



**WALWORTH<sup>®</sup>**  
*Since 1842*



**CAST IRON VALVES**  
**CATALOG**



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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 and serves as a global supplier to various markets utilizing the expertise of over 500 trained employees.

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 testing for all low pressure, high pressure, and at 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 a quality product, competitive cost, 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 consistently, on-time deliveries.



### VISION

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

- Set the standard for product quality in the flow control industry.
- Exceed the service expectations of our customers.
- Forge enduring relationships with customers, team members, and community.
- Hire, develop, and retain experienced and dedicated team members.





## WALWORTH ENGINEERING CONTROL

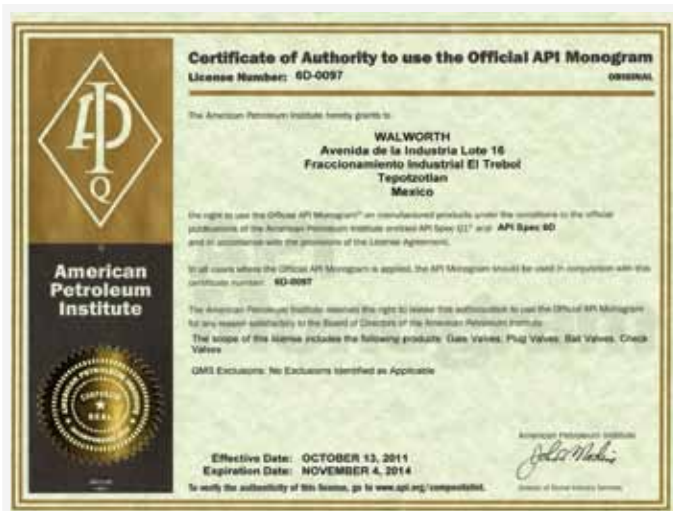
WALWORTH products are manufactured following strict international standards recognized all over the world, such as API, ANSI, ASME, ASTM, MSS, NACE, AWWA, BSI, and CSA, among others. Our Engineering team consistently monitors, updates and incorporates these standards and makes any applicable changes that affect the design, regulations, and/or performance of our products.

Our designs use the most advanced technology and equipment, finite elements, and CAD system programs to ensure proper assembly and performance. From conception to calculation to detailed drawings for manufacturers, WALWORTH is a leader in development of new products that meet the needs of the current valve market.



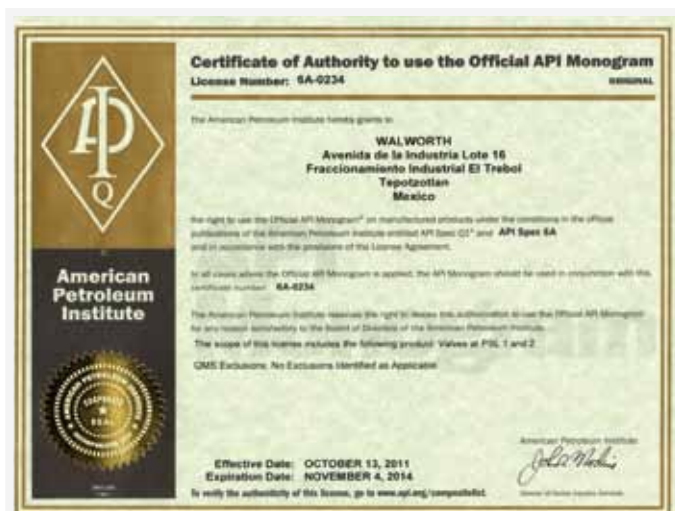
## WALWORTH QUALITY SYSTEM

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.



### 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.



Certificate as per PED 97/23/EC Module H To stamp CE products.





**Supplier Qualification Certificate NO. 279/13**  
 Issued by the Equipment and Materials Testing Laboratory, CFE (LAPEM in Spanish)



**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 8 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.



**YARMOUTH RESEARCH AND TECHNOLOGY**  
**PROJECT SUMMARY**

**Project Number:** 00003

**Customer:** The Walworth Company

**Contact:** David Cornelien

**Date(s) of Test:** 12/9/99 - 12/23/99

**Product(s) Tested:** One 8" Class 300 Gate Valve with Empak-Mex EAF-100-001 packing.

**Purpose of Test:** The test was conducted to evaluate the valve's static sealing performance at ambient and at 350° F as related to the 1990 Amendments to the Clean Air Act requirements. Leakage measurements were conducted in accordance with 40 CFR Part 60, Appendix A, Method 21.

**Conclusion:** Three thermal cycles from ambient to 350 deg. F were conducted throughout 3500 specimen cycles with the valve presented to 6th pass. The valve was cycled with a 44 RPM gear motor coupled to the handwheel. One packing ret adjustment was required on cycle number 300 to maintain leakage levels below 100 PP50.

At cycle number 3500, the packing leakage was 25-29 PP50s with the stem static. The packing nuts were tightened from 12/14 B.B. back to 28 B.B. and leakage decreased to about 1 PP50s.

See the attached data sheets for more information.

**Test Witness:** Matthew J. Wawchuk, P.E., President  
YARMOUTH RESEARCH AND TECHNOLOGY

Phone or Fax: (202) 946-3646  
42 East Elm Street P.O. Box 119 Yarmouth, Maine 04096-0119

**TÜV Rheinland Argentina S.A.**  
Servicios Industriales  
Certificación Control  
San José 53 - 7° Floor  
2222BAAU Buenos Aires

**TÜVRheinland®**

**Certificate**

**Certificate No.** TRASA 700-13-0019

**Customer:** WALWORTH METCO - Industrial de Valdivia S.A. de C.V.

**Product Tested:** API 6D Trunnion mounted body ball valves, carbon steel (A105-WCB) construction, double block and bleed service, primarily used for oil and gas standard and severe applications.

**Trademark:** WALWORTH

**Model / Type:** 4 inch, Class 300, Figure 8122

**Applicable Standard:** ASME B16.34

**TUV Report No.:** 700-13-0019

**Results:** Successful - Leakage: 0.5 - 2.0 drops per minute (Leakage: 0.5 - 2.0 drops per minute)

**Safety Function:** The Trunnion Ball valves will meet the design and function per the customer request. The valve is designed and built to meet the design and function per the customer request.

**Specific Requirements:** The valve must be tested in accordance with the requirements of the customer request.

**Business Area:** Valves, 2000, 2014

**Test Witness:** Matthew J. Wawchuk, P.E., President  
YARMOUTH RESEARCH AND TECHNOLOGY

**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".**

**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.

**DACOR SERVICES**  
CONSULTANTS  
ENGINEERING • QUALITY ASSURANCE • MANUFACTURING  
DAVID J. CORNELIEN, P.E., PRESIDENT

**January 22, 2005**


**Ruben Parades**  
Walworth - Inval Facility  
Av. De la Industria Lote 16 Fracc. Industrial el Trebol  
Tepozotlan, Edo. De Mexico  
CP 54600, Mexico


**Reference:** Witness Report - API Spec 6FA Fire Test  
Number 01-1-05

This will certify that the following listed valve successfully passed all requirements of API Specification 6FA Fire Test for Valves, Third Edition dated April 1999 and API Standard 607 Fire Test for Self-Seated Quarter-Turn Valves, Fourth Edition dated May 1993. The tests were made and verified on January 21, 2005.

API 6D Trunnion Mounted Ball Valve, 12-inch Class 150 Figure 8122, Serial Number V05B01.

The successful test of the 12-inch Class 150 API 6D Ball Valve qualifies this design/type of valve as meeting the requirements of API Spec 6FA / API Std 607 for sizes 12-inch through 24-inch in pressure classes 150 and 300.

Sincerely,  
  
David J. Cornelien P.E.  
President



24002 Matamor Drive • Katy, Texas 77494  
Tel: (281) 395-5275 • Fax: (281) 395-5275

**tuv CERT** **TÜVRheinland®**  
Precisely Right.

**CERTIFICATE**  
Certificate No.: 01 202 USA-TA-00-79708

**Concerning the Agreement with the Technical Requirements in:**  
**TA-Luft 2002, VDI 2440 Nov. 2000, Sec. 3.3.1.3**

**Test report:** 200140 **Date:** 01 December, 2000

**Client:** Industrial de Valdivia, S.A. de C.V.

**Manufacturer's Address:** Av. De la Industria Lote 16  
Fracc. Industrial el Trebol,  
Tepozotlan, Edo. De Mexico, CP 54600

The stem sealing system and internal flange connection have been successfully tested to meet the tightness criteria of 0.10<sup>-6</sup> mbar x l/s with a helium mass spectrometer under the following conditions. The SPV Valve with the maximum mechanical shaft seals fulfills the requirements of Section 3.3.1.3 of VDI 2440 (Nov. 2000).

Kind of Valve:	Walworth API 6D Gate Valve
Valve Type:	4 inch, Class 300, Figure 8122
Sealing System:	WCB Body / CR 13 Stem & Stem / HP Seat
Sealing System:	Graphite Seals
Nominal Size, Nominal Pressure:	4 inch, ANSI 300
Inspection Media/Pressure:	Helium / 0.1 Bar Temperature = Ambient
Switching Cycles (Ones):	8 Cycles Total Cycles 800
Leakage Rate [mbar x l/s]	5.2e-7 (mbar - Pauc) 5.7e-6 (mbar - Pauc)
Testing Method:	Helium Leak Test - VDI 2440, Appendix A

**Testing Laboratory:** TÜV Rheinland North America, Inc.  
Industrial Services Division, Houston, TX, USA  
YARMOUTH RESEARCH AND TECHNOLOGY  
Matthew J. Wawchuk, PE  
424 Walnut Hill Blvd. N. Yarmouth, ME 04096  
www.yarmouthresearch.com

  
Matthew J. Wawchuk, P.E.



**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.

**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 quality international standards, in-house equipments are kept for monitoring 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 casting raw 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.**- In a random basis for standard products or when a Customer request MT Certification, WALWORTH has Magnetic Particle Test Equipment to perform 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 expends more than 4 months to be finished.

**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 into 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 fire flame at 1400 to 1800 °F (761 to 980 °C) to verify proper seal of the valve.



**Low Fugitive Emissions Test.**- When a Customer requires low fugitive emissions certification. The Lab has its own LFE Test Equipment capable to measure less than 20 ppm either in both static or Mechanical conditions at ambient temperature or thermal cycle operations.

**Ultrasonic Testing Equipment.**- Using ultrasonic techniques, we can detect sub surface flaws in materials and evaluate castings and forgings that cannot be radiographed. In addition we utilize 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 Equipments.**- Either lab or shop test, WALWORTH use hardness tester equipments as Rockwell B, C Brinell or Vickers to check compliance against specifications.



# CAST IRON GATE, GLOBE & SWING CHECK VALVES

## STRUCTURAL FEATURES

**WALWORTH** Cast Iron Valves are used for many services in different kind of industries, from utilities, pulp and paper mills, sugar plants, refineries, steel mills, chemical plants, shipyards, etc. **WALWORTH** Cast Iron Valves have been used to control fluids for a longer period of time than other brands. The main field of this type of valves is the water industry. However, demands are coming more and more for all above mentioned services. **WALWORTH** Cast Iron valves are manufactured in accordance with MSS standards.

**WALWORTH** offers this product line in the following base materials:

a) Cast Iron in accordance with ASTM A126 Class B.

**WALWORTH** offers this product line in the following standard trim:

a) Bronze trim in accordance with ASTM B62 grade C83600.

## DESIGN FEATURES

- Design in accordance with MSS-SP-70 type 1 for gate valves.
- Design in accordance with MSS-SP-85 for globe valves.
- Design in accordance with MSS-SP-71 for swing check valves.
- Bolted Bonnet design.
- Rising stem and Non Rising Stem Options as per MSS-SP-70 Type 1.
- Hand-wheel, Chain-wheel, Gear operation as per Customer requirements.
- Stem extensions or floor stands.
- Lever and counterweight options (only for check valves).
- Test as per API-598.
- Classes 125 psig and 250 psig.
- By-Pass, drains and special connections available upon request.



## PRODUCT RANGE

TYPE	SIZE	TRIM	PRESSURE CLASS	ENDS	FIGURE Nr.
Iron Gate Valve Rising Stem (OS & Y)	2" to 36"	Bronze	125#	FF	W726 F
Iron Globe Valve Rising Stem (OS& Y)	2" to 12"	Bronze	125#	FF	W906 F
Iron Swing Check Valve	2" to 24"	Bronze	125#	FF	W928 F
Iron Gate Valve Non Rising Stem	2" to 36"	Bronze	125#	FF	W719 F
Iron Swing Check Valve with lever & counter weight	2" to 24"	Bronze	125#	FF	W928F LCW
Iron Gate Valve Rising Stem (OS & Y)	2" to 12"	Bronze	250#	FF	W786F
Iron Globe Valve Rising Stem (OS& Y)	2" to 12"	Bronze	250#	FF	W8955F
Iron Swing Check Valve	2" to 24"	Bronze	250#	FF	W8970F
Iron Swing Check Valve with lever & counter weight	2" to 24"	Bronze	250#	FF	W8970F LCW



# WALWORTH CAST IRON OS&Y GATE VALVES

## CLASS 125

### CAST IRON GATE VALVES HANDWHEEL WITH OUTSIDE SCREW AND YOKE (OS&Y)

The Gate Valves are used when the need exists for a device that allows an interruption or cut off in the flow or fluid. Gate Valves are not to be used for flow modulations as the high velocity through a partially open valve may result in erosive damage to the wedge and seats. Under normal operating conditions, the valve should remain either fully open or fully closed. Installation of a Gate Valve does not depend on the flow direction:

### DESIGN FEATURES

- Gate Valves design in accordance with MSS SP-70 type solid, wedge/Disc.
- Body and Bonnet Cast Iron in Accordance with ASTM A 126 Class B.
- Face to Face dimensions as per ANSI B16.10
- Flanged drilled as per ANSI B16.1

### STANDARD MANUFACTURING OF WEDGE

- Solid Wedge single piece design with long disc guides is a proven performer for all service conditions, particularly suitable for conditions of severe turbulence and stem vibration.
- Service Conditions WOG-Water, Oil, Air, Gas, Water, Steam and Pumping Systems.

### HANDWHEEL OPERATION

- Handwheels are furnished on all Gate & Globe Valves, manual gear, hydraulic or motored operators and chainwheels can be supplied when specified.
- By-Pass, Drains and Special connections are available upon request.
- Stem Nut replaceable in line to avoid shut down of pipe line process.
- Non Rising Stem with trapezoidal metric thread for quick operation.
- Surface finish suitable to seal properly to obtain low fugitive emissions.

### TRIM MATERIALS

- Cast Iron Valves are provided with Bronze Seat and Brass Stem.
- Graphite is used for Gaskets and Packing
- Glands may be threaded or bolted type
- Bronze trim valves are recommended for steam, water, air, and noncorrosive oil or gas.
- All Iron Valves are recommended for oil, gas, or fluids that corrode bronze, but not iron or steel.



# WALWORTH CAST IRON OS&Y GATE VALVES

## CLASS 125

### DESIGN FEATURES

- Design in accordance with MSS SP-70
- CLASS 125
- Outside Screw & Yoke (OS&Y)
- Cast Iron Construction
- Bolted Body design
- Handwheel Operated
- Face to Face dimensions as per ANSI B16.10
- Flanged drilled as per ANSI B16.1

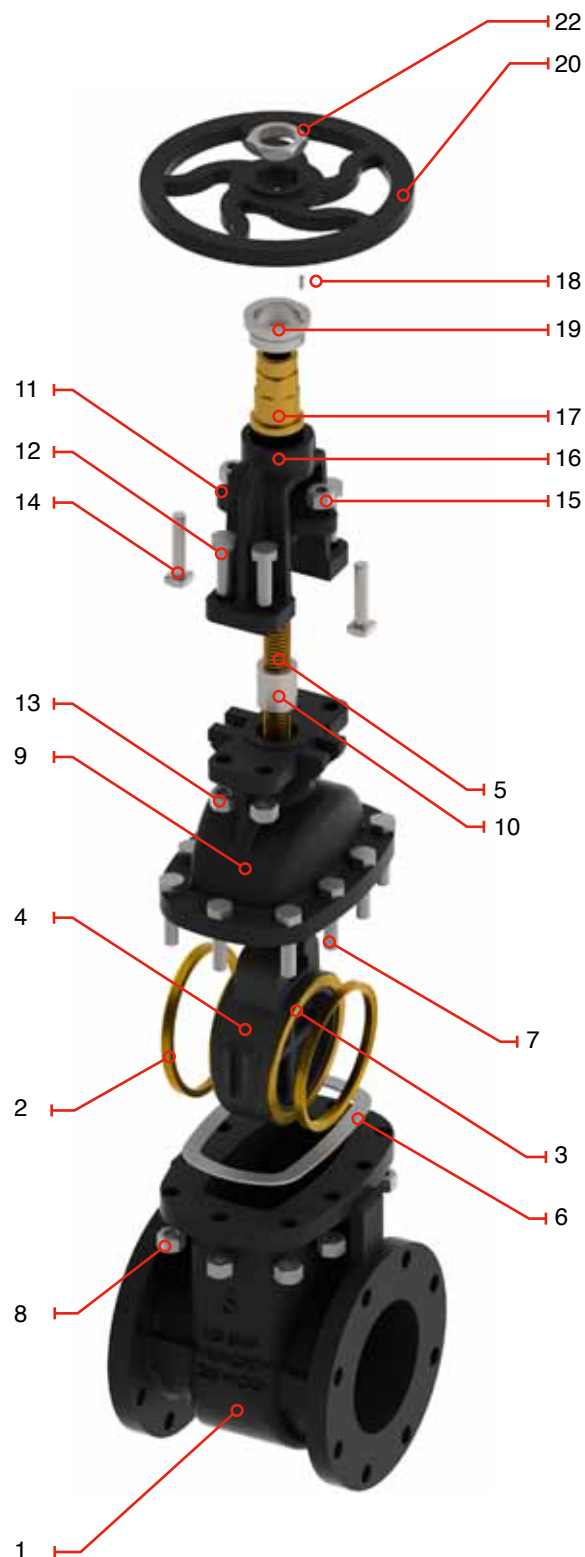
125 psi (8.6 Bar) Saturated Stem @ 353°F (178°C)

200 psi (13.8 Bar) Cold water pressure @ -20°F(-29 °C) to 150 °F(66°C).

### Regular Bill of Materials

No.	Description	Brass
1	Body	ASTM A126 class B
2	Body Seat Ring	ASTM B62 Grade C83600
3	Wedge Seat Ring	ASTM B62 Grade C83600
4	Wedge	ASTM A126 class B
5	Stem	Brass ASTM B16
6	Bonnet Gasket	Graphite
7	Bonnet Bolt	ASTM A307 class B
8	Bonnet Nut	ASTM A563 class B
9	Bonnet	ASTM A126 class B
10	Packing	Graphite
11	Gland Follower	ASTM A536 65-45-12
12	Bolt	Steel
13	Nut	Steel
14	Gland Bolt	Steel
15	Gland Nut	Steel
16	Yoke	ASTM A126 class B
17	Stem Nut	Cast Brass (Mn-Brass)
18	Screw	Steel
19	Yoke Nut	ASTM A126 class B
20	Handwheel	ASTM A126 class B
21	Identification Plate*	Aluminum
22	Handwheel Nut	Steel

\* Not Shown



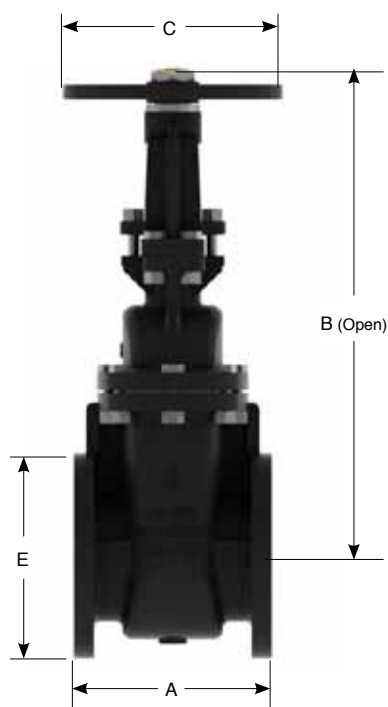
# WALWORTH CAST IRON OS&Y GATE VALVES

## CLASS 125

### DESIGN FEATURES

- Design in accordance with MSS SP-70
- CLASS 125
- Outside Screw & Yoke (OS&Y)
- Cast Iron Construction
- Bolted Body design
- Handwheel Operated
- Face to Face dimensions as per ANSI B16.10
- Flanged drilled as per to ANSI B16.1

Catalog Figure No.	Type of Ends
W726F	Flat Face ends



### Dimensions and Weights

D Nominal Diameter	mm	51	64	76	102	127	152	203	254	305	356	406	457	508	610	762	914
	in	2	2 1/2	3	4	5	6	8	10	12	14	16	18	20	24	30	36
A	mm	177.8	190.0	203.2	228.6	254.0	266.7	292.1	330.2	355.6	381.0	406.4	432.0	457.0	508.0	PCR	PCR
	in	7.00	7.48	8.00	9.00	10.00	10.50	11.50	13.00	14.00	15.00	16.00	17.01	17.99	20.00	PCR	PCR
B (Open)	mm	311	347	384	490	541	656	778	933	1102	1259	1395	1560	1708	1990	PCR	PCR
	in	12.24	13.66	15.12	19.29	21.30	25.83	30.63	36.73	43.39	49.57	54.92	61.42	67.24	78.35	PCR	PCR
C	mm	178	178	200	254	300	300	348	400	457	560	560	610	610	765	PCR	PCR
	in	7.01	7.01	7.87	10.00	11.81	11.81	13.70	15.75	17.99	22.05	22.05	24.02	24.02	30.12	PCR	PCR
E	mm	152.0	178.0	190.0	228.6	254.0	279.4	343.0	406.0	483.0	533.4	597.0	635.0	699.0	813.0	PCR	PCR
	in	5.98	7.01	7.48	9.00	10.00	11.00	13.50	15.98	19.02	21.00	23.50	25.00	27.52	32.01	PCR	PCR
Weight	kg	17	23	28	50	70	92	129	208	289	380	460	673	859	1225	2492	3682
W726F	lb	37.49	50.72	61.74	110.25	154.36	202.87	284.45	458.65	637.27	837.93	1014.33	1484.01	1894.16	2701.21	5495.04	8119.07
Cv	Flow	241.0	386.0	556.0	1018.0	1639.0	2438.0	4486.0	7009.0	10473.0	14256.0	18619.0	24528.0	30281.0	43605.0	83444	120160
Coefficient																	

PCR= per customer request



# WALWORTH CAST IRON OS&Y GATE VALVES

## CLASS 250

### CAST IRON GATE VALVES HANDWHEEL WITH OUTSIDE SCREW AND YOKE (OS&Y)

WALWORTH design for class 250 is based in uniform wall thickness distributed to offer the maximum mechanical properties. Flange dimensions and drilling comply with ASME B16.1. Face to face dimensions are in accordance with ASME B16.10.

#### DESIGN FEATURES

- Gate valves design in accordance with MSS SP-70 type 1 solid, wedge/Disc.
- Body and Bonnet Cast iron in accordance with ASTM A 126 Class B.
- Face to Face dimensions as per ANSI B16.10
- Flanged drilled as per ANSI B16.1

#### STANDARD MANUFACTURING OF WEDGE

- Solid Wedge single piece design with long disc guides is a proven performer for all service conditions, particularly suitable for conditions of severe turbulence and stem vibration.
- Service Conditions WOG-Water, Oil, Air, Gas, Water, Steam and Pumping Systems.

#### HANDWHEEL OPERATION

- Handwheels are furnished on all Gate & Globe Valves, manual gear, hydraulic or motor operators and chainwheels can be supplied when specified.
- By-Pass, Drains and Special connections, available upon request.
- Stem Nut, replaceable in line to avoid shut down of pipe line process.
- Rising stem with trapezoidal metric thread for quick operation.
- Surface finish suitable to seal properly to obtain low fugitive emissions.

#### TRIM MATERIALS

- Cast Iron Valves are provided with Bronze Seat and Brass Stem
- Graphite is used for Gaskets and Packing
- Glands may be threaded or bolted type
- Bronze trim valves are recommended for steam, water, sea water, air, and noncorrosive oil or gas.
- All iron valves are recommended for oil, gas, or fluids that corrode bronze, but not iron or steel.



# WALWORTH CAST IRON OS&Y GATE VALVES CLASS 250

## DESIGN FEATURES

- Design in accordance with MSS SP-70
- CLASS 250
- Outside Screw & Yoke (OS&Y)
- Cast Iron Construction
- Bolted Body design
- Handwheel Operated
- Face to Face dimensions as per ANSI B16.10
- Flanged drilled conforms to ANSI B16.1

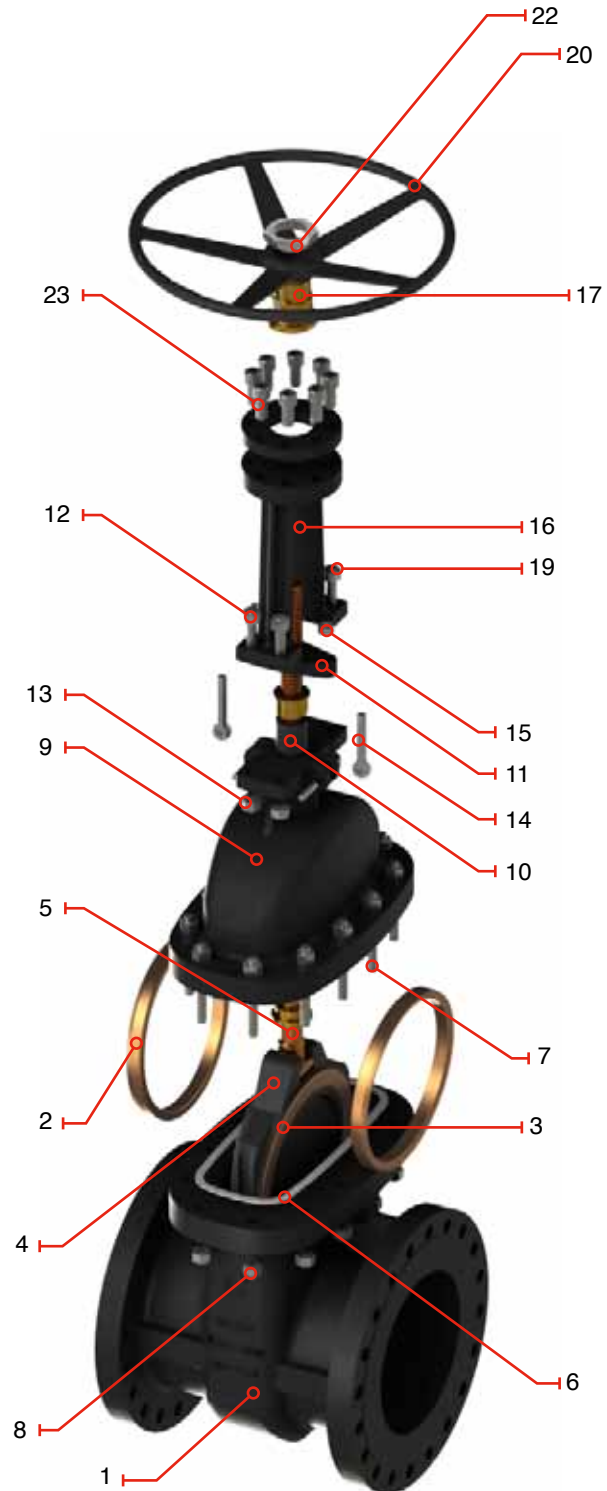
250 psi (17.2 Bar) Saturated Stem @ 406°F (207°C)

500 psi (34.5 Bar) Cold water pressure @ -20°F(-29 °C) to 150 °F(66°C).

## Regular Bill of Materials

No.	Description	Brass
1	Body	ASTM A126 class B
2	Body Seat Ring	ASTM B62
3	Wedge Seat Ring	ASTM B62
4	Wedge	ASTM A126 class B
5	Stem	Brass ASTM B16
6	Bonnet Gasket	Graphite
7	Bonnet Bolt	ASTM A307 class B
8	Bonnet Nut	ASTM A563 class B
9	Bonnet	ASTM A126 class B
10	Packing	Graphite
11	Gland Follower	ASTM A536 65-45-12
12	Yoke Bolt	Steel
13	Nut	Steel
14	Gland Bolt	Steel
15	Gland Nut	Steel
16	Yoke	ASTM A126 class B
17	Stem Nut	Cast Brass (Mn-Brass)
18	Screw*	Steel
19	Nut	ASTM A126 class B
20	Handwheel	ASTM A126 class B
21	Identification Plate*	Aluminum
22	Handwheel Nut	Steel
23	Bolt	Steel

\* Not Shown



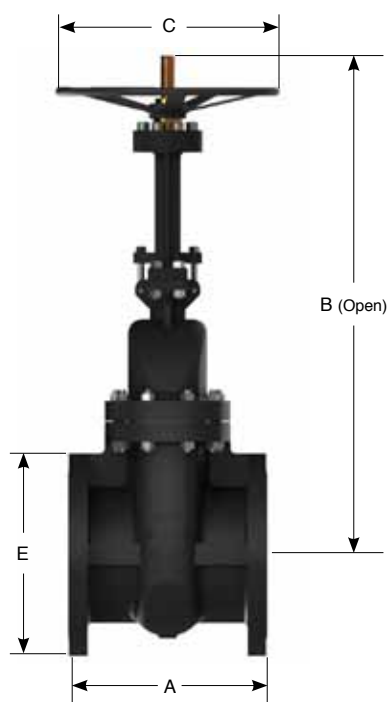
# WALWORTH CAST IRON OS&Y GATE VALVES

## CLASS 250

### DESIGN FEATURES

- Design in accordance with MSS SP-70
- CLASS 250
- Outside Screw & Yoke (OS&Y)
- Cast Iron Construction
- Bolted Body design
- Handwheel Operated
- Face to Face dimensions as per ANSI B16.10
- Flanged drilled as per ANSI B16.1

Catalog Figure No.	Type of Ends
W786F	Flat Face ends



### Dimensions and Weights

D	mm	51	64	76	102	127	152	203	254	305
Nominal Diameter	in	2	2 1/2	3	4	5	6	8	10	12
A	mm	215.9	241.3	282.5	304.8	381.0	403.2	419.1	457.0	502.0
	in	8.50	9.50	11.12	12.00	15.00	15.87	16.50	17.99	19.76
B (Open)	mm	325	362	406	493	579	644	795	935	1059
	in	12.80	14.25	15.98	19.41	22.80	25.35	31.30	36.81	41.69
C	mm	175	200	254	300	300	348	400	457	457
	in	6.89	7.87	10.00	11.81	11.81	13.70	15.75	17.99	17.99
E	mm	165.0	191.0	210.0	254.0	279.0	318.0	381.0	445.0	521.0
	in	6.50	7.52	8.27	10.00	10.98	12.52	15.00	17.52	20.51
Weight	kg	28	34	46	76	101	132	201	317	433
W786F	lb	61.74	74.97	101.43	167.59	222.71	291.07	443.22	699.01	954.80
Cv	Flow Coefficient	241.0	386.0	556.0	1018.0	1639.0	2438.0	4486.0	7009.0	10473.0



# WALWORTH CAST IRON NRS GATE VALVES

## CLASS 125

### CAST IRON GATE VALVES HANDWHEEL WITH NON RISING STEM

Non Rising Stem Cast Iron valves are used when there is not enough, space above the valve to permit that stem goes up. In this configuration, the stem is coupled by threads inside the wedge, which permit to the stem movement with freedom.

### DESIGN FEATURES

- Gate valves design in accordance with MSS SP-70 type 1 solid, wedge/Disc.
- Body and Bonnet Cast iron in Accordance with ASTM A 126 Class B.
- Face to Face dimensions as per ANSI B16.10
- Flanged drilled as per ANSI B16.1

### STANDARD MANUFACTURING OF WEDGE

- Solid Wedge single piece design with long disc guides is a proven performer for all service conditions, particularly suitable for conditions of severe turbulence and stem vibration.
- Service Conditions WOG-Water, Oil, Air, Gas, Water, Steam, Pumping Systems.

### HANDWHEEL OPERATION

- Handwheels are furnished on all Gate & Globe Valves, manual gear, hydraulic or motor operators and chainwheels can be supplied when specified.
- By-Pass, Drains and Special connections, available upon request.
- Stem Nut, replaceable in line to avoid shut down of pipe line process.
- Non Rising stem with trapezoidal metric thread for quick operation.
- Surface finish suitable to seal properly to obtain low fugitive emissions.

### TRIM MATERIALS

- Cast Iron Valves are provided with Bronze Seat and Brass Stem.
- Graphite is used for Gaskets and Packing.
- Glands may be threaded or bolted type.
- Bronze trim valves are recommended for steam, water, sea water, air, and noncorrosive oil or gas.
- All iron valves are recommended for oil, gas, or fluids that corrode bronze, but not iron or steel.



# WALWORTH CAST IRON NRS GATE VALVES

## CLASS 125

### DESIGN FEATURES

- Design in accordance with MSS SP-70
- CLASS 125
- Non Rising Stem (NRS)
- Cast Iron Construction
- Bolted Body design
- Handwheel Operated
- Face to Face dimensions as per ANSI B16.10
- Flanged drilled conforms to ANSI B16.1

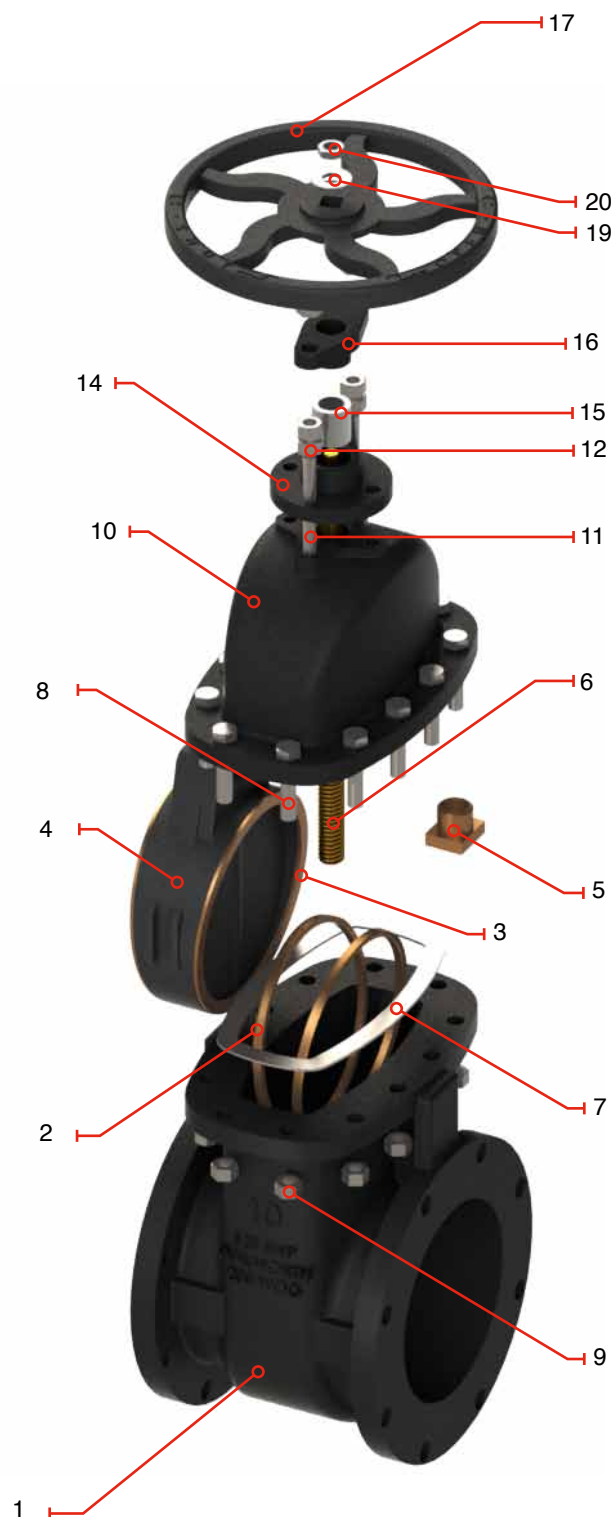
125 psi (8.6 Bar) Saturated Stem @ 353°F (178°C)

200 psi (13.8 Bar) Cold water pressure @ -20°F(-29 °C)  
to 150 °F(66°C).

### Regular Bill of Materials

No.	Description	Brass
1	Body	ASTM A126 class B
2	Seat Ring	ASTM B62 GradeC 83600
3	Wedge Seat Ring	ASTM B62 GradeC 83600
4	Wedge	ASTM A126 class B
5	Wedge Nut	Cast Brass (Mn-Brass)
6	Stem	Brass ASTM B16
7	Bonnet Gasket	Graphite
8	Bonnet Bolt	ASTM A307 class B
9	Bonnet Nut	ASTM A563 class B
10	Bonnet	ASTM A126 class B
11	Yoke Bolt	ASTM A307 class B
12	Nut	ASTM A563 class B
13	Gasket*	Graphite
14	Stuffing Box	ASTM A126 class B
15	Packing	Graphite
16	Gland Follower	ASTM A536 65-45-12
17	Handwheel	ASTM A126 class B
18	Identification Plate*	Aluminum
19	Washer	Steel
20	Handwheel Nut	ASTM A563-B

\* Not Shown



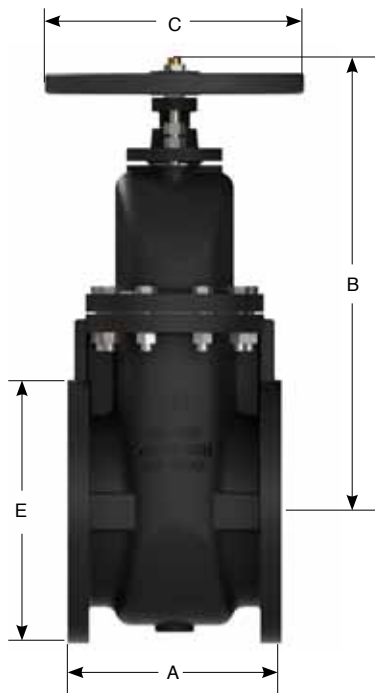
# WALWORTH CAST IRON NRS GATE VALVES

## CLASS 125

### DESIGN FEATURES

- Design in accordance with MSS SP-70
- CLASS 125
- Non Rising Stem (NRS)
- Cast Iron Construction
- Bolted Body design
- Handwheel Operated
- Face to Face dimensions as per ANSI B16.10
- Flanged drilled as per ANSI B16.1

Catalog Figure No.	Type of Ends
W719F	Flat Face ends



### Dimensions and Weights

D Nominal Diameter	mm	51	64	76	102	127	152	203	254	305	356	406	457	508	610	762	914
	in	2	2 1/2	3	4	5	6	8	10	12	14	16	18	20	24	30	36
A	mm	177.8	190.0	203.2	228.6	254.0	266.7	292.1	330.2	355.6	381.0	406.4	432.0	457.0	508.0	PCR	PCR
	in	7.00	7.48	8.00	9.00	10.00	10.50	11.50	13.00	14.00	15.00	16.00	17.01	17.99	20.00	PCR	PCR
B	mm	302	332	335	423	485	545	644	769	860	987	1044	1148	1257	1418	PCR	PCR
	in	11.89	13.07	13.19	16.65	19.09	21.46	25.35	30.28	33.86	38.86	41.10	45.20	49.49	55.83	PCR	PCR
C	mm	178	178	200	254	300	300	348	400	457	560	560	610	610	765	PCR	PCR
	in	7.01	7.01	7.87	10.00	11.81	11.81	13.70	15.75	17.99	22.05	22.05	24.02	24.02	30.12	PCR	PCR
E	mm	152.0	178.0	190.0	228.6	254.0	279.4	343.0	406.0	483.0	533.4	597.0	635.0	699.0	813.0	PCR	PCR
	in	5.98	7.01	7.48	9.00	10.00	11.00	13.50	15.98	19.02	21.00	23.50	25.00	27.52	32.01	PCR	PCR
Weight	kg	17	22	27	47	68	87	118	197	275	370	463	589	762	1113	2086	3083
W719F	lb	37.49	48.51	59.54	103.64	149.94	191.84	260.20	434.40	606.39	815.88	1020.95	1298.79	1680.26	2454.24	4599.78	6798.24
Cv	Flow	241.0	386.0	556.0	1018.0	1639.0	2438.0	4486.0	7009.0	10473.0	14256.0	18619.0	24528.0	30281.0	43605.0	83444	120160
Coefficient																	

PCR= per customer request



# WALWORTH CAST IRON RISING STEM GLOBE VALVES CLASS 125

## CAST IRON GLOBE VALVES HANDWHEEL OPERATED WITH RISING STEM

Globe Valves are mainly used to modulate or regulate the volume of the flow. A Globe Valve is not recommended when a continuous full flow of fluid is required due to the high pressure drop inherent to the design of a Globe Valve. This type of valve should always be installed so the flow intake enters through the base of the valve seat. The valve has an arrow stamped on the body to indicate the preferred direction on flow. Globe valves may be used with fluids containing particles in suspension.

## DESIGN FEATURES

- Globe valves design in accordance with MSS SP-85
- Body and Bonnet Cast iron in Accordance with ASTM A 126 Class B
- Conical Plug Type Disc
- Face to Face dimensions as per ANSI B16.10
- Flanged drilled conforms to ANSI B16.1

## STANDARD MANUFACTURING OF PLUG

- Conical Plug Type Disc single piece design with long disc guides is a proven performer for all service conditions, particularly suitable for conditions of severe turbulence and stem vibration.
- Service Conditions WOG-Water, Oil, Air, Gas, Water, Steam, Pumping Systems.

## HANDWHEEL OPERATION

- Handwheels are furnished on all Gate & Globe Valves, manual gear, hydraulic or motor operators and chainwheels can be supplied when specified.
- By-Pass, Drains and Special connections, are available upon request.
- Stem Nut, replaceable in line to avoid shut down of pipe line process.
- Rising stem with trapezoidal metric thread for quick operation. Surface finish suitable to seal properly to obtain low fugitive emissions.

## TRIM MATERIALS

- Cast Iron Valves are provided with Bronze Seat and Brass Stem
- WALWORTH use asbestos-free sealers for all Cast Iron Valves.
- Graphite is used for Gaskets and Packing
- Glands may be threaded or bolted type
- Bronze trim valves are recommended for steam, water, sea water, air, and noncorrosive oil or gas.
- All iron valves are recommended for oil, gas, or fluids that corrode bronze, but not iron or steel.



# WALWORTH CAST IRON RISING STEM GLOBE VALVES

## CLASS 125

### DESIGN FEATURES

- Design in accordance with MSS SP-85
- CLASS 125
- Rising Stem
- Cast Iron Construction
- Bolted Body design
- Handwheel Operated
- Face to Face dimensions as per ANSI B16.10
- Flanged drilled conforms to ANSI B16.1

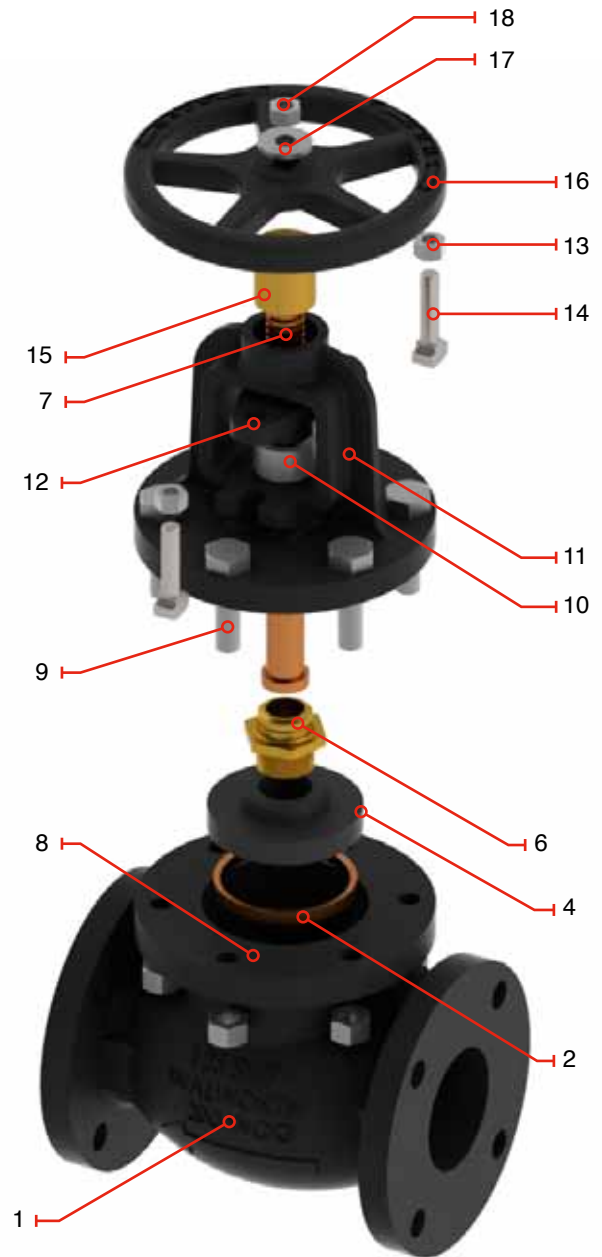
125 psi (8.6 Bar) Saturated Steam @ 350°F (178°C)

200 psi (13.8 Bar) Cold water pressure @ -20°F (-29 °C) to 150 °F(66°C).

### Regular Bill of Materials

No.	Description	Brass
1	Body	ASTM A126 class B
2	Body Seat Ring	ASTM B62 Grade C83600
3	Disc Seat Ring*	ASTM B62 Grade C83600
4	Plug Disc*	ASTM A126 class B
5	Washer*	ASTM A182 GR F304
6	Disc Nut	Cast Brass (Mn-Brass)
7	Stem	Brass ASTM B16
8	Gasket	Graphite
9	Bonnet Bolt	Steel
10	Packing	Graphite
11	Bonnet	ASTM A126 class B
12	Packing Gland	ASTM A536 65-45-12
13	Gland Nut	Steel
14	Gland Bolt	Steel
15	Stem Nut	Cast Brass (Mn-Brass)
16	Handwheel	ASTM A126 class B
17	Washer	Steel
18	Nut	ASTM A563 class B
19	Identification Plate*	Aluminum

\* Not Shown



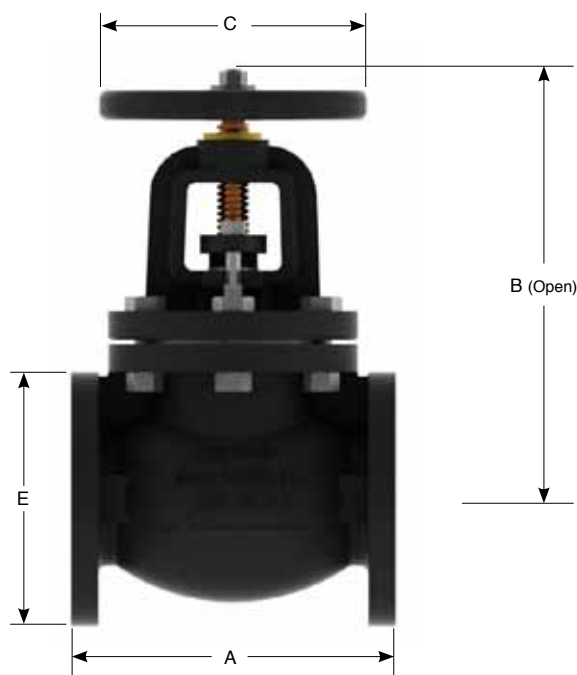
# WALWORTH CAST IRON RISING STEM GLOBE VALVES

## CLASS 125

### DESIGN FEATURES

- Design in accordance with MSS SP-85
- CLASS 125
- Rising Stem
- Cast Iron Construction
- Bolted Body design
- Handwheel Operated
- Face to Face dimensions as per ANSI B16.10
- Flanged drilled conforms to ANSI B16.1

Catalog Figure No.	Type of Ends
W906F	Flat Face ends



### Dimensions and Weights

D	mm	51	64	76	102	127	152	203	254	305
Nominal Diameter	in	2	2 1/2	3	4	5	6	8	10	12
A	mm	203.0	216.0	241.0	292.0	330.0	356.0	495.0	622.0	698.0
	inch	7.99	8.50	9.49	11.50	12.99	14.02	19.49	24.49	27.48
B (Open)	mm	254	292	330	353	387	470	540	565	673
	inch	10.00	11.50	13.00	13.88	15.25	18.50	21.25	22.25	26.50
C	mm	178	178	200	254	300	300	348	400	457
	inch	7.01	7.01	7.87	10.00	11.81	11.81	13.70	15.75	17.99
E	mm	203.0	216.0	214.0	292.0	330.0	356.0	495.0	622.0	698.5
	inch	7.99	8.50	8.43	11.50	12.99	14.02	19.49	24.49	27.50
Weight	kg	28	34	46	76	101	132	201	317	433
	lb	61.74	74.97	101.43	167.59	222.71	291.07	443.22	699.01	954.80
Cv	Flow Coefficient	47.0	76.0	109.0	199.0	320.0	477.0	877.0	1370.0	2048.0

# WALWORTH CAST IRON RISING STEM GLOBE VALVES

## CLASS 250

### CAST IRON GLOBE VALVES HANDWHEEL OPERATED WITH RISING STEM

Globe Valves are mainly used to modulate or regulate the volume of the flow. A Globe Valve is not recommended when a continuous full flow of fluid is required due to the high pressure drop inherent to the design of a Globe Valve. This type of valve should always be installed so the flow intake enters through the base of the valve seat. The valve has an arrow stamped on the body to indicate the preferred direction on flow. Globe valves may be used with fluids containing particles in suspension.

### DESIGN FEATURES

- Globe valves design in accordance with MSS SP-85
- Body and Bonnet Cast iron in Accordance with ASTM A 126 Class B.
- Conical Plug Type Disc
- Face to Face dimensions as per ANSI B16.10
- Flanged drilled as per ANSI B16.1

### STANDARD MANUFACTURING OF PLUG

- Conical Plug Type Disc single piece design with long disc guides is a proven performer for all service conditions, particularly suitable for conditions of severe turbulence and stem vibration.
- Service Conditions WOG-Water, Oil, Air, Gas, Water, Steam, Pumping Systems.

### HANDWHEEL OPERATION

- Handwheels are furnished on all Gate & Globe Valves, manual gear, hydraulic or motor operators and chainwheels can be supplied when specified.
- By-Pass, Drains and Special connections, available upon request.
- Stem Nut, replaceable in line to avoid shut down of pipe line process.
- Rising stem with trapezoidal metric thread for quick operation. Surface finish suitable to seal properly to obtain low fugitive emissions.

### TRIM MATERIALS

- Cast Iron Valves are provided with Bronze Seat and Brass Stem
- Graphite is used for Gaskets and Packing
- Glands may be threaded or bolted type
- Bronze trim valves are recommended for steam, water, sea water, air, and noncorrosive oil or gas.
- All iron valves are recommended for oil, gas, or fluids that corrode bronze, but not iron or steel.





# WALWORTH CAST IRON RISING STEM GLOBE VALVES

## CLASS 250

### DESIGN FEATURES

- Design in accordance with MSS SP-85
- CLASS 250
- Rising Stem
- Cast Iron Construction
- Bolted Body design
- Handwheel Operated
- Face to Face dimensions as per ANSI B16.10
- Flanged drilled as per ANSI B16.1

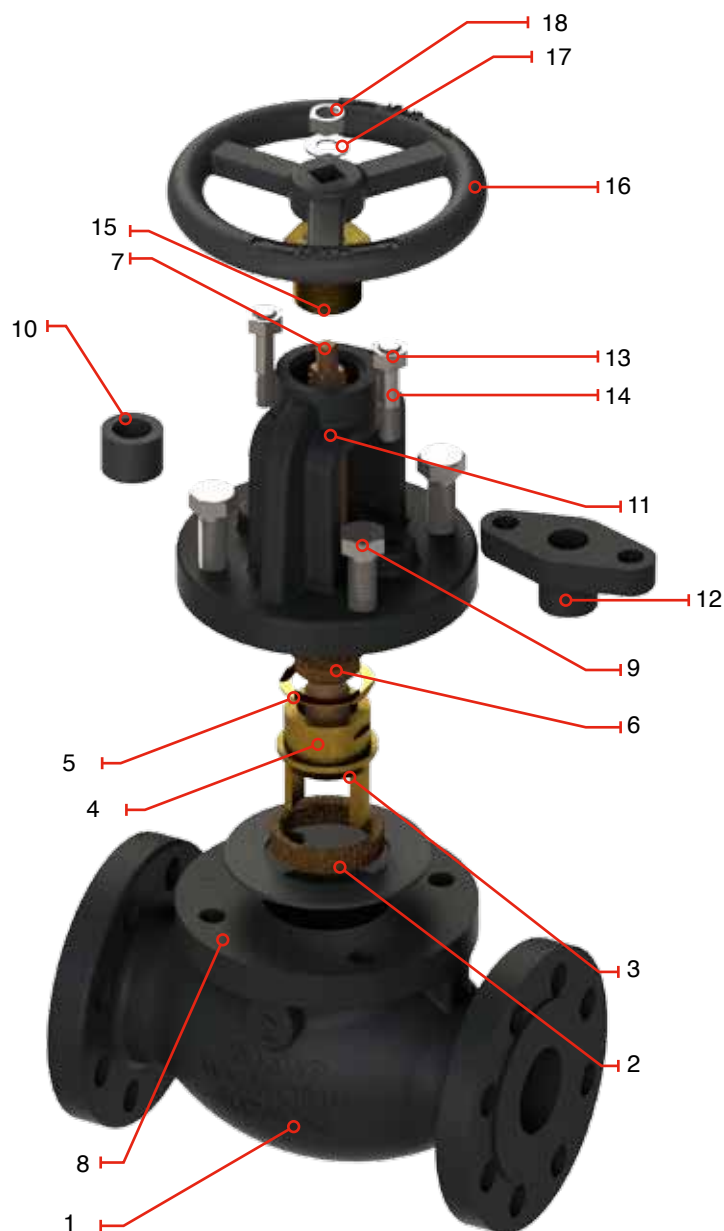
250 psi (17.2 Bar) Saturated Stem @ 406°F (207°C)

500 psi (34.5 Bar) Cold water pressure @ -20°F(-29 °C) to 150 °F(66°C).

### Regular Bill of Materials

No.	Description	Brass
1	Body	ASTM A126 class B
2	Body Seat Ring	ASTM B62 Grade C83600
3	Disc Seat Ring	ASTM B62 Grade C83600
4	Plug Disc	ASTM B62 Grade C83600
5	Washer	Commercial Brass
6	Disc Nut	Cast Brass (Mn-Brass)
7	Stem	Brass ASTM B16
8	Gasket	Graphite
9	Bonnet Bolt	Steel
10	Packing	Graphite
11	Bonnet	ASTM A126 class B
12	Packing Gland	ASTM A536 65-45-12
13	Gland Nut	Steel
14	Gland Bolt	Steel
15	Stem Nut	Cast Brass (Mn-Brass)
16	Handwheel	ASTM A126 class B
17	Washer	Steel
18	Nut	ASTM A563 class B
19	Identification Plate*	Aluminum

\* Not Shown

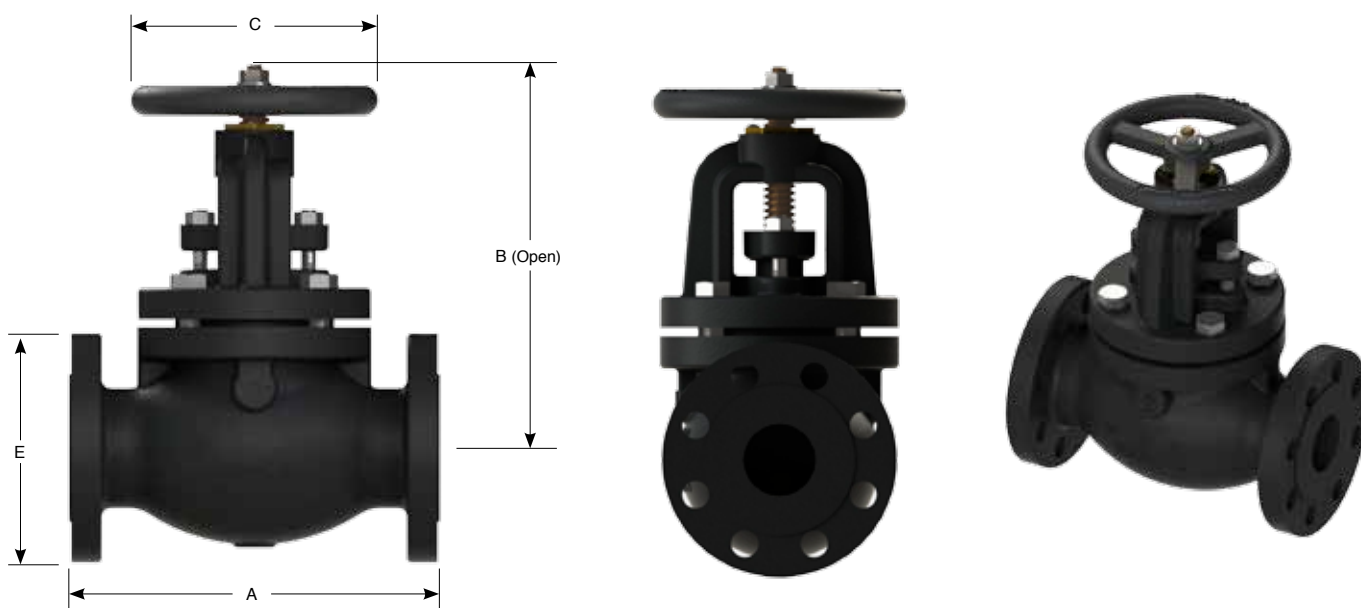


# WALWORTH CAST IRON RISING STEM GLOBE VALVES CLASS 250

## DESIGN FEATURES

- Design in accordance with MSS SP-85
- CLASS 250
- Rising Stem
- Cast Iron Construction
- Bolted Body design
- Handwheel Operated
- Face to Face dimensions as per ANSI B16.10
- Flanged drilled as per ANSI B16.1

Catalog Figure No.	Type of Ends
W8955F	Flat Face ends



## Dimensions and Weights

D Nominal Diameter	mm	51	64	76	102	127	152	203	254	305
	in	2	2 1/2	3	4	5	6	8	10	12
A	mm	267.0	292.0	318.0	356.0	400.0	444.0	533.0	622.0	711.0
	inch	10.51	11.50	12.52	14.02	15.75	17.48	20.98	24.49	27.99
B (Open)	mm	286	311	334	394	457	514	584	610	718
	inch	11.25	12.25	13.13	15.50	18.00	20.25	23.00	24.00	28.25
C	mm	175	200	254	300	300	348	400	457	457
	inch	6.89	7.87	10.00	11.81	11.81	13.70	15.75	17.99	17.99
E	mm	165.0	191.0	210.0	254.0	279.0	318.0	381.0	445.0	521.0
	inch	6.50	7.52	8.27	10.00	10.98	12.52	15.00	17.52	20.51
Weight	kg	28	34	46	76	101	132	201	317	433
W8955F	lb	61.74	74.97	101.43	167.59	222.71	291.07	443.22	699.01	954.80
Cv	Flow Coefficient	47.0	76.0	109.0	199.0	320.0	477.0	877.0	1370.0	2048.0

# WALWORTH CAST IRON SWING CHECK VALVES

## CLASS 125

### CAST IRON SWING CHECK VALVES

#### DESIGN FEATURES

- Body and Cover Cast iron in accordance with ASTM A 126 Class B.
- Swing Check valves design in accordance with MSS SP-71
- Swing Type Disc.
- Face to Face dimensions as per ANSI B16.10
- Flanged drilled as per ANSI B16.1
- Bolted Cover design.

#### STANDARD MANUFACTURING OF DISC

- Disc to Hanger connection allows, the disc a controlled movement independent of the hanger to assure proper disc alignment with the seat at closure position.
- Service Conditions WOG-Water, Water Pumping Systems.
- Counter weight options.
- By-Pass, Drains and Special connections, available upon request.

#### TRIM MATERIALS

- Cast Iron Valves are provided with Bronze Seat and Brass Shaft
- Bronze trim valves are recommended for steam, water, sea water, air, and noncorrosive oil or gas.
- All iron valves are recommended for oil, gas, or fluids that corrode bronze, but not iron or steel.



# WALWORTH CAST IRON SWING CHECK VALVES

## CLASS 125

### DESIGN FEATURES

- Design in accordance with MSS SP-71
- CLASS 125
- Cast Iron Construction
- Bolted Cover design
- Face to Face dimensions as per ANSI B16.10
- Flanged drilled as per ANSI B16.1

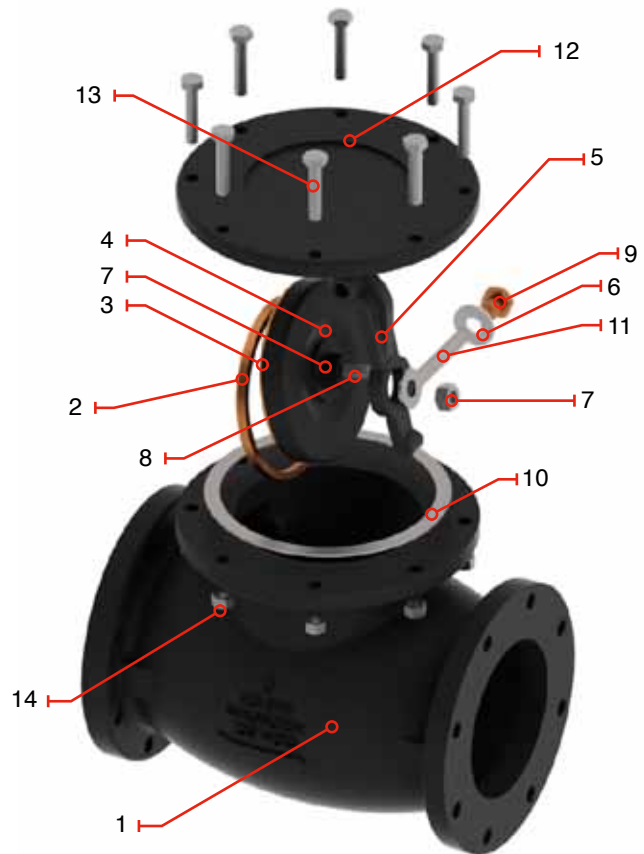
125 psi (8.6 Bar) Saturated Steam @ 353°F (207°C)

200 psi (13.8 Bar) Cold water pressure @ -20°F(-29 °C) to 150 °F(66°C).

### Regular Bill of Materials

No.	Description	Brass
1	Body	ASTM A126 class B
2	Body Seat Ring	ASTM B62 Grade C83600
3	Disc Seat Ring	ASTM B62 Grade C83600
4	Disc	ASTM A126 class B
5	Hanger	ASTM A536 65-45-12
6	Washer	Steel
7	Nut	Steel
8	Pin Retainer Clip	Steel
9	Side Pin	Brass ASTM B16
10	Gasket	GRAPHITE
11	Hanger Pin	ASTM A182 Gr F304
12	Cover	ASTM A126 class B
13	Bolt	ASTM A307 class B
14	Nut	ASTM A563 class B
15	Identification Plate*	Aluminum

\* Not Shown





# WALWORTH CAST IRON SWING CHECK VALVES

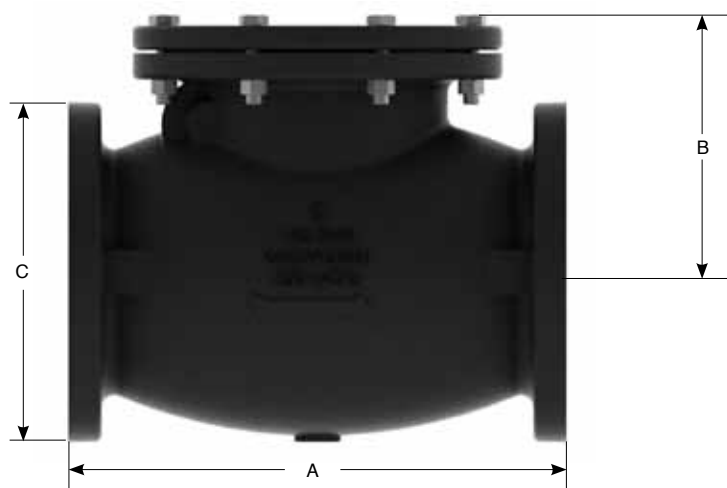
## CLASS 125

### DESIGN FEATURES

- Design in accordance with MSS SP-71
- CLASS 125
- Cast Iron Construction
- Bolted Cover design
- Face to Face dimensions as per ANSI B16.10
- Flanged drilled as per ANSI B16.1



Catalog Figure No.	Type of Ends
W928F	Flat Face ends



### Dimensions and Weights

D Nominal Diameter	mm	51	64	76	102	127	152	203	254	305	356	406	457	508	610
	in	2	2 1/2	3	4	5	6	8	10	12	14	16	18	20	24
A	mm	203.2	215.2	241.3	292.1	416.0	355.6	465.3	622.3	698.5	787.4	914.0	914.0	1016.0	1219.0
	inch	8.00	8.47	9.50	11.50	16.38	14.00	18.32	24.50	27.50	31.00	35.98	35.98	40	47.99
B	mm	112	132	141	162	292	211	270	316	357	560	589	645	702	812
	inch	4.41	5.20	5.55	6.38	11.50	8.31	10.63	12.44	14.06	22.05	23.19	25.39	27.64	31.97
C	mm	152	178	190	229	254	279	343	406	483	533	597	635	699	813
	inch	5.98	7.01	7.48	9.00	10.00	11.00	13.50	15.98	19.02	21.00	23.50	25.00	27.52	32.01
Weight W928F	kg	12	18	21	37	56	72	123	201	291	419	542	656	902	1260
	lb	26.46	39.69	46.31	81.59	123.48	158.77	271.22	443.22	641.68	923.93	1195.15	1446.53	1988.97	2778.39
Cv	Flow	75.0	120.0	173.0	316.0	509.0	756.0	1392.0	2175.0	3250.0	4424.0	5778.0	7611.0	9397.0	13521.0
	Coefficient														

# **WALWORTH CAST IRON SWING CHECK VALVES**

## **CLASS 250**

### **CAST IRON SWING CHECK VALVES**

#### **DESIGN FEATURES**

- Body and Cover Cast iron in accordance with ASTM A 126 Class B.
- Swing Check valves design in accordance with MSS SP-71
- Swing Type Disc.
- Face to Face dimensions as per ANSI B16.10
- Flanged drilled as per ANSI B16.1

#### **STANDARD MANUFACTURING OF DISC**

- Disc to Hanger connection allows, the disc a controlled movement independent of the hanger to assure proper disc alignment with the seat at closure position.
- Service Conditions WOG-Water, Water Pumping Systems.
- Counter weight options.
- By-Pass, Drains and Special connections, available upon request.

#### **TRIM MATERIALS**

- Cast Iron Valves are provided with Bronze Seat and Brass Shaft.
- Bronze trim valves are recommended for steam, water, air, and noncorrosive oil or gas.
- All iron valves are recommended for oil, gas, or fluids that corrode bronze, but not iron or steel.



# WALWORTH CAST IRON SWING CHECK VALVES

## CLASS 250

### DESIGN FEATURES

- Design in accordance with MSS SP-71
- CLASS 250
- Cast Iron Construction
- Bolted Cover design
- Face to Face dimensions as per ANSI B16.10
- Flanged drilled conforms to ANSI B16.1

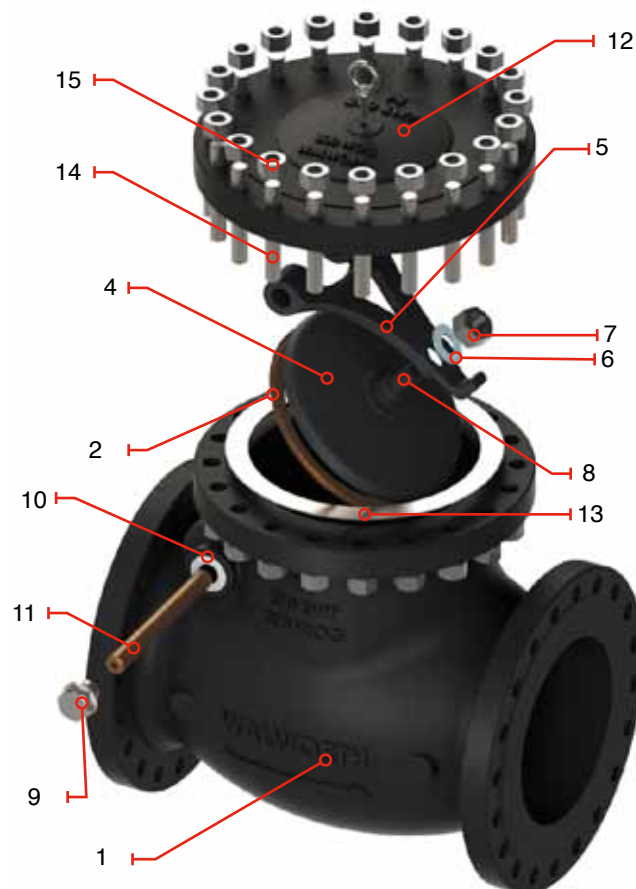
250 psi (17.2 Bar) Saturated Steam @ 406°F (207°C)

500 psi (13.8 Bar) Cold water pressure @ -20°F(-29 °C) to 150 °F(66°C).

### Regular Bill of Materials

No.	Description	Brass
1	Body	ASTM A126 class B
2	Body Seat Ring	ASTM B62 Grade C83600
3	Disc Seat Ring*	ASTM B62 Grade C83600
4	Disc	ASTM A126 class B
5	Hanger	ASTM A536 65-45-12
6	Washer	Steel
7	Nut	Steel
8	Pin Retainer Clip	Brass Steel
9	Body plug	ASTM B16
10	Gasket	TEFLON
11	Hanger Pin	ASTM A182 Gr F304
12	Cover	ASTM A126 class B
13	Body Gasket	Graphite
14	Bolt	ASTM A307 class B
15	Nut	ASTM A563 class B
16	Identification Plate*	Aluminum

\* Not Shown



# WALWORTH CAST IRON SWING CHECK VALVES CLASS 250

- Design in accordance with MSS SP-71
- CLASS 250
- Cast Iron Construction
- Bolted Cover
- Face to Face dimensions as per ANSI B16.10
- Flanged drilled as per ANSI B16.1



Catalog Figure No.	Type of Ends
W8970F	Flat Face ends



## Dimensions and Weights

D Nominal Diameter	mm	51	64	76	102	127	152	203	254	305	356	406	457	508	610
	in	2	2 1/2	3	4	5	6	8	10	12	14	16	18	20	24
A	mm	203.2	215.2	241.3	292.1	416.0	355.6	465.3	622.3	698.5	787.4	914.0	914.0	2016.0	1219.0
	inch	8.00	8.47	9.50	11.50	16.38	14.00	18.32	24.50	27.50	31.00	35.98	35.98	79.37	47.99
B	mm	112	132	141	162	292	211	270	316	357	560	589	645	702	812
	inch	4.41	5.20	5.55	6.38	11.50	8.31	10.63	12.44	14.06	22.05	23.19	25.39	27.64	31.97
C	mm	152	178	190	229	254	279	343	406	483	533	597	635	699	813
	inch	5.98	7.01	7.48	9.00	10.00	11.00	13.50	15.98	19.02	21.00	23.50	25.00	27.52	32.01
Weight W8970F	kg	12	18	21	37	56	72	123	201	291	419	542	656	902	1260
	lb	26.46	39.69	46.31	81.59	123.48	158.77	271.22	443.22	641.68	923.93	1195.15	1446.53	1988.97	2778.39
Cv	Flow	75.0	120.0	173.0	316.0	509.0	756.0	1392.0	2175.0	3250.0	3962.0	5249.0	6786.0	8480.0	12427.0
	Coefficient														



# TECHNICAL INFORMATION

## TYPE OF OPERATIONS

The WALWORTH standard cast iron product line includes many different valves designed to meet most applications. Special adaptations can be made to meet specific customer requirements. Valves can be supplied with manual handwheel/ gear operation, chain wheel, as well as electric, pneumatic and hydraulic actuators.

This makes it possible for WALWORTH to furnish valves adapted to the customers special needs such as controlled opening/closing and remote installation.

Valves can also be supplied with a bypass, drain or vent connection, stem extension, position indicators, floor stand mounting as well as a lever and weight system for swing check valves.

### Chain Wheel Operation

(adjustable sprocket rim)

Chain Wheels are designed for operating valves installed in remote or inaccessible locations. They can be furnished with roller guides to prevent the chain from jumping off the wheel. Impact type chain wheels are also available to assist in unseating a tightly closed valve.



### Square Nut Operation

Non Rising Stem Valves can be delivered with square nut instead handwheel, when installation in hard access places is required. All square nuts have 2" dimension between faces, which allows to use just one size tool for all valves.



### Gear Operators

A manual gear operator is designed with a bevel gear and pinion ratio sized to transmit the required opening/closing torque with normal operator effort on the handwheel. They can be supplied as waterproof units and/or for underground installation with a square operating nut.



# TECHNICAL INFORMATION

## ACCESSORIES

### Bypass, Drain and Vent Connections

A bypass line can be furnished with WALWORTH cast iron valves for equalizing pressure around the main valve or for warming up the line before opening the main valve. Drain connections are normally located in the valve body to drain the valve when internal inspection or maintenance is required. A vent connection can be located in the valve bonnet to relieve an over-pressure that could occur due to an expansion of trapped liquid. MSS SP-45 lists the standard locations and connection sizes for gate, globe and check valves. By Pass or drain connections are threaded for all Cast iron valves.

Nominal Size of Valve	2" to 4"	6" to 8"	10" and Larger
Size of Bypass-Drain-Vent	1/2"	3/4"	1"



**Bypass**



**Drain**

# TECHNICAL INFORMATION

## ACCESSORIES

### Position Indicator

A position indicator device can be installed on Non Rising Stem Valves. Neal of the indicator shows when the valve is in close or open position, if valve is installed in a not visible place, installation can be made in workshop or in the field.



### Lever and Counter Weight

A lever and counter weight is used on a Swing Check Valve to control the valve opening under variable flow conditions to prevent disc flutter and also to assist/control the disc closing under a rapid flow reversal condition to prevent disc/seat damage. A spring can also be used with a lever to provide a more rapid closing as can a dash pot or snubber to soften the closing seat.



# TECHNICAL INFORMATION

## ACCESSORIES

### Wall Taping

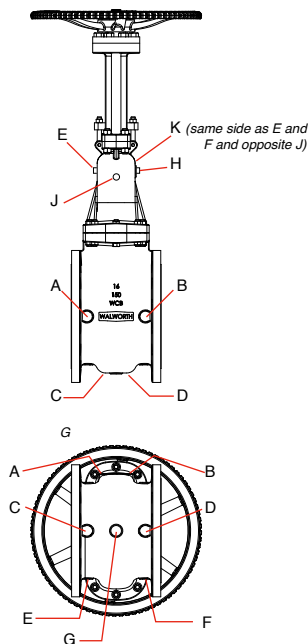
Maximum pipe size that may be tapped in valve wall without adding special bosses.														
Size of Valve (In)	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"
Size of Tapping (In)	3/8"	3/8"	3/8"	1/2"	3/4"	3/4"	3/4"	1 1/4"	1 1/2"	2"	2"	2"	2"	2"

### Boss Locations

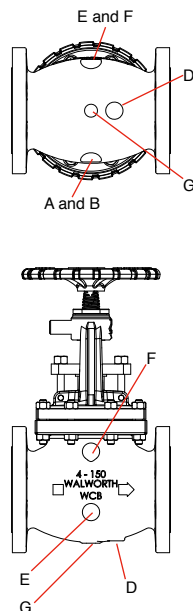
All WALWORTH Iron Valves are available with tapping for drain and special tapping. Boss locations and symbols and tapping procedures are in accordance with MSS By-Pass and Drain Connection Standard SP-45 (When tapplings are needed at any other than the standard boss locations, a sketch must be provided clearly showing the exact location on the valve. WALWORTH will review the request and advise if request can be met.)

All tapplings are plugged at no extra charge. When Bosses are ordered tapped, the standard size of tapping is in accordance with the following table taken from MSS Specifications SP-45

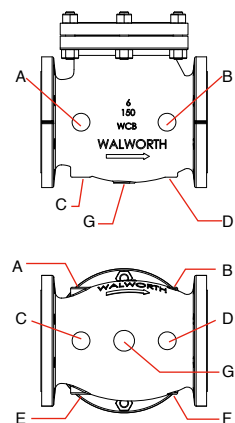
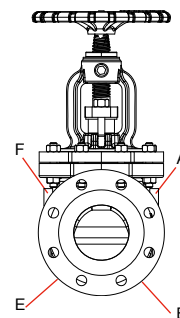
Maximum pipe size that may be tapped in valve wall without adding special bosses.														
Size of Valve (In)	2	3	4	5	6	7	8	10	12	14	16	18	20	24
Size of Drain Tapping (in) Series A (steam)	1/2	1/2	1/2	3/4	3/4	3/4	1	1	1	1	1	1	1	1



**Gate Valve**



**Globe Valve**



**Check Valve**

Bosses and drain connection positions in accordance with MSS-SP-45 & ASME B16.34 Standards



# TECHNICAL INFORMATION

## ACCESSORIES

### Floor Stands

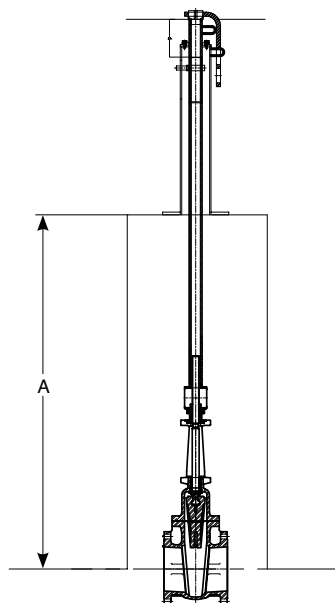
Floor Stands are designed for operating Gate, Globe and Angle Valves that are installed in inaccessible places under a floor. For your conveniences, they are available in two heights (20" and 32"). They are also available with an indicator so the position of the disc (wedge) can be read at a glance.

When ordering a floor stand-the dimensions from the centerline of the valve waterway to the top of the floor must be furnished. This dimension is the "A" dimension pictured below. The WALWORTH valve figure number and size must also be furnished and specify valve stem coupling for use with floor stand. Nothing extra is needed, except the floor mounting bolts which will vary depending on the floor construction.

### Minimum "A" dimensions:

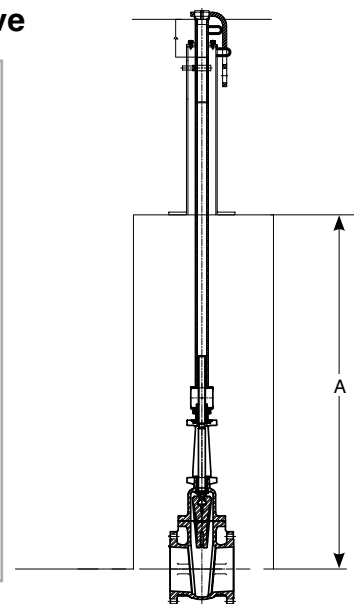
#### Rising Stem Valve

Valve size	"A"	
	In.	mm
2"	28.5	724
2 1/2"	29	737
3"	31	787
4"	36	914
5"	39	991
6"	43	1092
8"	53	1346
10"	60.5	1537
12"	70	1778



#### Non-Rising Stem Valve

Valve size	"A"	
	In.	mm
2"	26.56	675
2 1/2"	28.06	713
3"	28.75	730
4"	31.19	792
5"	32.44	824
6"	36.31	922
8"	42.69	1084
10"	45.88	1165
12"	52.06	1322



# TECHNICAL INFORMATION

## ACCESSORIES

### Stem Extension

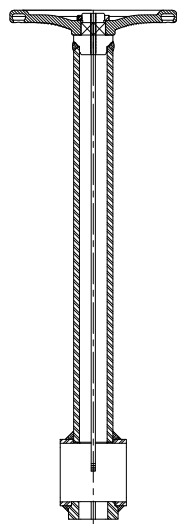
Stem Extensions are designed to permit remote operation of Gate, Globe or Angle Valves by providing an extension to the valve stem long enough to reach from the valve to the desired remote operating location. The extension consists of a length of steel tube with a coupling on one end to attach to the valve, and a coupling on the other end to attach to a handwheel or some other type of operating device.

The Stem Extension is made to accept the handwheel from the valve to which it is being attached, therefore, extensions are not supplied with a handwheel unless it is special ordered. Orders or inquiries for Stem Extensions to be attached to a WALWORTH valve must include the dimension from the center line of the valve waterway to the top of the handwheel. This dimension is the "A" distance as shown below. Please specify separately coupling sets for iron valve extensions. Adequate support must be provided for Long Stem Extensions exceeding 12ft. Of "A" dimension. This support should be rigid and of sufficient strength to prevent "wind-up" deflection or transfer of abnormal loads to the valve. This is a custom-built requirement provided by the customer.

### Minimum "A" dimensions:

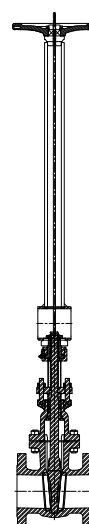
#### Rising Stem Valve

Valve size	"A"	
	In.	mm
2"	28.5	724
2 1/2"	29	737
3"	31	787
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6"	43	1092
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5"	32.44	824
6"	36.31	922
8"	42.69	1084
10"	45.88	1165
12"	52.06	1322



# PRESSURE-TEMPERATURE RATINGS

## CAST IRON ASTM A126

Temperature		Working class pressure				
		125 Class (200WOG)			250 Class (500WOG)	
°F	°C	2"-12"	14"-24"	30"-48"	2"-12"	14"-24"
- 20 to 150	-29 to 65	200	150	150	500	300
200	93	190	135	115	460	280
225	107	180	130	100	440	270
250	121	175	125	85	415	260
275	135	170	120	65	395	250
300	148	165	110	50	375	240
325	162	155	105		355	230
350	176	150	100		335	220
375	190	145			315	210
400	204	140			290	200
425	218	130			270	
450**	232	125			250	

\*\*Maximum temperature of trim on Bronze and TFE

NOTE: For valves 30" and over please contact the plant or your closer distributor



# DESIGN BASIS

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

## API American Petroleum Institute:

- **API 595** Cast - Iron Gate Valves Flanged Ends
- **API 598** Valve Inspection and Testing
- **API 604** Ductile Iron Gate Valves Flanged Ends

## ANSI Standards National Standards Institute:

- **ANSI B1.1** Unified Inch Screw Threads (UN and UNR Thread Form)
- **ANSI B1.20.1** NPT General Purpose Pipe Threads (Inches)
- **ANSI B16.1** Cast Iron Pipe Flanges and Flanged Fittings
- **ANSI B16.10** Face to Face and End to End Valve Dimensions
- **ANSI B16.21** Nonmetallic Flat Gaskets for Pipe Flanges
- **ANSI B31.1** Power Piping
- **ANSI B31.2** Fuel Gas Piping
- **ANSI B31.3** Process Piping
- **ANSI B31.4** Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquids
- **ANSI B31.5** Refrigeration Piping and Heat Transfer Components
- **ANSI B31.8** Gas Transmission and Distribution Piping Systems

## MSS Standards Manufacturer's Standardization Society

- **MSS SP-6** Standard Finishes for Contact Faces of Pipe Flanges and Connecting-End Flanges of Valves and Fittings
- **MSS SP-9** Spot Facing for Bronze, Iron and Steel Flanges
- **MSS SP-25** Standard Marking System for Valves, Fittings, Flanges, and Unions
- **MSS SP-45** Bypass and Drain Connections
- **MSS SP-70** Gray Iron Gate Valves Flanged and Threaded Ends
- **MSS SP-71** Gray Iron Swing Check Valves, Flanged and Threaded Ends
- **MSS SP-82** Valve Pressure Testing Methods
- **MSS SP-85** Gray Iron Globe & Angle Valves Flanged and Threaded Ends
- 

## ASTM Standards American Society for Testing and Materials:

- **ASTM A-126** Gray Iron Castings for Valves, Flanges, and Pipe Fittings
- **ASTM B-62** Composition Bronze or Ounce Metal Castings
- **ASTM B-16** Free-Cutting Brass Rod, Bar and Shapes for Use in Screw Machines
- **ASTM A-307** Carbon Steel Bolts and Studs, 60 000 PSI Tensile Strength
- **ASTM A-563** Carbon and Alloy Steel Nuts

## NACE Standard National Association of Corrosion Engineers

- **NACE MR0175** Sulfide Stress Corrosion Cracking Resistant Metallic Materials for Oil Field Equipment

## Boiler and pressure vessel code:

- **Section II** Part A - Ferrous Material Specifications
- **Section II** Part B - Non - Ferrous Material Specifications
- **Section II** Part C - Specifications for Welding Rods, Electrodes and Filler Metals
- **Section V** Non - Destructive Examination
- **Section VIII** Rules for Construction of Pressure Vessels, Divisions 1 and 2
- **Section IX** Welding and Brazing Qualifications

# HOW TO ORDER

WALWORTH valves are designated by catalog figures and numbers which describe their main characteristics. The valve identification system shown herein is intended to assist our Customers in specifying the valve required and to avoid mistakes being made during manufacturing.

10"-W726-FF-BR-A126



Size	WALWORTH Figure	Type	Ends	Class	Stem	Trim
2"	W719	Gate	F= Flat Face	125 #	NRS	Bronze-Brass
2 1/2"	W726	Gate	F= Flat Face	125 #	OS&Y	Bronze-Brass
3"	W786	Gate	F= Flat Face	250 #	OS&Y	Bronze-Brass
4"	W906	Globe	F= Flat Face	125 #	OS&Y	Bronze-Brass
5"	W8955	Globe	F= Flat Face	250 #	OS&Y	Bronze-Brass
6"	W928	Swing Check	F= Flat Face	125 #	OS&Y	Bronze-Brass
8"	W870	Swing Check	F= Flat Face	250 #	OS&Y	Bronze-Brass
10"						
12"						
14"						
16"						
18"						
20"						
24"						
30"						
36"						

## IRON VALVES CROSS REFERENCE FOR COMMONLY USED VALVES & MATERIALS

GATE	WALWORTH	CRANE	NIBCO	MILWAUKEE	POWELL	STOCKHAM
Class 125 NRS	W719F	461	F-619	F2882 A	1787	G-612
Class 125 OS&Y	W726F	461 1/2	F-617-0	F2885 A	1793	G-623
Class 250 OS&Y	W786F	7 1/2E	F-667-0	F2894 A	1797	G-667
<b>GLOBE</b>						
Class 125	W906F	351	F-718-B	F2981 A	241	G-512
<b>SWING CHECK</b>						
Class 125	W928F	373	F-918-B	F2974 A	559	G-931
<b>STOP CHECK</b>						
Class 250 Straight-Way Y-Pattern	---	28E	---	---	---	F-540
Class 125 Angle Y-Pattern	---	30E	F-869-B	---	---	F-541



# 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, The WALWORTH Company reserves the right to requote base prices of all valves offered. All orders and contracts are subject to credit approval and acceptance by The WALWORTH Company.

**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 you 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 or of 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 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 COMPONENTS:** (i.e., motors, gearing, etc.) Prices are quoted on the supplier's price in effect at the time of quotation. Actual invoice price will be adjusted in accordance with the supplier's escalation policy.

**DIFFERED SHIPMENTS:** If for any reason the customer desires to delay shipments more than 30 days after manufacturing is complete, or to place a hold on or stop to the order during the manufacturing cycle, The WALWORTH Company reserves the right to consider the order cancelled 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 percent (5%) of prices of stock items.
- Ten percent (10%) of prices of stock items ordered in quantities which exceed normal inventory levels.
- Five percent (5%) 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 testing.

**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 1 1/2 % 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 the order, subject to the provisions of the following 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 manufacturer 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 accepted. 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 is used in the service for which Seller recommends it and that a written claim, specifying the alleged defect, is presented to Seller. 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. THE 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, ETC:** 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 The WALWORTH Company 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 quotations, invoices, and other contracts.





# **WALWORTH<sup>®</sup>**

*Since 1842*



[www.walworth.com](http://www.walworth.com)

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