL BRONZE SWING CHECK VALVE "Y" PATTERN, CLASS 150 (300 WOG)

#### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- "Y" Pattern
- Bronze construction
- Integral seat ring
- Screwed Cover Design
- · Swing type disc
- Threaded ends as per ANSI B1.20.1
- · Face to Face dimensions as per WALWORTH design

CATALOG FIGURE NO.	TYPE OF ENDS
W420	Threaded Ends

NO.	DESCRIPTION	MATERIALS
1	Body	Bronze B62
2	Сар	Bronze B62
3	Disc	Bronze B62
4	Hanger Pin	Brass B16
5	Plug	Bronze B16





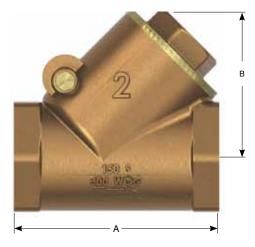
## WALWORTH INDUSTRIAL BRONZE SWING CHECK VALVE "Y" PATTERN, CLASS 150 (300 WOG)

#### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- "Y" Pattern
- Bronze construction
- Integral seat ring
- Threaded cover design
- · Swing type disc
- Threaded ends as per ANSI B1.20.1
- Face to Face dimensions as per WALWORTH design

CATALOG FIGURE NO.	TYPE OF ENDS
W420	Threaded Ends







D	mm	13	19	25	30	40	50
NOMINAL DIAMETER	in	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
•	mm	56.89	70.35	80.01	96.52	109.47	139.7
A	in	2.24	2.77	3.15	3.8	4.31	5.5
В	mm	46.99	56.38	62.99	74.16	84.96	76.2
D	in	1.85	2.22	2.48	2.92	3.34	3
Waight W/400	kg	0,28	0,43	0,59	0,97	1,33	2,14
Weight W420	lb	0.616	0.94	1.29	2.13	2.92	4.7
Cv	Flow coefficient	4.54	10.63	19.71	31.49	46.42	86.76

# WALWORTH INDUSTRIAL BRONZE "Y" STRAINER CLASS 300 (600 WOG)

### **INDUSTRIAL BRONZE "Y" STRAINER VALVES**

WALWORTH Strainer Valves are used to strain or filter out solid debris in a water system and can be designed for very high flow rates. Suspended particles are collected in the inside of the mesh, and then the flush valve opens to expel waste build-up. This eliminates the need for manual cleaning of the strainer element.

### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- Body and Cover Bronze
- Threaded Cover Design
- Threaded ends as per ANSI B1.20.1
- · Face to face dimensions as per WALWORTH design
- Test in accordance with MSS-SP-80

### TRIM MATERIALS

Trim of Stainless Steel 304





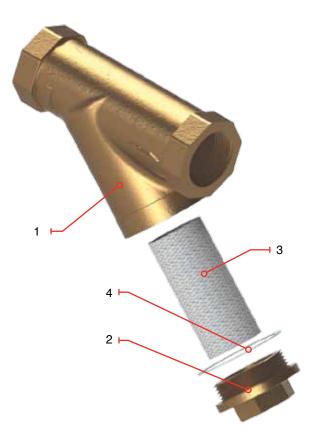
## WALWORTH INDUSTRIAL BRONZE "Y" STRAINER CLASS 300 (600 WOG)

#### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- Body and Cover Bronze
- Threaded Cover Design
- Threaded ends as per ANSI B1.20.1
- Face to face dimensions as per WALWORTH design
- Test in accordance with MSS-SP-80

CATALOG FIGURE NO.	TYPE OF ENDS
W600	Threaded Ends

NO.	DESCRIPTION	MATERIALS
1	Body	Bronze B62
2	Сар	Bronze B62
3	Screen	Stainless Steel
4	Gasket	Teflon





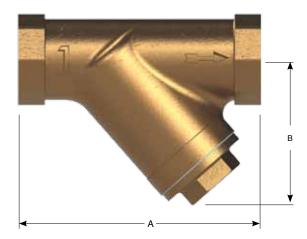
## WALWORTH INDUSTRIAL BRONZE "Y" STRAINER CLASS 300 (600 WOG)

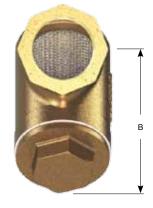
#### **DESIGN FEATURES**

- Design in accordance with MSS SP-80
- Body and Cover Bronze
- Threaded Cover Design
- Threaded ends as per ANSI B1.20.1
- Face to face dimensions as per WALWORTH design
- Test in accordance with MSS-SP-80

CATALOG FIGURE NO.	TYPE OF ENDS
W600	Threaded Ends







D NOMINAL DIAMETER	mm	13	19	25	30	40	50
	in	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
•	mm	80.01	100.33	114.93	134.62	160.02	188.59
A	in	3.15	3.95	4.52	5.3	6.3	7.42
В	mm	51.43	60	73.02	88.9	99.37	118.74
D	in	2.02	2.36	2.87	3.5	3.91	4.67
Weight W600	kg	0,33	0,48	0,69	1,00	1,43	2,25
	lb	0.726	1.05	1.51	2.2	3.14	4.95



### **DIAMETER OF STEM**

#### **BRONZE GATE VALVES - Diameter of Stem**

	DIAMETER OF STEM-MINIMUM							
NOMINAL	CLASS							
VALVE SIZE	125	125 150 200						
	In	In	In	In				
1/2	0.31	0.31	0.34	0.34				
3/4	0.35	0.35	0.38	0.38				
1	0.39	0.40	0.40	0.40				
1-1/4	0.42	0.43	0.44	0.44				
1-1/2	0.48	0.48	0.50	0.50				
2	0.53	0.53	0.53	0.53				

#### BRONZE GLOBE AND ANGLE VALVES - Diameter of Stem

	DIAMETER OF STEM-MINIMUM							
NOMINAL	CLASS							
VALVE SIZE	125	150	200	300 & 350				
	In	In	In	In				
1/2	0.31	0.35	0.35	0.35				
3/4	0.35	0.39	0.40	0.40				
1	0.39	0.42	0.44	0.44				
1-1/4	0.42	0.49	0.50	0.50				
1-1/2	0.49	0.53	0.53	0.53				
2	0.53	0.59	0.62	0.62				



### **DESIGN OF THE DISC**

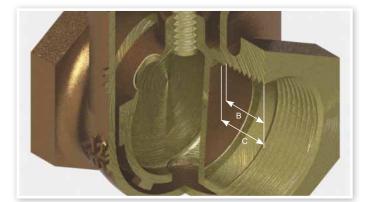


Solid Wedge Bronze as per ASTM B62 C83600 *for non-rising stem* (only for W4 and W14)

### MINIMUM LENGTH AND DEPTH OF THREAD.



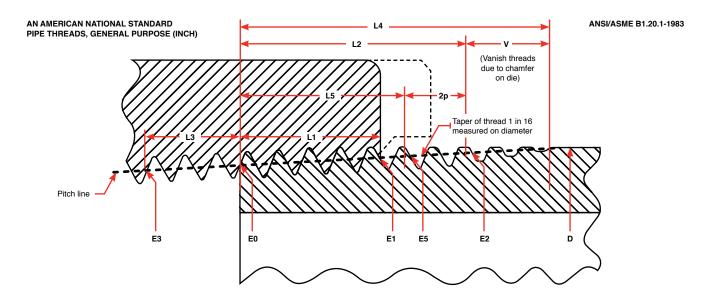
Solid Wedge Bronze as per ASTM B62 C83600 *for rising stem* 



NOMINAL PIPE SIZE	B Lenght of the thread (minimum)	C Deep of thread chamber (minimum)		
PIPE SIZE	inches	inches		
1/2	0.37	0.54		
3/4	0.44	0.57		
1	0.51	0.70		
1-1/4	0.60	0.71		
1-1/2	0.62	0.75		
2	0.67	0.79		



### **BASIC DIMENSIONS OF AMERICAN NATIONAL STANDARD TAPER PIPE THREAD, NPT**



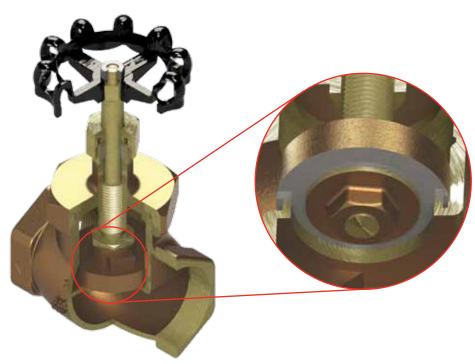
	0.5			AD AT BEGINNING OF EXTERNAL THREAD (EO)	HANDT	IGHT ENGA	GEMENT	EFFECTIV	'E THREAD,	EXTERNAL
NOMINAL PIPE SIZE	O.D. OF PIPE	THREADS/IN. (N)	PITCH OF THREAD		LENG	TH2 (L1)	DIAM.3	LENG	TH4 (L2)	
	(D)		(P)		INCH	THREADS	(E1)	INCH	THREADS	DIAM. (E2)
1/2	0.840	14	0.07143	0.75843	0.320	4.48	0.77843	0.5337	7.47	0.79179
3/4	1.050	14	0.07143	0.96768	0.339	4.75	0.98887	0.5457	7.64	1.00179
1	1.315	11.5	0.08696	1.21363	0.4000	4.60	1.23863	0.6828	7.85	1.25630
1-1/4	1.660	11.5	0.08686	1.55713	0.420	4.83	1.58338	0.7068	8.13	1.60130
1-1/2	1.900	11.5	0.08696	1.79609	0.420	4.83	1.82234	0.7235	8.32	1.84130
2	2.375	11.5	0.08696	2.26902	0.436	5.01	2.29627	0.7565	8.70	2.31630



### **SEATS ARRANGEMENT**

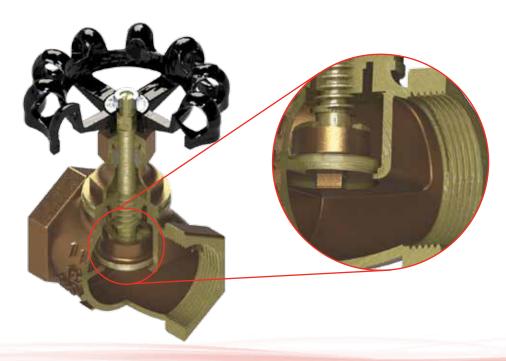
#### SOFT SEAT

Soft seats provide less wear during the operation of the valve. Only for Bronze Globe valves W95 and W160.



#### METAL-METAL SEAT

Metal-Metal seat provides high wear during the operation. Only for Bronze Globe valve W58.





### **TORQUE FOR GATE & GLOBE BRONZE VALVES**

The torques mentioned in the table below are for reference. The torque data already includes a safety factor of 30%.

TYPE	Ø NOMINAL (in)	CLASS	TORQUE T (lbf-ft)	FIGURE	
GLOBE	2	125	5.46	W58	
GLOBE	1 1/2	125	3.33		
GLOBE	1 1/4	125	2.05		
GLOBE	1	125	1.44		
GLOBE	0.75	125	0.76		
GLOBE	0.5	125	0.43		
GATE	2	125	1.80		
GATE	1 1/2	125	1.13	W55 & W4	
GATE	1 1/4	125	0.71		
GATE	1	125	0.51		
GATE	0.75	125	0.28		
GATE	0.5	125	0.17		
GLOBE	2	150	8.15		
GLOBE	1 1/2	150	4.96	W95	
GLOBE	1 1/4	150	3.05		
GLOBE	1	150	2.13		
GLOBE	0.75	150	1.12		
GLOBE	0.5	150	0.63		
GATE	2	150	7.07		
GATE	1 1/2	150	4.14	W56 & W11& W14	
GATE	1 1/4	150	2.48		
GATE	1	150	1.66		
GATE	0.75	150	0.83		
GATE	0.5	150	0.43		
GLOBE	2	200	10.85		
GLOBE	1 1/2	200	6.60		
GLOBE	1 1/4	200	4.05	W160	
GLOBE	1	200	2.82		
GLOBE	0.75	200	1.48		
GLOBE	0.5	200	0.82		
GATE	2	200	9.41		
GATE	1 1/2	200	5.51	W36	
GATE	1 1/4	200	3.29		
GATE	1	200	2.21		
GATE	0.75	200	1.09		
GATE	0.5	200	0.56		







## **DESIGN BASIS**

All of WALWORTH's Valve Designs, when applicable, follow one or more of the following standards.

### ASME Standards ASME International (American Society of Mechanical Engineers)

B1.20.1 B16.10	Threaded Ends. End to End Distance
Manufactures	Standardization Society of the Valve and Fittings
SP-6	Finishes of facing.
SP-25	Valves marks.
SP-80	Acquirements for bronze, gate, globe, angle and check valves in Classes 125, 150, 200, 300 and 350.
	B16.10 Manufactures SP-6 SP-25





### **HOW TO ORDER**

WALWORTH valves are designed by a catalog figure number which describe their main characteristics. The valve identification system shown herein is intended to assist our customers in specifying the required valve(s) so that mistakes are avoided during manufacturing.

тт т	
	BASE MATERIAL
	TYPE OF ENDS
	TYPE OF VALVE & PRESSURE CLASS AS PER FIGURE NUMBER
	SIZE OF THE VALVE IN INCHES
	SIZE OF THE VALVE IN INCHES

SIZE	WALWORTH FIGURE	TYPE	CLASS	ENDS	TRIM	BASE MATERIAL ASTM
1/2"	W4	GATE	125 #	S	BRONZE TRIM IN ACCORDANCE WITH STANDARD ARRANGEMENT SHOWN ON EACH PAGE	BASE MATERIAL TO BE BRONZE AS SHOWN ON EACH PAGE
3/4"	W14	GATE	150 #	S		
1"	W55	GATE	125 #	S		
1 1/4"	W56	GLOBE	150 #	S		
1 1/2"	W11	GLOBE	150 #	S		
2"	W36	GLOBE	200 #	S		
	W58	GLOBE	125 #	S		
	W95	GLOBE	150 #	S		
	W160	GLOBE	200 #	S		
	W420	"Y" SWING CHECK	150 #	S		
	W506	SWING CHECK	125 #	S		
	W512	SWING CHECK	150 #	S		
	W600	"Y" STAINER	300 #	S		



### **THE WALWORTH COMPANY GENERAL TERMS AND CONDITIONS**

ACCEPTANCE: All quotations are for acceptance within 30 days from date of quotation unless extended in writing. In the event a purchase order is placed after this period of time. WALWORTH reserves the right to requote base prices of all valves offered. All orders and contracts are subject to credit approval and acceptance by WALWORTH.

FREIGHT: When prices are f.o.b. point of shipment no freight allowance, we will attempt to route shipments in the method which will result in the lowest cost unless otherwise instructed. All shipments will be freight charges collect except when stipulated on the purchase order, in which case the customer will be invoiced for all transportation charges. Delivery of material to a common carrier shall be considered to be delivery to Buyer and shall be at Buyer's risk thereafter. Claims of loss of or damage to material in transit shall be filed by the Buyer directly with the carrier.

PRICES: There will be added to all prices quoted sales, use, occupation or any other excise or similar tax which Seller may be required to pay or collect on in connection with the sale. Seller shall be established by Federal, State or other government regulation(s) with respect to the product(s) Topped by the order which shall be lower than the price(s) specified in the order.

ESCALATION TERMS: Prices shown in this price schedule reflect the costs in effect at the time of publication. These prices will remain firm on all products with a quoted delivery of twenty–six (26) weeks or less. On products which have a scheduled delivery of more than twenty-six (26) weeks, the goods will be invoiced based on the applicable price sheet in effect at the time of shipment. In no event will the invoiced price be less than the price originally quoted.

PURCHASED (motors, gearing, etc.) Prices are quoted on supplier price in effect at time of quotation. Actual invoice Price will be adjusted in accordance with the supplier's escalation policy.

SHIPMENTS: If for any reason the customer desires to delay shipments more than 30 days after manufacturing is complete or to place a hold or stop to the order during the manufacturing cycle, WALWORTH reserves the right to consider the order canceled and to invoke cancellation charges per the schedule below.

CANCELLATION: After order acceptance by WALWORTH, items or completed orders may be cancelled and buyer will be charged for work performed, based on the following schedule:

- Five (5%) percent of prices of stock items.

- Ten (10%) percent of price of stock items ordered in quantities which exceed normal inventory levels.

- Five (5%) percent of prices prior to drawing submittal on made-to-order items.

- 15% after drawing approval, but prior to the start of castings.
- 30% to 50% during casting cycle, depending on the state of completion.

- 55% to 75% during machining and assembly operations, depending on the state of completion.

-100% after final assembly and test.

REMITTANCES: Remittances must be made to the address indicated on the invoice.

CREDIT TERMS: As quoted. Invoices on balances overdue will be subject to a service charge of one-and-one-half percent per month on such indebtedness.

DELIVERIES: Shipments and deliveries shall at all times be subject to the approval of Seller's Credit Department. If the Buyer shall fail to make any payments according to the terms of the contract, Seller may, in addition to and not in limitation of its other rights and remedies, at its option, cancel all or any part of Buyer's incomplete contracts with Seller or may defer shipments of deliveries under Buyer's contracts with Seller except upon receipt of satisfactory security or for cash shipment.

All schedules of shipments are estimated as closely as possible and Seller will use its best efforts to ship within the time scheduled but does not guarantee to do so. Schedules commence with the date Seller receives authorization to proceed with order, subject to the provisions of the next sentence. The order will not be released for manufacture until complete specifications and approved drawings (if drawing approval is required) are received at the plant of manufacture and the estimated schedule of shipment will commence with the date of such receipt.

Seller shall not be liable for any direct, indirect or consequential damage or loss caused by any delay in delivery, regardless of the cause of delay.

Without limiting the generality of the foregoing, Seller assumes no responsibility for delays in delivery resulting from fire, flood, accidents, riots, strikes, transportation delays, labor or material shortages, existing or future laws, acts of any governmental authority, or any other cause beyond Seller's control. Items offered from stock are subject to prior sale.

INSPECTION: Final inspection and acceptance of products must be made at the plant of manufacture, unless otherwise provided in the order and/or in agreed upon specifications. Prices do not include charges for special tests or inspections performed at the request of the Buyer unless called for in the order and/or in agreed upon specifications.

RETURNS: Permission in writing and return tagging instructions must be obtained from Seller before any goods returned for credit or adjustment will be acceptance. Where returned goods are accepted, a minimum charge of 25% of the invoice price will be made, plus freight from both directions and costs of reconditioning the material for resale as new.

WARRANTY: Seller will replace without charge or refund the purchase price of products manufactured by Seller which prove to be defective in the material or workmanship , provided in each case that the product is properly installed and used in the service for which Seller recommends it and a written claim specifying the alleged defect is presented to Seller shall in no event be responsible for (a) claims for labor, expenses or other damages occasioned by defective products or (b) for consequences or secondary damages. WARRANTY STATED IN THIS PARAGRAPH IS IN LIEU OF ALL OTHER WARRANTIES, EITHER EXPRESSED OR IMPLIED. WITH RESPECT TO WARRANTIES THIS PARAGRAPH STATES BUYER'S EXCLUSIVE REMEDY AND SELLER'S EXCLUSIVE LIABILITY.

DESIGN: Seller reserves the right to change design, materials or specifications without notice. There will be a charge for modifying an order after it has been entered when such change or modification results in additional engineering or clerical work for either WALWORTH or our suppliers.

MINIMUM CHARGE: Orders totaling less than \$100.00 net will be billed at a minimum charge of \$100.00. Repair parts will be billed at a minimum charge of \$50.00.

NOTE: We reserve the right to correct obvious clerical errors in quotes, invoices, and other contracts.





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