



**WALWORTH**®

*Since 1842*



**FORGED STEEL**  
**CATALOG**



# INDEX

## Introduction

FORGED STEEL VALVES.....	11
BODY MATERIALS.....	12
TRIM ARRANGEMENTS.....	16
COMMON CONSTRUCTION MATERIALS COMBINATION.....	18

## Forged Steel Gate, Globe and Swing Check Valves

FORGED STEEL GATE VALVES.....	19
FORGED STEEL GATE VALVES S/SW/SSW.....	20
FORGED STEEL GATE VALVES RF/RTJ.....	23
FORGED STEEL GLOBE VALVES .....	26
FORGED STEEL GLOBE VALVES S/SW/SSW.....	27
FORGED STEEL GLOBE VALVES RF/RTJ.....	30
FORGED STEEL “Y” PATTERN GLOBE VALVES .....	33
FORGED STEEL “Y” PATTERN GLOBE VALVES S/SW/SSW.....	34
FORGED STEEL PISTON CHECK VALVES .....	37
FORGED STEEL PISTON CHECK VALVES S/SW/SSW.....	38
FORGED STEEL PISTON CHECK VALVES RF/RTJ.....	41
FORGED STEEL “Y” PATTERN PISTON CHECK VALVES .....	44
FORGED STEEL “Y” PATTERN PISTON CHECK VALVES S/SW/SSW.....	45
FORGED STEEL BALL CHECK VALVES .....	48
FORGED STEEL BALL CHECK VALVES S/SW/SSW.....	49
FORGED STEEL BALL CHECK VALVES RF/RTJ.....	51
FORGED STEEL “Y” PATTERN BALL CHECK VALVES .....	54
FORGED STEEL “Y” PATTERN BALL CHECK VALVES S/SW/SSW.....	55
FORGED STEEL SWING CHECK VALVES .....	57
FORGED STEEL SWING CHECK VALVES S/SW/SSW.....	58
FORGED STEEL SWING CHECK VALVES RF/RTJ.....	61
TECHNICAL INFORMATION.....	64
CV FORGED STEEL.....	68
PRESSURE & TEMPERATURE RATINGS.....	70
HOW TO ORDER.....	79
GENERAL TERMS AND CONDITIONS.....	82



YARMOUTH RESEARCH AND TECHNOLOGY



# WALWORTH COMPANY

**WALWORTH** Company is one of the world's most dominant and comprehensive global industrial valve manufacturers and marketers. Founded in 1842 by James Walworth, the Company has consistently dedicated itself to the design and manufacture 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, the Company has produced more than 40,000 different types of products and serves as a global supplier to varied markets utilizing the expertise of over 500 trained employees. **WALWORTH** retains facilities in the United States, Mexico and China for the complete range of valves and flow control instruments required.

The Company is unrivaled in its total approach to manufacturing. This includes utilization of Company - directed raw material warehouses, up-to-date specialized machinery, welding processes such as SMAW, GMAW, SAW, PAW; and assembly testing for low pressure, high pressure, at low or high temperature, painting process, crating and shipment. With Company-directed facilities and stocks in the United States and Mexico, **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. With Company-owned facilities in China, Walworth is serving Asia, the Middle East, Far East and Australia, today's fastest growing industrial arena in the world. Walworth is proud to meet the ultimate demands of customer satisfaction, especially in quality, cost effectiveness and services in all parts of the world.



## WALWORTH VALUES

### MISSION

To satisfy the needs of Customers in terms of quality and service and comply with expectations of employees, suppliers and share holders.

### VISION

To maintain our good reputation in terms of service, delivery and quality which has been the main goal during all these years that has positioned **WALWORTH** brand as a reliable Company for over 167 years in the market. To continue developing new products according to the needs of the market in terms of technology, environment and quality requirements. **WALWORTH** does manufacture valves, but at the same time gives service to our Customers.

# WALWORTH ENGINEERING CONTROL

**WALWORTH** products are manufactured following strictly the most recognized international standards all over the world, such as API, ANSI, ASME, ASTM, MSS, NACE, AWWA, BSI, CSA, among others. Our Engineering team is always studying the new updates of these standards to incorporate any changes that may affect the design, regulations or performance of our products, being leaders in the new developments achieved. Design is made using the most advanced technology and equipment, using finite elements and CAD system programs to ensure the proper assembly and performance of products since the concept, calculation and detailed drawings for manufacturing. **WALWORTH** is a leader in the development of new products according to valve market current 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 consists of a rigorous quality control as well as the selection of raw materials from approved vendors. Control over our manufacturing process is vital. Serial numbers allow **WALWORTH** to monitor and trace fabrication processes along with the materials of components.



- 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 ISO-9001 No. 038 issued by American Petroleum Institute since April 1999.



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



• Certificate of Reliable Supplier No. 199/07 issued by CFE in accordance with ISO-9001 Quality Assurance System.



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

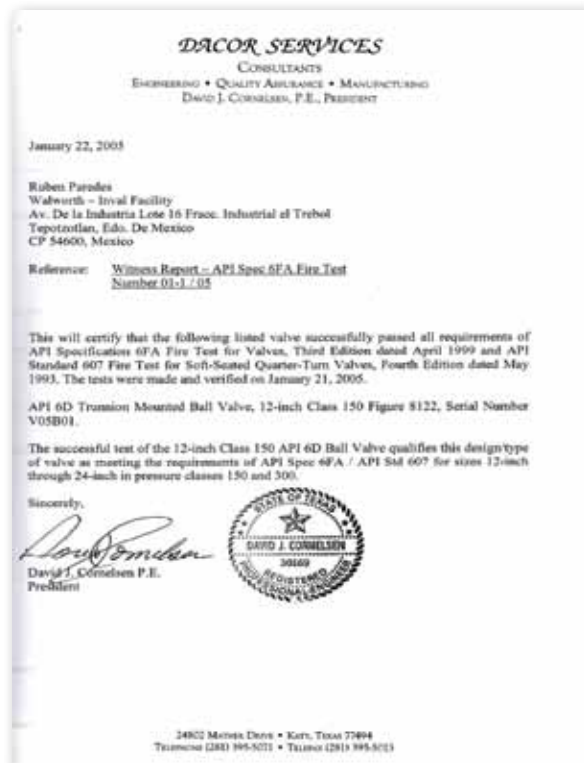
**Besides the Quality System Certifications, WALWORTH has achieved the following specific product certifications:**



- TA Luft Certificate (Fugitive Emission) Approval ISO-5211 Top Flange, Anti-Static Device.



- 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. 04/04 in accordance with API-6FA and API Standard API-607 for Trunnion Ball Valves in accordance with API-6D.



- Emissions after 500 cycles at ambient and 350 °F issued by Yarmouth Research and Technology Lab. After 500 cycles the measurement result was less than 50 ppm.

### FUGITIVE EMISSION TEST CERTIFICATE

Name of Manufacturer: <b>Walworth</b>	
Description of Valve: <b>3 inch Class 300 Gate Valve</b>	
2506F with Ultra Low Emission Packing	
Test Specification: <b>ISO 15848-1 (2006) - Industrial valves — Measurement, test and qualification procedures for fugitive emissions. Part 1: Classification system and qualification procedures for type testing of valves</b>	
Test Parameters: <b>Emissions Class   CO<sub>2</sub> - 500 Cycles</b>	<b>Performance Class   B1</b>
<b>Temperature Classes   Ambient, 200C, 400C, -20C</b>	<b>Pressure Class   ANSI 300</b>
Test Date: <b>August 2009</b>	Certificate Number: <b>120985-1</b>

**RESULTS**

The packing qualifies to Class B leakage levels with no readings above 3.8 e-5 atm cc/sec throughout the tests.

*This certificate refers to the above mentioned product for the test conducted. This certificate does not imply assessment of the production of the product and future performance.*

**Laboratory Information**

Name:	<b>Yarmouth Research and Technology</b>
Address:	<b>434 Walnut Hill Road North Yarmouth, ME 04097 USA</b>
Tester:	<b>Matthew Wasielewski, PE info@yarmouthresearch.com www.yarmouthresearch.com (207) 829-5359</b>




### FUGITIVE EMISSION TEST CERTIFICATE

Name of Manufacturer: <b>Walworth</b>	
Description of Valve: <b>1 inch Class 300 Gate Valve</b>	
2506F with Ultra Low Emission Packing	
Test Specification: <b>ISO 15848-1 (2006) - Industrial valves — Measurement, test and qualification procedures for fugitive emissions. Part 1: Classification system and qualification procedures for type testing of valves</b>	
Test Parameters: <b>Emissions Class   CO<sub>2</sub> - 500 Cycles</b>	<b>Performance Class   B1</b>
<b>Temperature Classes   Ambient, 200C, 400C, -20C</b>	<b>Pressure Class   ANSI 300</b>
Test Date: <b>August 2009</b>	Certificate Number: <b>120985-8</b>

**RESULTS**

The packing qualifies to Class B leakage levels with no readings above 6.1 e-5 atm cc/sec throughout the tests.

*This certificate refers to the above mentioned product for the test conducted. This certificate does not imply assessment of the production of the product and future performance.*

**Laboratory Information**

Name:	<b>Yarmouth Research and Technology</b>
Address:	<b>434 Walnut Hill Road North Yarmouth, ME 04097 USA</b>
Tester:	<b>Matthew Wasielewski, PE info@yarmouthresearch.com www.yarmouthresearch.com (207) 829-5359</b>





### FUGITIVE EMISSION TEST CERTIFICATE

Name of Manufacturer: <b>Walworth</b>	
Description of Valve: <b>16 inch Class 150 Gate Valve</b>	
2506F with Ultra Low Emission Packing	
Test Specification: <b>ISO 15848-1 (2006) - Industrial valves — Measurement, test and qualification procedures for fugitive emissions. Part 1: Classification system and qualification procedures for type testing of valves</b>	
Test Parameters: <b>Emissions Class   CO<sub>2</sub> - 500 Cycles</b>	<b>Performance Class   B1</b>
<b>Temperature Classes   Ambient, 200C, 400C, -20C</b>	<b>Pressure Class   ANSI 150</b>
Test Date: <b>August-September 2009</b>	Certificate Number: <b>120985-16</b>

**RESULTS**

The packing qualifies to Class B leakage levels with no readings above 7.8 e-5 atm cc/sec throughout the tests.

*This certificate refers to the above mentioned product for the test conducted. This certificate does not imply assessment of the production of the product and future performance.*

**Laboratory Information**

Name:	<b>Yarmouth Research and Technology</b>
Address:	<b>434 Walnut Hill Road North Yarmouth, ME 04097 USA</b>
Tester:	<b>Matthew Wasielewski, PE info@yarmouthresearch.com www.yarmouthresearch.com (207) 829-5359</b>






## 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 these equipment are:



**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 to perform quick chemical analysis during incoming inspection of raw materials and over pieces which will be assembled or after assembly to certify that materials used for specific valves were produced and assembled in accordance with Customer's specifications.



**Magnetic Particle Test.** - In a random basis for standard products or when a Customer request MT Certification, **WALWORTH** has the Magnetic Particle Test Equipment to perform on Ferrous materials susceptible to magnetism.

**Penetrant Test Examination.** - **WALWORTH** has the personnel and materials to perform the PT examination by oil or water washable techniques. The personnel is ASNT Certified and only certified consumable materials are used.



**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 Transient Test Loop.** - This test exposes Plug valves to the extremes of both positive and negative pressure transients to verify that the plug in a balanced plug design will not lock-up into the body.





**Metrologic Laboratory.**- WALWORTH developed a calibration and / or verification system in all the equipment used in its facilities to ensure the traceability of measurements to as per 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 after certain time of the test.



**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.

**Wall thickness Measurement Equipment.**- Using ultrasonic technique, we can measure the wall thickness of different metallic materials, including ferritic and stainless steel.



**Tensile Test Equipment.**- To ensure the mechanical properties of materials used for manufacturing, WALWORTH test samples in random basis even though we receive MTR's from our suppliers.

**Hardness Test Equipments.**- Either for Lab test or Shop test, we count with hardness tester equipments to ensure hardness of raw material or finished product components.



# WALWORTH FORGED STEEL VALVES

## FORGED STEEL, ALLOY AND STAINLESS STEEL

**WALWORTH** offers this product line manufactured in accordance with API-602 and ANSI Classes 800, 1500 and 2500 for socket weld, threaded and combined ends. Available also Integral Flanges in 150, 300, 600 and 1500 either Raised Face or ring type joint ends.

**WALWORTH** keeps a large quantity of these valves in stock in the most common trims used by the industry. For Certain Customer applications where forged material is not available (specifically for high nickel alloys), **WALWORTH** has developed this product line but produced from sand casting. In order to keep the same quality level as forged, these castings are produced with 10 % of each lot to be subject to X-ray examination

**WALWORTH** offers the majority of materials known and used for this product line, including but not limited to:

- a) Carbon Steels A105.
- b) Low Carbon Steels LF2, LF3.
- c) Low Alloy Steels F1, F11, and F22.
- d) Medium Alloy Steels F5, F9, and F91.
- e) Stainless Steel Valves F304, F316.
- f) Low Carbon Stainless Steel F304L, F316L.
- g) Duplex Stainless Steel F51, F53.
- h) Nickel Alloys Inconel, and Monel.

When cast steel valves are manufactured in accordance with API-602 as an acceptable option, **WALWORTH** offers this product line in the following materials either socket weld, threaded or flanged ends:

- a) Stainless Steels CF8, CF8M, CF8C, CF10, CG8M.
- b) Low Carbon Stainless Steels CF3, CF3M, CG3M.
- c) Super Stainless Steels CN7M (Alloy 20), CN3M (Alloy 20 modified), CT15C.
- d) High Nickel Alloys Monel M30C, Monel M35-1, Monel CZ100, Inconel CY40, (Inconel 600), CW2M (Hastelloy C4), N12MV (Hastelloy B), CW12MW (Former Hastelloy C-276), CW6M (New Hastelloy C-276), CU5MCuC (Incoloy 825), N7M (Hastelloy B2), CW6MC (Inconel 625).
- e) Duplex Stainless Steel CE8MN, CD6MN, CD3MN.
- f) Super Duplex Stainless Steel CE3MN, CD3MNCuN.
- g) Aluminum Bronze 95500, 95600, 95800.

TYPE	SIZE	PRESSURE CLASS AS PER ASME/ANSI B16.34 FOR SW OR NPT ENDS	PRESSURE CLASS AS PER ASME/ANSI B16.34 FOR RF OR RTJ ENDS
Gate	1/4" to 2"	800, 1500 & 2500	150, 300, 600, & 1500
Globe	1/4" to 2"	800, 1500 & 2500	150, 300, 600, & 1500
Piston Check	1/4" to 2"	800, 1500 & 2500	150, 300, 600, & 1500
Ball Check	1/4" to 2"	800, 1500 & 2500	150, 300, 600, & 1500
Swing Check	1/4" to 2"	800, 1500 & 2500	150, 300, 600, & 1500



# FORGED STEEL VALVES BODY MATERIALS

Walworth® offers the standard product line of API-602 Forged Steel valves in a wide variety of carbon steel, low and medium alloy materials, that can be used in combination with listed API-600 trims.

However, due to the actual requirements that the global market demands, Walworth® offers now additional materials like stainless steel, nickel and exotic alloys. Also, Walworth® offers a new product line for valves with heavy wall thickness in Aluminum Bronze, either ASTM B148 grade 95500, 95600 or 95800.

FORGING SPECIFICATION	COMMON DESIGNATION	MATERIAL SUFFIX	WROUGHT BAR SPECIFICATION	SERVICE RECOMMENDATIONS (1)	COMMON TRIM FOR THIS BASE MATERIAL	
					150 TO 600 #	900 TO 2500 #
A105	Carbon Steel	ASTM A216 Grade WCB	A105	Non-corrosive applications including water, oil and gases at temperatures between -20°F (-30°F) and +800°F (+425°C)	UT, 3HF, A	HF, 3HF+HF
A105N	Carbon Steel	ASTM A216 Grade WCC	A105N	Non-corrosive applications including water, oil and gases at temperatures between -20°F (-30°F) and +800°F (+425°C)	UT, 3HF, A	HF, 3HF+HF
A350 LF1	Low Temp Carbon steel	ASTM A352 Grade LCB	A350 LF1	Low temperature applications to -50 °F (-46°C). Not for use above + 650°F(+340°C).	UT, 3HF, A	HF, 3HF+HF
A350 LF2	Low Temp Carbon steel	ASTM A352 Grade LCC	A350 LF2	Low temperature applications to -50 °F (-46°C). Not for use above + 650°F(+340°C).	UT, 3HF, A	HF, 3HF+HF
A350 LF3	3 1/2 % Nickel Steel	ASTM A352 Grade LC3	A350 LF3	Low temperature applications to - 150°F (-101°C). Not for use above + 650°F(+340°C).	UT, 3HF, A	HF, 3HF+HF
A182 F1	C-1/2 Mo Low Alloy Steel	ASTM A217 Grade WC1	A182 F1	Non-corrosive applications including water, oil and gases at temperatures between -20°F (-30°C) and + 1100°F(+593°C).	UT, 3HF, A	HF, 3HF+HF
A182 F2	0.75% Ni; Mo; 0.75% Cr Low Alloy Steel	ASTM A217 Grade WC5	A182 F2	Non-corrosive applications including water, oil and gases at temperatures between -20°F (-30°C) and + 1100°F(+593°C).	UT, 3HF, A	HF, 3HF+HF
A182 F11	1 1/4% Chrome; 1/2% Moly Low Alloy Steel	ASTM A217 Grade WC6	A182 F11 Class 2	Non-corrosive applications including water, oil and gases at temperatures between -20°F (-30°C) and + 1100°F(+593°C).	UT, 3HF, A	HF, 3HF+HF
A182 F22	2 1/4 % Chrome Low Alloy Steel	ASTM A217 Grade WC9	A182 F11 Class 3	Non-corrosive applications including water, oil and gases at temperatures between -20°F (-30°C) and + 1100°F(+593°C).	UT, 3HF, A	HF, 3HF+HF
A182 F5	5% Chrome; 1/2 % Moly, Medium Alloy Steel	ASTM A217 Grade C5	A182 F5	Mild corrosive or erosive applications as well as non-corrosive applications at temperatures between- 20°F (-30°C) and + 1200°F (+649°C).	UT, 3HF, A	HF, 3HF+HF
A182 F9	9% Chrome; 1% Moly, Medium Alloy Steel	ASTM A217 Grade C12	A182 F9	Mild corrosive or erosive applications as well as non-corrosive applications at temperatures between- 20°F (-30°C) and + 1200°F (+649°C).	UT, 3HF, A	HF, 3HF+HF

# FORGED STEEL VALVES BODY MATERIALS

FORGING SPECIFICATION	COMMON DESIGNATION	MATERIAL SUFFIX	WROUGHT BAR SPECIFICATION	SERVICE RECOMMENDATIONS (1)	COMMON TRIM FOR THIS BASE MATERIAL	
					150 TO 600 #	900 TO 2500 #
A182 F91	9% Chrome; 1% Moly; V-N, Medium Alloy Steel	ASTM A217 Grade C12-A	A182 F91	Mild corrosive or erosive applications as well as non-corrosive applications at temperatures between -20°F (-30°C) and +1200°F (+649°C).	UT, 3HF, A	HF, 3HF+HF
ASTM A182 F304	18% Chrome; 8% Nickel; 0.08 % C Stainless Steel	ASTM A351 Grade CF8	ASTM A479 304	Corrosive or extremely high temperature non-corrosive services between -450°F (-268°C) and +1200°F (+649°C). Above +800°F (+425°C) specify carbon content of 0.04% or greater.	2, 4HF	4HF+HF
ASTM A182 F316	18% Chrome; 12% Nickel; 2 % Mo; 0.08 % C Stainless Steel	ASTM A351 Grade CF8M	ASTM A479 316	Corrosive or either extremely low or high temperature non-corrosive services between -450°F (-268°C) and +1200°F (+649°C). Above +800°F (+425°C) specify carbon content of 0.04% or greater.	18-8smo, 3HF	3HF+HF
ASTM A182 304L	18% Chrome; 8% Nickel; 0.03 % C Low Carbon Stainless Steel	ASTM A351 Grade CF3	ASTM A479 304L	Brackish water, phosphate solutions, pressurized water @ 570 °F (299 °C), sea water, steam.	304L, 3HF	304L, 3HF+HF
ASTM A182 F316L	18% Chrome; 12% Nickel; 2 % Mo; 0.03 % C Low Carbon Stainless Steel	ASTM A351 Grade CF3M	ASTM A479 316L	Acetic acid, calcium carbonate, calcium lactate, potable water, sea water, steam, sulfites.	316L, 3HF	316L, 3HF+HF
ASTM A182 F317L	18% Chrome; 12% Nickel; 3 % Mo; 0.03 % C Low Carbon Stainless Steel	ASTM A351 Grade CG3M	ASTM A182 F317L	Corrosive or non corrosive services to +800°F (+425°C)"	317L, 317LH	317L, 317LH
ASTM A182 F347	18% Chrome; 10% Nickel; Cb; 0.08 % C Stainless Steel	ASTM A351 Grade CF8C	ASTM A479 347	Primarily for high temperature, corrosive applications between -450°F (-268°C) and +1200°F (+649°C). Above +1000°F (+540°C) specify carbon content of 0.04% or greater. Hydrogen service."	347H, 347HF	347H, 347HF
ASTM A182 F304H	18% Chrome; 8% Nickel; 0.08 % C Stainless Steel	ASTM A351 Grade CF10	ASTM A479 304H	Corrosive or extremely high temperature non-corrosive services between -450°F (-268°C) and +1200°F (+649°C). Above +800°F (+425°C) specify carbon content of 0.04% or greater.	310, 310HF	310HF
ASTM A182 F316H	18% Chrome; 8% Nickel; 2% Mo; 0.08 % C Stainless Steel	ASTM A351 Grade CF10M	ASTM A479 316H	Corrosive or extremely high temperature non-corrosive services between -450°F (-268°C) and +1200°F (+649°C). Above +800°F (+425°C) specify carbon content of 0.04% or greater.	310, 310HF	310HF
ASTM A182 F317	18% Chrome; 10% Nickel; 3 % Mo; 0.08 % C Stainless Steel	ASTM A351 Grade CG8M	ASTM A182 F317	Heavy water manufacturing, Nuclear, Petroleum, Pipe Line, Power, Pulp and paper, Printing Textile, Corrosive dye solutions, ink, sulfite liquor.	317H, 21HF	317H, 21HF
ASTM A182 F310H	25% Chrome; 20% Nickel; 0.04 To 0.2 % C Super Stainless Steel	ASTM A351 Grade CK20	ASTM A182 F310H	Aircraft, Chemical processing, Oil Refining, Pulp and Paper. Corrosives Hot products around 1200 °F (649 °C), sulfite liquor, sulfuric acid (dilute).	310, 310HF	310HF
ASTM B462 N08020	19% Chrome; 28% Nickel; Cu-Mo; 0.07 % C Super Stainless Steel	ASTM A351 Grade CN7M	ASTM B473 N08020	Acetic acid (hot), brines, caustic solutions, (strong, hot), hydrochloric acid (dilute), hydrofluoric acid and hydrofluosilicic acid (dilute), nitric acid, (strong, hot), nitric-hydrofluoric pickling acids, sulfates and sulfites, sulfuric acid, (all concentrations to 150 °F (65.6 °C), sulfuric acid, phosphoric acid.	A20, A20H	A20, A20H
ASTM B462 N08020	19% Chrome; 28% Nickel; Cu-Mo; 0.03 % C Super Stainless Steel	ASTM A351 Grade CN3MN	ASTM B473 N08020	Acetic acid (hot), brines, caustic solutions, (strong, hot), hydrochloric acid (dilute), hydrofluoric acid and hydrofluosilicic acid (dilute), nitric acid, (strong, hot), nitric-hydrofluoric pickling acids, sulfates and sulfites, sulfuric acid, (all concentrations to 150 °F (65.6 °C), sulfuric acid, phosphoric acid. Better weldability properties than CN7M	A20, A20H	A20, A20H
ASTM A182 F44	20% Chrome; 18% Nickel; 6% Mo; 0.25 % C Super Stainless Steel	ASTM A351 Grade CK3MCuN	ASTM A479 S31254	Acetic Acid, antibiotics and drugs, bleaching compounds, formic acid, fruit and juices, hot air, hot water, hydrocarbons, hydrochloric acid, organic liquids and acids, nitric acid, organic salts, oxalic acid, phosphoric acid, sea water, sewage, sodium bisulfite, steam, sulfamic acid, 10 % sulfuric acid,	254HF	254HF
ASTM B564 N08810	19% Chrome; 32% Nickel; 0.05 to 0.15 % C Incoloy 800.	ASTM A351 Grade CT15C	ASTM B408 N08810		810T	810T

# FORGED STEEL VALVES BODY MATERIALS

FORGING SPECIFICATION	COMMON DESIGNATION	MATERIAL SUFFIX	WROUGHT BAR SPECIFICATION	SERVICE RECOMMENDATIONS (1)	COMMON TRIM FOR THIS BASE MATERIAL	
					150 TO 600 #	900 TO 2500 #
N/A	25.5% Chrome; 5.5% Nickel; 2% Mo; 0.040% C Super Stainless Steel	ASTM A351 Grade CD4MCu	ASTM A479 S32550	Concentrate brine, fatty acids, potable water, pulp water, pulp liquors at 220 °F (104 °C), sea water, stem, sulfuric acid (15-30% @ 140-160 °F (60-71 °C), sulfuric acid (35-40 % @ 185 °F (85 °C), plus 5 % organics).	32250H	32250H
ASTM B469 8904	21% Chrome; 25.5% Nickel; 4.5% Mo; 1.5%Cu; 0.02% C Super Stainless Steel	ASTM A351 Grade CN2MCuN	ASTM B625 8904		8904H	8904H
ASTM A182 F6	12% Chrome Steel	ASTM A487 Grade CA15	ASTM A276 410	Corrosive application at temperatures between -20°F (-30°C) and + 900°F (+482°C).	UT, HF	UT, HF
ASTM A182 F6	12% Chrome Steel	ASTM A487 Grade CA6NM	ASTM A276 410	Corrosive application at temperatures up to +1300°F (704°C). Boiler feed water 250 °F (115°C), sea water, steam sulfur.	UT, HF	UT, HF
ASTM B564 N04400	67% Ni; 30% Cu, Monel	ASTM A494 Grade M-35-1	ASTM B164 N04400	Weldable grade. Good resistance to corrosion by all common organic acids and salt water. Also highly resistant to most alkaline solutions to +7W°F (+400°C)	A, AHF	A, AHF
ASTM B160 N02200	95% Nickel	ASTM A494 Grade CZ100	ASTM B160 N02200	Chemical processing, mineral processing, food processing. Nickel is useful in handling hot concentrate alkaline or caustic solutions, reducing acids, certain food products, organic acids under certain conditions, dry chlorine and anhydrous ammonia. Cast nickel is not applicable in oxidizing acids and alkaline perchlorite.	2200	2200
ASTM B564 N06600	75% Nickel; 15% Cr; 8% Fe, Inconel 600	ASTM A494 Grade CY-40	ASTM B166 N06600	Very good for high temperature service. Good resistance to strongly corrosive media and atmosphere to + 800°F (+425°C). Hot boiler feed water, hot caustics, hot concentrate alk water, elevated temperature oxidizing conditions.	600, 600HF	600, 600HF
ASTM B564 N06625	60% Nickel; 22% Cr; 9% Mo; 3.5% Cb, Inconel 625	ASTM A494 Grade CW6MC	ASTM B446 N06625	Very good for high temperature service. Good resistance to strongly corrosive media and atmosphere to + 800°F (+425°C).	625, 625HF	625, 625HF
ASTM B425 N08825	42% Nickel; 21.5% Cr; 3% Mo; 2.3% Cu, Incoloy 825	ASTM A494 Grade CU5MCuC	ASTM B425 N08825		825, 23HF	825, 23HF
ASTM B335 N10001	62% Nickel; 28% Mo; 5% Fe, Hastelloy B	ASTM A494 Grade N12MV	ASTM B335 N10001		10001, HB	10001, HB
ASTM B335 N10665	62% Nickel; 28% Mo; 2% Fe, Hastelloy B2	ASTM A494 Grade N7M	ASTM B335 N10665		HB	HB
ASTM B574 N06455	61% Nickel; 16% Mo; 16% Cr, Hastelloy C4	ASTM A494 Grade CW2M	ASTM B574 N06455	Good resistance to strong oxidation conditions. Good properties at high temperatures, high resistance to formic, phosphoric, sulphurous and sulfuric acids to + 1200°F (+649°C)	6455H	6455H
ASTM B574 N10276	56% Nickel; 18% Mo; 17% Cr; 6% Fe, Hastelloy C-276 (FORMER ALLOY)	ASTM A494 Grade CW12MW	ASTM B574 N10276	Good resistance to strong oxidation conditions. Good properties at high temperatures, high resistance to formic, phosphoric, sulphurous and sulfuric acids to + 1200°F (+649°C)	HC, HCH	HC, HCH
ASTM B574 N10276	56% Nickel; 19% Mo; 18% Cr; 16% Fe, Hastelloy C-276 (NEW ALLOY)	ASTM A494 Grade CW6MC	ASTM B574 N10276	Good resistance to strong oxidation conditions. Good properties at high temperatures, high resistance to formic, phosphoric, sulphurous and sulfuric acids to + 1200°F (+649°C)	HC, HCH	HC, HCH

# FORGED STEEL VALVES BODY MATERIALS

FORGING SPECIFICATION	COMMON DESIGNATION	MATERIAL SUFFIX	WROUGHT BAR SPECIFICATION	SERVICE RECOMMENDATIONS (1)	COMMON TRIM FOR THIS BASE MATERIAL	
					150 TO 600 #	900 TO 2500 #
N/A	25.5% Chrome; 5.5% Nickel; 2% Mo; 0.040% C Duplex Stainless Steel Grade 1A.	ASTM A995 Grade CD4MCu	ASTM A479 S32550	Concentrate brine, fatty acids, potable water, pulp water, pulp liquors at 220 °F (104 °C), sea water, stem, sulfuric acid (15-30% @ 140-160 °F (60-71 °C), sulfuric acid (35-40 % @185 °F (85 °C), plus 5 % organics).	32250H	32250H
ASTM A182 F51	24% Chrome; 9.5% Nickel; 4% Mo; 0.080% C Duplex Stainless Steel Grade 2A.	ASTM A995 Grade CE8MN	ASTM A479 32750	Concentrate brine, fatty acids, potable water, pulp water, pulp liquors at 220 °F (104 °C), sea water, stem, sulfuric acid (15-30% @ 140-160 °F (60-71 °C), sulfuric acid (35-40 % @185 °F (85 °C), plus 5 % organics).	32750H, 31803H, 51H	32750H, 31803H, 51H
ASTM A182 F51	22% Chrome; 5% Nickel; 3% Mo; N; 0.030% C Duplex Stainless Steel Grade 4A.	ASTM A995 Grade CD3MN	ASTM A479 31803	Concentrate brine, fatty acids, potable water, pulp water, pulp liquors at 220 °F (104 °C), sea water, stem, sulfuric acid (15-30% @ 140-160 °F (60-71 °C), sulfuric acid (35-40 % @185 °F (85 °C), plus 5 % organics).	32750H, 31803H, 51H	32750H, 31803H, 51H
ASTM A182 F53	25% Chrome; 7% Nickel; 4.5% Mo; N; 0.030% C Duplex Stainless Steel Grade 5A.	ASTM A995 Grade CeE3MN	ASTM A182 F53	Concentrate brine, fatty acids, potable water, pulp water, pulp liquors at 220 °F (104 °C), sea water, stem, sulfuric acid (15-30% @ 140-160 °F (60-71 °C), sulfuric acid (35-40 % @185 °F (85 °C), plus 5 % organics). Useful where the Pitting Resistance Number (PREN) is required.	53H, 53HF	53H, 53HF
ASTM A182 F53	25% Chrome; 7.5% Nickel; 3.5% Mo; N; 0.030% C Duplex Stainless Steel Grade 6A.	ASTM A995 Grade CD3MWCuN	ASTM A182 F53	Concentrate brine, fatty acids, potable water, pulp water, pulp liquors at 220 °F (104 °C), sea water, stem, sulfuric acid (15-30% @ 140-160 °F (60-71 °C), sulfuric acid (35-40 % @185 °F (85 °C), plus 5 % organics). Useful where the Pitting Resistance Number (PREN) is required.	53H, 53HF	53H, 53HF
N/A	79% min Copper; 4.5% Nickel; 9% Aluminum; 3-4.5% Fe; 0.03 % max Pb.	ASTM B148 Grade 95800	ASTM C63000	Sea water service.	BCE630	BCE630

(1) The above list of consuming industries and corrosive materials are useful as examples of typical applications where these materials can be used where they can be used as a guide; however, the responsibility to choose the proper alloy is from the Engineering firm or End User.

## NOMENCLATURE

TYPE	CLASS
ST6	STELLITE 6
13%Cr	STAINLESS STEEL 410
316	STAINLESS STEEL 316
304	STAINLESS STEEL 304
HC	HASTELLOY "C"
CN7M	CHROME-NICKEL STEEL
321	STAINLESS STEEL 321
ST21	STELLITE 21
A20	STAINLESS STEEL ALLOY 20
347	STAINLESS STEEL 347
321	STAINLESS STEEL 321
8810	STAINLESS STEEL 8810
625	INCONEL 625
410 T	STAINLESS 410 (HARDNESS 200-275 BHN)

TYPE	CLASS
316L	STAINLESS STEEL 316L
HB	HASTELLOY "B"
317L	STAINLESS STEEL 317L
17 4PH	STAINLESS STEEL 17 4PH
317	STAINLESS STEEL 317
825	INCOLOY 825
304L	STAINLESS STEEL 304L
K500	MONEL K500
31803	STAINLESS STEEL 31803
718	INCONEL 718
8367	STAINLESS STEEL 8367
TC	TUNGSTEN CARBIDE
W1	WALWELD-100
NUC	NUCALLOY

# WALWORTH FORGED STEEL VALVES TRIM ARRANGEMENTS

Walworth® valves are available in the widest range of standard and special trims available in the Industry. The following table shows the most popular trims used for the valves offered these days by the Company.

Special trims as per Customer requirements are available upon request. Please contact your closest Walworth® Distributor.

WALWORTH TRIM Nr.	API-600 TRIM Nr.	SEAL MATERIAL TYPE	STEM AND OTHER TRIM PARTS (1)	WEDGE/DISC SEAT SURFACES	BODY SEAT SURFACES (2)
AA	1	13Cr-0.75Ni-1Mn	SS-410 (200-275 HBN)	SS-410 (200 HBN)	SS-410 (250 HBN min)
18-8	2	19Cr-9.5Ni-2Mn-0.08C	SS-304	SS-304	SS-304
310	3	25Cr-20.5Ni-2Mn	SS-310	SS-310	SS-310
N/A	4	13Cr-0.75Ni-1Mn	SS-410 (200-275 HBN)	SS-410 (200-275 HBN)	SS-410 (275 HBN min)
HF	5 OR 5A	13Cr-0.5Ni-1Mn/Co-Cr-A	SS-410(200-275 HBN)	Stellite 6 (350 HBN min)	Stellite 6 (350 HBN min)
AAA	6	13Cr-0.5Ni-1Mn/Ni-Cu	SS-410(200-275 HBN)	SS-410(250 HBN min)	Monel 400 (175 HBN min)
N/A	7	13Cr-0.5Ni-1Mo/13Cr-0.5Ni-1Mo	SS-410(200-275 HBN)	SS-410(250 HBN min)	SS-410(750 HBN min)
UT	8 OR 8A	13Cr-0.75Ni-1Mn/1/2Co-Cr-A	SS-410 (200-275 HBN)	SS-410 (250 HBN min)	Stellite 6 (350 HBN min)
A	9	70Ni-30Cu	UN N04400 (Monel 400)	UN N04400 (Monel 400)	UN N04400 (Monel 400)
18-8smo	10	18Cr-12Ni-2.5Mo-2Mn	SS-316	SS-316	SS-316
AHF	11 OR 11A	70Ni-30Cu/1/2Co-Cr-A	UN N04400 (Monel 400)	UN N04400 (Monel 400)	Stellite 6 (350 HBN min)
3HF	12 OR 12A	18Cr-12Ni-2.5Mo-2Mn/1/2Co-Cr-A	SS-316	SS-316	Stellite 6 (350 HBN min)
A20	13	29Ni-19Cr-2.5Mo-0.07C	UNS N08020 (Alloy 20)	UNS N08020 (Alloy 20)	UNS N08020 (Alloy 20)
A20H	14 OR 14A	29Ni-19Cr-2.5Mo-0.07C/1/2Co-Cr-A	UNS N08020 (Alloy 20)	UNS N08020 (Alloy 20)	Stellite 6 (350 HBN min)
NUC	NOT SPECIFIED	13Cr-0.5Ni-1Mn/NUCALLOY	SS-410(200-275 HBN)	NUCALLOY	NUCALLOY
4HF	NOT SPECIFIED	19Cr-9.5Ni-2Mn-0.08C/1/2Co-Cr-A	SS-304	SS-304	Stellite 6 (350 HBN min)
4HF+HF	NOT SPECIFIED	19Cr-9.5Ni-2Mn-0.08C/Co-Cr-A	SS-304	Stellite 6 (350 HBN min)	Stellite 6 (350 HBN min)
304L	NOT SPECIFIED	19Cr-9.5Ni-2Mn-0.03C	SS-304L	SS-304L	SS-304L
1HF	NOT SPECIFIED	18Cr-12Ni-2.5Mo-2Mn/Co-Cr-Mo	SS-316	Stellite 21 (320 HBN min)	Stellite 21 (320 HBN min)
3HF+HF	NOT SPECIFIED	18Cr-12Ni-2.5Mo-2Mn/Co-Cr-A	SS-316	Stellite 6 (350 HBN min)	Stellite 6 (350 HBN min)
3TC (3)	NOT SPECIFIED	18Cr-8Ni-Mo/TgC	SS-316/Tungsten carbide	Tungsten Carbide	Stellite 6 (350 HBN min)
316L	NOT SPECIFIED	17Cr-12Ni-2.5Mo-2Mn0.03C	SS-316L	SS-316L	SS-316L
3LHF	NOT SPECIFIED	17Cr-12Ni-2.5Mo-2Mn0.03C/1/2Co-Cr-A	SS-316L	SS-316L	Stellite 6 (350 HBN min)
3HFL	NOT SPECIFIED	17Cr-12Ni-2.5Mo-2Mn0.03C/Co-Cr-A	SS-316L	Stellite 6 (350 HBN min)	Stellite 6 (350 HBN min)
21HF	NOT SPECIFIED	19Cr-11.5Ni-3.5Mo/Co-Cr-A	SS-317	Stellite 6 (350 HBN min)	Stellite 6 (350 HBN min)
317	NOT SPECIFIED	19Cr-11.5Ni-3.5Mo	SS-317	SS-317	SS-317



# WALWORTH FORGED STEEL VALVES TRIM ARRANGEMENTS

WALWORTH TRIM Nr.	API-600 TRIM Nr.	SEAL MATERIAL TYPE	STEM AND OTHER TRIM PARTS (1)	WEDGE/DISC SEAT SURFACES	BODY SEAT SURFACES (2)
317H	NOT SPECIFIED	19Cr-11.5Ni-3.5Mo/1/2Co-Cr-A	SS-317	SS-317	Stellite 6 (350 HBN min)
317LH	NOT SPECIFIED	19Cr-13Ni-3.5Mo/Co-Cr-A	SS-317L	Stellite 6 (350 HBN min)	Stellite 6 (350 HBN min)
317L	NOT SPECIFIED	19Cr-13Ni-3.5Mo-0.03C	SS-317L	SS-317L	SS-317L
317LS	NOT SPECIFIED	19Cr-13Ni-3.5Mo/1/2Co-Cr-A	SS-317L	SS-317L	Stellite 6 (350 HBN min)
2HF	NOT SPECIFIED	18Cr-10Ni-0.1N/Co-Cr-A	SS-321	SS-321	Stellite 6 (350 HBN min)
321F	NOT SPECIFIED	18.5Cr-11Ni-2Mn/Co-Cr-A	SS-321	Stellite 6 (350 HBN min)	Stellite 6 (350 HBN min)
321	NOT SPECIFIED	19Cr-11.5Ni-3.5Mo	SS-321	SS-321	SS-321
347HF	NOT SPECIFIED	18.5Cr-11Ni-2Mn-Co/Co-Cr-A	SS-347	Stellite 6 (350 HBN min)	Stellite 6 (350 HBN min)
347	NOT SPECIFIED	18.5Cr-11Ni-2Mn-Co	SS-347	SS-347	SS-347
347H	NOT SPECIFIED	18.5Cr-11Ni-2Mn-Co/1/2Co-Cr-A	SS-347	SS-347	Stellite 6 (350 HBN min)
254HF	NOT SPECIFIED	20Cr-18Ni-6.2Mo-0.02C-Cu+N	UNS S31254	Stellite 6 (350 HBN min)	Stellite 6 (350 HBN min)
51H	NOT SPECIFIED	22Cr-5.5Ni-3Mo-N-0.03C/Co-Cr-A	UNS S31803	Stellite 6 (350 HBN min)	Stellite 6 (350 HBN min)
31803H	NOT SPECIFIED	22Cr-5.5Ni-3Mo-N-0.03C/Co-Cr-A	UNS S31803	UNS S31803	Stellite 6 (350 HBN min)
T9	NOT SPECIFIED	16Cr-4Ni-4Cu-Nb+Ta/Co-Cr	17-4pH	Triballoy 900	Triballoy 900
HC	NOT SPECIFIED	55Ni-15.5Cr-16Mo-3Tg-4Fe	Hastelloy C-276	Hastelloy C-276	Hastelloy C-276
HCH	NOT SPECIFIED	55Ni-15.5Cr-16Mo-3Tg-4Fe/1/2Co-Cr-A	Hastelloy C-276	Hastelloy C-276	Stellite 6 (350 HBN min)
UOP	NOT SPECIFIED	63Ni-30Cu-Al+Ti/70Ni-30Cu	UN N05500 (Monel K-500)	UN N04400 (Monel 400)	UN N04400 (Monel 400)
625	NOT SPECIFIED	60Ni-22Cr-9Mo-3.5Cb	UNS N06625 (Incoloy 625)	UNS N06625 (Incoloy 625)	UNS N06625 (Incoloy 625)
625HF	NOT SPECIFIED	60Ni-22Cr-9Mo-3.5Cb/Co-Cr-A	UNS N06625 (Incoloy 625)	Stellite 6 (350 HBN min)	Stellite 6 (350 HBN min)
8367HF+HF	NOT SPECIFIED	25Ni-20Cr-6.5Mo-2Mn-0.03C/Co-Cr-A	UNS N08367 (AL6XN)	Stellite 6 (350 HBN min)	Stellite 6 (350 HBN min)
810T	NOT SPECIFIED	33Ni-21Cr-39.5Fe-1.5Mn	UNS N08810 (Incoloy 800H)	UNS N08810 (Incoloy 800H)	UNS N08810 (Incoloy 800H)
825	NOT SPECIFIED	42Ni-21.5Cr-3Mo-Ti+Al-0.05C	UNS N08825 (Incoloy 825)	UNS N08825 (Incoloy 825)	UNS N08825 (Incoloy 825)
23HF	NOT SPECIFIED	42Ni-21.5Cr-3Mo/CO-Cr-Mo	UNS N08825 (Incoloy 825)	Stellite 21 (320 HBN min)	Stellite 21 (320 HBN min)
HB	NOT SPECIFIED	66Ni-28Mo-1Mn-0.02C	UNS N10665 (Hastelloy B2)	UNS N10665 (Hastelloy B2)	UNS N10665 (Hastelloy B2)
BCE630	NOT SPECIFIED	79Cu-4.5Ni-9Al-4Fe-0.03Pb	ASTMB B150 63000	ASTMB B150 63000	ASTM B150 63000
HB	NOT SPECIFIED	66Ni-28Mo-1Mn-0.02C	UNS N10665 (Hastelloy B2)	UNS N10665 (Hastelloy B2)	UNS N10665 (Hastelloy B2)

## COMMON CONSTRUCTION MATERIALS COMBINATION

Following table shows the most common combination in between base material and trim. There are many other trims which can be combined with these base materials, please refer to other sections of this catalog for additional information.

DESCRIPTION	ASTM A 105 TRIM UT (API-600 Nr. 8)	ASTM A182 Grade F11 TRIM UT (API-600 Nr. 8)	ASTM A182 Grade F22 TRIM UT (API-600 Nr. 8)	ASTM A182 Grade F5 TRIM UT (API-600 Nr. 8)	ASTM A182 Grade F9 TRIM UT (API-600 Nr. 8)	ASTM A350 Grade LF1 TRIM UT (API-600 Nr. 8)
BODY	ASTM A 105	ASTM A182 Grade F11	ASTM A182 Grade F22	ASTM A182 Grade F5	ASTM A182 Grade F9	ASTM A350 Grade LF1
BONNET GASKET	304+FLEXIBLE GRAPHITE	304+FLEXIBLE GRAPHITE	304+FLEXIBLE GRAPHITE	304+FLEXIBLE GRAPHITE	304+FLEXIBLE GRAPHITE	304+FLEXIBLE GRAPHITE
SEAT	ASTM A 276 TYPE 410 + ST6	ASTM A 276 TYPE 410 + ST6	ASTM A 276 TYPE 410 + ST6	ASTM A 276 TYPE 410 + ST6	ASTM A 276 TYPE 410 + ST6	ASTM A 276 TYPE 410 + ST6
WEDGE	ASTM A 276 TYPE 420	ASTM A 276 TYPE 420	ASTM A 276 TYPE 420	ASTM A 276 TYPE 420	ASTM A 276 TYPE 420	ASTM A 276 TYPE 420
STEM PACKING	FLEXIBLE GRAPHITE	FLEXIBLE GRAPHITE	FLEXIBLE GRAPHITE	FLEXIBLE GRAPHITE	FLEXIBLE GRAPHITE	FLEXIBLE GRAPHITE
BONNET	ASTM A105	ASTM A182 Grade F11	ASTM A182 Grade F22	ASTM A182 Grade F5	ASTM A182 Grade F9	ASTM A350 Grade LF1
STEM	ASTM A 276 TYPE 410	ASTM A 276 TYPE 410	ASTM A 276 TYPE 410	ASTM A 276 TYPE 410	ASTM A 276 TYPE 410	ASTM A 276 TYPE 410
EYED BOLT PIN	ASTM A 276 TYPE 304	ASTM A 276 TYPE 304	ASTM A 276 TYPE 304	ASTM A 276 TYPE 304	ASTM A 276 TYPE 304	ASTM A 276 TYPE 304
EYED BOLT	ASTM A193 GR. B7	ASTM A193 GR. B16	ASTM A193 GR. B16	ASTM A193 GR. B16	ASTM A193 GR. B16	ASTM A193 GR. B16
BONNET BOLTS	ASTM A193 GR. B7	ASTM A193 GR. B16	ASTM A193 GR. B16	ASTM A193 GR. B16	ASTM A193 GR. B16	ASTM A193 GR. B16
GLAND NUT	ASTM A 276 TYPE 420	ASTM A 276 TYPE 420	ASTM A 276 TYPE 420	ASTM A 276 TYPE 420	ASTM A 276 TYPE 420	ASTM A 276 TYPE 420
GLAND PLATE	ASTM A105	ASTM A182 Grade F11	ASTM A182 Grade F22	ASTM A182 Grade F5	ASTM A182 Grade F9	ASTM A350 Grade LF1
GLAND BUSHING	ASTM A 276 TYPE 420	ASTM A 276 TYPE 420	ASTM A 276 TYPE 420	ASTM A 276 TYPE 420	ASTM A 276 TYPE 420	ASTM A 276 TYPE 420
STEM NUT	ASTM A 276 TYPE 410	ASTM A 276 TYPE 410	ASTM A 276 TYPE 410	ASTM A 276 TYPE 410	ASTM A 276 TYPE 410	ASTM A 276 TYPE 410
HANDWHEEL	ASTM A 197	ASTM A 197	ASTM A 197	ASTM A 197	ASTM A 197	ASTM A 197
HANDWHEEL NUT	ASTM A194 GR. 2H	ASTM A194 GR. 2H	ASTM A194 GR. 2H	ASTM A194 GR. 2H	ASTM A194 GR. 2H	ASTM A194 GR. 2H
IDENTIFICATION PLATE *	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM

## CHEMICAL COMPOSITION AND MECHANICAL PROPERTIES

Following table shows the nominal chemical composition and mechanical properties for the most common materials supplied. Additional information can be requested from your closest WALWORTH Distributor for other steel, stainless steels or Nickel alloys.

CHEMICAL COMPOSITION AND MECHANICAL PROPERTIES										
Elements and Properties	CARBON STEEL	LOW CARBON STEEL		LOW ALLOY STEEL		MEDIUM ALLOY STEEL		STAINLESS STEEL		
	ASTM-A105	ASTM-A350		ASTM-A182				ASTM-A182		
		LF1	LF2	F11	F22	F5	F9	F304	F316	F347
Carbon	0.35	0.30	0.30	0.10-0.20	0.05-0.15	0.15	0.15	0.030	0.030	0.080
Manganese	0.60-1.05	0.60-1.05	0.60-1.05	0.30-0.80	0.30-0.80	0.30-0.60	0.30-0.60	2.00	2.00	2.00
Phosphorus	0.035	0.035	0.035	0.040	0.040	0.03	0.030	0.045	0.045	0.045
Sulphur	0.040	0.040	0.040	0.040	0.040	0.03	0.030	0.030	0.030	0.030
Silicon	0.10-0.35	0.10-0.35	0.10-0.35	0.50-1.00	0.50	0.50	0.50-1.00	1.00	1.00	1.00
Nickel	0.40	0.40	0.40	-	-	0.50	-	8.0-11.0	10.0-14.0	9.0-13.0
Chromium	0.30	0.30	0.30	1.00-1.50	2.00-2.50	4.00-6.00	8.0-10.0	18.0-20.0	16.0-18.0	17.0-20.0
Molybdenum	0.12	0.12	0.12	0.44-0.65	0.87-1.13	0.44-0.65	0.90-1.10	-	2.0-3.0	-
Copper	0.40	0.40	0.40	-	-	-	-	-	-	-
Columbium	0.02	0.02	0.02	-	-	-	-	-	-	* 2
Vanadium	0.05	0.05	0.05	-	-	-	-	-	-	-
Yield Strength PSI minimum	70,000	71,000	71,000	70,000	75,000	70,000	85,000	75,000	75,000	75,000
Elongation In 2" minimum	36,000	36,000	36,000	40,000	45,000	40,000	55,000	30,000	30,000	30,000
ReductionArea % minimum	22	22	22	20	20	20	20	30	30	30
Hardness (HB) Maximum	30	30	30	30	30	35	40	50	50	50

Notes:

- The percentage (%) shown on the elements is the maximum except where ranges are indicated.
- Steel F347 should have a Columbium content of not less than 8 times the carbon content, but not exceeding 1%.

# WALWORTH FORGED STEEL GATE VALVES

The Gate Valve is used when the need exist for a device that allows an interruption or cut off the flow of a fluid. Gate Valves are not to be used for flow modulation as the high velocity of the 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 is independent of the flow direction.

## DESIGN FEATURES

- Valves in accordance with API-602.
- Socket Weld, Threaded, Combined or Flanged RF or RTJ ends.
- Bolted Bonnet or Welded Bonnet options.
- Renewable or integral seats.
- Low fugitive emissions control.
- NACE Service either MR-0175 or MR-0103.
- Test in accordance with API-598

Rising stem with precision acme double thread for quick operation

Stem-gate connection designed so that under severe applied loads (stuck gate), the stem will fail outside of the stuffing box pressure boundary

Stem packing is designed for optimum control of fugitive emissions leakage to the atmosphere. The ultra-low emission leakage rate is assured by the fine finish on the stem sealing area, the reduced diametrical clearances and the stem straightness control.

Backseat designed to relieve back pressure on the stem packing when fully seated. Replacing stem packing under pressure is not recommended.

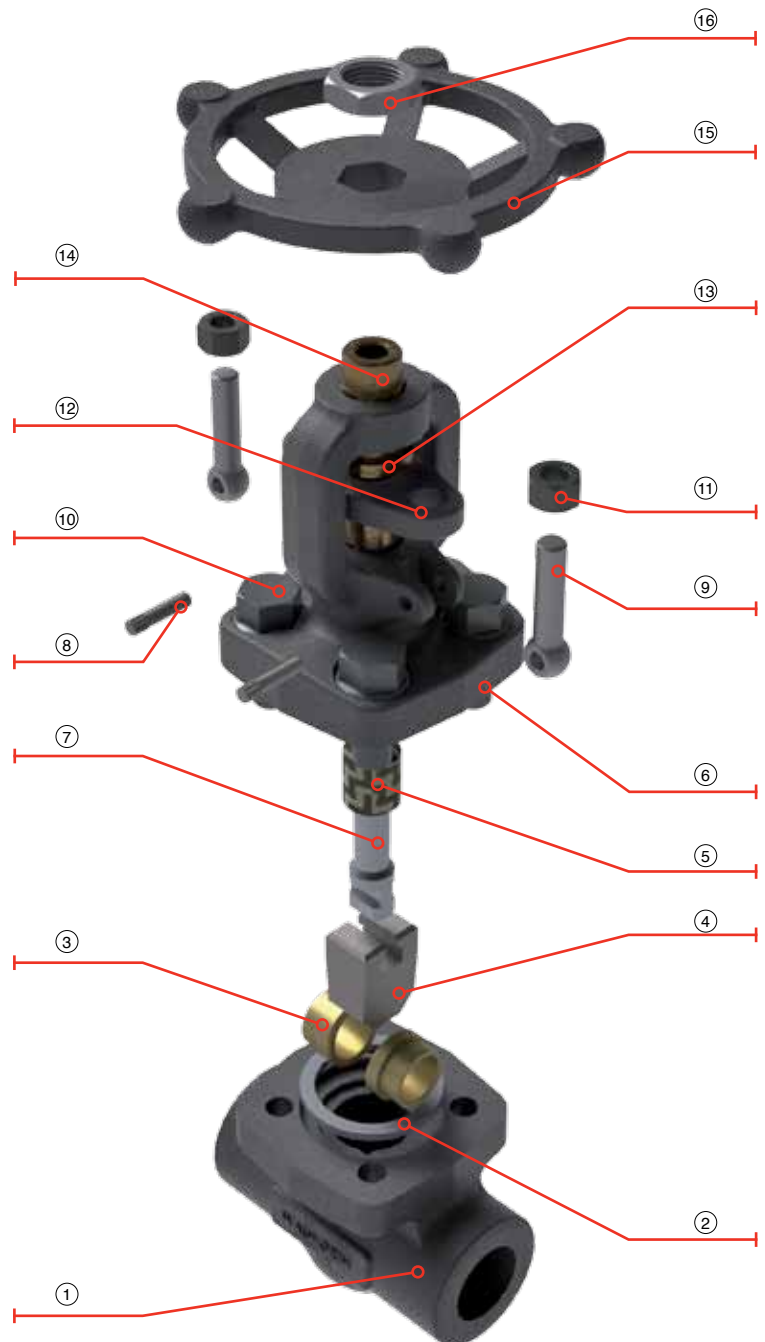
Body to bonnet joint designed to apply a uniform load to the gasket to assure a leak proof seal.

Stellite seat rings provide increased resistance to wear, abrasion and erosion of the sealing surfaces.

## REGULAR BILL OF MATERIALS

No.	DESCRIPTION	TRIM 8 A 105
1	BODY	A105
2	BONNET GASKET	304+FLEXIBLE GRAPHITE
3	SEAT	A276-410+STL
4	WEDGE	A276-420
5	STEM PACKING	FLEXIBLE GRAPHITE
6	BONNET	A105
7	STEM	A276-410
8	EYED BOLT PIN	A276-304
9	EYED BOLT	A193-B7
10	BONNET BOLTS	A193-B7
11	GLAND NUT	A276-420
12	GLAND PLATE	A105
13	GLAND BUSHING	A276-420
14	STEM NUT	A276-410
15	HANDWHEEL	A197
16	HANDWHEEL NUT	A194-2H
17	IDENTIFICATION PLATE *	ALUMINIUM

\* NOT SHOWN



# FORGED STEEL GATE VALVE THREADED SW CLASS 800

## Design characteristics

- API 602 & ASME B16.34
- Bolted or Welded Bonnet
- Solid Wedge
- Stem with ACME Threaded (OS&Y)
- Bolted Gland Bushing
- Standard or Full Port
- Threaded, Socket Weld or Threaded x Socket Weld.
- Spiral Wound Gasket
- Stellite Renewable Seat Rings

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
Standard	800	950S	950S	THREADED
	Bolted Bonnet	950SW	950SW	SOCKET WELD
	Bonnet	950SSW	950SSW	THREADED X SOCKET WELD
Full	800	958S	958S	THREADED
	Bolted Bonnet	958SW	958SW	SOCKET WELD
	Bonnet	958SSW	958SSW	THREADED X SOCKET WELD
Standard	800	957S	957S	THREADED
	Welded Bonnet	957SW	957SW	SOCKET WELD
	Bonnet	957SSW	957SSW	THREADED X SOCKET WELD
Full	800	959S	959S	THREADED
	Welded Bonnet	959SW	959SW	SOCKET WELD
	Bonnet	959SSW	959SSW	THREADED X SOCKET WELD

## DIMENSIONS & WEIGHTS

FIG. 950 STANDARD PORT, BOLTED BONNET

SIZES	INCHES MM	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
		6	10	13	19	25	32	38	5
A	INCHES	3.11	3.11	3.11	3.62	4.37	4.72	4.72	5.51
	MM	79	79	79	92	111	120	120	140
B (OPEN)	INCHES	5.87	5.87	6.02	6.02	7.28	8.74	9.45	10.98
	MM	149	149	153	153	185	222	240	279
C	INCHES	3.94	3.94	3.94	3.94	4.72	6.30	6.30	7.09
	MM	100	100	100	100	120	160	160	180
D	INCHES	0.31	0.39	0.51	0.51	0.71	1.14	1.14	1.44
	MM	8	10	13	13	18	29	29	36.5
E	INCHES	1.34	1.34	1.34	1.57	1.93	2.52	2.52	3.07
	MM	34	34	34	40	49	64	64	78
WEIGHT	POUNDS	4.18	4.18	4.4	4.84	7.92	12.1	13.64	21.34
	KILOGRAMS	1.9	1.9	2.0	2.2	3.6	5.5	6.2	9.7

FIG. 957 STANDARD PORT, WELDED BONNET

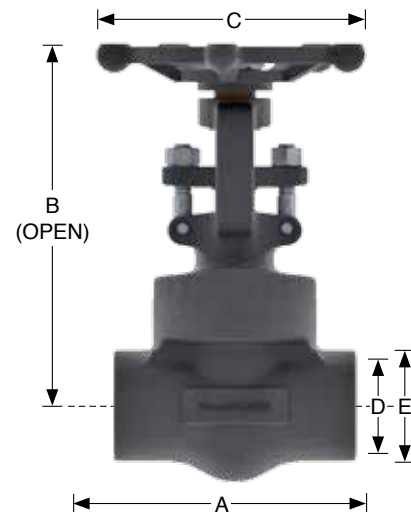
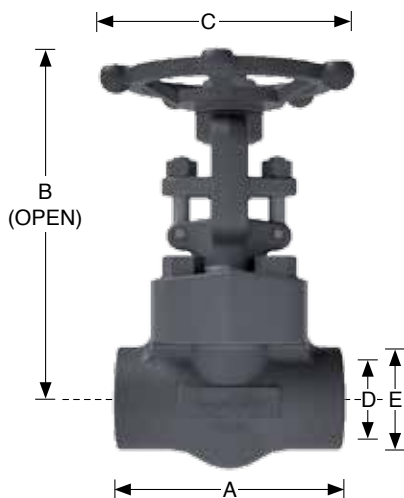
SIZES	INCHES MM	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
		6	10	13	19	25	32	38	51
A	INCHES	3.11	3.11	3.11	3.62	4.37	4.72	4.72	5.51
	MM	79	79	79	92	111	120	120	140
B (OPEN)	INCHES	6.18	6.18	6.34	6.34	7.48	8.66	9.45	10.98
	MM	157	157	161	161	190	220	240	279
C	INCHES	3.94	3.94	3.94	3.94	4.72	6.30	6.30	7.09
	MM	100	100	100	100	120	160	160	180
D	INCHES	0.31	0.39	0.51	0.51	0.71	1.14	1.14	1.45
	MM	8	10	13	13	18	29	29	36.8
E	INCHES	1.34	1.34	1.34	1.57	1.93	2.52	2.52	3.07
	MM	34	34	34	40	49	64	64	78
WEIGHT	POUNDS	3.74	3.74	3.96	4.4	7.48	11.66	13.2	20.9
	KILOGRAMS	1.7	1.7	1.8	2.0	3.4	5.3	6.0	9.5

FIG. 958 FULL PORT, BOLTED BONNET

SIZES	INCHES MM	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
		13	19	25	32	38	51
A	INCHES	3.62	4.37	4.72	4.72	5.51	6.30
	MM	92	111	120	120	140	160
B (OPEN)	INCHES	6.02	7.28	8.74	9.45	10.98	13.11
	MM	153	185	222	240	279	333
C	INCHES	3.94	4.72	6.30	6.30	7.09	7.87
	MM	100	120	160	160	180	200
D	INCHES	0.51	0.71	0.94	1.14	1.45	1.89
	MM	13	18	24	29	37	48
E	INCHES	1.57	1.93	2.28	2.52	3.07	3.23
	MM	40	49	58	64	78	82
WEIGHT	POUNDS	7.26	8.36	12.76	14.74	22.66	33.44
	KILOGRAMS	3.3	3.8	5.8	6.7	10.3	15.2

FIG. 959 FULL PORT, WELDED BONNET

SIZES	INCHES MM	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
		13	19	25	32	38	51
A	INCHES	3.62	4.37	4.72	4.72	5.51	6.30
	MM	92	111	120	120	140	160
B (OPEN)	INCHES	6.34	7.48	8.66	9.45	10.98	12.56
	MM	161	190	220	240	279	319
C	INCHES	3.94	4.72	6.30	6.30	7.09	7.87
	MM	100	120	160	160	180	200
D	INCHES	0.51	0.71	0.94	1.14	1.45	1.45
	MM	13	18	24	29	36.8	36.8
E	INCHES	1.57	1.93	2.28	2.52	3.07	3.46
	MM	40	49	58	64	78	88
WEIGHT	POUNDS	7.04	8.14	12.54	14.52	22.44	33.22
	KILOGRAMS	3.2	3.7	5.7	6.6	10.2	15.1



# FORGED STEEL GATE VALVE THREADED SW CLASS 1500

## Design Characteristics

- API 602 & ASME B16.34
- Bolted or Welded Bonnet
- Solid Wedge
- Stem with ACME Threaded (OS&Y)
- Bolted Gland Bushing
- Standard or Full Port
- Threaded, Socket Weld or Threaded x Socket Weld.
- Spiral Wound Gasket
- Stellite Renewable Seat Rings

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
Standard	1500	1950S	1950S	THREADED
	Bolted	1950SW	1950SW	SOCKET WELD
	Bonnet	1950SSW	1950SSW	THREADED X SOCKET WELD
Full	1500	1951S	1951S	THREADED
	Bolted	1951SW	1951SW	SOCKET WELD
	Bonnet	1951SSW	1951SSW	THREADED X SOCKET WELD
Standard	1500	1957S	1957S	THREADED
	Welded	1957SW	1957SW	SOCKET WELD
	Bonnet	1957SSW	1957SSW	THREADED X SOCKET WELD
Full	1500	1958S	1958S	THREADED
	Welded	1958SW	1958SW	SOCKET WELD
	Bonnet	1958SSW	1958SSW	THREADED X SOCKET WELD

## DIMENSIONS & WEIGHTS

FIG. 1950 STANDARD PORT, BOLTED BONNET

SIZES	INCHES	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	6	10	13	19	25	32	38	51
A	INCHES	3.11	3.62	3.62	4.37	4.72	4.72	5.51	6.30
	MM	79	92	92	111	120	120	140	160
B (OPEN)	INCHES	6.89	7.01	7.13	7.13	8.58	9.33	10.79	12.56
	MM	175	178	181	181	218	237	274	319
C	INCHES	3.94	3.94	4.92	4.92	6.30	6.30	7.09	7.87
	MM	100	100	125	125	160	160	180	200
D	INCHES	0.31	0.51	0.51	0.51	0.71	0.94	1.14	1.45
	MM	8	13	13	13	18	24	29	36.8
E	INCHES	1.34	1.57	1.65	1.93	2.28	2.52	3.07	3.46
	MM	34	40	42	49	58	64	78	88.0
WEIGHT	POUNDS	6.60	7.04	7.70	8.80	13.20	15.40	23.76	34.10
	KILOGRAMS	3.0	3.2	3.5	4.0	6.0	7.0	10.8	15.5

FIG. 1957 STANDARD PORT, WELDED BONNET

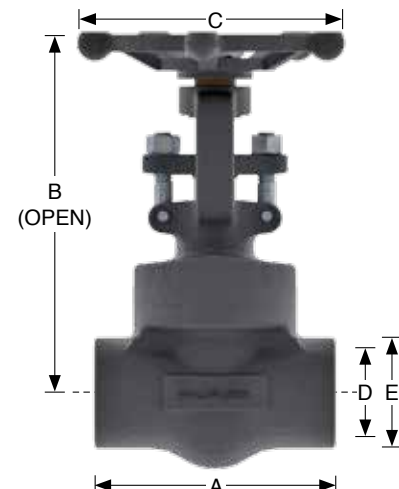
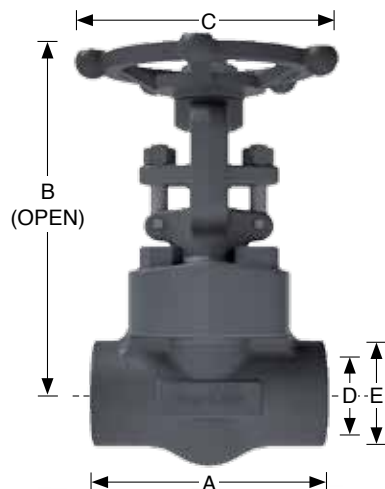
SIZES	INCHES	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	6	10	13	19	25	32	38	51
A	INCHES	3.11	3.62	3.62	4.37	4.72	4.72	5.51	6.30
	MM	79	92	92	111	120	120	140	160
B (OPEN)	INCHES	6.89	7.01	7.13	7.13	8.58	9.33	10.79	12.56
	MM	175	178	181	181	218	237	274	319
C	INCHES	3.94	3.94	4.92	4.92	6.30	6.30	7.09	7.87
	MM	100	100	125	125	160	160	180	200
D	INCHES	0.31	0.51	0.51	0.51	0.71	0.94	1.14	1.45
	MM	8	13	13	13	18	24	29	36.8
E	INCHES	1.34	1.57	1.65	1.93	2.28	2.52	3.07	3.46
	MM	34	40	42	49	58	64	78	88
WEIGHT	POUNDS	6.16	6.6	7.26	8.14	12.54	14.74	23.1	33.44
	KILOGRAMS	2.8	3.0	3.3	3.7	5.7	6.7	10.5	15.2

FIG. 1951 FULL PORT, BOLTED BONNET

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	4.37	4.72	4.72	5.51	6.30	9.06
	MM	111	120	120	140	160	230
B (OPEN)	INCHES	7.13	8.58	9.33	10.79	12.56	13.58
	MM	181	218	237	274	319	345
C	INCHES	4.92	6.30	6.30	7.09	7.87	7.87
	MM	125	160	160	180	200	200
D	INCHES	0.51	0.71	0.94	1.14	1.45	1.89
	MM	13	18	24	29	37	48
E	INCHES	1.93	2.28	2.52	3.07	3.46	3.46
	MM	49	58	64	78	88	88
WEIGHT	POUNDS	9.46	13.86	16.06	24.64	34.98	36.3
	KILOGRAMS	4.3	6.3	7.3	11.2	15.9	16.5

FIG. 1958 FULL PORT, WELDED BONNET

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	4.37	4.72	4.72	5.51	6.30	9.06
	MM	111	120	120	140	160	230
B (OPEN)	INCHES	7.13	8.58	9.33	10.79	12.56	13.58
	MM	181	218	237	274	319	345
C	INCHES	4.92	6.30	6.30	7.09	7.87	7.87
	MM	125	160	160	180	200	200
D	INCHES	0.51	0.71	0.94	1.14	1.45	1.89
	MM	13	18	24	29	37	48
E	INCHES	1.93	2.28	2.52	3.07	3.46	3.46
	MM	49	58	64	78	88	88
WEIGHT	POUNDS	9.24	13.64	15.84	24.42	34.76	36.08
	KILOGRAMS	4.2	6.2	7.2	11.1	15.8	16.4



# FORGED STEEL GATE VALVE THREADED SW CLASS 2500

## Design Characteristics

- API 602 & ASME B16.34
- Welded Bonnet
- Solid Wedge
- Stem with ACME Threaded (OS&Y)
- Bolted Gland Bushing
- Standard or Full Port
- Threaded, Socket Weld or Threaded x Socket Weld.
- Stellite Renewable Seat Rings

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
STANDARD	2500	952S	952S	THREADED
	WELDED BONNET	952SW	952SW	SOCKET WELD
	2500	952SSW	952SSW	THREADED X SOCKET WELD
FULL	2500	962S	962S	THREADED
	WELDED BONNET	962SW	962SW	SOCKET WELD
	2500	962SSW	962SSW	THREADED X SOCKET WELD

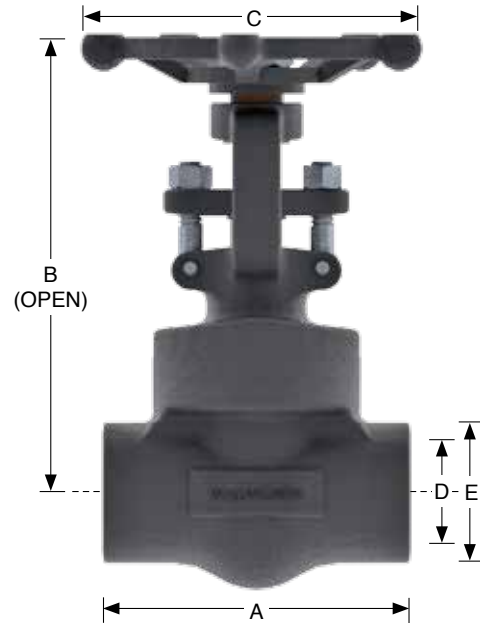
## DIMENSIONS & WEIGHTS

FIG. 952 WELDED BONNET, STANDARD PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	5.91	5.91	6.69	7.87	7.87	9.84
	MM	150	150	170	200	200	250
B (OPEN)	INCHES	9.96	9.96	11.46	13.35	13.46	15.67
	MM	253	253	291	339	342	398
C	INCHES	6.30	6.30	7.87	9.84	9.84	11.81
	MM	160	160	200	250	250	300
D	INCHES	0.55	0.55	0.75	0.98	1.10	1.38
	MM	14	14	19	25	28	35
E	INCHES	2.05	2.05	2.52	3.15	3.15	3.74
	MM	52.0	52.0	64.0	80.0	80.0	95.0
WEIGHT	POUNDS	15.4	14.96	22	33	43.34	57.2
	KILOGRAMS	7.0	6.8	10.0	15.0	19.7	26.0

FIG. 962 WELDED BONNET, FULL PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	5.91	6.69	7.87	7.87	9.84	10.63
	MM	150	170	200	200	250	270
B (OPEN)	INCHES	9.96	11.46	13.35	13.46	15.67	16.54
	MM	253	291	339	342	398	420
C	INCHES	6.30	7.87	9.84	9.84	11.81	12.60
	MM	160	200	250	250	300	320
D	INCHES	0.55	0.75	0.98	1.10	1.38	1.57
	MM	14	19	25	28	35	40
E	INCHES	2.05	2.52	3.15	3.15	3.74	3.94
	MM	52.0	64.0	80.0	80.0	95.0	100.0
WEIGHT	POUNDS	14.96	22	33	43.34	57.2	66
	KILOGRAMS	6.8	10.0	15.0	19.7	26.0	30.0



# FORGED STEEL GATE VALVE RF/RTJ CLASS 150, 300 & 600

## Design Characteristics

- API 602 & ASME B16.34
- Bolted Bonnet
- Solid Wedge
- Stem with ACME Threaded (OS&Y)
- Bolted Gland Bushing
- Standard Port
- Integral flanged ends (Raised Face or Ring Type Joint)
- Spiral wound gasket
- Stellite Renewable Seat Rings

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
Standard	150	9515RF	9515F	FLANGED RAISED FACE
		9515RTJ	9515RTJ	FLANGED RING TYPE JOINT
Standard	300	9530RF	9530F	FLANGED RAISED FACE
		9530RTJ	9530RTJ	FLANGED RING TYPE JOINT
Standard	600	9560RF	9560F	FLANGED RAISED FACE
		9560RTJ	9560RTJ	FLANGED RING TYPE JOINT

## DIMENSIONS & WEIGHTS

FIG. 9515 STANDARD PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A (RF)	INCHES	4.25	4.63	5.00	5.50	6.50	7.00
	MM	108	118	127	140	165	178
A (RJ)	INCHES	4.76	5.19	5.50	6.00	7.00	7.50
	MM	121	132	140	178	178	191
B (OPEN)	INCHES	6.02	6.02	7.28	8.74	9.45	10.98
	MM	153	153	185	222	240	279
C	INCHES	3.94	3.94	4.92	6.30	6.30	7.09
	MM	100	100	125	160	160	180
D	INCHES	0.51	0.71	0.94	1.14	1.45	1.89
	MM	13	18	24	29	37	48
WEIGHT	POUNDS	6.6	7.7	12.1	14.96	22.88	31.68
	KILOGRAMS	3.0	3.5	5.5	6.8	10.4	14.4

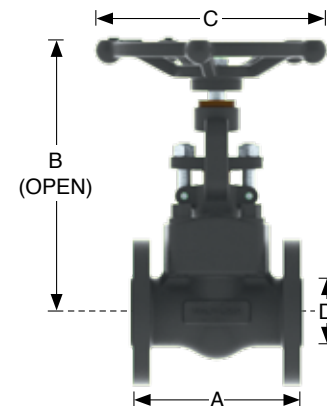


FIG. 9530 STANDARD PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A (RF)	INCHES	5.50	6.00	6.50	7.00	7.50	8.50
	MM	140	152	165	178	191	216
A (RJ)	INCHES	5.94	6.50	7.00	7.50	8.00	9.13
	MM	151	165	178	191	203	232
B (OPEN)	INCHES	6.02	6.02	7.28	8.74	9.45	10.98
	MM	153	153	185	222	240	279
C	INCHES	3.94	3.94	4.92	6.30	6.30	7.09
	MM	100	100	125	160	160	180
D	INCHES	0.51	0.71	0.94	1.14	1.45	1.89
	MM	13	18	24	29	37	48
WEIGHT	POUNDS	7.92	10.78	15.4	20.68	29.26	39.6
	KILOGRAMS	3.60	4.90	7.00	9.40	13.30	18.00

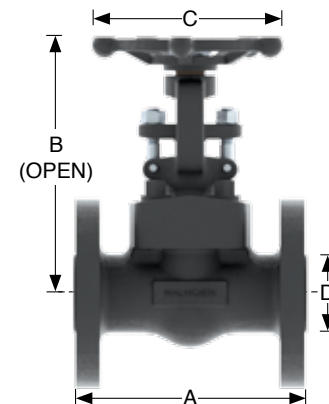
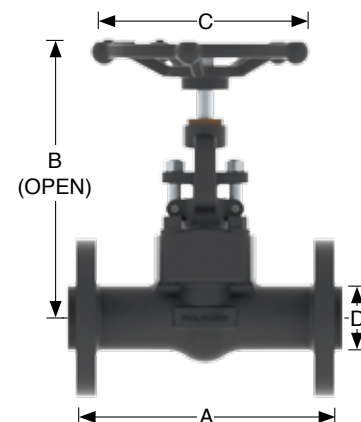


FIG. 9560 STANDARD PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A (RF)	INCHES	6.50	7.50	8.50	9.00	9.50	11.50
	MM	165	191	216	229	241	292
A (RJ)	INCHES	6.44	7.50	8.50	9.00	9.50	11.63
	MM	164	191	216	229	241	295
B (OPEN)	INCHES	6.02	6.02	7.28	8.74	9.45	10.98
	MM	153	153	185	222	240	279
C	INCHES	3.94	3.94	4.92	6.30	6.30	7.09
	MM	100	100	125	160	160	180
D	INCHES	0.51	0.71	0.94	1.14	1.45	1.89
	MM	13	18	24	29	37	48
WEIGHT	POUNDS	9.24	12.76	19.36	26.62	33	42.9
	KILOGRAMS	4.20	5.80	8.80	12.10	15.00	19.50



# FORGED STEEL GATE VALVE RF/RTJ CLASS 150, 300 & 600

## Design Characteristics

- API 602 & ASME B16.34
- Bolted Bonnet
- Solid Wedge
- Stem with ACME Threaded (OS&Y)
- Bolted Gland Bushing
- Full Port
- Integral flanged ends (Raised Face or Ring Type Joint)
- Spiral wound gasket
- Stellite Renewable Seat Rings

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
Full	150	9518RF	9518F	FLANGED RAISED FACE
		9518RTJ	9518RTJ	FLANGED RING TYPE JOINT
Full	300	9538RF	9538F	FLANGED RAISED FACE
		9538RTJ	9538RTJ	FLANGED RING TYPE JOINT
Full	600	9568RF	9568F	FLANGED RAISED FACE
		9568RTJ	9568RTJ	FLANGED RING TYPE JOINT

## DIMENSIONS & WEIGHTS

FIG. 9518 FULL PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A (RF)	INCHES	4.25	4.63	5.00	5.50	6.50	7.00
	MM	108	118	127	140	165	178
A (RJ)	INCHES	4.76	5.19	5.50	6.00	7.00	7.50
	MM	121	132	140	178	178	191
B (OPEN)	INCHES	6.02	6.02	7.28	8.74	9.45	10.98
	MM	153	153	185	222	240	279
C	INCHES	3.94	3.94	4.92	6.30	6.30	7.09
	MM	100	100	125	160	160	180
D	INCHES	0.51	0.71	0.94	1.14	1.45	1.89
	MM	13	18	24	29	37	48
WEIGHT	POUNDS	6.6	7.7	12.1	14.96	22.88	31.68
	KILOGRAMS	3.0	3.5	5.5	6.8	10.4	14.4

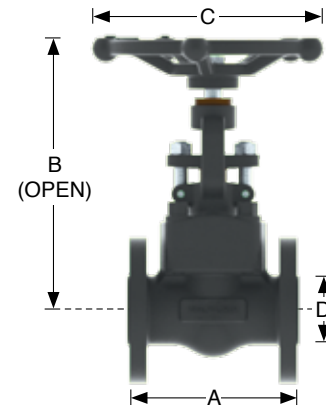


FIG. 9538 FULL PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A (RF)	INCHES	5.50	6.00	6.50	7.00	7.50	8.50
	MM	140	152	165	178	191	216
A (RJ)	INCHES	5.94	6.50	7.00	7.50	8.00	9.13
	MM	151	165	178	191	203	232
B (OPEN)	INCHES	6.02	6.02	7.28	8.74	9.45	10.98
	MM	153	153	185	222	240	279
C	INCHES	3.94	3.94	4.92	6.30	6.30	7.09
	MM	100	100	125	160	160	180
D	INCHES	0.51	0.71	0.94	1.14	1.45	1.89
	MM	13	18	24	29	37	48
WEIGHT	POUNDS	7.92	10.78	15.4	20.68	29.26	39.6
	KILOGRAMS	3.60	4.90	7.00	9.40	13.30	18.00

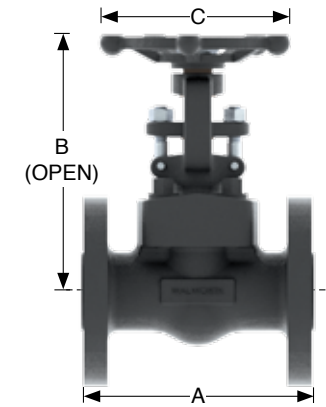
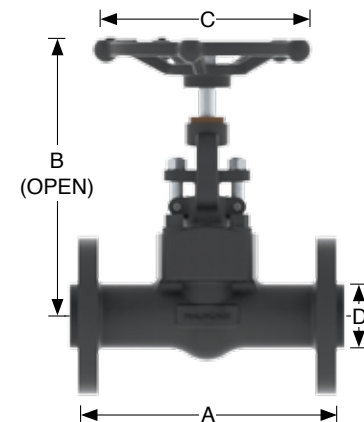


FIG. 9568 FULL PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A (RF)	INCHES	6.50	7.50	8.50	9.00	9.50	11.50
	MM	165	191	216	229	241	292
A (RJ)	INCHES	6.44	7.50	8.50	9.00	9.50	11.63
	MM	164	191	216	229	241	295
B (OPEN)	INCHES	6.02	6.02	7.28	8.74	9.45	10.98
	MM	153	153	185	222	240	279
C	INCHES	3.94	3.94	4.92	6.30	6.30	7.09
	MM	100	100	125	160	160	180
D	INCHES	0.51	0.71	0.94	1.14	1.45	1.89
	MM	13	18	24	29	37	48
WEIGHT	POUNDS	9.24	12.76	19.36	26.62	33	42.9
	KILOGRAMS	4.20	5.80	8.80	12.10	15.00	19.50





# FORGED STEEL GATE VALVE RF/RTJ CLASS 1500

## Design Characteristics

- API 602 & ASME B16.34
- Bolted Bonnet
- Solid Wedge
- Stem with ACME Threaded (OS&Y)
- Bolted Gland Bushing
- Standard or Full Port
- Integral flanged ends (Raised Face or Ring Type Joint)
- Spiral wound gasket
- Stellite Renewable Seat Rings

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
Standard	1500 Bolted Bonnet	19515RF	19515F	FLANGED RAISED FACE
		19515RTJ	19515RTJ	FLANGED RING TYPE JOINT
Full	1500 Bolted Bonnet	19185RF	19185F	FLANGED RAISED FACE
		19185RTJ	19185RTJ	FLANGED RING TYPE JOINT

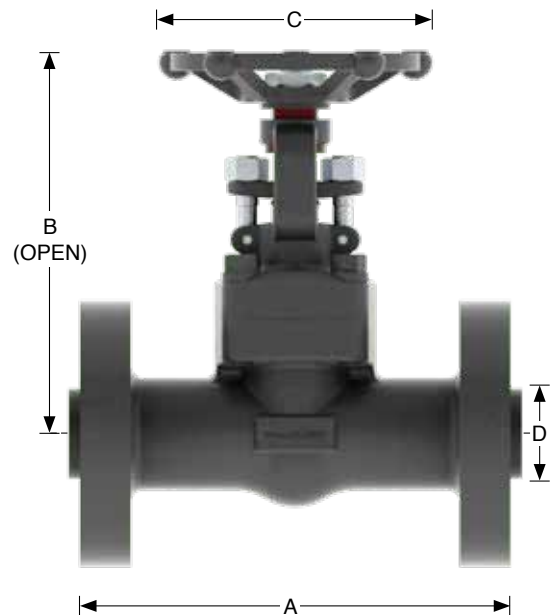
## DIMENSIONS & WEIGHTS

FIG. 19515 STANDARD PORT, BOLTED BONNET

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	8.58	9.02	10.00	10.98	12.01	14.49
	MM	218	229	254	279	305	368
B	INCHES	7.13	7.13	11.06	9.33	10.79	12.56
(OPEN)	MM	181	181	281	237	274	319
C	INCHES	4.92	4.92	6.30	6.30	7.09	7.87
	MM	125	125	160	160	180	200
D	INCHES	0.51	0.51	0.71	0.94	1.14	1.45
	MM	13	13	18	24	29	36.8
WEIGHT	POUNDS	15.84	25.3	34.32	35.64	50.16	62.04
	KILOGRAMS	7.2	11.5	15.6	16.2	22.8	28.2

FIG. 19185 FULL PORT, BOLTED BONNET

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	9.02	10.00	10.98	12.01	14.49	15.75
	MM	229	254	279	305	368	400
B	INCHES	7.13	11.06	9.33	10.79	12.56	13.78
(OPEN)	MM	181	281	237	274	319	350
C	INCHES	4.92	6.30	6.30	7.09	7.87	8.66
	MM	125	160	160	180	200	220
D	INCHES	0.51	0.71	0.94	1.14	1.45	1.77
	MM	13	18	24	29	37	45
WEIGHT	POUNDS	25.3	34.32	35.64	50.16	62.04	77
	KILOGRAMS	11.5	15.6	16.2	22.8	28.2	35.0



# WALWORTH FORGED STEEL GLOBE VALVES

The Globe Valves are primarily 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

- Valves in accordance with API-602.
- Socket Weld, Threaded, Combined or Flanged RF or RTJ ends.
- Bolted Bonnet or Welded Bonnet options.
- Standard or Full Port.
- Low fugitive emissions control.
- NACE Service either MR-0175 or MR-0103.
- Test in accordance with API-598

Rising stem with precision acme thread.

Stem packing is designed for optimum control of fugitive emissions leakage to the atmosphere. The ultra-low emission leakage rate is assured by the fine finish on the stem, the reduced diametrical clearances and the stem straightness control.

Backseat designed to relieve back pressure on the stem packing when fully seated. Replacing stem packing under pressure is not recommended.

Body to bonnet joint designed to apply a uniform load to the gasket to assure a leak proof seal.

Stellited seat ring, providing increased resistance to wear, abrasion and erosion of the sealing surface.

Integral welded seat or threaded seat.

## REGULAR BILL OF MATERIALS

No.	DESCRIPTION	TRIM 8 A 105N
1	BODY	A105
2	PLUG TYPE DISC	A276-420
3	STEM	A276-410
4	BONNET	A105
5	BONNET GASKET	304+FLEXIBLE GRAPHITE
6	EYED BOLT PIN	A276-304
7	EYED BOLT	A193-B7
8	BONNET BOLTS	A193-B7
9	GLAND PLATE	A105
10	STEM PACKING	FLEXIBLE GRAPHITE
11	GLAND NUT	A194-2H
12	GLAND BUSHING	A276-420
13	STEM NUT	A276-410
14	HANDWHEEL	A197
15	HANDWHEEL NUT	A194-2H
16	IDENTIFICATION PLATE *	ALUMINIUM

\* NOT SHOWN



# FORGED STEEL GLOBE VALVE THREADED SW CLASS 800

## Design Characteristics

- API 602 & ASME B16.34
- Bolted or Welded Bonnet
- Tapered loose disc
- Stem with ACME Threaded (OS&Y)
- Bolted Gland Bushing
- Standard or Full Port
- Threaded, Socket Weld or Threaded x Socket Weld.
- Spiral Wound Gasket
- Integral or renewable stellite seat ring

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
Standard	800	5520S	5520S	THREADED
	Bolted	5520SW	5520SW	SOCKET WELD
	Bonnet	5520SSW	5520SSW	THREADED X SOCKET WELD
Full	800	5528S	5528S	THREADED
	Bolted	5528SW	5528SW	SOCKET WELD
	Bonnet	5528SSW	5528SSW	THREADED X SOCKET WELD
Standard	800	5527S	5527S	THREADED
	Welded	5527SW	5527SW	SOCKET WELD
	Bonnet	5527SSW	5527SSW	THREADED X SOCKET WELD
Full	800	5529S	5529S	THREADED
	Welded	5529SW	5529SW	SOCKET WELD
	Bonnet	5529SSW	5529SSW	THREADED X SOCKET WELD

## DIMENSIONS & WEIGHTS

FIG. 5520 STANDARD PORT, BOLTED BONNET

SIZES	INCHES	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	6	10	13	19	25	32	38	51
A	INCHES	3.11	3.11	3.11	3.62	3.62	4.72	5.98	6.77
	MM	79	79	79	92	92	120	152	172
B (OPEN)	INCHES	6.06	6.06	6.22	6.22	6.22	8.94	9.45	10.98
	MM	154	154	158	158	158	227	240	279
C	INCHES	3.94	3.94	3.94	3.94	3.94	6.30	6.30	7.09
	MM	100	100	100	100	100	160	160	180
D	INCHES	0.26	0.39	0.39	0.51	0.51	0.91	1.12	1.38
	MM	6.5	10.0	10.0	13.0	13.0	23.0	28.5	35.0
E	INCHES	1.34	1.34	1.34	1.57	1.57	2.24	2.52	3.07
	MM	34	34	34	40	40	57	64	78
WEIGHT	POUNDS	4.62	4.62	4.4	4.84	5.5	12.1	15.4	25.3
	KILOGRAMS	2.1	2.1	2.0	2.2	2.5	5.5	7.0	11.5

FIG. 5527 STANDARD PORT, WELDED BONNET

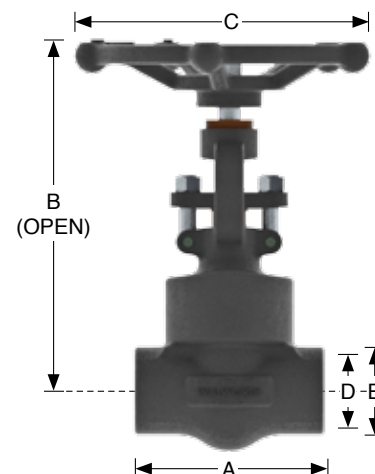
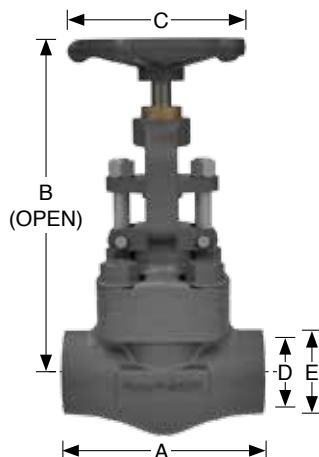
SIZES	INCHES	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	6	10	13	19	25	32	38	51
A	INCHES	3.11	3.11	3.11	3.62	4.37	4.72	5.98	6.77
	MM	79	79	79	92	111	120	152	172
B (OPEN)	INCHES	6.06	6.06	6.22	6.22	7.56	8.94	9.45	10.98
	MM	154	154	158	158	192	227	240	279
C	INCHES	3.94	3.94	3.94	3.94	4.72	6.30	6.30	7.09
	MM	100	100	100	100	120	160	160	180
D	INCHES	0.26	0.39	0.39	0.51	0.69	0.91	1.12	1.38
	MM	6.5	10.0	10.0	13.0	17.5	23.0	28.5	35.0
E	INCHES	1.34	1.34	1.34	1.57	1.93	2.52	2.52	3.07
	MM	34	34	34	40	49	64	64	78
WEIGHT	POUNDS	4.4	4.4	4.18	4.62	8.14	11.88	15.18	25.08
	KILOGRAMS	2.0	2.0	1.9	2.1	3.7	5.4	6.9	11.4

FIG. 5528 FULL PORT, BOLTED BONNET

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	3.62	4.37	4.72	5.98	6.77	8.66
	MM	92	111	120	152	172	220
B (OPEN)	INCHES	6.22	7.56	8.94	9.45	10.98	12.80
	MM	158	192	227	240	279	325
C	INCHES	3.94	4.72	6.30	6.30	7.09	7.87
	MM	100	120	160	160	180	200
D	INCHES	0.51	0.69	0.91	1.12	1.40	1.85
	MM	13	17.5	23.0	28.5	35.5	47.0
E	INCHES	1.57	1.93	2.28	2.52	3.07	3.46
	MM	40	49	58	64	78	88
WEIGHT	POUNDS	4.84	8.36	12.1	15.4	25.3	26.4
	KILOGRAMS	2.2	3.8	5.5	7.0	11.5	12.0

FIG. 5529 FULL PORT, WELDED BONNET

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	3.62	4.37	4.72	5.98	6.77	8.66
	MM	92	111	120	152	172	220
B (OPEN)	INCHES	6.22	7.56	8.94	9.45	10.98	12.80
	MM	158	192	227	240	279	325
C	INCHES	3.94	4.72	6.30	6.30	7.09	7.87
	MM	100	120	160	160	180	200
D	INCHES	0.51	0.69	0.91	1.12	1.42	1.85
	MM	13	17.5	23.0	28.5	36.0	47.0
E	INCHES	1.57	1.93	2.28	2.52	3.11	3.46
	MM	40	49	58	64	79	88
WEIGHT	POUNDS	4.62	8.14	11.88	15.18	25.08	26.18
	KILOGRAMS	2.1	3.7	5.4	6.9	11.4	11.9



# FORGED STEEL GLOBE VALVE THREADED SW CLASS 1500

## Design Characteristics

- API 602 & ASME B16.34
- Bolted or Welded Bonnet
- Tapered loose disc
- Stem with ACME Threaded (OS&Y)
- Bolted Gland Bushing
- Standard or Full Port
- Threaded, Socket Weld or Threaded x Socket Weld.
- Spiral Wound Gasket
- Integral or renewable stellite seat ring

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
Standard	1500	5521S	5521S	THREADED
	Bolted	5521SW	5521SW	SOCKET WELD
	Bonnet	5521SSW	5521SSW	THREADED X SOCKET WELD
Full	1500	5538S	5538S	THREADED
	Bolted	5538SW	5538SW	SOCKET WELD
	Bonnet	5538SSW	5538SSW	THREADED X SOCKET WELD
Standard	1500	5537S	5537S	THREADED
	Welded	5537SW	5537SW	SOCKET WELD
	Bonnet	5537SSW	5537SSW	THREADED X SOCKET WELD
Full	1500	5539S	5539S	THREADED
	Welded	5539SW	5539SW	SOCKET WELD
	Bonnet	5539SSW	5539SSW	THREADED X SOCKET WELD

## DIMENSIONS & WEIGHTS

FIG. 5521 STANDARD PORT, BOLTED BONNET

SIZES	INCHES MM	1/4" 6	3/8" 10	1/2" 13	3/4" 19	1" 25	1 1/4" 32	1 1/2" 38	2" 51
A	INCHES MM	3.11 79	3.62 92	3.62 92	4.37 111	4.72 120	5.98 152	6.77 172	8.66 220
B (OPEN)	INCHES MM	6.89 175	7.01 178	7.36 187	7.36 187	8.94 227	9.53 242	10.94 278	12.80 325
C	INCHES MM	3.94 100	4.92 125	4.92 125	4.92 125	6.30 160	6.30 160	7.09 180	7.87 200
D	INCHES MM	0.26 6.5	0.39 10.0	0.39 10.0	0.51 13.0	0.69 17.5	0.91 23.0	1.12 28.5	1.38 35.0
E	INCHES MM	1.34 34	1.65 42	1.65 42	1.93 49	2.28 58	2.52 64	3.07 78	3.46 88.0
WEIGHT	POUNDS KILOGRAMS	6.6 3.0	6.6 3.0	7.7 3.5	8.8 4.0	13.86 6.3	17.6 8.0	27.5 12.5	42.9 19.5

FIG. 5537 STANDARD PORT, WELDED BONNET

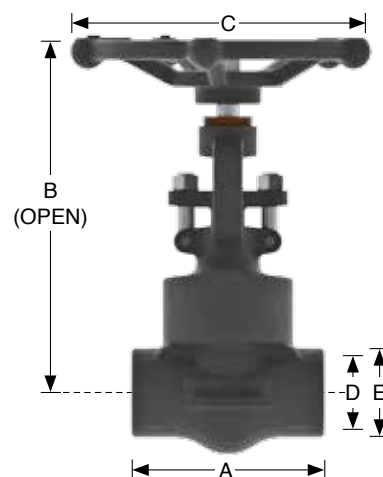
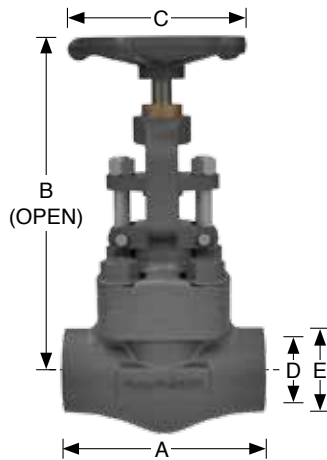
SIZES	INCHES MM	1/4" 6	3/8" 10	1/2" 13	3/4" 19	1" 25	1 1/4" 32	1 1/2" 38	2" 51
A	INCHES MM	3.11 79	3.62 92	3.62 92	4.37 111	4.72 120	5.98 152	6.77 172	8.66 220
B (OPEN)	INCHES MM	6.22 158	6.22 158	7.36 187	7.36 187	8.94 227	9.53 242	10.94 278	12.80 325
C	INCHES MM	3.94 100	3.94 100	4.92 125	4.92 125	6.30 160	6.30 160	7.09 180	7.87 200
D	INCHES MM	0.39 10	0.51 13	0.51 13	0.51 13	0.69 17.5	0.91 23.0	1.12 28.5	1.38 35.0
E	INCHES MM	1.34 34	1.57 40	1.65 42	1.93 49	2.28 58	2.52 64	3.07 78	3.46 88.0
WEIGHT	POUNDS KILOGRAMS	6.6 3.0	6.6 3.0	7.7 3.5	8.8 4.0	13.86 6.3	17.6 8.0	27.5 12.5	42.9 19.5

FIG. 5538 FULL PORT, BOLTED BONNET

SIZES	INCHES MM	1/2" 13	3/4" 19	1" 25	1 1/4" 32	1 1/2" 38	2" 51
A	INCHES MM	4.37 111	4.72 120	5.98 152	6.77 172	8.66 220	9.84 250
B (OPEN)	INCHES MM	7.36 187	8.94 227	9.53 242	10.94 278	12.80 325	13.98 355
C	INCHES MM	4.92 125	6.30 160	6.30 160	7.09 180	7.87 200	7.87 200
D	INCHES MM	0.51 13	0.69 17.5	0.91 23.0	1.12 28.5	1.38 35.0	1.85 47.0
E	INCHES MM	1.93 49	2.28 58	2.52 64	3.07 78	3.46 88	3.46 88
WEIGHT	POUNDS KILOGRAMS	8.8 4.0	13.86 6.3	17.6 8.0	27.5 12.5	42.9 19.5	44 20.0

FIG. 5539 FULL PORT, WELDED BONNET

SIZES	INCHES MM	1/2" 13	3/4" 19	1" 25	1 1/4" 32	1 1/2" 38	2" 51
A	INCHES MM	4.37 111	4.72 120	5.98 152	6.77 172	8.66 220	8.66 220
B (OPEN)	INCHES MM	7.36 187	8.94 227	9.53 242	10.94 278	12.80 325	13.98 355
C	INCHES MM	4.92 125	6.30 160	6.30 160	7.09 180	7.87 200	7.87 200
D	INCHES MM	0.51 13	0.69 17.5	0.91 23.0	1.12 28.5	1.38 35.0	1.85 47.0
E	INCHES MM	1.93 49	2.28 58	2.52 64	3.07 78	3.46 88	3.46 88
WEIGHT	POUNDS KILOGRAMS	8.8 4.0	13.86 6.3	17.6 8.0	27.5 12.5	42.9 19.5	44 20.0



# FORGED STEEL GLOBE VALVE THREADED SW CLASS 2500

## Design Characteristics

- API 602 & ASME B16.34
- Welded Bonnet
- Tapered loose disc
- Stem with ACME Threaded (OS&Y)
- Bolted Gland Bushing
- Standard or Full Port
- Threaded, Socket Weld or Threaded x Socket Weld.
- Spiral Wound Gasket
- Integral or renewable stellite seat ring

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
Standard	2500	5522S	5522S	THREADED
		5522SW	5522SW	SOCKET WELD
		5522SSW	5522SSW	THREADED X SOCKET WELD
Full	2500	5622S	5622S	THREADED
		5622SW	5622SW	SOCKET WELD
		5622SSW	5622SSW	THREADED X SOCKET WELD

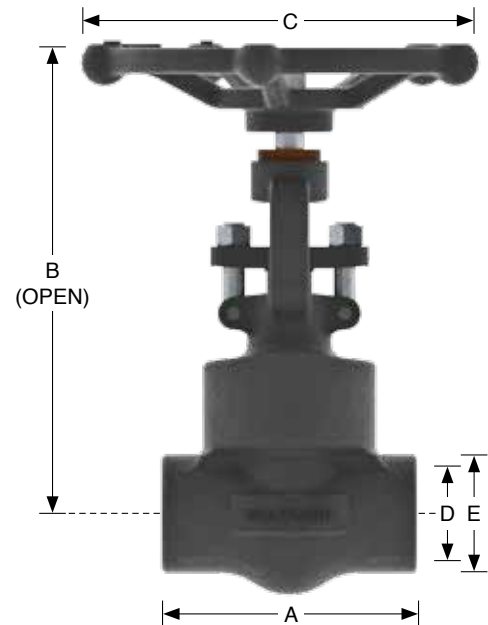
## DIMENSIONS & WEIGHTS

FIG. 5522 WELDED BONNET, STANDARD PORT

SIZES	INCHES MM	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
		13	19	25	32	38	51
A	INCHES	5.91	5.91	6.69	7.87	7.87	9.84
	MM	150	150	170	200	200	250
B (OPEN)	INCHES	9.80	9.80	11.50	12.87	12.87	15.00
	MM	249	249	292	327	327	381
C	INCHES	6.30	6.30	7.87	9.84	9.84	11.81
	MM	160	160	200	250	250	300
D	INCHES	0.55	0.55	0.75	0.98	1.10	1.38
	MM	14	14	19	25	28	35
E	INCHES	2.05	2.05	2.52	3.15	3.15	3.74
	MM	52.0	52.0	64.0	80.0	80.0	95.0
WEIGHT	POUNDS	18.7	16.06	27.5	46.2	45.54	79.2
	KILOGRAMS	8.5	7.3	12.5	21.0	20.7	36.0

FIG. 5622 WELDED BONNET, FULL PORT

SIZES	INCHES MM	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
		13	19	25	32	38	51
A	INCHES	5.91	6.69	7.87	7.87	9.84	10.63
	MM	150	170	200	200	250	270
B (OPEN)	INCHES	9.80	11.50	12.87	12.87	15.00	15.75
	MM	249	292	327	327	381	400
C	INCHES	6.30	7.87	9.84	9.84	11.81	12.60
	MM	160	200	250	250	300	320
D	INCHES	0.55	0.75	0.98	1.10	1.38	1.57
	MM	14	19	25	28	35	40
E	INCHES	2.05	2.52	3.15	3.15	3.74	3.94
	MM	52.0	64.0	80.0	80.0	95.0	100.0
WEIGHT	POUNDS	16.06	27.5	46.2	45.54	79.2	88
	KILOGRAMS	7.3	12.5	21.0	20.7	36.0	40.0



# FORGED STEEL GLOBE VALVE RF/RTJ CLASS 150, 300 & 600

## Design Characteristics

- API 602 & ASME B16.34
- Bolted Bonnet
- Tapered loose disc
- Stem with ACME Threaded (OS&Y)
- Bolted Gland Bushing
- Standard Port
- Integral flanged ends (Raised Face or Ring Type Joint)
- Spiral Wound Gasket
- Integral or renewable stellite seat ring

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
STANDARD	150	5615RF	5615F	FLANGED RAISED FACE
		5615RTJ	5615RTJ	FLANGED RING TYPE JOINT
STANDARD	300	5630RF	5630RF	FLANGED RAISED FACE
		5630RTJ	5630RTJ	FLANGED RING TYPE JOINT
STANDARD	600	5660RF	5660RF	FLANGED RAISED FACE
		5660RTJ	5660RTJ	FLANGED RING TYPE JOINT

## DIMENSIONS & WEIGHTS

FIG. 5615 STANDARD PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A (RF)	INCHES	4.25	4.63	5.00	5.50	6.50	8.00
	MM	108	118	127	140	165	203
A (RJ)	INCHES	5.50	5.50	5.50	6.00	7.00	8.50
	MM	140	140	140	178	178	216
B (OPEN)	INCHES	6.02	6.22	7.56	8.94	9.49	10.98
	MM	153	158	192	227	241	279
C	INCHES	3.94	3.94	4.92	6.30	6.30	7.09
	MM	100	100	125	160	160	180
D	INCHES	0.51	0.69	0.91	1.12	1.40	1.85
	MM	13	17.5	23.0	28.5	35.5	47.0
WEIGHT	POUNDS	9.9	15.2	21.6	29.7	42.9	61.6
	KILOGRAMS	4.5	6.9	9.8	13.5	19.5	28.0

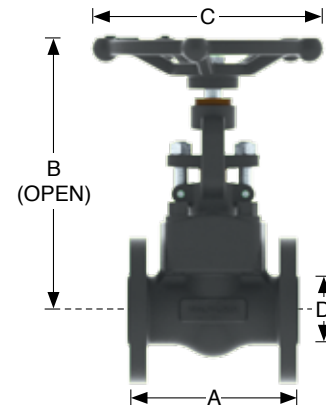


FIG. 5630 STANDARD PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A (RF)	INCHES	6.00	7.00	8.00	8.50	9.00	10.50
	MM	152	178	203	216	229	267
A (RJ)	INCHES	6.44	7.50	8.50	9.00	9.50	11.12
	MM	164	191	216	229	241	282
B (OPEN)	INCHES	6.22	6.22	7.56	8.94	9.49	10.98
	MM	158	158	192	227	241	279
C	INCHES	3.94	3.94	4.92	6.30	6.30	7.09
	MM	100	100	125	160	160	180
D	INCHES	0.51	0.69	0.91	1.12	1.40	1.85
	MM	13	17.5	23.0	28.5	35.5	47.0
WEIGHT	POUNDS	10.56	16.94	24.2	36.96	46.64	71.72
	KILOGRAMS	4.80	7.70	11.00	16.80	21.20	32.60

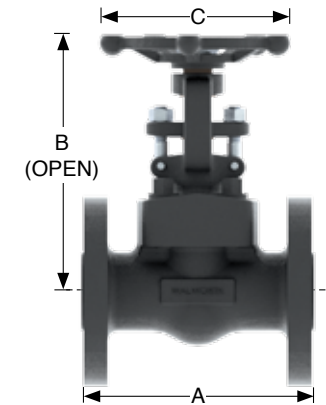
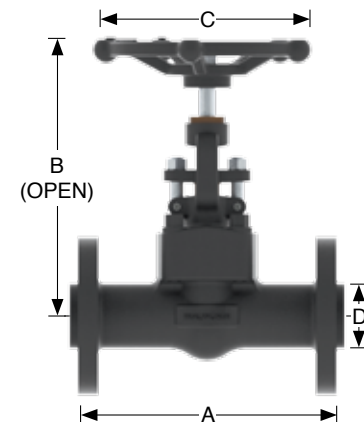


FIG. 5660 STANDARD PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A (RF)	INCHES	6.50	7.50	8.50	9.00	9.50	11.50
	MM	165	191	216	229	241	292
A (RJ)	INCHES	6.44	7.50	8.50	9.00	9.50	11.62
	MM	164	191	216	229	241	295
B (OPEN)	INCHES	6.22	6.22	7.56	8.94	9.49	10.98
	MM	158	158	192	227	241	279
C	INCHES	3.94	3.94	4.92	6.30	6.30	7.09
	MM	100	100	125	160	160	180
D	INCHES	0.51	0.69	0.91	1.12	1.40	1.85
	MM	13	17.5	23.0	28.5	35.5	47.0
WEIGHT	POUNDS	12.32	17.16	27.5	37.4	51.7	85.36
	KILOGRAMS	5.60	7.80	12.50	17.00	23.50	38.80



# FORGED STEEL GLOBE VALVE RF/RTJ CLASS 150, 300 & 600

## Design Characteristics

- API 602 & ASME B16.34
- Bolted Bonnet
- Tapered loose disc
- Stem with ACME Threaded (OS&Y)
- Bolted Gland Bushing
- Full Port
- Integral flanged ends (Raised Face or Ring Type Joint)
- Spiral Wound Gasket
- Integral or renewable stellite seat ring

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
FULL	150	5618RF 5618RTJ	5618RF 5618RTJ	FLANGED RAISED FACE FLANGED RING TYPE JOINT
FULL	300	5638RF 5638RTJ	5638RF 5638RTJ	FLANGED RAISED FACE FLANGED RING TYPE JOINT
FULL	600	5668RF 5668RTJ	5668RF 5668RTJ	FLANGED RAISED FACE FLANGED RING TYPE JOINT

## DIMENSIONS & WEIGHTS

FIG. 5618 FULL PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A (RF)	INCHES	4.25	4.63	5.00	5.50	6.50	8.00
	MM	108	118	127	140	165	203
A (RJ)	INCHES	5.50	5.50	5.50	6.00	7.00	8.50
	MM	140	140	140	178	178	216
B (OPEN)	INCHES	6.02	6.22	7.56	8.94	9.49	10.98
	MM	153	158	192	227	241	279
C	INCHES	3.94	3.94	4.92	6.30	6.30	7.09
	MM	100	100	125	160	160	180
D	INCHES	0.51	0.69	0.91	1.12	1.40	1.85
	MM	13	17.5	23.0	28.5	35.5	47.0
WEIGHT	POUNDS	9.9	15.2	21.6	29.7	42.9	61.6
	KILOGRAMS	4.5	6.9	9.8	13.5	19.5	28.0

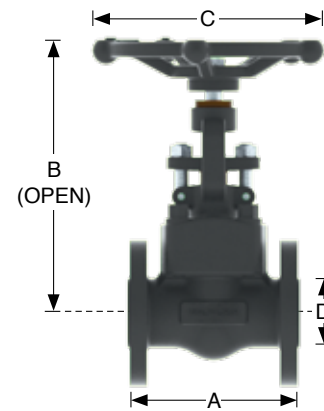


FIG. 5638 FULL PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A (RF)	INCHES	6.00	7.00	8.00	8.50	9.00	10.50
	MM	152	178	203	216	229	267
A (RJ)	INCHES	6.44	7.50	8.50	9.00	9.50	11.12
	MM	164	191	216	229	241	282
B (OPEN)	INCHES	6.22	6.22	7.56	8.94	9.49	10.98
	MM	158	158	192	227	241	279
C	INCHES	3.94	3.94	4.92	6.30	6.30	7.09
	MM	100	100	125	160	160	180
D	INCHES	0.51	0.69	0.91	1.12	1.40	1.85
	MM	13	17.5	23.0	28.5	35.5	47.0
WEIGHT	POUNDS	10.56	16.94	24.2	36.96	46.64	71.72
	KILOGRAMS	4.80	7.70	11.00	16.80	21.20	32.60

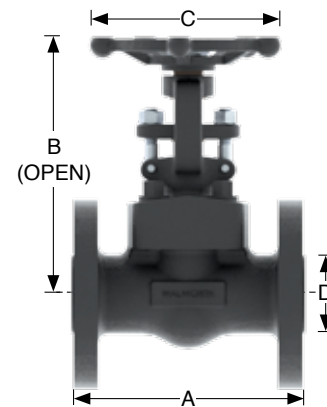
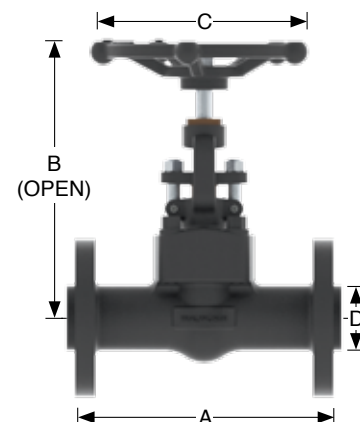


FIG. 5668 FULL PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A (RF)	INCHES	6.50	7.50	8.50	9.00	9.50	11.50
	MM	165	191	216	229	241	292
A (RJ)	INCHES	6.44	7.50	8.50	9.00	9.50	11.62
	MM	164	191	216	229	241	295
B (OPEN)	INCHES	6.22	6.22	7.56	8.94	9.49	10.98
	MM	158	158	192	227	241	279
C	INCHES	3.94	3.94	4.92	6.30	6.30	7.09
	MM	100	100	125	160	160	180
D	INCHES	0.51	0.69	0.91	1.12	1.40	1.85
	MM	13	17.5	23.0	28.5	35.5	47.0
WEIGHT	POUNDS	12.32	17.16	27.5	37.4	51.7	85.36
	KILOGRAMS	5.60	7.80	12.50	17.00	23.50	38.80



# FORGED STEEL GLOBE VALVE RF/RTJ CLASS 1500

## Design Characteristics

- API 602 & ASME B16.34
- Bolted Bonnet
- Tapered loose disc
- Stem with ACME Threaded (OS&Y)
- Bolted Gland Bushing
- Standard or Full Port
- Integral flanged ends (Raised Face or Ring Type Joint)
- Spiral Wound Gasket
- Integral or renewable stellite seat ring

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
Standard	1500 Bolted Bonnet	15615RF	15615F	FLANGED RAISED FACE
		15615RTJ	15615RTJ	FLANGED RING TYPE JOINT
Full	1500 Bolted Bonnet	15685RF	15685F	FLANGED RAISED FACE
		15685RTJ	15685RTJ	FLANGED RING TYPE JOINT

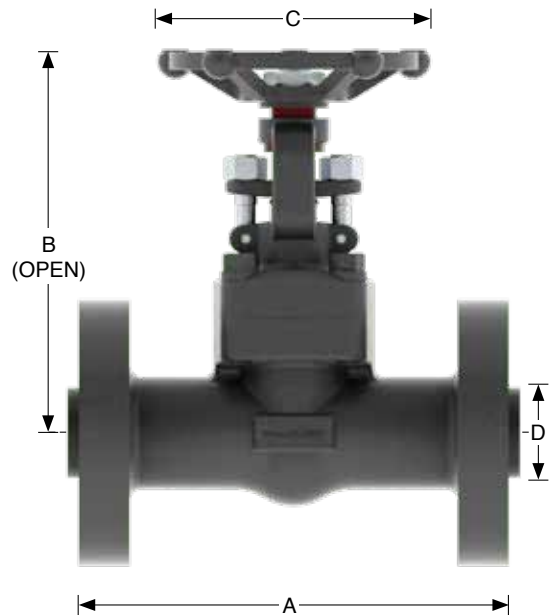
## DIMENSIONS & WEIGHTS

FIG. 15615 STANDARD PORT, BOLTED BONNET

SIZES	INCHES MM	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
		13	19	25	32	38	51
A	INCHES	8.50	9.02	10.00	10.98	12.01	14.49
	MM	216	229	254	279	305	368
B (OPEN)	INCHES	7.36	7.36	8.94	9.53	10.94	12.80
	MM	187	187	227	242	278	325
C	INCHES	4.92	4.92	6.30	6.30	7.09	7.87
	MM	125	125	160	160	180	200
D	INCHES	0.39	0.51	0.69	0.91	1.12	1.38
	MM	10.0	13.0	17.5	23.0	28.5	35.0
WEIGHT	POUNDS	24.2	29.04	38.28	41.8	53.9	68.2
	KILOGRAMS	11.0	13.2	17.4	19.0	24.5	31.0

FIG. 15685 FULL PORT, BOLTED BONNET

SIZES	INCHES MM	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
		13	19	25	32	38	51
A	INCHES	9.02	10.00	10.98	12.01	14.49	15.75
	MM	229	254	279	305	368	400
B (OPEN)	INCHES	7.36	8.94	9.53	10.94	12.80	13.78
	MM	187	227	242	278	325	350
C	INCHES	4.92	6.30	6.30	7.09	7.87	8.66
	MM	125	160	160	180	200	220
D	INCHES	0.51	0.69	0.91	1.12	1.38	1.57
	MM	13.0	17.5	23.0	28.5	35.0	40.0
WEIGHT	POUNDS	29.04	38.28	41.8	53.9	68.2	79.2
	KILOGRAMS	13.2	17.4	19.0	24.5	31.0	36.0





# WALWORTH FORGED STEEL “Y” PATTERN GLOBE VALVES

The “Y” Pattern Globe Valves are primarily used to modulate or regulate the volume of the flow when a minor flow is required.

A “Y” Pattern Globe Valve is recommended when a continuous full flow of fluid is required due to the highest CV against a “T” Pattern Globe valve.

Also suitable to solve some troubles in the field when space limit the usage of standard “T” Pattern 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

- Valves in accordance with API-602.
- Socket Weld, Threaded, Combined Threaded x Socket Weld.
- Bolted Bonnet or Weld ed Bonnet options.
- Standard or Full Port.
- Low fugitive emissions control.
- NACE Service either MR-0175 or MR-0103.
- Test in accordance with API-598

Rising stem with precision acme thread.

Stem packing is designed for optimum control of fugitive emissions leakage to the atmosphere. The ultra-low emission leakage rate is assured by the fine finish on the stem, the reduced diametrical clearances and the stem straightness control.

Backseat designed to relieve back pressure on the stem packing when fully seated. Replacing stem packing under pressure is not recommended.

Body to bonnet joint designed to apply a uniform load to the gasket to assure a leak proof seal.

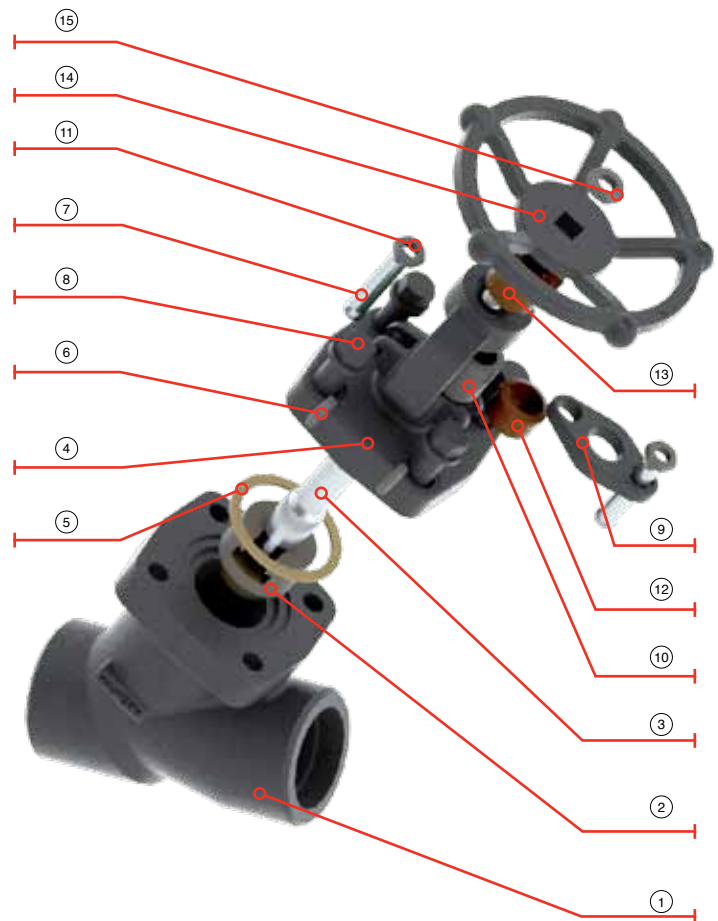
Stellited seat ring, providing increased resistance to wear, abrasion and erosion of the sealing surface.

Integral welded seat or threaded seat.

## REGULAR BILL OF MATERIALS

No.	DESCRIPTION	TRIM 8 A 105N
1	BODY	A105
2	PLUG TYPE DISC	A276-420
3	STEM	A276-410
4	BONNET	A105
5	BONNET GASKET	304+FLEXIBLE GRAPHITE
6	EYED BOLT PIN	A276-304
7	EYED BOLT	A193-B7
8	BONNET BOLTS	A193-B7
9	GLAND PLATE	A105
10	STEM PACKING	FLEXIBLE GRAPHITE
11	GLAND NUT	A194-2H
12	GLAND BUSHING	A276-420
13	STEM NUT	A276-410
14	HANDWHEEL	A197
15	HANDWHEEL NUT	A194-2H
16	IDENTIFICATION PLATE *	ALUMINIUM

\* NOT SHOWN



# FORGED STEEL “Y” PATTERN GLOBE VALVE SW CLASS 800

## Design Characteristics

- API 602 & ASME B16.34
- Bolted or Welded Bonnet
- Tapered loose disc
- Stem with ACME Threaded (OS&Y)
- Bolted Gland Bushing
- Standard or Full Port
- Threaded, Socket Weld or Threaded x Socket Weld.
- Spiral Wound Gasket
- Integral or renewable stellite seat ring

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
Standard	Bolted	5520YSW	5520YSW	THREADED
	Bonnet	5520YSSW	5520YSSW	SOCKET WELD
	Bonnet	5520YSSW	5520YSSW	THREADED X SOCKET WELD
Full	Bolted	5528YS	5528YS	THREADED
	Bonnet	5528YSW	5528YSW	SOCKET WELD
	Bonnet	5528YSSW	5528YSSW	THREADED X SOCKET WELD
Standard	Bolted	5527YS	5527YS	THREADED
	Welded	5527YSW	5527YSW	SOCKET WELD
	Bonnet	5527YSSW	YSSW	THREADED X SOCKET WELD
Full	Bolted	5529YS	5529YS	THREADED
	Welded	5529YSW	5529YSW	SOCKET WELD
	Bonnet	5529YSSW	5529YSSW	THREADED X SOCKET WELD

## DIMENSIONS & WEIGHTS

FIG. 5520 Y STANDARD PORT, BOLTED BONNET

SIZES	INCHES MM	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
		13	19	25	32	38	51
A	INCHES	4.17	4.17	4.72	5.98	5.98	7.09
	MM	106	106	120	152	152	180
B (OPEN)	INCHES	6.69	6.69	7.95	9.80	9.80	11.06
	MM	170	170	202	249	249	281
C	INCHES	3.94	3.94	4.92	6.30	6.30	7.09
	MM	100	100	125	160	160	180
D	INCHES	0.39	0.51	0.69	0.91	1.12	1.38
	MM	10.0	13.0	17.5	23.0	28.5	35.0
E	INCHES	1.61	1.61	1.97	2.52	2.52	3.15
	MM	41	41	50	64	64	80
WEIGHT	POUNDS	4.4	4.84	8.36	12.1	15.4	25.3
	KILOGRAMS	2.0	2.2	3.8	5.5	7.0	11.5

FIG. 5527Y STANDARD PORT, WELDED BONNET

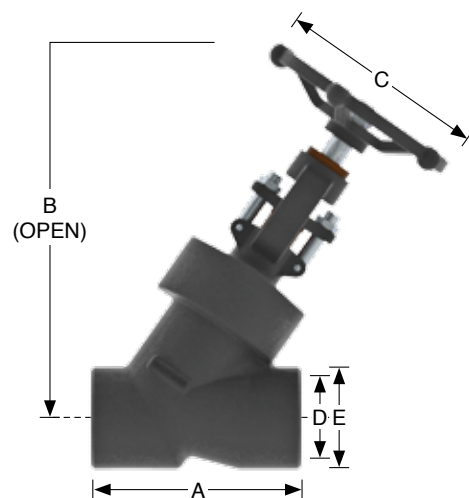
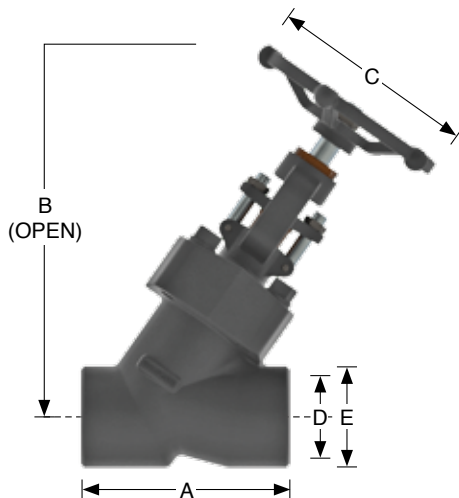
SIZES	INCHES MM	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
		13	19	25	32	38	51
A	INCHES	4.17	4.17	4.72	5.98	5.98	7.09
	MM	106	106	120	152	152	180
B (OPEN)	INCHES	6.54	6.54	7.76	9.57	9.57	10.71
	MM	166	166	197	243	243	272
C	INCHES	3.94	3.94	4.92	6.30	6.30	7.09
	MM	100	100	125	160	160	180
D	INCHES	0.39	0.51	0.69	0.91	1.12	1.38
	MM	10	13.0	17.5	23.0	28.5	35.0
E	INCHES	1.61	1.61	1.97	2.52	2.52	3.15
	MM	41	41	50	64	64	80
WEIGHT	POUNDS	4.4	4.84	8.36	12.1	15.4	25.3
	KILOGRAMS	2.0	2.2	3.8	5.5	7.0	11.5

FIG. 5528Y FULL PORT, BOLTED BONNET

SIZES	INCHES MM	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
		13	19	25	32	38	51
A	INCHES	4.17	4.72	5.98	5.98	7.09	7.87
	MM	106	120	152	152	180	200
B (OPEN)	INCHES	6.69	7.95	9.80	9.80	11.06	11.81
	MM	170	202	249	249	281	300
C	INCHES	3.94	4.92	6.30	6.30	7.09	7.87
	MM	100	125	160	160	180	200
D	INCHES	0.51	0.69	0.91	1.12	1.38	1.57
	MM	13.0	17.5	23.0	28.5	35.0	40.0
E	INCHES	1.61	1.97	2.52	2.52	3.15	3.54
	MM	41	50	64	64	80	90
WEIGHT	POUNDS	4.84	8.36	12.1	15.4	25.3	30.8
	KILOGRAMS	2.2	3.8	5.5	7.0	11.5	14.0

FIG. 5529Y FULL PORT, WELDED BONNET

SIZES	INCHES MM	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
		13	19	25	32	38	51
A	INCHES	4.17	4.72	5.98	5.98	7.09	7.87
	MM	106	120	152	152	180	200
B (OPEN)	INCHES	6.54	7.76	9.57	9.57	10.71	11.42
	MM	166	197	243	243	272	290
C	INCHES	3.94	4.92	6.30	6.30	7.09	7.87
	MM	100	125	160	160	180	200
D	INCHES	0.51	0.69	0.91	1.12	1.38	1.57
	MM	13.0	17.5	23.0	28.5	35.0	40.0
E	INCHES	1.61	1.97	2.52	2.52	3.15	3.54
	MM	41	50	64	64	80	90
WEIGHT	POUNDS	4.84	8.36	12.1	15.4	25.3	30.8
	KILOGRAMS	2.2	3.8	5.5	7.0	11.5	14.0



# FORGED STEEL “Y” PATTERN GLOBE VALVE SW CLASS 1500

## Design Characteristics

- API 602 & ASME B16.34
- Bolted or Welded Bonnet
- Tapered loose disc
- Stem with ACME Threaded (OS&Y)
- Bolted Gland Bushing
- Standard or Full Port
- Threaded, Socket Weld or Threaded x Socket Weld.
- Spiral Wound Gasket
- Integral or renewable stellite seat ring

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
Standard	1500	5521YS	5521YS	THREADED
	Bolted Bonnet	5521YSW	5521YSW	SOCKET WELD
	Bonnet	5521YSSW	5521YSSW	THREADED X SOCKET WELD
Full	1500	5538YS	5538YS	THREADED
	Bolted Bonnet	5538SW	5538SW	SOCKET WELD
	Bonnet	5538YSSW	5538YSSW	THREADED X SOCKET WELD
Standard	1500	5537YS	5537YS	THREADED
	Welded Bonnet	5537YSW	5537YSW	SOCKET WELD
	Bonnet	5537YSSW	5537YSSW	THREADED X SOCKET WELD
Full	1500	5539YS	5539YS	THREADED
	Welded Bonnet	5539YSW	5539YSW	SOCKET WELD
	Bonnet	5539YSSW	5539YSSW	THREADED X SOCKET WELD

## DIMENSIONS & WEIGHTS

FIG. 5521 Y STANDARD PORT, BOLTED BONNET

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	4.72	4.72	5.98	5.98	7.09	7.87
	MM	120	120	152	152	180	200
B (OPEN)	INCHES	7.87	7.87	9.84	9.84	11.14	12.76
	MM	200	200	250	250	283	324
C	INCHES	4.92	4.92	6.30	6.30	7.09	7.87
	MM	125	125	160	160	180	200
D	INCHES	0.39	0.51	0.69	0.91	1.12	1.38
	MM	10.0	13.0	17.5	23.0	28.5	35.0
E	INCHES	1.97	1.97	2.52	2.52	3.15	3.54
	MM	50	50	64	64	80	90.0
WEIGHT	POUNDS	4.4	4.84	8.36	12.1	15.4	25.3
	KILOGRAMS	2.0	2.2	3.8	5.5	7.0	11.5

FIG. 5537 Y STANDARD PORT, WELDED BONNET

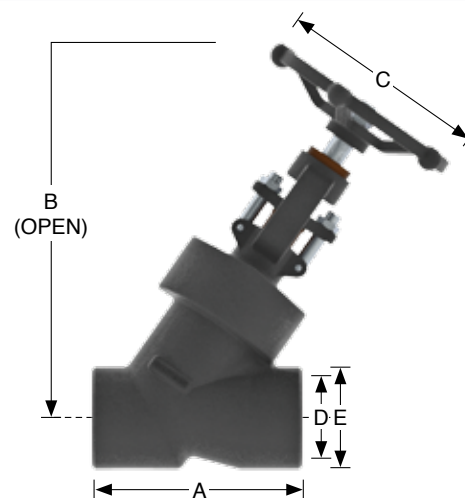
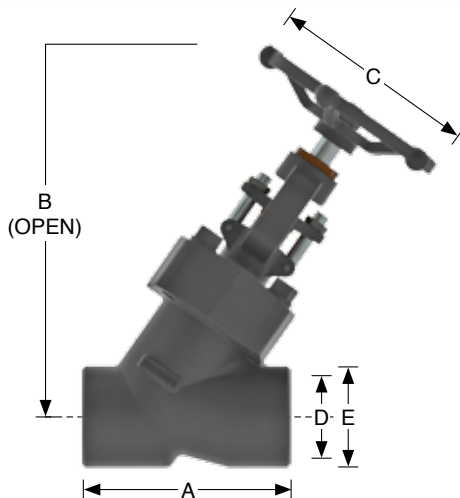
SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	4.72	4.72	5.98	5.98	7.09	7.87
	MM	120	120	152	152	180	200
B (OPEN)	INCHES	7.56	7.56	9.45	9.45	10.75	12.44
	MM	192	192	240	240	273	316
C	INCHES	4.92	4.92	6.30	6.30	7.09	7.87
	MM	125	125	160	160	180	200
D	INCHES	0.39	0.51	0.69	0.91	1.12	1.38
	MM	10.0	13.0	17.5	23.0	28.5	35.0
E	INCHES	1.97	1.97	2.52	2.52	3.15	3.54
	MM	50	50	64	64	80	90.0
WEIGHT	POUNDS	4.4	4.84	8.36	12.1	15.4	25.3
	KILOGRAMS	2.0	2.2	3.8	5.5	7.0	11.5

FIG. 5538 Y FULL PORT, BOLTED BONNET

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	4.17	4.72	5.98	5.98	7.09	7.87
	MM	106	120	152	152	180	200
B (OPEN)	INCHES	6.69	7.95	9.80	9.80	11.06	11.81
	MM	170	202	249	249	281	300
C	INCHES	3.94	4.92	6.30	6.30	7.09	7.87
	MM	100	125	160	160	180	200
D	INCHES	0.51	0.69	0.91	1.12	1.38	1.57
	MM	13.0	17.5	23.0	28.5	35.0	40.0
E	INCHES	1.61	1.97	2.52	2.52	3.15	3.54
	MM	41	50	64	64	80	90
WEIGHT	POUNDS	4.84	8.36	12.1	15.4	25.3	30.8
	KILOGRAMS	2.2	3.8	5.5	7.0	11.5	14.0

FIG. 5539 Y FULL PORT, WELDED BONNET

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	4.72	5.98	5.98	7.09	7.87	8.66
	MM	120	152	152	180	200	220
B (OPEN)	INCHES	7.56	9.45	9.45	10.75	12.44	12.99
	MM	192	240	240	273	316	330
C	INCHES	4.92	6.30	6.30	7.09	7.87	8.66
	MM	125	160	160	180	200	220
D	INCHES	0.51	0.69	0.91	1.12	1.38	1.57
	MM	13.0	17.5	23.0	28.5	35.0	40.0
E	INCHES	1.97	2.52	2.52	3.15	3.54	3.94
	MM	50	64	64	80	90.0	100.0
WEIGHT	POUNDS	4.84	8.36	12.1	15.4	25.3	30.8
	KILOGRAMS	2.2	3.8	5.5	7.0	11.5	14.0



# FORGED STEEL “Y” PATTERN GLOBE VALVE SW CLASS 2500

## Design Characteristics

- API 602 & ASME B16.34
- Bolted or Welded Bonnet
- Tapered loose disc
- Stem with ACME Threaded (OS&Y)
- Bolted Gland Bushing
- Standard or Full Port
- Threaded, Socket Weld or Threaded x Socket Weld.
- Integral or renewable stellite seat ring

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
Standard	2500	5522YS	5522YS	THREADED
	Welded	5522YSW	5522YSW	SOCKET WELD
	Bonnet	5522YSSW	5522YSSW	THREADED X SOCKET WELD
Full	2500	5622YS	5622YS	THREADED
	Welded	5622YSW	5622YSW	SOCKET WELD
	Bonnet	5622YSSW	5622YSSW	THREADED X SOCKET WELD

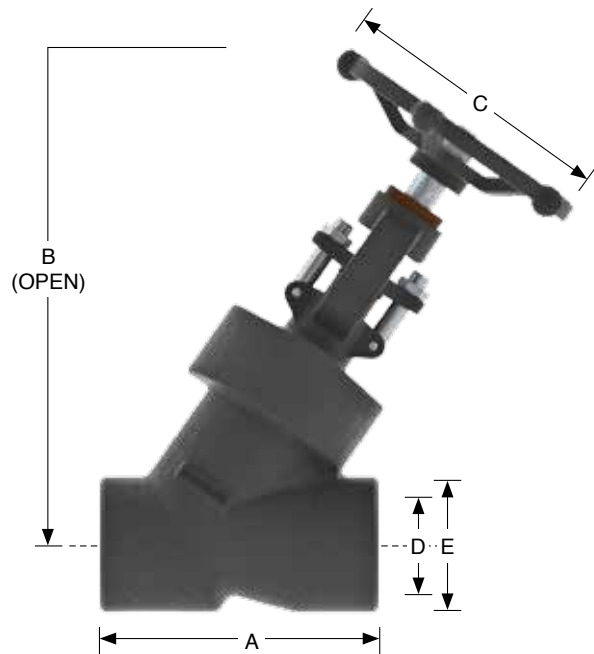
## DIMENSIONS & WEIGHTS

FIG. 5522 Y STANDARD PORT, WELDED BONNET

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	5.98	5.98	7.09	7.87	7.87	9.06
	MM	152	152	180	200	200	230
B (OPEN)	INCHES	9.57	9.57	11.42	13.19	13.19	15.35
	MM	243	243	290	335	335	390
C	INCHES	6.30	6.30	7.87	9.84	9.84	11.81
	MM	160	160	200	250	250	300
D	INCHES	0.43	0.55	0.75	0.98	1.10	1.38
	MM	11.0	14.0	19.0	25.0	28.0	35.0
E	INCHES	2.52	2.52	3.15	3.54	3.54	3.82
	MM	64	64	80	90	90	97.0
WEIGHT	POUNDS	4.4	4.84	8.36	12.1	15.4	25.3
	KILOGRAMS	2.0	2.2	3.8	5.5	7.0	11.5

FIG. 5622 Y FULL PORT, WELDED BONNET

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	5.98	7.09	7.87	7.87	9.06	9.84
	MM	152	180	200	200	230	250
B (OPEN)	INCHES	9.57	11.42	13.19	13.19	15.35	16.14
	MM	243	290	335	335	390	410
C	INCHES	6.30	7.87	9.84	9.84	11.81	12.60
	MM	160	200	250	250	300	320
D	INCHES	0.55	0.75	0.98	1.10	1.38	1.57
	MM	14.0	19.0	25.0	28.0	35.0	40.0
E	INCHES	2.52	3.15	3.54	3.54	3.82	3.94
	MM	64	80	90	90	97.0	100.0
WEIGHT	POUNDS	4.84	8.36	12.1	15.4	25.3	30.8
	KILOGRAMS	2.2	3.8	5.5	7.0	11.5	14.0



# WALWORTH FORGED STEEL PISTON CHECK VALVES

Piston 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.

The piston check valves are designed with globe valve bodies, producing an increased drop pressure in the pipeline. This design provides a tight seal as well as a fast reaction to the closure impulse.

Metal seated check valves may not provide drop tight sealing when used in gas system or fluid system with low back flow pressure or fluids containing particles.

## DESIGN FEATURES

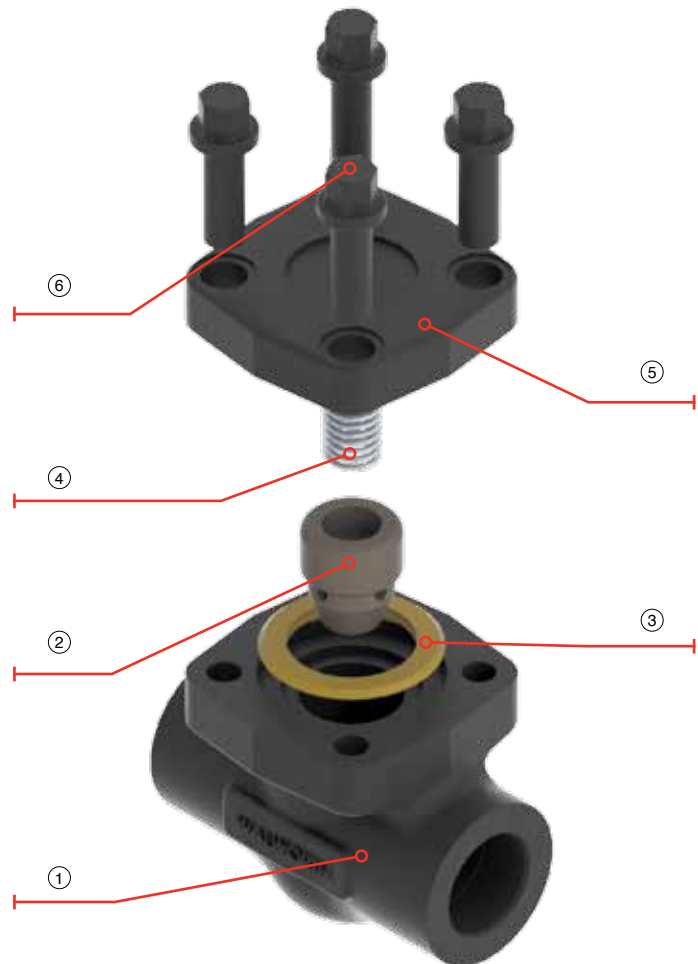
- Valves in accordance with API-602
- Socket weld, threaded, combined or flanged RF or RTJ ends.
- Bolted or Welded Bonnet options.
- Low fugitive emissions control.
- Nace service either MR-0175 or MR-0103
- Test in accordance with API-598
- Horizontal Fluid Control
- Vertical Fluid Control with Spring

Body to cover joint designed to apply a uniform load to the gasket to assure a leak proof seal.

Guided piston to assure a correct seal.

Spring to allow a mounting in a vertical line available upon request.

Stellite seat provides increased resistance to wear abrasion and erosion of sealing surface.



## REGULAR BILL OF MATERIALS

No.	DESCRIPTION	TRIM 8 A 105N
1	BODY	A105
2	PISTON	A276-420
3	GASKET	304+FLEXIBLE GRAPHITE
4	SPRING	A276-304
5	COVER	A105
6	COVER BOLT	A193-B7
7	IDENTIFICATION PLATE *	ALUMINIUM

\* NOT SHOWN

# FORGED STEEL PISTON CHECK VALVE THREADED SW CLASS 800

## Design Characteristics

- API 602 & ASME B16.34
- Bolted cover
- Piston type disc
- Standard or Full Port
- Threaded, Socket Weld Or Threaded X Socket Weld
- Spiral wound gasket
- Integral or renewable stellite seat ring
- Horizontal Fluid Control
- Piston with spring optional for vertical fluid control

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
Standard	800	5540S	5540S	THREADED
	Bolted	5540SW	5540SW	SOCKET WELD
	Bonnet	5540SSW	5540SSW	THREADED X SOCKET WELD
Full	800	5548S	5548S	THREADED
	Bolted	5548SW	5548SW	SOCKET WELD
	Bonnet	5548SSW	5548SSW	THREADED X SOCKET WELD
Standard	800	5547S	5547S	THREADED
	Welded	5547SW	5547SW	SOCKET WELD
	Bonnet	5547SSW	5547SSW	THREADED X SOCKET WELD
Full	800	5549S	5549S	THREADED
	Welded	5549SW	5549SW	SOCKET WELD
	Bonnet	5549SSW	5549SSW	THREADED X SOCKET WELD

## DIMENSIONS & WEIGHTS

FIG. 5540 BOLTED BONNET, STANDARD PORT

SIZES	INCHES	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	6	10	13	19	25	32	38	51
A	INCHES	3.11	3.11	3.11	3.62	4.37	4.72	5.98	6.77
	MM	79	79	79	92	111	120	152	172
B	INCHES	2.15	2.15	2.15	2.15	2.83	3.19	3.70	4.41
	MM	54.5	54.5	54.5	54.5	72.0	81.0	94.0	112.0
C	INCHES	0.26	0.39	0.39	0.51	0.69	0.91	1.12	1.38
	MM	6.5	10.0	10.0	13.0	17.5	23.0	28.5	35.0
D	INCHES	1.34	1.34	1.34	1.57	1.93	2.28	2.52	3.07
	MM	34.0	34.0	34.0	40.0	49.0	58.0	64.0	78.0
WEIGHT	POUNDS	3.3	3.3	3.08	4.18	5.72	9.24	11.66	19.8
	KILOGRAMS	1.5	1.5	1.4	1.9	2.6	4.2	5.3	9.0

FIG. 5547 WELDED BONNET, STANDARD PORT

SIZES	INCHES	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	6	10	13	19	25	32	38	51
A	INCHES	3.11	3.11	3.11	3.62	4.37	4.72	5.98	6.77
	MM	79	79	79	92	111	120	152	172
B	INCHES	2.15	2.15	2.15	2.15	2.83	3.19	3.70	4.41
	MM	54.5	54.5	54.5	54.5	72.0	81.0	94.0	112.0
C	INCHES	0.26	0.39	0.39	0.51	0.69	0.91	1.12	1.38
	MM	6.5	10.0	10.0	13.0	17.5	23.0	28.5	35.0
D	INCHES	1.34	1.34	1.34	1.57	1.93	2.28	2.52	3.07
	MM	34.0	34.0	34.0	40.0	49.0	58.0	64.0	78.0
WEIGHT	POUNDS	3.3	3.3	3.08	4.18	5.72	9.24	11.66	19.8
	KILOGRAMS	1.5	1.5	1.4	1.9	2.6	4.2	5.3	9.0

FIG. 5548 BOLTED BONNET, FULL PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	3.62	4.37	4.72	5.98	6.77	8.66
	MM	92	111	120	152	172	220
B	INCHES	2.17	2.83	3.19	3.70	4.41	5.20
	MM	55	72	81	94	112	132
C	INCHES	0.51	0.69	0.91	1.12	1.38	1.38
	MM	13	17.5	23	28.5	35	35.0
D	INCHES	1.57	1.93	2.28	2.52	3.07	3.46
	MM	40	49.0	58	64.0	78	88.0
WEIGHT	POUNDS	4.18	5.72	9.24	11.66	19.8	24.2
	KILOGRAMS	1.9	2.6	4.2	5.3	9.0	11.0

FIG. 5549 WELDED BONNET, FULL PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	3.62	4.37	4.72	5.98	6.77	8.66
	MM	92	111	120	152	172	220
B	INCHES	2.17	2.83	3.19	3.70	4.41	5.20
	MM	55	72	81	94	112	132
C	INCHES	0.51	0.69	0.91	1.12	1.38	1.38
	MM	13	17.5	23	28.5	35	35.0
D	INCHES	1.57	1.93	2.28	2.52	3.07	3.46
	MM	40	49.0	58	64.0	78	88.0
WEIGHT	POUNDS	4.18	5.72	9.24	11.66	19.8	24.2
	KILOGRAMS	1.9	2.6	4.2	5.3	9.0	11.0



# FORGED STEEL PISTON CHECK VALVE THREADED SW CLASS 1500

## Design Characteristics

- API 602 & ASME B16.34
- Bolted cover
- Piston type disc
- Standard or Full Port
- Threaded, Socket Weld Or Threaded X Socket Weld
- Spiral wound gasket
- Integral or renewable stellite seat ring
- Horizontal Fluid Control
- Piston with spring optional for vertical fluid control

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
Standard	1500	5541S	5541S	THREADED
	Bolted Bonnet	5541SW	5541SW	SOCKET WELD
	Bonnet	5541SSW	5541SSW	THREADED X SOCKET WELD
Full	1500	5559S	5559S	THREADED
	Bolted Bonnet	5559SW	5559SW	SOCKET WELD
	Bonnet	5559SSW	5559SSW	THREADED X SOCKET WELD
Standard	1500	5545S	5545S	THREADED
	Welded Bonnet	5545SW	5545SW	SOCKET WELD
	Bonnet	5545SSW	5545SSW	THREADED X SOCKET WELD
Full	1500	5569S	5569S	THREADED
	Welded Bonnet	5569SW	5569SW	SOCKET WELD
	Bonnet	5569SSW	5569SSW	THREADED X SOCKET WELD

## DIMENSIONS & WEIGHTS

FIG. 5541 BOLTED BONNET, STANDARD PORT

SIZES	INCHES	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	6	10	13	19	25	32	38	51
A	INCHES	3.11	3.11	3.62	4.37	4.72	5.98	6.77	8.66
	MM	79	79	92	111	120	152	172	220
B	INCHES	2.87	2.87	2.87	2.87	3.31	3.82	4.53	5.20
	MM	73	73	73	73	84	97	115	132
C	INCHES	0.26	0.39	0.39	0.51	0.69	0.91	1.12	1.38
	MM	6.5	10.0	10.0	13.0	17.5	23.0	28.5	35.0
D	INCHES	1.34	1.34	1.65	1.93	2.28	2.52	3.07	3.46
	MM	34.0	34.0	42.0	49.0	58.0	64.0	78.0	88.0
WEIGHT	POUNDS	4.84	4.84	5.28	6.38	10.12	14.3	23.1	34.1
	KILOGRAMS	2.2	2.2	2.4	2.9	4.6	6.5	10.5	15.5

FIG. 5545 WELDED BONNET, STANDARD PORT

SIZES	INCHES	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	6	10	13	19	25	32	38	51
A	INCHES	3.11	3.11	3.62	4.37	4.72	5.98	6.77	8.66
	MM	79	79	92	111	120	152	172	220
B	INCHES	2.87	2.87	2.87	2.87	3.31	3.82	4.53	5.20
	MM	73	73	73	73	84	97	115	132
C	INCHES	0.26	0.39	0.39	0.51	0.69	0.91	1.12	1.38
	MM	6.5	10.0	10.0	13.0	17.5	23.0	28.5	35.0
D	INCHES	1.34	1.34	1.65	1.93	2.28	2.52	3.07	3.46
	MM	34.0	34.0	42.0	49.0	58.0	64.0	78.0	88.0
WEIGHT	POUNDS	4.84	4.84	5.28	6.38	10.12	14.3	23.1	34.1
	KILOGRAMS	2.2	2.2	2.4	2.9	4.6	6.5	10.5	15.5

FIG. 5549 BOLTED BONNET, FULL PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	4.37	4.72	5.98	6.77	8.66	10.24
	MM	111	120	152	172	220	260
B	INCHES	2.87	3.31	3.82	4.53	5.20	5.20
	MM	73	84	97	115	132	132
C	INCHES	0.51	0.69	0.91	1.12	1.38	1.38
	MM	13.0	17.5	23.0	28.5	35.0	35.0
D	INCHES	1.93	2.28	2.52	3.07	3.46	3.46
	MM	49.0	58.0	64.0	78.0	88.0	88.0
WEIGHT	POUNDS	6.38	10.12	14.3	23.1	34.32	37.4
	KILOGRAMS	2.9	4.6	6.5	10.5	15.6	17.0

FIG. 5559 WELDED BONNET, FULL PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	4.37	4.72	5.98	6.77	8.66	7.87
	MM	111	120	152	172	220	200
B	INCHES	2.87	3.31	3.82	4.53	5.20	5.20
	MM	73	84	97	115	132	132
C	INCHES	0.51	0.69	0.91	1.12	1.38	1.38
	MM	13.0	17.5	23.0	28.5	35.0	35.0
D	INCHES	1.93	2.28	2.52	3.07	3.46	3.46
	MM	49.0	58.0	64.0	78.0	88.0	88.0
WEIGHT	POUNDS	6.38	10.12	14.3	23.1	34.32	37.4
	KILOGRAMS	2.9	4.6	6.5	10.5	15.6	17.0



# FORGED STEEL PISTON CHECK VALVE THREADED SW CLASS 2500

## Design Characteristics

- API 602 & ASME B16.34
- Welded cover
- Piston type disc
- Standard or Full Port
- Threaded, Socket Weld Or Threaded X Socket Weld
- Spiral wound gasket
- Integral or renewable stellite seat ring
- Horizontal Fluid Control
- Piston with spring optional for vertical fluid control

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
Standard	2500	5542S	5542S	THREADED
	Welded	5542SW	5542SW	SOCKET WELD
	Bonnet	5542SSW	5542SSW	THREADED X SOCKET WELD
Full	2500	5642S	5642S	THREADED
	Welded	5642SW	5642SW	SOCKET WELD
	Bonnet	5642SSW	5642SSW	THREADED X SOCKET WELD

## DIMENSIONS & WEIGHTS

FIG. 5542 WELDED BONNET, STANDARD PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	5.91	5.91	6.69	7.87	7.87	9.84
	MM	150	150	170	200	200	250
B	INCHES	4.02	4.02	4.21	5.04	5.04	5.63
	MM	102	102	107	128	128	143
C	INCHES	0.43	0.55	0.75	0.98	1.10	1.38
	MM	11	14	19	25	28	35
D	INCHES	2.05	2.05	2.52	3.15	3.15	3.74
	MM	52.0	52.0	64.0	80.0	80.0	95.0
WEIGHT	POUNDS	18.04	17.6	27.06	44	43.56	60.5
	KILOGRAMS	8.2	8.0	12.3	20.0	19.8	27.5

FIG. 5642 WELDED BONNET, FULL PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	5.91	6.69	7.87	7.87	9.84	10.63
	MM	150	170	200	200	250	270
B	INCHES	4.02	4.21	5.04	5.04	5.63	5.91
	MM	102	107	128	128	143	150
C	INCHES	0.55	0.75	0.98	1.10	1.38	1.57
	MM	14	19	25	28	35	40
D	INCHES	2.05	2.52	3.15	3.15	3.74	3.94
	MM	52.0	64.0	80.0	80.0	95.0	100.0
WEIGHT	POUNDS	17.6	27.06	44	43.56	60.5	66
	KILOGRAMS	8.0	12.3	20.0	19.8	27.5	30.0





# FORGED STEEL PISTON CHECK VALVE RF/RTJ CLASS 150, 300 & 600

## Design Characteristics

- API 602 & ASME B16.34
- Bolted cover
- Piston type disc
- Standard port
- Integral flanged ends (Raised Face or Ring Type Joint)
- Spiral wound gasket
- Integral or renewable stellite seat ring
- Horizontal Fluid Control
- Piston with spring optional for vertical fluid control

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
Standard	150	5815RF	5815F	FLANGED RAISED FACE
		5815RTJ	5815RTJ	FLANGED RING TYPE JOINT
Standard	300	5830RF	5830F	FLANGED RAISED FACE
		5830RTJ	5830RTJ	FLANGED RING TYPE JOINT
Standard	600	5860RF	5860F	FLANGED RAISED FACE
		5860RTJ	5860RTJ	FLANGED RING TYPE JOINT

## DIMENSIONS & WEIGHTS

FIG. 5815 STANDARD PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A (RF)	INCHES	4.25	4.61	5.00	5.51	6.50	7.99
	MM	108.0	117.0	127.0	140.0	165.0	203.0
A (RJ)	INCHES	4.76	5.12	5.51	6.02	7.01	8.50
	MM	121.0	130.0	140.0	153.0	178.0	216.0
B	INCHES	2.15	2.15	2.83	3.19	3.58	4.41
	MM	54.5	54.5	72.0	81.0	91.0	112.0
C	INCHES	0.39	0.51	0.69	0.91	1.12	1.38
	MM	10.0	13.0	17.5	23.0	28.5	35.0
WEIGHT	POUNDS	7.48	9.68	18.04	19.58	26.4	31.46
	KILOGRAMS	3.4	4.4	8.2	8.9	12.0	14.3

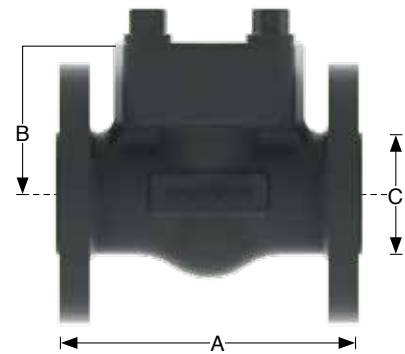


FIG. 5830 STANDARD PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A (RF)	INCHES	5.98	7.01	8.50	9.02	9.49	10.51
	MM	152.0	178.0	216.0	229.0	241.0	267.0
A (RJ)	INCHES	6.42	7.52	9.02	9.53	10.00	11.14
	MM	163.0	191.0	229.0	242.0	254.0	283.0
B	INCHES	2.15	2.15	2.83	3.19	3.58	4.41
	MM	54.5	54.5	72.0	81.0	91.0	112.0
C	INCHES	0.39	0.51	0.69	0.91	1.12	1.38
	MM	10.0	13.0	17.5	23.0	28.5	35.0
WEIGHT	POUNDS	8.14	10.56	19.36	21.12	30.14	39.16
	KILOGRAMS	3.7	4.8	8.8	9.6	13.7	17.8

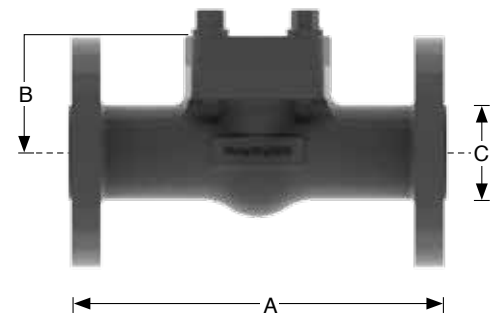
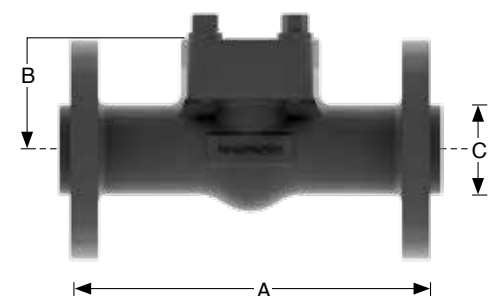


FIG. 5860 STANDARD PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A (RF)	INCHES	6.50	7.52	8.50	9.02	9.49	11.50
	MM	165.0	191.0	216.0	229.0	241.0	292.0
A (RJ)	INCHES	6.50	7.52	8.50	9.02	9.49	11.61
	MM	165.0	191.0	216.0	229.0	241.0	295.0
B	INCHES	2.15	2.15	2.83	3.19	3.58	4.41
	MM	54.5	54.5	72.0	81.0	91.0	112.0
C	INCHES	0.39	0.51	0.69	0.91	1.12	1.38
	MM	10.0	13.0	17.5	23.0	28.5	35.0
WEIGHT	POUNDS	8.14	12.76	20.9	22.88	34.32	53.9
	KILOGRAMS	3.7	5.8	9.5	10.4	15.6	24.5



# FORGED STEEL PISTON CHECK VALVE RF/RTJ CLASS 150, 300 & 600

## Design Characteristics

- API 602 & ASME B16.34
- Bolted cover
- Piston type disc
- Full Port
- Integral flanged ends (Raised Face or Ring Type Joint)
- Spiral wound gasket
- Integral or renewable stellite seat ring
- Horizontal Fluid Control
- Piston with spring optional for vertical fluid control

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
Full	150	5818RF 5818RTJ	5818F 5818RTJ	FLANGED RAISED FACE FLANGED RING TYPE JOINT
Full	300	5838RF 5838RTJ	5838F 5838RTJ	FLANGED RAISED FACE FLANGED RING TYPE JOINT
Full	600	5868RF 5868RTJ	5868F 5868RTJ	FLANGED RAISED FACE FLANGED RING TYPE JOINT

## DIMENSIONS & WEIGHTS

FIG. 5818 FULL PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A (RF)	INCHES	4.25	4.61	5.00	5.51	6.50	7.99
	MM	108.0	117.0	127.0	140.0	165.0	203.0
A (RJ)	INCHES	4.76	5.12	5.51	6.02	7.01	8.50
	MM	121.0	130.0	140.0	153.0	178.0	216.0
B	INCHES	2.15	2.83	3.19	3.70	4.41	5.20
	MM	54.5	72.0	81.0	94.0	112.0	132.0
C	INCHES	0.39	0.51	0.69	0.91	1.12	1.38
	MM	10.0	13.0	17.5	23.0	28.5	35.0
WEIGHT	POUNDS	7.48	9.68	18.04	19.58	26.4	31.46
	KILOGRAMS	3.4	4.4	8.2	8.9	12.0	14.3

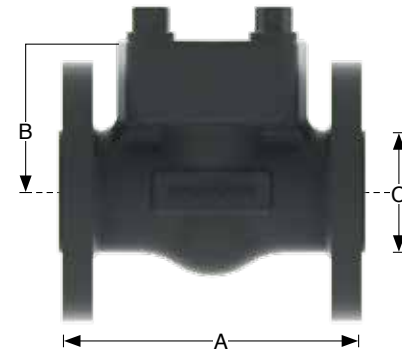


FIG. 5838 FULL PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A (RF)	INCHES	5.98	7.01	8.50	9.02	9.49	10.51
	MM	152.0	178.0	216.0	229.0	241.0	267.0
A (RJ)	INCHES	6.42	7.52	9.02	9.53	10.00	11.14
	MM	163.0	191.0	229.0	242.0	254.0	283.0
B	INCHES	2.15	2.83	3.19	3.70	4.41	5.20
	MM	54.5	72.0	81.0	94.0	112.0	132.0
C	INCHES	0.39	0.51	0.69	0.91	1.12	1.38
	MM	10.0	13.0	17.5	23.0	28.5	35.0
WEIGHT	POUNDS	8.14	10.56	19.36	21.12	30.14	39.16
	KILOGRAMS	3.7	4.8	8.8	9.6	13.7	17.8

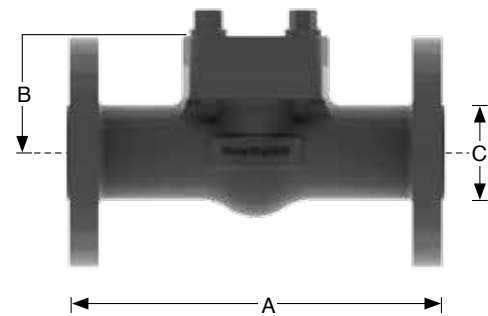
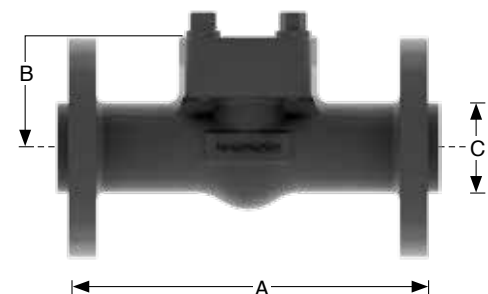


FIG. 5868 FULL PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A (RF)	INCHES	6.50	7.52	8.50	9.02	9.49	11.50
	MM	165.0	191.0	216.0	229.0	241.0	292.0
A (RJ)	INCHES	6.50	7.52	8.50	9.02	9.49	11.61
	MM	165.0	191.0	216.0	229.0	241.0	295.0
B	INCHES	2.15	2.83	3.19	3.70	4.41	5.20
	MM	54.5	72.0	81.0	94.0	112.0	132.0
C	INCHES	0.39	0.51	0.69	0.91	1.12	1.38
	MM	10.0	13.0	17.5	23.0	28.5	35.0
WEIGHT	POUNDS	8.14	12.76	20.9	22.88	34.32	53.9
	KILOGRAMS	3.7	5.8	9.5	10.4	15.6	24.5



# FORGED STEEL PISTON CHECK VALVE RF/RTJ CLASS 1500

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
Standard	1500 Bolted	15815RF	15815F	FLANGED RAISED FACE
	Bonnet	15815RTJ	15815RTJ	FLANGED RING TYPE JOINT

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
Full	1500 Welded	15885RF	15885F	FLANGED RAISED FACE
	Bonnet	15885RTJ	15885RTJ	FLANGED RING TYPE JOINT

## Design Characteristics

- API 602 & ASME B16.34
- Bolted Cover
- Piston type disc
- Standard Port
- Integral flanged ends (Raised Face or Ring Type Joint)
- Spiral wound gasket
- Integral or renewable stellite seat ring
- Horizontal Fluid Control
- Piston with spring optional for vertical fluid control

## Design Characteristics

- API 602 & ASME B16.34
- Welded Cover
- Piston type disc
- Full Port
- Integral flanged ends (Raised Face or Ring Type Joint)
- Spiral wound gasket
- Integral or renewable stellite seat ring
- Horizontal Fluid Control
- Piston with spring optional for vertical fluid control

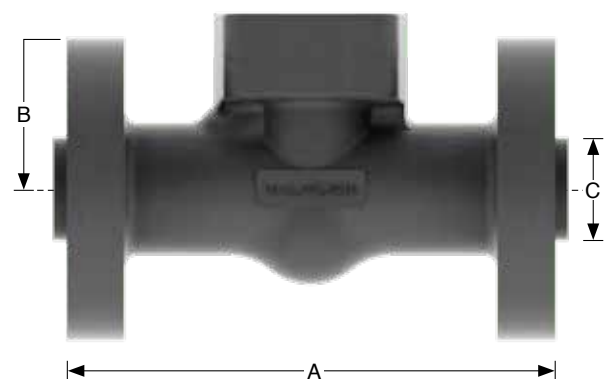
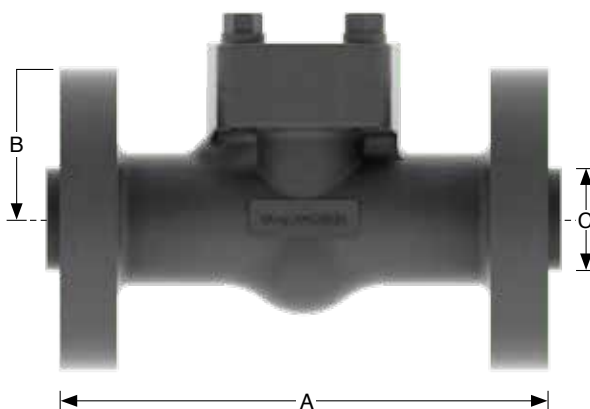
## DIMENSIONS & WEIGHTS

FIG. 15815 BOLTED BONNET, STANDARD PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	8.50	9.02	10.00	10.98	12.01	14.49
	MM	216	229	254	279	305	368
B	INCHES	2.87	2.87	3.31	3.82	4.53	5.20
	MM	73	73	84	97	115	132
C	INCHES	0.39	0.51	0.69	0.91	1.12	1.38
	MM	10.0	13.0	17.5	23.0	28.5	35.0
WEIGHT	POUNDS	20.68	24.64	31.68	35.2	47.3	61.6
	KILOGRAMS	9.4	11.2	14.4	16.0	21.5	28.0

FIG. 15885 WELDED BONNET, FULL PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	9.02	10.00	10.98	12.01	14.49	15.35
	MM	229	254	279	305	368	390
B	INCHES	2.87	3.31	3.82	4.53	5.20	5.71
	MM	73	84	97	115	132	145
D	INCHES	0.51	0.69	0.91	1.12	1.38	1.57
	MM	13.0	17.5	23.0	28.5	35.0	40.0
WEIGHT	POUNDS	24.64	31.68	35.2	47.3	61.6	70.4
	KILOGRAMS	11.2	14.4	16.0	21.5	28.0	32.0



# WALWORTH FORGED STEEL “Y” PATTERN PISTON CHECK VALVES

“Y” Pattern Piston 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. Also is used when a laminar flow and increased CV is desired.

This design provides a tight seal as well as a fast reaction to the closure impulse.

Metal seated check valves may not provide drop tight sealing when used in gas system or fluid system with low back flow pressure or fluids containing particles.

## DESIGN FEATURES

- Valves in accordance with API-602
- Socket Weld, Threaded, Combined or Flanged RF or RTJ Ends.
- Bolted or Welded Bonnets Options.
- Low fugitive emissions control.
- Nace service either MR-0175 or MR-0103
- Test in accordance with API-598.
- Horizontal Fluid Control
- Vertical Fluid Control with Spring

Body to cover joint designed to apply a uniform load to the gasket to assure a leak proof seal.

Guided piston to assure a correct seal.

Spring to allow a mounting in a vertical line available upon request.

Stellite seat provides increased resistance to wear abrasion and erosion of sealing surface.



## REGULAR BILL OF MATERIALS

No.	DESCRIPTION	TRIM 8 A 105N
1	BODY	A105
2	PISTON	A276-420
3	GASKET	304+FLEXIBLE GRAPHITE
4	SPRING	A276-304
5	COVER	A105
6	COVER BOLT	A193-B7
7	IDENTIFICATION PLATE *	ALUMINIUM

\* NOT SHOWN

# FORGED STEEL “Y” PATTERN PISTON CHECK VALVE THREADED SW CLASS 800

## Design Characteristics

- API 602 & ASME B16.34
- Bolted or Welded cover
- Piston type disc
- Standard or Full Port
- Threaded, Socket Weld Or Threaded X Socket Weld
- Spiral wound gasket
- Integral or renewable stellite seat ring
- Horizontal Fluid Control
- Piston with spring optional for vertical fluid control

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
Standard	800	5540YS	5540YS	THREADED
	Bolted Bonnet	5540YSW	5540YSW	SOCKET WELD
Full	800	5548YS	5548YS	THREADED
	Bolted Bonnet	5548YSW	5548YSW	SOCKET WELD
Standard	800	5547YS	5547YS	THREADED
	Welded Bonnet	5547YSW	5547YSW	SOCKET WELD
Full	800	5549YS	5549YS	THREADED
	Welded Bonnet	5549YSW	5549YSW	SOCKET WELD
				THREADED X SOCKET WELD

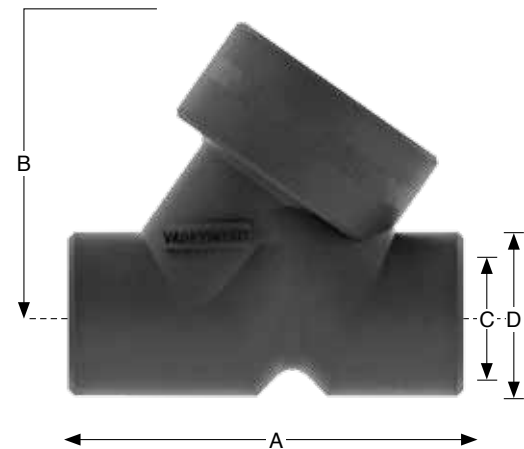
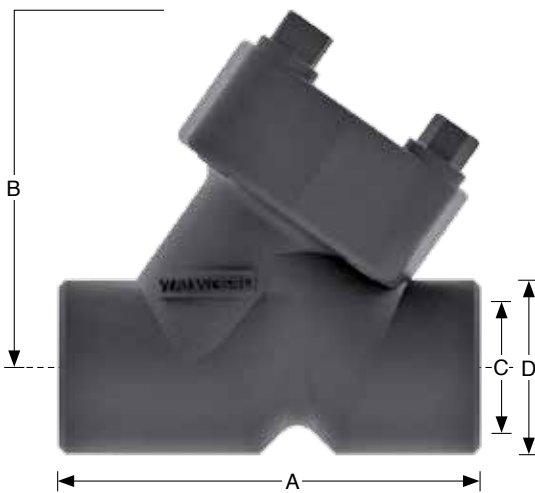
## DIMENSIONS & WEIGHTS

FIG. 5540 Y BOLTED BONNET, STANDARD PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	4.17	4.17	4.72	5.98	5.98	7.09
	MM	106	106	120	152	152	180
B	INCHES	6.30	6.30	7.40	9.13	9.13	10.31
	MM	160	160	188	232	232	262
C	INCHES	0.39	0.51	0.69	0.91	1.12	1.38
	MM	10	13.0	18	23.0	29	35.0
D	INCHES	1.61	1.61	1.97	2.52	2.52	3.15
	MM	41	41	50	64	64	80
WEIGHT	POUNDS	4.18	5.72	9.24	11.66	19.8	24.2
	KILOGRAMS	1.9	2.6	4.2	5.3	9.0	11.0

FIG. 5547 Y WELDED BONNET, STANDARD PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	4.17	4.17	4.72	5.98	5.98	7.09
	MM	106	106	120	152	152	180
B	INCHES	3.03	3.03	3.46	4.25	4.25	4.88
	MM	77	77	88	108	108	124
C	INCHES	0.39	0.51	0.69	0.91	1.12	1.38
	MM	10	13.0	18	23.0	29	35.0
D	INCHES	1.61	1.61	1.97	2.52	2.52	3.15
	MM	41	41	50	64	64	80
WEIGHT	POUNDS	3.08	4.18	5.72	9.24	11.66	19.8
	KILOGRAMS	1.4	1.9	2.6	4.2	5.3	9.0



# FORGED STEEL "Y" PATTERN PISTON CHECK VALVE THREADED SW CLASS 1500

## Design Characteristics

- API 602 & ASME B16.34
- Bolted or Welded cover
- Piston type disc
- Standard or Full Port
- Threaded, Socket Weld Or Threaded X Socket Weld
- Spiral wound gasket
- Integral or renewable stellite seat ring
- Horizontal Fluid Control
- Piston with spring optional for vertical fluid control

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
Standard	1500	5541YS	5541YS	THREADED
	Bolted	5541YSW	5541YSW	SOCKET WELD
	Bonnet	5541YSSW	5541YSSW	THREADED X SOCKET WELD
Full	1500	5559YS	5559YS	THREADED
	Bolted	5559YSW	5559YSW	SOCKET WELD
	Bonnet	5559YSSW	5559YSSW	THREADED X SOCKET WELD
Standard	1500	5545YS	5545YS	THREADED
	Welded	5545YSW	5545YSW	SOCKET WELD
	Bonnet	5545YSSW	5545YSSW	THREADED X SOCKET WELD
Full	1500	5569YS	5569YS	THREADED
	Welded	5569YSW	5569YSW	SOCKET WELD
	Bonnet	5569YSSW	5569YSSW	THREADED X SOCKET WELD

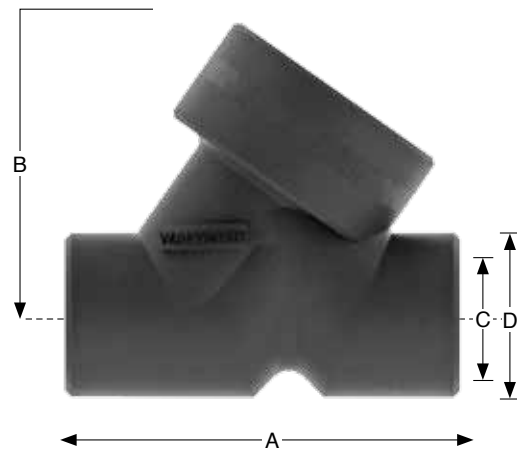
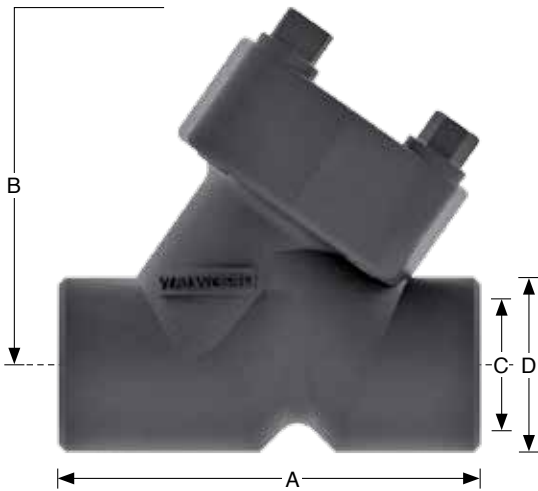
## DIMENSIONS & WEIGHTS

FIG. 5541 Y BOLTED BONNET, STANDARD PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	4.72	4.72	5.98	7.09	7.09	7.87
	MM	120	120	152	180	180	200
B	INCHES	4.06	4.06	4.96	5.75	5.75	6.61
	MM	103	103	126	146	146	168
C	INCHES	0.39	0.51	0.69	0.91	1.12	1.38
	MM	10	13.0	18	23.0	29	35.0
D	INCHES	1.97	1.97	2.52	3.15	3.15	3.15
	MM	50	50	64	80	80	80
WEIGHT	POUNDS	4.18	5.72	9.24	11.66	19.8	24.2
	KILOGRAMS	1.9	2.6	4.2	5.3	9.0	11.0

FIG. 5545 Y WELDED BONNET, STANDARD PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	4.72	4.72	5.98	7.09	7.09	7.87
	MM	120	120	152	180	180	200
B	INCHES	3.46	3.46	4.25	4.25	4.88	5.67
	MM	88	88	108	108	124	144
C	INCHES	0.39	0.51	0.69	0.91	1.12	1.38
	MM	10	13.0	18	23.0	29	35.0
D	INCHES	1.97	1.97	2.52	3.15	3.15	3.15
	MM	50	50	64	80	80	80
WEIGHT	POUNDS	3.08	4.18	5.72	9.24	11.66	19.8
	KILOGRAMS	1.4	1.9	2.6	4.2	5.3	9.0



# FORGED STEEL “Y” PATTERN PISTON CHECK VALVE THREADED SW CLASS 2500

## Design Characteristics

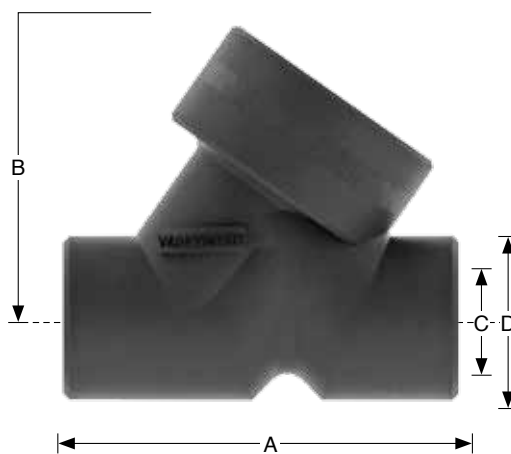
- API 602 & ASME B16.34
- Welded cover
- Piston type disc
- Standard or Full Port
- Threaded, Socket Weld Or Threaded X Socket Weld
- Spiral wound gasket
- Integral or renewable stellite seat ring
- Horizontal Fluid Control
- Piston with spring optional for vertical fluid control

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
Standard	2500	5542YS	5542YS	THREADED
	Welded	5542YSW	5542YSW	SOCKET WELD
	Bonnet	5542YSSW	5542YSSW	THREADED X SOCKET WELD
Full	2500	5642YS	5642YS	THREADED
	Welded	5642YSW	5642YSW	SOCKET WELD
	Bonnet	5642YSSW	5642YSSW	THREADED X SOCKET WELD

## DIMENSIONS & WEIGHTS

FIG. 5542 Y WELDED BONNET, STANDARD PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	5.98	5.98	7.09	7.87	7.87	9.06
	MM	152	152	180	200	200	230
B	INCHES	4.37	4.37	5.04	5.71	5.71	6.30
	MM	111	111	128	145	145	160
C	INCHES	0.43	0.55	0.75	0.98	1.10	1.38
	MM	11	14.0	19	25.0	28	35.0
D	INCHES	2.52	2.52	3.15	3.54	3.54	3.86
	MM	64	64	80	90	90	98
WEIGHT	POUNDS	4.18	5.72	9.24	11.66	19.8	24.2
	KILOGRAMS	1.9	2.6	4.2	5.3	9.0	11.0



# WALWORTH FORGED STEEL BALL CHECK VALVES

Ball check valves are generally used to protect pumps or similar equipment, allowing the flow only in one direction and preventing flow reversal due to the back pressure.

The ball check valve can be used for a high viscosity fluid. The arrow stamped on the valves should match direction of the flow.

The sealing ability of check valves depends on the pressure of the back flow and the viscosity of the fluid.

## DESIGN FEATURES

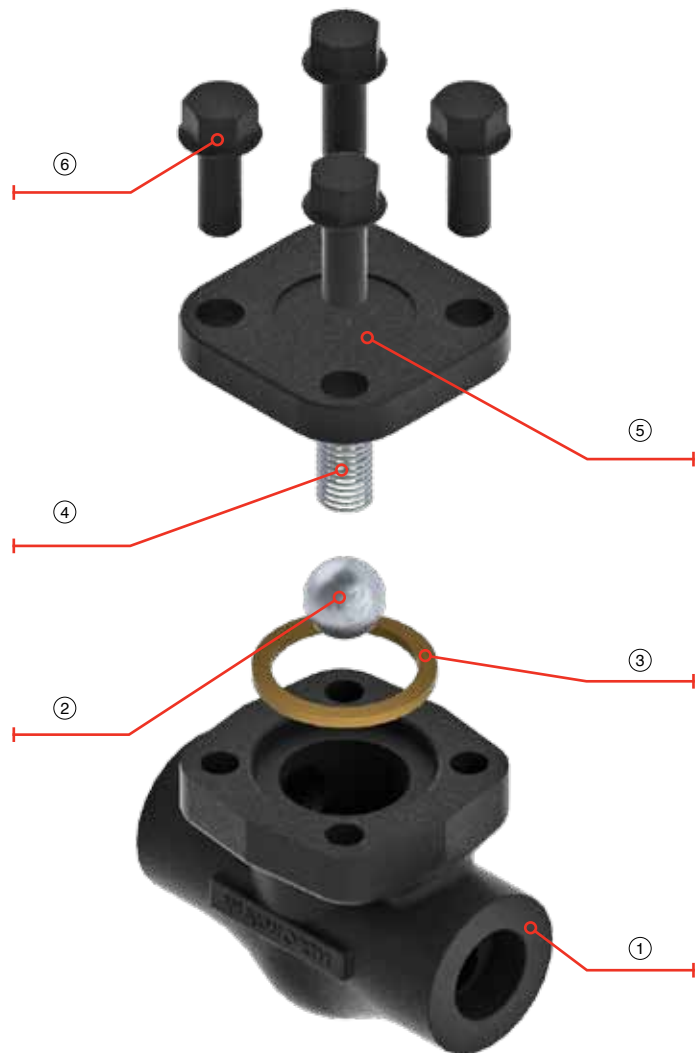
- Valves in accordance with API-602
- Socket Weld, Threaded, Combined or Flanged RF or RTJ ends.
- Bolted or Welded Bonnet options.
- Low fugitive emissions control.
- Nace service either MR-0175 or MR-0103
- Test in accordance with API-598.

Body to cover joint designed to apply a uniform load to the gasket to assure a leak proof seal.

Spring to allow mounting in a vertical line.

Ball completely guided to assure a correct seal.

Stellite seat provides increased resistance to wear abrasion and erosion of the sealing surface.



## REGULAR BILL OF MATERIALS

No.	DESCRIPTION	TRIM 8 A 105N
1	BODY	A105
2	BALL	A276-304
3	GASKET	304+FLEXIBLE GRAPHITE
4	SPRING	A276-304
5	COVER	A105
6	COVER BOLT	A193-B7
7	IDENTIFICATION PLATE *	ALUMINIUM

\* NOT SHOWN



# FORGED STEEL BALL CHECK VALVE THREADED SW CLASS 800

## Design Characteristics

- API 602 & ASME B16.34
- Bolted cover
- Ball type disc
- Standard or Full Port
- Threaded, Socket Weld Or Threaded X Socket Weld
- Spiral wound gasket
- Integral or renewable stellite seat ring
- Horizontal Fluid Control
- Piston with spring optional for vertical fluid control

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
Standard	800	6650S	6650S	THREADED
	Bolted Bonnet	6650SW	6650SW	SOCKET WELD
		6650SSW	6650SSW	THREADED X SOCKET WELD
Full	800	6658S	6658S	THREADED
	Bolted Bonnet	6658SW	6658SW	SOCKET WELD
		6658SSW	6658SSW	THREADED X SOCKET WELD
Standard	800	6627S	6627S	THREADED
	Welded Bonnet	6627SW	6627SW	SOCKET WELD
		6627SSW	6627SSW	THREADED X SOCKET WELD
Full	800	6629S	6629S	THREADED
	Welded Bonnet	6629SW	6629SW	SOCKET WELD
		6629SSW	6629SSW	THREADED X SOCKET WELD

## DIMENSIONS & WEIGHTS

FIG. 6650 BOLTED BONNET, STANDARD PORT

SIZES	INCHES	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	6	10	13	19	25	32	38	51
A	INCHES	3.11	3.11	3.11	3.62	4.37	4.72	5.98	6.77
	MM	79	79	79	92	111	120	152	172
B	INCHES	2.15	2.15	2.15	2.15	2.83	3.19	3.70	4.41
	MM	54.5	54.5	54.5	54.5	72.0	81.0	94.0	112.0
C	INCHES	0.26	0.39	0.39	0.51	0.69	0.91	1.12	1.38
	MM	6.5	10.0	10.0	13.0	17.5	23.0	28.5	35.0
D	INCHES	1.34	1.34	1.34	1.57	1.93	2.28	2.52	3.07
	MM	34.0	34.0	34.0	40.0	49.0	58.0	64.0	78.0
WEIGHT	POUNDS	3.3	3.3	3.08	4.18	5.72	9.24	11.66	19.8
	KILOGRAMS	1.5	1.5	1.4	1.9	2.6	4.2	5.3	9.0

FIG. 6627 WELDED BONNET, STANDARD PORT

SIZES	INCHES	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	6	10	13	19	25	32	38	51
A	INCHES	3.11	3.11	3.11	3.62	4.37	4.72	5.98	6.77
	MM	79	79	79	92	111	120	152	172
B	INCHES	2.15	2.15	2.15	2.15	2.83	3.19	3.70	4.41
	MM	54.5	54.5	54.5	54.5	72.0	81.0	94.0	112.0
C	INCHES	0.26	0.39	0.39	0.51	0.69	0.91	1.12	1.38
	MM	6.5	10.0	10.0	13.0	17.5	23.0	28.5	35.0
D	INCHES	1.34	1.34	1.34	1.57	1.93	2.28	2.52	3.07
	MM	34.0	34.0	34.0	40.0	49.0	58.0	64.0	78.0
WEIGHT	POUNDS	3.3	3.3	3.08	4.18	5.72	9.24	11.66	19.8
	KILOGRAMS	1.5	1.5	1.4	1.9	2.6	4.2	5.3	9.0

FIG. 6658 BOLTED BONNET, FULL PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	3.62	4.37	4.72	5.98	6.77	8.66
	MM	92	111	120	152	172	220
B	INCHES	2.17	2.83	3.19	3.70	4.41	5.20
	MM	55	72	81	94	112	132
C	INCHES	0.51	0.69	0.91	1.12	1.38	1.38
	MM	13	17.5	23	28.5	35	35.0
D	INCHES	1.57	1.93	2.28	2.52	3.07	3.46
	MM	40	49.0	58	64.0	78	88.0
WEIGHT	POUNDS	4.18	5.72	9.24	11.66	19.8	24.2
	KILOGRAMS	1.9	2.6	4.2	5.3	9.0	11.0

FIG. 6629 WELDED BONNET, FULL PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	3.62	4.37	4.72	5.98	6.77	8.66
	MM	92	111	120	152	172	220
B	INCHES	2.17	2.83	3.19	3.70	4.41	5.20
	MM	55	72	81	94	112	132
C	INCHES	0.51	0.69	0.91	1.12	1.38	1.38
	MM	13	17.5	23	28.5	35	35.0
D	INCHES	1.57	1.93	2.28	2.52	3.07	3.46
	MM	40	49.0	58	64.0	78	88.0
WEIGHT	POUNDS	4.18	5.72	9.24	11.66	19.8	24.2
	KILOGRAMS	1.9	2.6	4.2	5.3	9.0	11.0



# FORGED STEEL BALL CHECK VALVE THREADED SW CLASS 1500

## Design Characteristics

- API 602 & ASME B16.34
- Bolted cover
- Ball type disc
- Standard or Full Port
- Threaded, Socket Weld Or Threaded X Socket Weld
- Spiral wound gasket
- Integral or renewable stellite seat ring
- Horizontal Fluid Control
- Piston with spring optional for vertical fluid control

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
Standard	1500	6651S	6651S	THREADED
	Bolted	6651SW	6651SW	SOCKET WELD
	Bonnet	6651SSW	6651SSW	THREADED X SOCKET WELD
Full	1500	6638S	6638S	THREADED
	Bolted	6638SW	6638SW	SOCKET WELD
	Bonnet	6638SSW	6638SSW	THREADED X SOCKET WELD
Standard	1500	6637S	6637S	THREADED
	Welded	6637SW	6637SW	SOCKET WELD
	Bonnet	6637SSW	6637SSW	THREADED X SOCKET WELD
Full	1500	6659S	6659S	THREADED
	Welded	6659SW	6659SW	SOCKET WELD
	Bonnet	6659SSW	6659SSW	THREADED X SOCKET WELD

## DIMENSIONS & WEIGHTS

FIG. 6651 BOLTED BONNET, STANDARD PORT

SIZES	INCHES	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	6	10	13	19	25	32	38	51
A	INCHES	3.11	3.11	3.62	4.37	4.72	5.98	6.77	8.66
	MM	79	79	92	111	120	152	172	220
B	INCHES	2.87	2.87	2.87	2.87	3.31	3.82	4.53	5.20
	MM	73	73	73	73	84	97	115	132
C	INCHES	0.26	0.39	0.39	0.51	0.69	0.91	1.12	1.38
	MM	6.5	10.0	10.0	13.0	17.5	23.0	28.5	35.0
D	INCHES	1.34	1.34	1.65	1.93	2.28	2.52	3.07	3.46
	MM	34.0	34.0	42.0	49.0	58.0	64.0	78.0	88.0
WEIGHT	POUNDS	4.84	4.84	5.28	6.38	10.12	14.3	23.1	34.1
	KILOGRAMS	2.2	2.2	2.4	2.9	4.6	6.5	10.5	15.5

FIG. 6637 WELDED BONNET, STANDARD PORT

SIZES	INCHES	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	6	10	13	19	25	32	38	51
A	INCHES	3.11	3.11	3.62	4.37	4.72	5.98	6.77	8.66
	MM	79	79	92	111	120	152	172	220
B	INCHES	2.87	2.87	2.87	2.87	3.31	3.82	4.53	5.20
	MM	73	73	73	73	84	97	115	132
C	INCHES	0.26	0.39	0.39	0.51	0.69	0.91	1.12	1.38
	MM	6.5	10.0	10.0	13.0	17.5	23.0	28.5	35.0
D	INCHES	1.34	1.34	1.65	1.93	2.28	2.52	3.07	3.46
	MM	34.0	34.0	42.0	49.0	58.0	64.0	78.0	88.0
WEIGHT	POUNDS	4.84	4.84	5.28	6.38	10.12	14.3	23.1	34.1
	KILOGRAMS	2.2	2.2	2.4	2.9	4.6	6.5	10.5	15.5

FIG. 6638 BOLTED BONNET, FULL PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	4.37	4.72	5.98	6.77	8.66	7.87
	MM	111	120	152	172	220	200
B	INCHES	2.87	3.31	3.82	4.53	5.20	5.20
	MM	73	84	97	115	132	132
C	INCHES	0.51	0.69	0.91	1.12	1.38	1.38
	MM	13.0	17.5	23.0	28.5	35.0	35.0
D	INCHES	1.93	2.28	2.52	3.07	3.46	3.46
	MM	49.0	58.0	64.0	78.0	88.0	88.0
WEIGHT	POUNDS	6.38	10.12	14.3	23.1	34.32	37.4
	KILOGRAMS	2.9	4.6	6.5	10.5	15.6	17.0

FIG. 6659 WELDED BONNET, FULL PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	4.37	4.72	5.98	6.77	8.66	7.87
	MM	111	120	152	172	220	200
B	INCHES	2.87	3.31	3.82	4.53	5.20	5.20
	MM	73	84	97	115	132	132
C	INCHES	0.51	0.69	0.91	1.12	1.38	1.38
	MM	13.0	17.5	23.0	28.5	35.0	35.0
D	INCHES	1.93	2.28	2.52	3.07	3.46	3.46
	MM	49.0	58.0	64.0	78.0	88.0	88.0
WEIGHT	POUNDS	6.38	10.12	14.3	23.1	34.32	37.4
	KILOGRAMS	2.9	4.6	6.5	10.5	15.6	17.0



# FORGED STEEL BALL CHECK VALVE RF/RTJ CLASS 150, 300 & 600

## Design Characteristics

- API 602 & ASME B16.34
- Bolted cover
- Ball type disc
- Standard Port
- Integral Flanged Ends (Raised Face or Ring Type Joint)
- Spiral wound gasket
- Integral or renewable stellite seat ring
- Horizontal Fluid Control
- Piston with spring optional for vertical fluid control

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
Standard	150	6615RF	6615F	FLANGED RAISED FACE
		6615RTJ	6615RTJ	FLANGED RING TYPE JOINT
Standard	300	6630RF	6630F	FLANGED RAISED FACE
		6630RTJ	6630RTJ	FLANGED RING TYPE JOINT
Standard	600	6660RF	6660F	FLANGED RAISED FACE
		6660RTJ	6660RTJ	FLANGED RING TYPE JOINT

## DIMENSIONS & WEIGHTS

FIG. 6615 STANDARD PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A (RF)	INCHES	4.25	4.61	5.00	5.51	6.50	7.99
	MM	108.0	117.0	127.0	140.0	165.0	203.0
A (RJ)	INCHES	4.76	5.12	5.51	6.02	7.01	8.50
	MM	121.0	130.0	140.0	153.0	178.0	216.0
B	INCHES	2.15	2.15	2.83	3.19	3.58	4.41
	MM	54.5	54.5	72.0	81.0	91.0	112.0
C	INCHES	0.39	0.51	0.69	0.91	1.12	1.38
	MM	10.0	13.0	17.5	23.0	28.5	35.0
WEIGHT	POUNDS	7.48	9.68	18.04	19.58	26.4	31.46
	KILOGRAMS	3.4	4.4	8.2	8.9	12.0	14.3

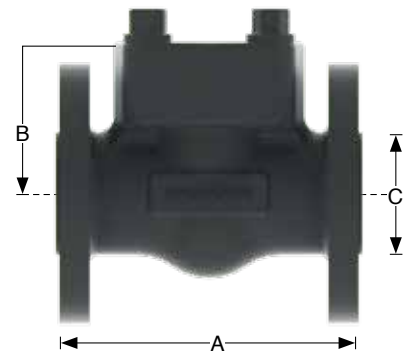


FIG. 6630 STANDARD PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A (RF)	INCHES	5.98	7.01	8.50	9.02	9.49	10.51
	MM	152.0	178.0	216.0	229.0	241.0	267.0
A (RJ)	INCHES	6.42	7.52	9.02	9.53	10.00	11.14
	MM	163.0	191.0	229.0	242.0	254.0	283.0
B	INCHES	2.15	2.15	2.83	3.19	3.58	4.41
	MM	54.5	54.5	72.0	81.0	91.0	112.0
C	INCHES	0.39	0.51	0.69	0.91	1.12	1.38
	MM	10.0	13.0	17.5	23.0	28.5	35.0
WEIGHT	POUNDS	8.14	10.56	19.36	21.12	30.14	39.16
	KILOGRAMS	3.7	4.8	8.8	9.6	13.7	17.8

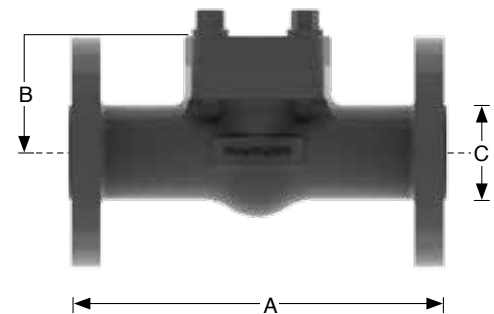
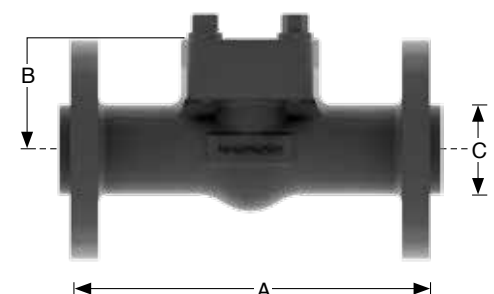


FIG. 6660 STANDARD PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A (RF)	INCHES	6.50	7.52	8.50	9.02	9.49	11.50
	MM	165.0	191.0	216.0	229.0	241.0	292.0
A (RJ)	INCHES	6.50	7.52	8.50	9.02	9.49	11.61
	MM	165.0	191.0	216.0	229.0	241.0	295.0
B	INCHES	2.15	2.15	2.83	3.19	3.58	4.41
	MM	54.5	54.5	72.0	81.0	91.0	112.0
C	INCHES	0.39	0.51	0.69	0.91	1.12	1.38
	MM	10.0	13.0	17.5	23.0	28.5	35.0
WEIGHT	POUNDS	8.14	12.76	20.9	22.88	34.32	53.9
	KILOGRAMS	3.7	5.8	9.5	10.4	15.6	24.5



# FORGED STEEL BALL CHECK VALVE RF/RTJ CLASS 150, 300 & 600

## Design Characteristics

- API 602 & ASME B16.34
- Bolted cover
- Ball type disc
- Full Port
- Integral Flanged Ends (Raised Face or Ring Type Joint)
- Spiral wound gasket
- Integral or renewable stellite seat ring
- Horizontal Fluid Control
- Piston with spring optional for vertical fluid control

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
Full	150	6618RF	6618F	FLANGED RAISED FACE
		6618RTJ	6618RTJ	FLANGED RING TYPE JOINT
Full	300	6638RF	6638F	FLANGED RAISED FACE
		6638RTJ	6638RTJ	FLANGED RING TYPE JOINT
Full	600	6668RF	6668F	FLANGED RAISED FACE
		6668RTJ	6668RTJ	FLANGED RING TYPE JOINT

## DIMENSIONS & WEIGHTS

FIG. 6618 FULL PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A (RF)	INCHES	4.25	4.61	5.00	5.51	6.50	7.99
	MM	108.0	117.0	127.0	140.0	165.0	203.0
A (RJ)	INCHES	4.76	5.12	5.51	6.02	7.01	8.50
	MM	121.0	130.0	140.0	153.0	178.0	216.0
B	INCHES	2.15	2.83	3.19	3.70	4.41	5.20
	MM	54.5	72.0	81.0	94.0	112.0	132.0
C	INCHES	0.39	0.51	0.69	0.91	1.12	1.38
	MM	10.0	13.0	17.5	23.0	28.5	35.0
WEIGHT	POUNDS	7.48	9.68	18.04	19.58	26.4	31.46
	KILOGRAMS	3.4	4.4	8.2	8.9	12.0	14.3

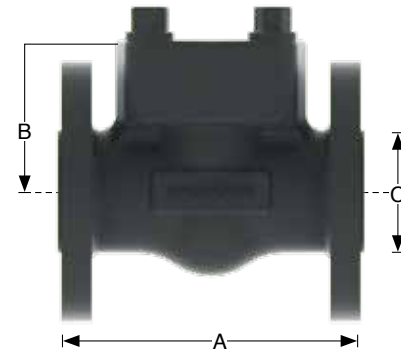


FIG. 6638 FULL PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A (RF)	INCHES	5.98	7.01	8.50	9.02	9.49	10.51
	MM	152.0	178.0	216.0	229.0	241.0	267.0
A (RJ)	INCHES	6.42	7.52	9.02	9.53	10.00	11.14
	MM	163.0	191.0	229.0	242.0	254.0	283.0
B	INCHES	2.15	2.83	3.19	3.70	4.41	5.20
	MM	54.5	72.0	81.0	94.0	112.0	132.0
C	INCHES	0.39	0.51	0.69	0.91	1.12	1.38
	MM	10.0	13.0	17.5	23.0	28.5	35.0
WEIGHT	POUNDS	8.14	10.56	19.36	21.12	30.14	39.16
	KILOGRAMS	3.7	4.8	8.8	9.6	13.7	17.8

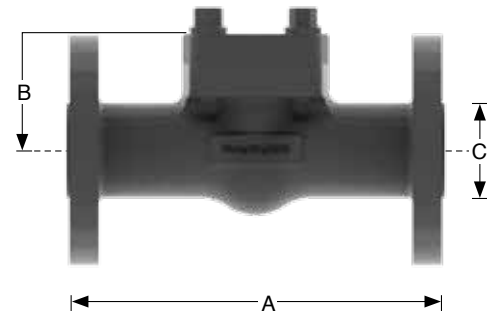
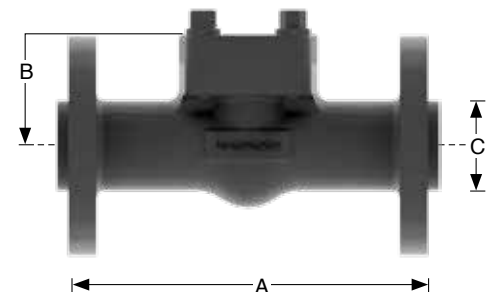


FIG. 6668 FULL PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A (RF)	INCHES	6.50	7.52	8.50	9.02	9.49	11.50
	MM	165.0	191.0	216.0	229.0	241.0	292.0
A (RJ)	INCHES	6.50	7.52	8.50	9.02	9.49	11.61
	MM	165.0	191.0	216.0	229.0	241.0	295.0
B	INCHES	2.15	2.83	3.19	3.70	4.41	5.20
	MM	54.5	72.0	81.0	94.0	112.0	132.0
C	INCHES	0.39	0.51	0.69	0.91	1.12	1.38
	MM	10.0	13.0	17.5	23.0	28.5	35.0
WEIGHT	POUNDS	8.14	12.76	20.9	22.88	34.32	53.9
	KILOGRAMS	3.7	5.8	9.5	10.4	15.6	24.5



# FORGED STEEL BALL CHECK VALVE RF/RTJ CLASS 1500

## Design Characteristics

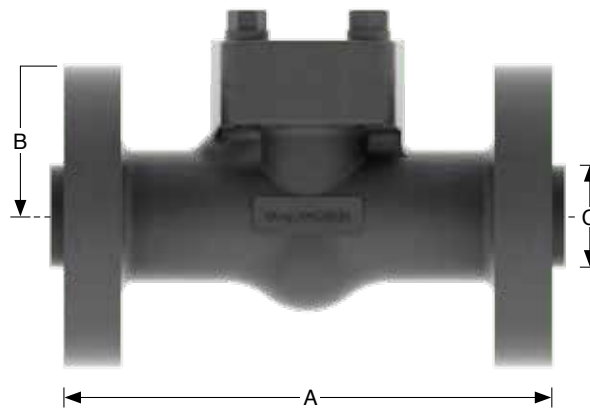
- API 602 & ASME B16.34
- Bolted cover
- Ball type disc
- Standard Port
- Integral Flanged Ends (Raised Face or Ring Type Joint)
- Spiral wound gasket
- Integral or renewable stellite seat ring
- Horizontal Fluid Control
- Piston with spring optional for vertical fluid control

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
Standard	1500 Bolted Bonnet	16615RF	16615F	FLANGED RAISED FACE
		16615RTJ	16615RTJ	FLANGED RING TYPE JOINT

## DIMENSIONS & WEIGHTS

FIG. 16615 BOLTED BONNET, STANDARD PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	8.50	9.02	10.00	10.98	12.01	14.49
	MM	216	229	254	279	305	368
B	INCHES	2.87	2.87	3.31	3.82	4.53	5.20
	MM	73	73	84	97	115	132
C	INCHES	0.39	0.51	0.69	0.91	1.12	1.38
	MM	10.0	13.0	17.5	23.0	28.5	35.0
WEIGHT	POUNDS	20.68	24.64	31.68	35.2	47.3	61.6
	KILOGRAMS	9.4	11.2	14.4	16.0	21.5	28.0



# WALWORTH FORGED STEEL “Y” PATTERN BALL CHECK VALVES

“Y” Pattern Ball 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. Also is used when a laminar flow and increased CV is desired.

This design provides a tight seal as well as fast reaction to the closure impulse.

Metal seated check valves may not provide drop tight sealing when used in gas system or fluid system with low back flow pressure or fluids containing particles.

## DESIGN FEATURES

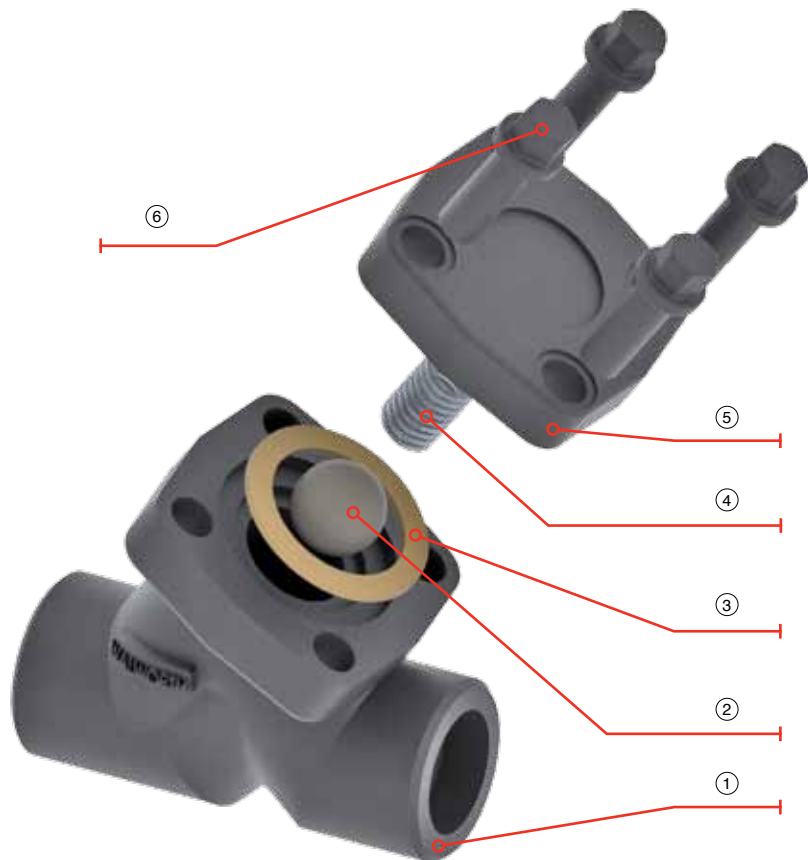
- Valves in accordance with API-602
- Socket Weld, Threaded, Combined or Flanged RF or RTJ Ends.
- Bolted or Welded Bonnet Options.
- Low fugitive emissions control.
- Nace service either MR-0175 or MR-0103
- Test in accordance with API-598.

Body to cover joint designed to apply a uniform load to the gasket to assure a leak proof seal.

Spring to allow mounting in a vertical line.

Ball completely guided to assure a correct seal.

Stellite seat provides increased resistance to wear abrasion and erosion of the sealing surface.



## REGULAR BILL OF MATERIALS

No.	DESCRIPTION	TRIM 8 A 105N
1	BODY	A105
2	BALL	A276-304
3	GASKET	304+FLEXIBLE GRAPHITE
4	SPRING	A276-304
5	COVER	A105
6	COVER BOLT	A193-B7
7	IDENTIFICATION PLATE *	ALUMINIUM

\* NOT SHOWN

## FORGED STEEL “Y” PATTERN CHECK VALVE THREADED SW CLASS 800

### Design Characteristics

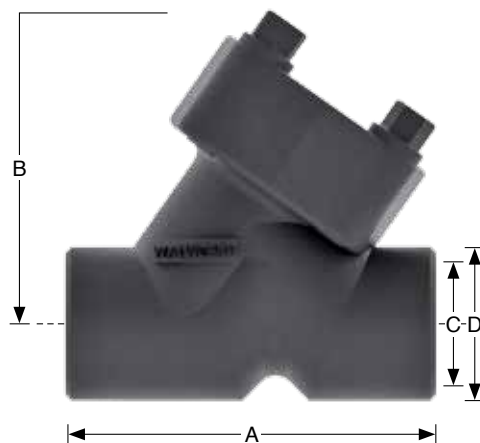
- API 602 & ASME B16.34
- Bolted cover
- Ball type disc
- Standard Port
- Threaded, Socket Weld Or Threaded X Socket Weld
- Spiral wound gasket
- Integral or renewable stellite seat ring
- Horizontal Fluid Control

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
Standard	800 Bolted Bonnet	6650YS	6650YS	THREADED
		6650YSW	6650YSW	SOCKET WELD
		6650YSSW	6650YSSW	THREADED X SOCKET WELD

### DIMENSIONS & WEIGHTS

FIG. 6650Y BOLTED BONNET, STANDARD PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	4.17	4.17	4.72	5.98	5.98	7.09
	MM	106	106	120	152	152	180
B	INCHES	6.30	6.30	7.40	9.13	9.13	10.31
	MM	160	160	188	232	232	262
C	INCHES	0.39	0.51	0.69	0.91	1.12	1.38
	MM	10	13.0	18	23.0	29	35.0
D	INCHES	1.61	1.61	1.97	2.52	2.52	3.15
	MM	41	41	50	64	64	80
WEIGHT	POUNDS	4.18	5.72	9.24	11.66	19.8	24.2
	KILOGRAMS	1.9	2.6	4.2	5.3	9.0	11.0



# FORGED STEEL “Y” PATTERN CHECK VALVE THREADED SW CLASS 1500

## Design Characteristics

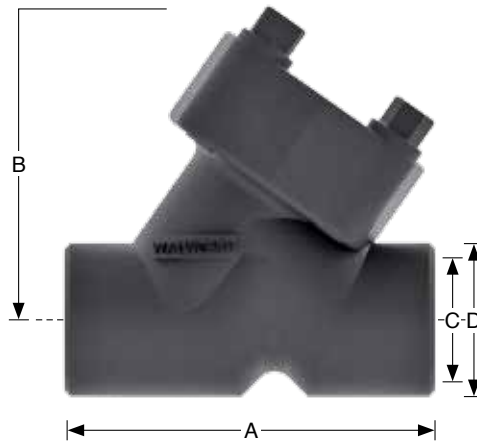
- API 602 & ASME B16.34
- Bolted cover
- Ball type disc
- Standard Port
- Threaded, Socket Weld Or Threaded X Socket Weld
- Spiral wound gasket
- Integral or renewable stellite seat ring
- Horizontal Fluid Control

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
Standard	1500 Bolted Bonnet	6651YS	6651YS	THREADED
		6651YSW	6651YSW	SOCKET WELD
		6651YSSW	6651YSSW	THREADED X SOCKET WELD
		6651YWE	6651YWE	WELD END

## DIMENSIONS & WEIGHTS

FIG. 6651Y BOLTED BONNET, STANDARD PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	4.72	4.72	5.98	7.09	7.09	7.87
	MM	120	120	152	180	180	200
B	INCHES	4.06	4.06	4.96	5.75	5.75	6.61
	MM	103	103	126	146	146	168
C	INCHES	0.39	0.51	0.69	0.91	1.12	1.38
	MM	10	13.0	18	23.0	29	35.0
D	INCHES	1.97	1.97	2.52	3.15	3.15	3.15
	MM	50	50	64	80	80	80
WEIGHT	POUNDS	4.18	5.72	9.24	11.66	19.8	24.2
	KILOGRAMS	1.9	2.6	4.2	5.3	9.0	11.0





# WALWORTH FORGED STEEL SWING CHECK VALVES

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.

The swing type check valves are designed to produce a low pressure drop in the pipeline. This design provides a tight seal as well as a fast reaction to the closure.

## DESIGN FEATURES

- Valves in accordance with API-602
- Socket weld, threaded, combined.
- Bolted or welded bonnets options.
- Low fugitive emissions control.
- Nace service either MR-0175 or MR-0103
- Test in accordance with API-598.

Body to cover joint designed to apply a uniform load to the gasket to assure a leak proof seal.

Disc to hanger allows the disc a controlled movement independent to the hanger to assure proper disc alignment with the seat at closure.

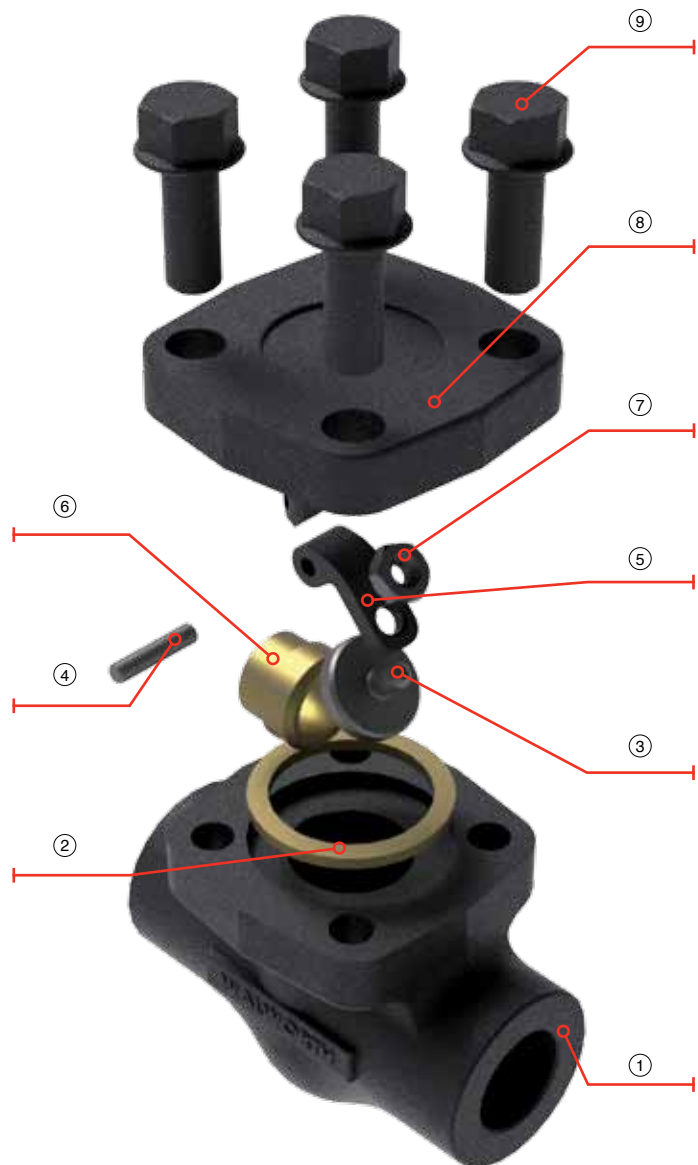
The connection is secured by a welded disc nut to prevent disassembly due to vibration and closure impact.

Stellite seat ring provides increased resistance to wear abrasion and erosion of the sealing surface.

## REGULAR BILL OF MATERIALS

No.	DESCRIPTION	TRIM 8 A 105N
1	BODY	A105
2	GASKET	304+FLEXIBLE GRAPHITE
3	DISC	A276-420
4	HANGER PIN	A276-304
5	HANGER	A276-304
6	SEAT	A276-410
7	DISC NUT	A194-8
8	COVER	A105
9	COVER BOLT	A193-B7
10	IDENTIFICATION PLATE *	ALUMINIUM

\* NOT SHOWN



# FORGED STEEL SWING CHECK VALVE THREADED SW CLASS 800

## Design Characteristics

- API 602 & ASME B16.34
- Bolted or Welded Cover
- Swing type disc
- Standard or Full Port
- Threaded, Socket Weld Or Threaded X Socket Weld
- Spiral wound gasket
- Integral or renewable stellite seat ring
- Horizontal or Vertical Fluid Control

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
STANDARD	800	5640S	5640S	THREADED
	BOLTED BONNET	5640SW	5640SW	SOCKET WELD
		5640SSW	5640SSW	THREADED X SOCKET WELD
FULL	800	5648S	5648S	THREADED
	BOLTED BONNET	5648SW	5648SW	SOCKET WELD
		5648SSW	5648SSW	THREADED X SOCKET WELD
STANDARD	800	5647S	5647S	THREADED
	WELDED BONNET	5647SW	5647SW	SOCKET WELD
		5647SSW	5647SSW	THREADED X SOCKET WELD
FULL	800	5649S	5649S	THREADED
	WELDED BONNET	5649SW	5649SW	SOCKET WELD
		5649SSW	5649SSW	THREADED X SOCKET WELD

## DIMENSIONS & WEIGHTS

FIG. 5640 BOLTED BONNET, STANDARD PORT

SIZES	INCHES MM	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
		6	10	13	19	25	32	38	51
A	INCHES	3.11	3.11	3.11	3.62	4.37	4.72	4.72	5.51
	MM	79	79	79	92	111	120	120	140
B	INCHES	2.15	2.15	2.15	2.15	2.83	3.19	3.70	4.41
	MM	54.5	54.5	54.5	54.5	72.0	81.0	94.0	112.0
C	INCHES	0.31	0.39	0.51	0.51	0.69	0.94	1.12	1.45
	MM	8	10	13	13	18	24	29	36.8
D	INCHES	1.34	1.34	1.34	1.57	1.93	2.28	2.52	3.07
	MM	34	34	34	40	49	58	64	78.0
WEIGHT	POUNDS	2.86	2.86	2.64	3.74	5.28	8.8	11.22	19.36
	KILOGRAMS	1.3	1.3	1.2	1.7	2.4	4.0	5.1	8.8

FIG. 5647 WELDED BONNET, STANDARD PORT

SIZES	INCHES MM	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
		6	10	13	19	25	32	38	51
A	INCHES	3.11	3.11	3.11	3.62	4.37	4.72	4.72	5.51
	MM	79	79	79	92	111	120	120	140
B	INCHES	2.15	2.15	2.15	2.15	2.83	3.19	3.70	4.41
	MM	54.5	54.5	54.5	54.5	72.0	81.0	94.0	112.0
C	INCHES	0.31	0.39	0.51	0.51	0.69	0.94	1.12	1.45
	MM	8	10	13	13	18	24	29	36.8
D	INCHES	1.34	1.34	1.34	1.57	1.93	2.28	2.52	3.07
	MM	34	34	34	40	49	58	64	78.0
WEIGHT	POUNDS	2.86	2.86	2.64	3.74	5.28	8.8	11.22	19.36
	KILOGRAMS	1.3	1.3	1.2	1.7	2.4	4.0	5.1	8.8

FIG. 5648 BOLTED BONNET, FULL PORT

SIZES	INCHES MM	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
		13	19	25	32	38	51
A	INCHES	3.62	4.37	4.72	4.72	5.51	6.30
	MM	92	111	120	120	140	160
B	INCHES	2.15	2.83	3.19	3.70	4.41	7.56
	MM	54.5	72.0	81.0	94.0	112.0	192.0
C	INCHES	0.51	0.69	0.94	1.12	1.45	1.89
	MM	13	18	24	29	36.8	48.0
D	INCHES	1.57	1.93	2.28	2.52	3.07	3.07
	MM	40	49	58	64	78.0	78.0
WEIGHT	POUNDS	3.74	5.06	8.58	11	19.14	33.66
	KILOGRAMS	1.7	2.3	3.9	5.0	8.7	15.3

FIG. 5649 WELDED BONNET, FULL PORT

SIZES	INCHES MM	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
		13	19	25	32	38	51
A	INCHES	3.62	4.37	4.72	4.72	5.51	6.30
	MM	92	111	120	120	140	160
B	INCHES	2.15	2.83	3.19	3.70	4.41	5.20
	MM	54.5	72.0	81.0	94.0	112.0	132.0
C	INCHES	0.51	0.69	0.94	1.12	1.45	1.89
	MM	13	18	24	29	36.8	48.0
D	INCHES	1.57	1.93	2.28	2.52	3.07	3.07
	MM	40	49	58	64	78.0	78.0
WEIGHT	POUNDS	3.74	5.06	8.58	11	19.14	33.66
	KILOGRAMS	1.7	2.3	3.9	5.0	8.7	15.3



# FORGED STEEL SWING CHECK VALVE THREADED SW CLASS 1500

## Design Characteristics

- API 602 & ASME B16.34
- Bolted or Welded Cover
- Swing type disc
- Standard or Full Port
- Threaded, Socket Weld Or Threaded X Socket Weld
- Spiral wound gasket
- Integral or renewable stellite seat ring
- Horizontal or Vertical Fluid Control

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
Standard	1500	5641S	5641S	THREADED
	BOLTED BONNET	5641SW	5641SW	SOCKET WELD
		5641SSW	5641SSW	THREADED X SOCKET WELD
Full	1500	5628S	5628S	THREADED
	BOLTED BONNET	5628SW	5628SW	SOCKET WELD
		5628SSW	5628SSW	THREADED X SOCKET WELD
STANDARD	1500	5651S	5651S	THREADED
	WELDED BONNET	5651SW	5651SW	SOCKET WELD
		5651SSW	5651SSW	THREADED X SOCKET WELD
Full	1500	5657S	5657S	THREADED
	WELDED BONNET	5657SW	5657SW	SOCKET WELD
		5657SSW	5657SSW	THREADED X SOCKET WELD

## DIMENSIONS & WEIGHTS

FIG. 5641 BOLTED BONNET, STANDARD PORT

SIZES	INCHES	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	6	10	13	19	25	32	38	51
A	INCHES	3.11	3.11	3.62	4.37	4.72	4.72	5.51	6.30
	MM	79	79	92	111	120	120	140	160
B	INCHES	2.87	2.87	2.87	2.87	3.31	3.82	4.53	5.20
	MM	73.0	73.0	73.0	73.0	84.0	97.0	115.0	132.0
C	INCHES	0.27	0.39	0.51	0.51	0.71	0.94	1.14	1.45
	MM	7	10	13	13	18	24	29	36.8
D	INCHES	1.34	1.34	1.34	1.57	1.93	2.28	2.52	3.07
	MM	34	34	34	40	49	58	64	78.0
WEIGHT	POUNDS	4.84	4.4	4.84	5.94	9.68	13.86	22.66	33.66
	KILOGRAMS	2.2	2.0	2.2	2.7	4.4	6.3	10.3	15.3

FIG. 5651 WELDED BONNET, STANDARD PORT

SIZES	INCHES	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	6	10	13	19	25	32	38	51
A	INCHES	3.11	3.11	3.62	4.37	4.72	4.72	5.51	6.30
	MM	79	79	92	111	120	120	140	160
B	INCHES	2.87	2.87	2.87	2.87	3.31	3.82	4.53	5.20
	MM	73.0	73.0	73.0	73.0	84.0	97.0	115.0	132.0
C	INCHES	0.27	0.39	0.51	0.51	0.71	0.94	1.14	1.45
	MM	7	10	13	13	18	24	29	36.8
D	INCHES	1.34	1.34	1.34	1.57	1.93	2.28	2.52	3.07
	MM	34	34	34	40	49	58	64	78.0
WEIGHT	POUNDS	4.84	4.4	4.84	5.94	9.68	13.86	22.66	33.66
	KILOGRAMS	2.2	2.0	2.2	2.7	4.4	6.3	10.3	15.3

FIG. 5628 BOLTED BONNET, FULL PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	4.37	4.72	4.72	5.51	6.30	8.66
	MM	111	120	120	140	160	220
B	INCHES	2.87	3.31	3.82	4.53	5.20	5.20
	MM	73.0	84.0	97.0	115.0	132.0	132.0
C	INCHES	0.51	0.69	0.94	1.12	1.45	1.89
	MM	13	18	24	29	36.8	48.0
D	INCHES	1.57	1.93	2.28	2.52	3.07	3.46
	MM	40	49	58	64	78.0	88.0
WEIGHT	POUNDS	5.94	9.46	13.64	22.44	33.66	36.74
	KILOGRAMS	2.7	4.3	6.2	10.2	15.3	16.7

FIG. 5657 WELDED BONNET, FULL PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	4.37	4.72	4.72	5.51	6.30	8.66
	MM	111	120	120	140	160	220
B	INCHES	2.87	3.31	3.82	4.53	5.20	5.20
	MM	73.0	84.0	97.0	115.0	132.0	132.0
C	INCHES	0.51	0.69	0.94	1.12	1.45	1.89
	MM	13	18	24	29	36.8	48.0
D	INCHES	1.57	1.93	2.28	2.52	3.07	3.46
	MM	40	49	58	64	78.0	88.0
WEIGHT	POUNDS	5.94	9.46	13.64	22.44	33.66	36.74
	KILOGRAMS	2.7	4.3	6.2	10.2	15.3	16.7



# FORGED STEEL SWING CHECK VALVE THREADED SW CLASS 2500

## Design Characteristics

- API 602 & ASME B16.34
- Welded cover
- Swing type disc
- Standard or Full Port
- Threaded, Socket Weld Or Threaded X Socket Weld
- Spiral wound gasket
- Integral or renewable stellite seat ring
- Horizontal or Vertical Fluid Control

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
Standard	2500 WELDED BONNET	5652S	5652S	THREADED
		5652SW	5652SW	SOCKET WELD
		5652SSW	5652SSW	THREADED X SOCKET WELD
Full	2500 WELDED BONNET	5672S	5672S	THREADED
		5672SW	5672SW	SOCKET WELD
		5672SSW	5672SSW	THREADED X SOCKET WELD

## DIMENSIONS & WEIGHTS

FIG. 5652 WELDED BONNET, STANDARD PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	5.91	5.91	6.69	7.87	7.87	9.84
	MM	150	150	170	200	200	250
B	INCHES	4.02	4.02	4.21	5.04	5.04	5.63
	MM	102	102	107	128	128	143
C	INCHES	0.43	0.55	0.75	0.98	1.10	1.38
	MM	11	14	19	25	28	35
D	INCHES	2.05	2.05	2.52	3.15	3.15	3.74
	MM	52.0	52.0	64.0	80.0	80.0	95.0
WEIGHT	POUNDS	18.04	17.6	27.06	44	43.56	60.5
	KILOGRAMS	8.2	8.0	12.3	20.0	19.8	27.5

FIG. 5672 WELDED BONNET, FULL PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A	INCHES	5.91	6.69	7.87	7.87	9.84	10.63
	MM	150	170	200	200	250	270
B	INCHES	4.02	4.21	5.04	5.04	5.63	5.91
	MM	102	107	128	128	143	150
C	INCHES	0.55	0.75	0.98	1.10	1.38	1.57
	MM	14	19	25	28	35	40
D	INCHES	2.05	2.52	3.15	3.15	3.74	3.94
	MM	52.0	64.0	80.0	80.0	95.0	100.0
WEIGHT	POUNDS	17.6	27.06	44	43.56	60.5	66
	KILOGRAMS	8.0	12.3	20.0	19.8	27.5	30.0



# FORGED STEEL SWING CHECK VALVE RF/RTJ CLASS 150, 300 & 600

## Design Characteristics

- API 602 & ASME B16.34
- Bolted cover
- Swing type disc
- Standard port
- Integral flanged ends (Raised Face or Ring Type Joint)
- Spiral wound gasket
- Integral or renewable stellite seat ring
- Horizontal or vertical fluid control

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
Standard	150	56415RF	56415F	FLANGED RAISED FACE
		56415RTJ	56415RTJ	FLANGED RING TYPE JOINT
Standard	300	56430RF	56430F	FLANGED RAISED FACE
		56430RTJ	56430RTJ	FLANGED RING TYPE JOINT
Standard	600	56460RF	56460F	FLANGED RAISED FACE
		56460RTJ	56460RTJ	FLANGED RING TYPE JOINT

## DIMENSIONS & WEIGHTS

FIG. 56415 BOLTED BONNET, STANDARD PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A (RF)	INCHES	4.25	4.61	5.00	5.51	6.50	7.99
	MM	108.0	117.0	127.0	140.0	165.0	203.0
A (RJ)	INCHES	4.76	5.12	5.51	6.02	7.01	8.50
	MM	121.0	130.0	140.0	153.0	178.0	216.0
B	INCHES	2.15	2.15	2.83	3.19	3.58	4.41
	MM	54.5	54.5	72.0	81.0	91.0	112.0
C	INCHES	0.39	0.51	0.69	0.91	1.12	1.38
	MM	10.0	13.0	17.5	23.0	28.5	35.0
WEIGHT	POUNDS	7.48	9.68	18.04	19.58	26.4	31.46
	KILOGRAMS	3.4	4.4	8.2	8.9	12.0	14.3

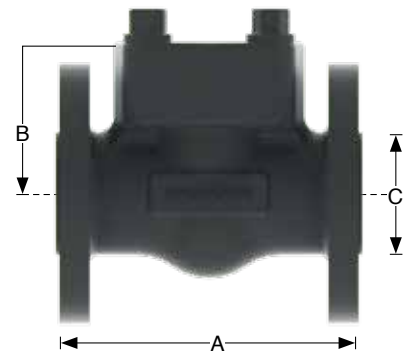


FIG. 56430 BOLTED BONNET, STANDARD PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A (RF)	INCHES	5.98	7.01	8.50	9.02	9.49	10.51
	MM	152.0	178.0	216.0	229.0	241.0	267.0
A (RJ)	INCHES	6.42	7.52	9.02	9.53	10.00	11.14
	MM	163.0	191.0	229.0	242.0	254.0	283.0
B	INCHES	2.15	2.15	2.83	3.19	3.58	4.41
	MM	54.5	54.5	72.0	81.0	91.0	112.0
C	INCHES	0.39	0.51	0.69	0.91	1.12	1.38
	MM	10.0	13.0	17.5	23.0	28.5	35.0
WEIGHT	POUNDS	8.14	10.56	19.36	21.12	30.14	39.16
	KILOGRAMS	3.7	4.8	8.8	9.6	13.7	17.8

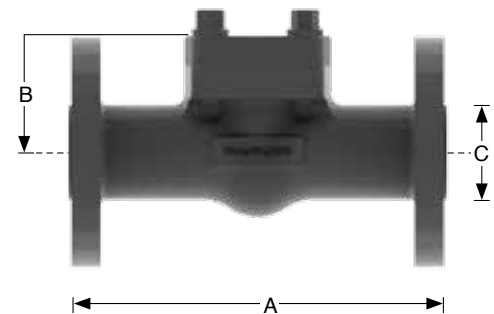
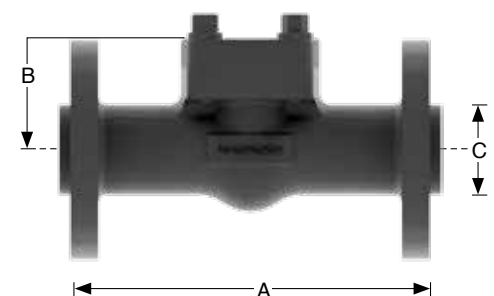


FIG. 56460 BOLTED BONNET, STANDARD PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A (RF)	INCHES	6.50	7.52	8.50	9.02	9.49	11.50
	MM	165.0	191.0	216.0	229.0	241.0	292.0
A (RJ)	INCHES	6.50	7.52	8.50	9.02	9.49	11.61
	MM	165.0	191.0	216.0	229.0	241.0	295.0
B	INCHES	2.15	2.15	2.83	3.19	3.58	4.41
	MM	54.5	54.5	72.0	81.0	91.0	112.0
C	INCHES	0.39	0.51	0.69	0.91	1.12	1.38
	MM	10.0	13.0	17.5	23.0	28.5	35.0
WEIGHT	POUNDS	8.14	12.76	20.9	22.88	34.32	53.9
	KILOGRAMS	3.7	5.8	9.5	10.4	15.6	24.5



# FORGED STEEL SWING CHECK VALVE RF/RTJ CLASS 150, 300 & 600

## Design Characteristics

- API 602 & ASME B16.34
- Bolted cover
- Swing type disc
- Full port
- Integral flanged ends (Raised Face or Ring Type Joint)
- Spiral wound gasket
- Integral or renewable stellite seat ring
- Horizontal or vertical fluid control

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
FULL	150	56418RF	56418F	FLANGED RAISED FACE
		56418RTJ	56418RTJ	FLANGED RING TYPE JOINT
FULL	300	56438RF	56438F	FLANGED RAISED FACE
		56438RTJ	56438RTJ	FLANGED RING TYPE JOINT
FULL	600	56468RF	56468F	FLANGED RAISED FACE
		56468RTJ	56468RTJ	FLANGED RING TYPE JOINT

## DIMENSIONS & WEIGHTS

FIG. 56418 BOLTED BONNET, STANDARD PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A (RF)	INCHES	4.25	4.61	5.00	5.51	6.50	7.99
	MM	108.0	117.0	127.0	140.0	165.0	203.0
A (RJ)	INCHES	4.76	5.12	5.51	6.02	7.01	8.50
	MM	121.0	130.0	140.0	153.0	178.0	216.0
B	INCHES	2.15	2.83	3.19	3.70	4.41	5.20
	MM	54.5	72.0	81.0	94.0	112.0	132.0
C	INCHES	0.39	0.51	0.69	0.91	1.12	1.38
	MM	10.0	13.0	17.5	23.0	28.5	35.0
WEIGHT	POUNDS	7.48	9.68	18.04	19.58	26.4	31.46
	KILOGRAMS	3.4	4.4	8.2	8.9	12.0	14.3

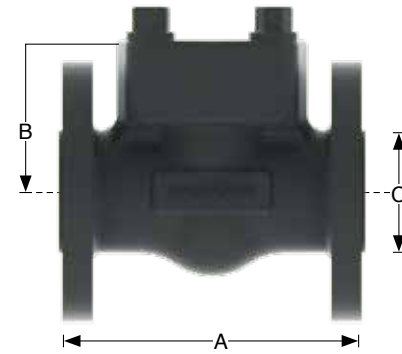


FIG. 56438 BOLTED BONNET, STANDARD PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A (RF)	INCHES	5.98	7.01	8.50	9.02	9.49	10.51
	MM	152.0	178.0	216.0	229.0	241.0	267.0
A (RJ)	INCHES	6.42	7.52	9.02	9.53	10.00	11.14
	MM	163.0	191.0	229.0	242.0	254.0	283.0
B	INCHES	2.15	2.83	3.19	3.70	4.41	5.20
	MM	54.5	72.0	81.0	94.0	112.0	132.0
C	INCHES	0.39	0.51	0.69	0.91	1.12	1.38
	MM	10.0	13.0	17.5	23.0	28.5	35.0
WEIGHT	POUNDS	8.14	10.56	19.36	21.12	30.14	39.16
	KILOGRAMS	3.7	4.8	8.8	9.6	13.7	17.8

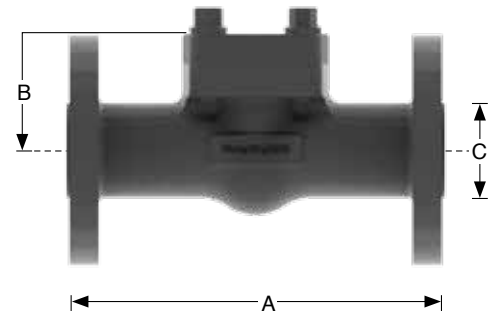
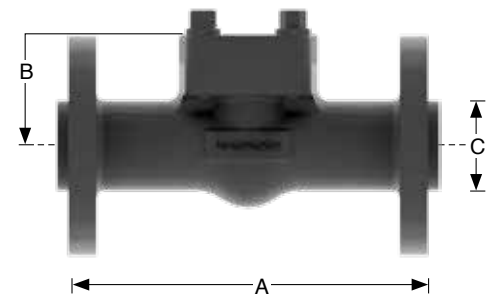


FIG. 56468 BOLTED BONNET, STANDARD PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A (RF)	INCHES	6.50	7.52	8.50	9.02	9.49	11.50
	MM	165.0	191.0	216.0	229.0	241.0	292.0
A (RJ)	INCHES	6.50	7.52	8.50	9.02	9.49	11.61
	MM	165.0	191.0	216.0	229.0	241.0	295.0
B	INCHES	2.15	2.83	3.19	3.70	4.41	5.20
	MM	54.5	72.0	81.0	94.0	112.0	132.0
C	INCHES	0.39	0.51	0.69	0.91	1.12	1.38
	MM	10.0	13.0	17.5	23.0	28.5	35.0
WEIGHT	POUNDS	8.14	12.76	20.9	22.88	34.32	53.9
	KILOGRAMS	3.7	5.8	9.5	10.4	15.6	24.5



# FORGED STEEL SWING CHECK VALVE RF/RTJ CLASS 1500

## Design Characteristics

- API 602 & ASME B16.34
- Bolted cover
- Swing type disc
- Standard or Full Port
- Integral flanged ends (Raised Face or Ring Type Joint)
- Spiral wound gasket
- Integral or renewable stellite seat ring
- Horizontal or vertical fluid control

PORT	CLASS	CATALOG FIGURE No.	ID PLANT FIGURE No.	ENDS TYPES
Standard	1500 BOLTED BONNET	56441RF	56441F	FLANGED RAISED FACE
		56441RTJ	56441RTJ	FLANGED RING TYPE JOINT
Full	1500 BOLTED BONNET	56448RF	56448F	FLANGED RAISED FACE
		56448RTJ	56448RTJ	FLANGED RING TYPE JOINT

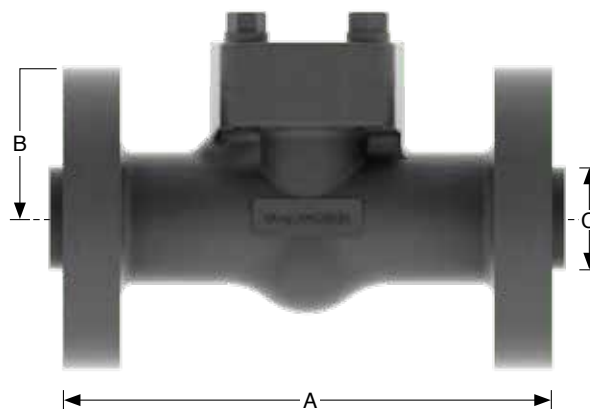
## DIMENSIONS & WEIGHTS

FIG. 56441 BOLTED BONNET, STANDARD PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A (RF)	INCHES	8.50	9.02	10.00	10.98	12.01	14.49
	MM	216	229	254	279	305	368
A (RJ)	INCHES	2.87	2.87	3.31	3.82	4.53	5.20
	MM	73	73	84	97	115	132
B	INCHES	0.39	0.51	0.69	0.91	1.12	1.38
	MM	10.0	13.0	17.5	23.0	28.5	35.0
C	INCHES	20.68	24.64	31.68	35.2	47.3	61.6
	MM	9.4	11.2	14.4	16.0	21.5	28.0
WEIGHT	POUNDS	5.94	9.46	13.64	22.44	33.66	36.74
	KILOGRAMS	2.7	4.3	6.2	10.2	15.3	16.7

FIG. 56448 BOLTED BONNET, FULL PORT

SIZES	INCHES	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
	MM	13	19	25	32	38	51
A (RF)	INCHES	9.02	10.00	10.98	12.01	14.49	15.35
	MM	229	254	279	305	368	390
A (RJ)	INCHES	2.87	3.31	3.82	4.53	5.20	5.71
	MM	73	84	97	115	132	145
B	INCHES	0.51	0.69	0.91	1.12	1.38	1.57
	MM	13.0	17.5	23.0	28.5	35.0	40.0
C	INCHES	24.64	31.68	35.2	47.3	61.6	70.4
	MM	11.2	14.4	16.0	21.5	28.0	32.0
WEIGHT	POUNDS	5.94	9.46	13.64	22.44	33.66	36.74
	KILOGRAMS	2.7	4.3	6.2	10.2	15.3	16.7



## TECHNICAL INFORMATION

### WEDGE DESIGN

#### Solid wedge characteristics:

- Its angled design offers facility to open and close without any difficulty, this provides hermetic seal to the valve.
- Will handle fluids with high solids content without difficulty.



### NACE SERVICE VALVES

The National Association of Corrosion Engineers (NACE) establishes standards for materials resistant to Sulfide Stress Cracking (SSC) to be used in hydrogen sulfide (H<sub>2</sub>S) bearing hydrocarbon service.

NACE standard MR0175 defines a sulfide stress cracking region based on the relationship of H<sub>2</sub>S present to the total operating pressure.

This must be considered when specifying valves for service where H<sub>2</sub>S is present as proper selection of materials is a customer responsibility.

Sulfide stress cracking in materials not suitable for H<sub>2</sub>S service can result in a sudden failure with damage to equipment and harm to personnel.

#### Important considerations when specifying NACE service

1. Hydrogen ion concentration (Ph).
2. Concentration and total pressure of the hydrogen sulfide (H<sub>2</sub>S).
3. Concentration of water, carbon dioxide (CO<sub>2</sub>) and chlorides.
4. Service temperature.

The customer can select valves made of alloy/carbon steel material with controlled hardness and/or a stainless steel material depending on the severity of the fluid. Valves having a body/bonnet with a controlled hardness of Rc 22 and studs/nuts of B7M/2HM can be combined with a customer selected trim and manufactured to meet NACE MR0175 requirements.



# TECHNICAL INFORMATION

## BODY AND BONNET JOINT GASKETS

Walworth® Flanged end valves are available as bolted bonnet valves in classes 150, 300, 600 and 1500 and are furnished with a Stainless Steel Spiral Wound Graphite filled Bonnet Gasket as Standard.

Walworth® Forged Steel Valves with Threaded, Socket Weld and Threaded X Socket Weld Ends in class 800 and 1500 are furnished with the Stainless Steel Spiral Wound Gasket as Standard with the welded bonnet construction at the customers option-

All Walworth® ASME Class 2500 Froged Steel Valves are furnished in Welded Bonnet construction.

Walworth® Valves can also be supplied with special materials to comply with specific requirements of the customer.

VALVE	CLASS					
	150	300	600	800	1500	2500
GATE	1	1	1	1 & 4	1 & 4	4
GLOBE	1	1	1	1 & 4	1 & 4	4
CHECK	1	1	1	1 & 4	1 & 4	4



1.- SPIRAL WOUND GASKET: Stainless Steel Type 304/ Graphite Filled (For A105; F5; F9; F11; F22, & F304)

2.- SPIRAL WOUND GASKET: Stainless Steel Type 316/ Graphite Filled (For F316)

3.- SPIRAL WOUND GASKET: With base materials per bofy material / Graphite Filled.(For special alloys)



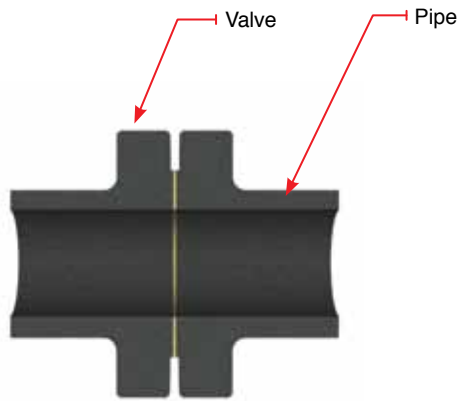
4.- A Welded BODY-BONNET is standard for ASME Class 2500 Valves and Optional for ASME Class 800 and ASME 1500 Valves.



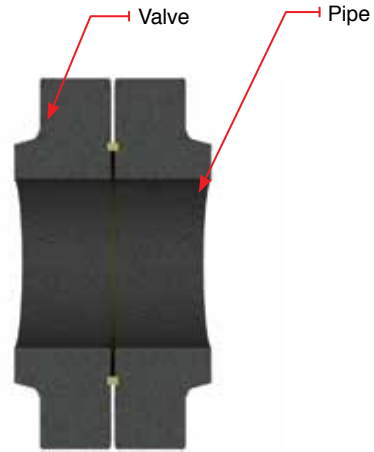
# TECHNICAL INFORMATION

## TYPES OF END CONNECTIONS

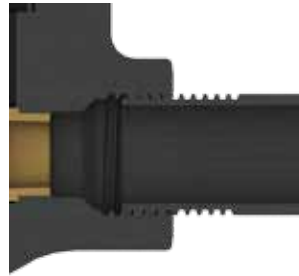
Walworth® Forged Steel Valves can be supplied with Flanged ends in Raised Face or Ring Type Joint Ends as well as Threaded, Socket Weld, or Threaded X Socket Weld Ends.



Flanged Ends  
Raised Face



Flanged Ends  
Ring Type Joint



## VALVES FOR OXYGEN SERVICE

The Walworth Gate, Globe and Check Forged Steel Valves, can be supplied for oxygen service. These valves are normally stainless steel type 316 or type 304 and are carefully cleaned by a chemical process to eliminate grease and any other residue. They are completely sealed in bags to prevent contact with the environment before being installed.

## VALVES LOCKS

The Gate, Globe forged steel Walworth valves can be supplied with locks, to prevent operation by un-authorized personnel.

## VALVE EXTENSIONS

These are the valves with extensions at the end using pipe nipples. For the valves to be supplied with extensions, the type of ends must be specified as well as the total length between ends.



## SEALING SURFACES OVERLAY

The type of material used to overlay the sealing surfaces on gates disks and seats is determined by the type of trim designated.

The Walworth Standard trims is API No. 8 (UT) where the sealing surface of the gate is overlaid with 410 Stainless Steel (13% CR) and the seat sealing surface is overlaid with stellite No. 6.

This Standard trim provides good resistance to corrosion, wear, abrasion and erosion that can be used by the fluid flowing through the system. The controlled difference in hardness between the 410 Stainless Steel And The Stellite No. 6 Provides good resistance to galling during normal operation.

Walworth can furnish valves with a variety of trims and materials to meet the customers requirements for an optimum service life.



# CV FORGED STEEL VALVES

## GATE VALVES

SIZE		150/300/600/800 STANDARD PORT GAL/MIN	1500 STANDARD PORT GAL/MIN	2500 STANDARD PORT GAL/MIN	150/300/600/800 FULL PORT GAL/MIN	1500 FULL PORT GAL/MIN	2500 FULL PORT GAL/MIN
in	mm						
1/4"	0.250	4.831	4.831	----	----	----	----
3/8"	0.375	7.682	12.982	----	----	----	----
1/2"	0.500	13.220	13.220	15.332	13.220	13.220	15.332
3/4"	0.750	13.739	13.739	15.934	26.339	26.339	15.934
1"	1.000	27.461	27.461	30.597	48.819	48.819	30.597
1 1/4"	1.250	72.881	49.916	54.163	72.881	72.881	54.163
1 1/2"	1.500	74.596	74.596	69.541	120.121	120.121	69.541
2"	2.000	124.234	126.285	114.233	214.851	214.851	114.233

## GLOBE VALVES

SIZE		150/300/600/800 STANDARD PORT GAL/MIN	1500 STANDARD PORT GAL/MIN	2500 STANDARD PORT GAL/MIN	150/300/600/800 FULL PORT GAL/MIN	1500 FULL PORT GAL/MIN	2500 FULL PORT GAL/MIN
in	mm						
1/4"	0.250	0.624	0.624	----	----	----	----
3/8"	0.375	1.502	1.502	----	----	----	----
1/2"	0.500	1.530	1.530	1.851	2.585	2.585	2.998
3/4"	0.750	2.686	2.686	1.923	4.868	4.868	3.116
1"	1.000	5.075	5.075	3.248	8.767	8.767	5.983
1 1/4"	1.250	8.964	8.964	4.243	13.764	13.764	10.358
1 1/2"	1.500	14.088	14.088	10.840	21.858	21.247	13.598
2"	2.000	22.337	22.337	14.296	40.279	40.279	22.337

## GLOBE "Y" PATTERN VALVES

SIZE		150/300/600/800 STANDARD PORT GAL/MIN	1500 STANDARD PORT GAL/MIN	2500 STANDARD PORT GAL/MIN	150/300/600/800 FULL PORT GAL/MIN	1500 FULL PORT GAL/MIN	2500 FULL PORT GAL/MIN
in	mm						
1/4"	0.250	0.624	0.624	----	----	----	----
3/8"	0.375	1.502	1.502	----	----	----	----
1/2"	0.500	1.530	1.530	1.851	2.585	2.585	2.998
3/4"	0.750	2.686	2.686	1.923	4.868	4.868	3.116
1"	1.000	5.075	5.075	3.248	8.767	8.767	5.983
1 1/4"	1.250	8.964	8.964	4.243	13.764	13.764	10.358
1 1/2"	1.500	14.088	14.088	10.840	21.858	21.247	13.598
2"	2.000	22.337	22.337	14.296	40.279	40.279	22.337

## PISTON CHECK VALVES

SIZE		150/300/600/800 STANDARD PORT GAL/MIN	1500 STANDARD PORT GAL/MIN	2500 STANDARD PORT GAL/MIN	150/300/600/800 FULL PORT GAL/MIN	1500 FULL PORT GAL/MIN	2500 FULL PORT GAL/MIN
in	mm						
1/4"	0.250	0.624	0.624	----	----	----	----
3/8"	0.375	1.502	1.502	----	----	----	----
1/2"	0.500	1.530	1.530	1.851	2.585	2.585	2.998
3/4"	0.750	2.686	2.686	1.923	4.868	4.868	3.116
1"	1.000	5.075	5.075	3.248	8.767	8.767	5.983
1 1/4"	1.250	8.964	8.964	4.243	13.764	13.764	10.358
1 1/2"	1.500	14.088	14.088	10.840	21.858	21.247	13.598
2"	2.000	22.337	22.337	14.296	40.279	40.279	22.337

# CV FORGED STEEL VALVES

## PISTON CHECK “Y” PATTERN VALVES

SIZE		150/300/600/800 STANDARD PORT GAL/MIN	1500 STANDARD PORT GAL/MIN	2500 STANDARD PORT GAL/MIN	150/300/600/800 FULL PORT GAL/MIN	1500 FULL PORT GAL/MIN	2500 FULL PORT GAL/MIN
in	mm						
1/4"	0.250	----	----	----	----	----	----
3/8"	0.375	----	----	----	----	----	----
1/2"	0.500	1.530	1.530	1.851	2.585	2.585	2.998
3/4"	0.750	2.686	2.686	3.116	4.868	4.868	3.116
1"	1.000	5.075	5.075	5.983	8.767	8.767	5.983
1 1/4"	1.250	8.964	8.964	10.358	13.764	13.764	10.358
1 1/2"	1.500	14.088	14.088	13.598	21.858	21.247	13.598
2"	2.000	22.337	22.337	22.337	40.279	40.279	22.337

## BALL CHECK VALVES

SIZE		150/300/600/800 STANDARD PORT GAL/MIN	1500 STANDARD PORT GAL/MIN	2500 STANDARD PORT GAL/MIN	150/300/600/800 FULL PORT GAL/MIN	1500 FULL PORT GAL/MIN	2500 FULL PORT GAL/MIN
in	mm						
1/4"	0.250	0.624	0.624	----	----	----	----
3/8"	0.375	1.502	1.502	----	----	----	----
1/2"	0.500	1.530	1.530	1.851	2.585	2.585	2.998
3/4"	0.750	2.686	2.686	1.923	4.868	4.868	3.116
1"	1.000	5.075	5.075	3.248	8.767	8.767	5.983
1 1/4"	1.250	8.964	8.964	4.243	13.764	13.764	10.358
1 1/2"	1.500	14.088	14.088	10.840	21.858	21.247	13.598
2"	2.000	22.337	22.337	14.296	40.279	40.279	22.337

## BALL CHECK “Y” PATTERN VALVES

SIZE		150/300/600/800 STANDARD PORT GAL/MIN	1500 STANDARD PORT GAL/MIN	2500 STANDARD PORT GAL/MIN	150/300/600/800 FULL PORT GAL/MIN	1500 FULL PORT GAL/MIN	2500 FULL PORT GAL/MIN
in	mm						
1/4"	0.250	----	----	----	----	----	----
3/8"	0.375	----	----	----	----	----	----
1/2"	0.500	1.530	1.530	1.851	2.585	2.585	2.998
3/4"	0.750	2.686	2.686	3.116	4.868	4.868	3.116
1"	1.000	5.075	5.075	5.983	8.767	8.767	5.983
1 1/4"	1.250	8.964	8.964	10.358	13.764	13.764	10.358
1 1/2"	1.500	14.088	14.088	13.598	21.858	21.247	13.598
2"	2.000	22.337	22.337	22.337	40.279	40.279	22.337

## SWING CHECK VALVES

SIZE		150/300/600/800 STANDARD PORT GAL/MIN	1500 STANDARD PORT GAL/MIN	2500 STANDARD PORT GAL/MIN	150/300/600/800 FULL PORT GAL/MIN	1500 FULL PORT GAL/MIN	2500 FULL PORT GAL/MIN
in	mm						
1/4"	0.250	0.945	0.682	----	----	----	----
3/8"	0.375	1.502	1.502	----	----	----	----
1/2"	0.500	2.585	2.585	1.851	2.585	2.585	2.998
3/4"	0.750	2.686	2.686	3.116	5.150	5.150	3.116
1"	1.000	5.370	5.370	5.983	9.546	9.546	5.983
1 1/4"	1.250	9.761	9.761	10.358	14.251	14.251	10.358
1 1/2"	1.500	14.586	14.586	13.598	23.488	23.488	13.598
2"	2.000	24.694	24.694	22.337	42.012	42.012	22.337

# PRESSURE-TEMPERATURE RATINGS

## FORGED STEEL ASTM A 105 (1)(2) AND ASTM 350 GR LF2 (1)

°F Temperature °C		MAXIMUM ALLOWABLE NON-SHOCK WORKING PRESSURE IN PSIG BY CLASS						
		150	300	400	600	900	1500	2500
-20 to 100	-29 to 38	285	740	990	1,480	2,220	3,705	6,170
200	93	260	675	900	1,350	2,025	3,375	5,625
300	149	230	655	875	1,315	1,970	3,280	5,470
400	204	200	635	845	1,270	1,900	3,170	5,280
500	260	170	600	800	1,200	1,795	2,995	4,990
600	316	140	550	730	1,095	1,640	2,735	4,560
650	343	125	535	715	1,075	1,610	2,685	4,475
700	371	110	535	710	1,065	1,600	2,665	4,440
750	399	95	505	670	1,010	1,510	2,520	4,200
800	427	80	410	550	825	1,235	2,060	3,430
850	454	65	270	355	535	805	1,340	2,230
900	482	50	170	230	345	515	860	1,430
950	510	35	105	140	205	310	515	860
1000	538	20	50	70	105	155	260	430

(1) Upon prolonged exposure to temperatures above 425°C, the carbide phase of steel may be converted to graphite. Permissible, but not recommended for prolonged usage above 425°C.

(2) Only killed steel shall be used above 455°C.

(a) Flanged End Valve ratings terminate at 1000°F

# PRESSURE-TEMPERATURE RATINGS

## FORGED STEEL ASTM A 182 GR F5

°F Temperature °C		MAXIMUM ALLOWABLE NON-SHOCK WORKING PRESSURE IN PSIG BY CLASS						
		150	300	400	600	900	1500	2500
-20 to 100	-29 to 38	290	750	1,000	1,500	2,250	3,750	6,250
200	93	260	745	995	1,490	2,235	3,725	6,205
300	149	230	715	955	1,430	2,150	3,580	5,965
400	204	200	705	940	1,410	2,115	3,530	5,880
500	260	170	665	885	1,330	1,995	3,325	5,540
600	316	140	605	805	1,210	1,815	3,025	5,040
650	343	125	590	785	1,175	1,765	2,940	4,905
700	371	110	570	755	1,135	1,705	2,840	4,730
750	399	95	530	705	1,055	1,585	2,640	4,400
800	427	80	510	675	1015	1,525	2,540	4,230
850	454	65	485	645	965	1450	2,415	4,030
900	482	50	370	495	740	1110	1850	3,085
950	510	35	275	365	550	825	1370	2285
1000	538	20	200	365	400	595	995	1655
1050	566	20 (*)	145	190	290	430	720	1200
1100	593	20 (*)	100	135	200	300	495	830
1150	621	20 (*)	60	80	125	185	310	515
1200	649	15 (*)	35	45	70	105	170	285

(a) Flanged End Valve ratings terminate at 1000°F

# PRESSURE-TEMPERATURE RATINGS

## FORGED STEEL ASTM A 182 GR F9

°F Temperature °C		MAXIMUM ALLOWABLE NON-SHOCK WORKING PRESSURE IN PSIG BY CLASS						
		150	300	400	600	900	1500	2500
-20 to 100	-29 to 38	290	750	1,000	1,500	2,250	3,750	6,250
200	93	260	750	1,000	1,500	2,250	3,750	6,250
300	149	230	730	970	1,455	2,185	3,640	6,070
300	204	200	705	940	1,410	2,115	3,530	5,880
500	260	170	665	885	1,330	1,995	3,325	5,540
600	316	140	605	805	1,210	1,815	3,025	5,040
650	343	125	590	785	1,175	1,765	2,940	4,905
700	371	110	570	755	1,135	1,705	2,840	4,730
700	399	95	530	710	1,065	1,595	2,660	4,430
800	427	80	510	675	1,015	1,525	2,540	4,230
850	454	65	485	650	975	1,460	2,435	4,060
900	482	50	450	600	900	1,350	2,245	3,745
950	510	35	375	505	755	1,130	1,885	3,145
1000	538	20	255	340	505	760	1,270	2,115
1050	566	20 (*)	170	230	345	515	855	1,430
1100	593	20 (*)	115	150	225	340	565	945
1150	621	20 (*)	75	100	150	225	375	630
1200	649	20 (*)	50	70	105	155	255	430

(a) Flanged End Valve ratings terminate at 1000°F



# PRESSURE-TEMPERATURE RATINGS

## FORGED STEEL ASTM A 182 GR F304

°F Temperature °C		MAXIMUM ALLOWABLE NON-SHOCK WORKING PRESSURE IN PSIG BY CLASS						
		150	300	400	600	900	1500	2500
-20 to 100	-29 to 38	275	720	960	1440	2160	3600	6,000
200	93	230	600	800	1200	1800	3000	5,000
300	149	205	540	720	1080	1620	2700	4,500
400	204	190	495	660	995	1490	2485	4,140
500	260	170	465	620	930	1395	2330	3,880
600	316	140	435	580	875	1310	2185	3,640
650	343	125	430	575	860	1290	2150	3,580
700	371	110	425	565	850	1275	2125	3,540
750	399	95	415	555	830	1245	2075	3,460
800	427	80	405	540	805	1210	2015	3,360
850	454	65	395	530	790	1190	1980	3,300
900	482	50	390	520	780	1165	1945	3,240
950	510	35	380	510	765	1145	1910	3,180
1000	538	20	320	430	640	965	1605	2,675
1050	566	20(*)	310	410	615	925	1545	2,570
1100	593	20(*)	255	345	515	770	1285	2,145
1150	621	20(*)	200	265	400	595	995	1,655
1200	649	20(*)	155	205	310	465	770	1,285
1250	677	20(*)	115	150	225	340	565	945
1300	704	20(*)	85	115	170	255	430	715
1350	732	20(*)	60	80	125	185	310	515
1400	760	20(*)	50	65	95	145	240	400
1450	788	15(*)	35	45	70	105	170	285
1500	816	10(*)	25	35	55	80	135	230

\* At temperatures above 538°C, use only when the carbon content is 0.04% or higher.

(a) Flanged End Valve ratings terminate at 1000°F

# PRESSURE-TEMPERATURE RATINGS

## FORGED STEEL ASTM A 182 GR F316

°F Temperature °C		MAXIMUM ALLOWABLE NON-SHOCK WORKING PRESSURE IN PSIG BY CLASS						
		150	300	400	600	900	1500	2500
-20 to 100	-29 to 38	275	720	960	1440	2160	3600	6,000
200	93	230	600	800	1200	1800	3000	5,000
300	149	205	540	720	1080	1620	2700	4,500
400	204	190	495	660	995	1490	2485	4,140
500	260	170	465	620	930	1395	2330	3,880
600	316	140	435	580	875	1310	2185	3,640
650	343	125	430	575	860	1290	2150	3,580
700	371	110	425	565	850	1275	2125	3,540
750	399	95	415	555	830	1245	2075	3,460
800	427	80	405	540	805	1210	2015	3,360
850	454	65	395	530	790	1190	1980	3,300
900	482	50	390	520	780	1165	1945	3,240
950	510	35	380	510	765	1145	1910	3,180
1000	538	20	320	430	640	965	1605	2,675
1050	566	20(*)	310	410	615	925	1545	2,570
1100	593	20(*)	255	345	515	770	1285	2,145
1150	621	20(*)	200	265	400	595	995	1,655
1200	649	20(*)	155	205	310	465	770	1,285
1250	677	20(*)	115	150	225	340	565	945
1300	704	20(*)	85	115	170	255	430	715
1350	732	20(*)	60	80	125	185	310	515
1400	760	20(*)	50	65	95	145	240	400
1450	788	15(*)	35	45	70	105	170	285
1500	816	10(*)	25	35	55	80	135	230

\* At temperatures above 538°C, use only when the carbon content is 0.04% or higher.

(a) Flanged End Valve ratings terminate at 1000°F

# PRESSURE-TEMPERATURE RATINGS

## FORGED STEEL ASTM A 182 GR F11

°F Temperature °C		MAXIMUM ALLOWABLE NON-SHOCK WORKING PRESSURE IN PSIG BY CLASS						
		150	300	400	600	900	1500	2500
-20 to 100	-29 to 38	290	750	1,500	2,250	3,750	6,250	11,250
200	93	260	750	1,500	2,250	3,750	6,250	11,250
300	149	230	720	1,445	2,165	3,610	6,015	10,830
400	204	200	695	1,385	2,080	3,465	5,775	10,400
500	260	170	665	1,330	1,995	3,325	5,540	9,965
600	316	140	605	1,210	1,815	3,025	5,040	9,070
650	343	125	590	1,175	1,765	2,940	4,905	8,825
700	371	110	570	1,135	1,705	2,840	4,730	8,515
750	399	95	530	1,065	1,595	2,660	4,430	7,970
800	427	80	510	1,015	1,525	2,540	4,230	7,610
850	454	65	485	975	1,460	2,435	4,060	7,305
900	482	50	450	900	1,350	2,245	3,745	6,740
950	510	35	320	640	955	1,595	2,655	4,785
1,000	538	20	215	430	650	1,080	1,800	3,240
1,050	566	20(a)	145	290	430	720	1,200	2,160
1,100	593	20(a)	95	190	290	480	800	1,440
1,150	621	20(a)	65	130	195	325	545	975
1,200	649	15(a)	40	80	125	205	345	615

(\*) Use normalized and tempered material only.

(\*) Permissible, but not recommended for prolonged use above 595°C

(a) Flanged End Valve ratings terminate at 1000°F

# PRESSURE-TEMPERATURE RATINGS

## FORGED STEEL ASTM A 182 GR F22

°F Temperature °C		MAXIMUM ALLOWABLE NON-SHOCK WORKING PRESSURE IN PSIG BY CLASS						
		150	300	600	900	1500	2500	4500
-20 to 100	-29 to 38	290	750	1,500	2,250	3,750	6,250	11,250
200	93	260	750	1,500	2,250	3,750	6,250	11,250
300	149	230	730	1,455	2,185	3,640	6,070	10,925
400	204	200	705	1,410	2,115	3,530	5,880	10,585
500	260	170	665	1,330	1,995	3,325	5,540	9,965
600	316	140	605	1,210	1,815	3,025	5,040	9,070
650	343	125	590	1,175	1,765	2,940	4,905	8,825
700	371	110	570	1,135	1,705	2,840	4,730	8,515
750	399	95	530	1,065	1,595	2,660	4,430	7,970
800	427	80	510	1,015	1,525	2,540	4,230	7,610
850	454	65	485	975	1,460	2,435	4,060	7,305
900	482	50	450	900	1,350	2,245	3,745	6,740
950	510	35	385	755	1,160	1,930	3,220	5,795
1,000	538	20	265	535	800	1,335	2,230	4,010
1,050	566	20(a)	175	350	525	875	1,455	2,625
1,100	593	20(a)	110	220	330	550	915	1,645
1,150	621	20(a)	70	135	205	345	570	1,030
1,200	649	15(a)	40	80	125	205	345	615

(\*) Permissible, but not recommended for prolonged use above 595°C

(a) Flanged End Valve ratings terminate at 1000°F

# PRESSURE-TEMPERATURE RATINGS

## FORGED STEEL ASTM A 182 GR F347

°F Temperature °C		MAXIMUM ALLOWABLE NON-SHOCK WORKING PRESSURE IN PSIG BY CLASS						
		150	300	400	600	900	1500	2500
-20 to 100	-29 to 38	275	720	1,440	2,160	3,600	6,000	10,800
200	93	255	660	1,325	1,985	3,310	5,520	9,935
300	149	230	615	1,235	1,850	3,085	5,140	9,250
400	204	200	575	1,150	1,730	2,880	4,800	8,640
500	260	170	540	1,085	1,625	2,710	4,520	8,135
600	316	140	515	1,030	1,550	2,580	4,300	7,740
650	343	125	505	1,015	1,520	2,530	4,220	7,595
700	371	110	495	995	1,490	2,485	4,140	7,450
750	399	95	490	985	1,475	2,460	4,100	7,380
800	427	80	485	975	1,460	2,435	4,060	7,310
850	454	65	485	970	1,455	2,425	4,040	7,270
900	482	50	450	900	1,350	2,245	3,745	6,740
950	510	35	385	775	1,160	1,930	3,220	5,795
1000	538	20	365	725	1,090	1,820	3,030	5,450
1050	566	20(a)	360	720	1,080	1,800	3,000	5,400
1100	593	20(a)	325	645	965	1,610	2,685	4,835
1150	621	20(a)	275	550	825	1,370	2,285	4,115
1200	649	20(a)	205	410	620	1,030	1,715	3,085
1250	677	20(a)	180	365	545	910	1,515	2,725
1300	704	20(a)	140	275	410	685	1,145	2,060
1350	732	20(a)	105	205	310	515	860	1,545
1400	760	20(a)	75	150	225	380	630	1,130
1450	788	20(a)	60	115	175	290	485	875
1500	816	15(a)	40	85	125	205	345	620

(\*) Not to be used over 1000°F

(a) Flanged End Valve ratings terminate at 1000°F

## DESIGN BASIS

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

- API** American Petroleum Institute.  
**6D** Steel gate, ball and plug valves for pipeline service.  
**6FA** Specification for Fire Test for Valves.
- ASME/ANSI** American National Standard Institute:  
**B2.1** Pipe threads.  
**B16.5** Steel pipe Flanges and flanged fittings.  
**B16.10** Length of ferrous flanged and welding end valves.  
**B16.25** Butt-welding ends.  
**B18.2** Square and hexagon bolts and nuts.  
**B16.47** Large Diameter Steel Flanges
- ASTM** American Society for Testing and Materials:  
**A-193** Alloy steel bolting material for high temperature service.  
**A-194** Carbon and alloy steel nuts for high pressure and high temperature service, class2.  
**A-216** Standard specification for steel castings, Carbon, Suitable for Fusion Welding, for High-temperature Service.
- MSS** Manufactures Standardization Society of the Valve and Fittings:  
**SP-25** Standard marking system for valves, fittings, flanges and unions.  
**SP-44** Steel pipe line flanges.  
**SP-47** Limiting dimensions of raised face flange gaskets.  
**SP-61** Pressure testing of steel valves.
- ASME** American Society of Mechanical Engineers:  
**Section II** Part A, B and C.  
**Section V** Non-destructive Tests.  
**Section VIII** Boiler and Pressure Vessel Code for Unfired Pressure Vessels, Divisions 1 and 2.  
**Section IX** Welding Qualifications.





SIZE (INCH)	WALWORTH FIGURE	TYPE	CLASS	BONNET	PORT	ENDS	TRIM	BASE MATERIAL ASTM
3/8"	9515	GATE	150 #	BB	STD	RF/RTJ	AA= API No. 1	<b>CARBON STEELS:</b>
1/2"	9518	GATE	150 #	BB	FULL	RF/RTJ	18-8= API No. 2	A105N
3/4"	9530	GATE	300 #	BB	STD	RF/RTJ	310= API No. 3	<b>ALLOY STEELS:</b>
1"	9538	GATE	300 #	BB	FULL	RF/RTJ	HF= API No. 5	A182-F1
1 1/4"	9560	GATE	600 #	BB	STD	RF/RTJ	AAA= API No. 6	A182-F5
1 1/2"	9568	GATE	600 #	BB	FULL	RF/RTJ	UT= API No. 8	A182-F5a
2"	19515	GATE	1500 #	BB	STD	RF/RTJ	A= API No. 9	A182-F9
	19185	GATE	1500 #	WB	FULL	RF/RTJ	18-8smo= API No. 10	A182-F11
	5615	GLOBE	150 #	BB	STD	RF/RTJ	AHF= API No. 11	A182-F22
	5618	GLOBE	150 #	BB	FULL	RF/RTJ	3HF= API No. 12	<b>LOW CARBON STAINLESS STEELS:</b>
	5630	GLOBE	300 #	BB	STD	RF/RTJ	A20= API No. 13	A182-F304L
	5638	GLOBE	300 #	BB	FULL	RF/RTJ	A20H= API No. 14	A182-F316L
	5660	GLOBE	600 #	BB	STD	RF/RTJ	NUC= 410 + NUCALLOY	<b>STAINLESS STEELS:</b>
	5668	GLOBE	600 #	BB	FULL	RF/RTJ	4HF= 304+304+ST6	A182-F304
	15615	GLOBE	1500 #	BB	STD	RF/RTJ	4HF+HF= 304+ST6+ST6	A182-F316
	15685	GLOBE	1500 #	WB	FULL	RF/RTJ	304L= 304L+304L+304L	<b>LOW CARBON STEELS:</b>
	5815	PISTON CHECK	150 #	BB	STD	RF/RTJ	1HF= 316+ST21+ST21	A350-LF1
	5818	PISTON CHECK	150 #	BB	FULL	RF/RTJ	3HF+HF= 316+ST6+ST6	A350-LF2
	5830	PISTON CHECK	300 #	BB	STD	RF/RTJ	3TC= 316/TC+TC+ST6 NOTE: TC= Tungsten Carbide.	A350-LF3
	5838	PISTON CHECK	300 #	BB	FULL	RF/RTJ	316L= 316+316+316	<b>NICKEL ALLOYS:</b>
	5860	PISTON CHECK	600 #	BB	STD	RF/RTJ	3LHF= 316L+316L+ST6	B564-N0 4400 (MONEL 400)
	5868	PISTON CHECK	600 #	BB	FULL	RF/RTJ	3HFL= 316L+ST6+ST6	B564-UNS 8810 (INCOLOY 800H)
	15815	PISTON CHECK	1500 #	BB	STD	RF/RTJ	21HF= 317+ST6+ST6	B564-UNS 8825 (INCOLOY 825)
	15885	PISTON CHECK	1500 #	WB	FULL	RF/RTJ	317= 317+317+317	B564-UNS 6600 (INCONEL 600)
	6615	BALL CHECK	150 #	BB	STD	RF/RTJ	317H= 317+317+ST6	B564-UNS 6625 (INCONEL 625)
	6618	BALL CHECK	150 #	BB	FULL	RF/RTJ	317LH= 317L+ST6+ST6	B564-N0 6022 (HASTELLOY C22)
	6630	BALL CHECK	300 #	BB	STD	RF/RTJ	317L= 317L+317L+317L	B564-N 10276 (HASTELLOY C276)
	6638	BALL CHECK	300 #	BB	FULL	RF/RTJ	317LS= 317L+317L+ST6	<b>DUPLEX STAINLESS STEEL:</b>
	6660	BALL CHECK	600 #	BB	STD	RF/RTJ	2HF= 321+321+ST6	A182-F51
	6668	BALL CHECK	600 #	BB	FULL	RF/RTJ	321F= 321+ST6+ST6	<b>SUPER DUPLEX STAINLESS STEEL:</b>
	16615	BALL CHECK	1500 #	BB	STD	RF/RTJ	321= 321+321+321	A182-F55
	56415	SWING CHECK	150 #	BB	STD	RF/RTJ	347HF= 347+ ST6+ST6	
	56418	SWING CHECK	150 #	BB	FULL	RF/RTJ	347= 347+347+347	
	56430	SWING CHECK	300 #	BB	STD	RF/RTJ	347= 347+347+ST6	
	56438	SWING CHECK	300 #	BB	FULL	RF/RTJ	254HF= 31254+ST6+ST6	<b>SUPPLEMENTARY REQUIREMENTS</b>
	56460	SWING CHECK	600 #	BB	STD	RF/RTJ	51H= 31803+ST6+ST6	GO= Gear operator.
	56468	SWING CHECK	600 #	BB	FULL	RF/RTJ	31803H= 31803+31803+ST6	MOV= Motor operated valve.
	56441	SWING CHECK	1500 #	BB	STD	RF/RTJ	T9= 17-4pH+TRIBALLOY 900+ TRIBALLOY 900	POV= Pneumatic operated valve.
	56448	SWING CHECK	1500 #	WB	FULL	RF/RTJ	HC= Hc-276+Hc-276+Hc-276	LD= Locking device.
							HCH= Hc-276+Hc-276+ST6	NACEMR-01-75.
							UOP= MONELK500+MONEL 400+MONEL 400	NACEMR-01-03
							625= INCONEL 625+INCONEL 625+INCONEL 625	NACW for low temperature.
							625HF= INCONEL 625+ST6+ST6	SP= Special Paint.
							8367HF+HF= AL6XN+ST6+ST6	SG= Special gasket.
							810T= INCOLOY 800H+INCOLOY 800H+INCOLOY 800H	SPK= Special packing.
							825= INCOLOY 825+INCOLOY 825+INCOLOY 825	VOC= Certification of volatile
							23HF= INCOLOY 825+ST6+ST6	organic compounds.
							HB= HASTELLOY B2+HASTELLOB2+HASTELLOY B2	XX= Additional requirements.
							NOTE: ADDITIONAL BASE MATERIALS & TRIMS ARE AVAILABLE UPON REQUEST.	

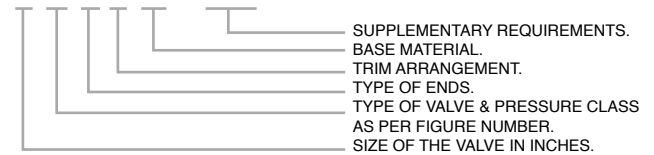
ENDS
RF= RAISED FACE
RTJ= RING TYPE JOINT

BONNET
BB= BOLTED BONNET
WB= WELDED BONNET

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 to specify the valve required and avoid mistakes during manufacturing.

WALWORTH gate & globe valves are supplied handwheel operated unless otherwise is specified in price list.

1/2"-950-SW-UT-A105-NACE MR 01-75







# 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 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 or in connection with the sale. Seller shall be established by Federal, State or other government regulation with respect to the product(s) Tapaed 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 supplier price in effect at time of quotation. Actual invoice Price will be adjusted in accordance with the supplier's escalation policy.

**DEFERRED 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, 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 (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 11/2 % 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 schedule 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 is used in the service for which Seller recommends it and that 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. 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®

Since 1842



Visit our website for more detail information  
[www.walworthmx.com](http://www.walworthmx.com)

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