

# IRON PLUG VALVES CATALOG



www.walworth.com



## **INDEX**

#### INTRODUCTION

ENGINEERING CONTROL	. 5
QUALITY SYSTEM	. 5
QUALITY CONTROL EQUIPMENT	. 9

#### SHORT, REGULAR & VENTURI PATTERN IRON PLUG VALVES

IRON PLUG VALVES	11
SHORT PATTERN IRON PLUG VALVES CLASS 200 CWP (SINGLE GLAND)	12
SHORT PATTERN IRON PLUG VALVES CLASS 200 CWP (REGULAR TYPE GLAND)	15
REGULAR PATTERN IRON VALVES CLASS 200 CWP	20
VENTURI PATTERN IRON VALVES CLASS 175 CWP	25
VENTURI PATTERN IRON VALVES CLASS 500 CWP	
PLUG VALVE WRENCHES	
WALSEAL PLUG VALVES SEALANT	34
LUBRICANT ACCESORIES	
PRESSURE-TEMPERATURE RATINGS	
FLANGE DIMENSIONS AND TEMPLATES	39
DESIGN BASIS	
HOW TO ORDER	
GENERAL TERMS AND CONDITIONS	42



YARMOUTH RESEARCH AND TECHNOLOGY





# WALWORTH

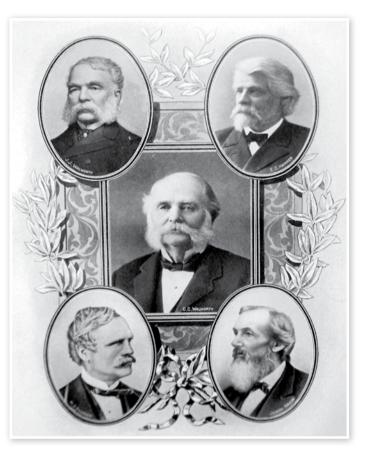
WALWORTH is one of the world's most comprehensive industrial valve manufacturers. Founded in 19th century by James WALWORTH, the Company has consistently dedicated itself to improvements in design and manufacturing of an array of valves exceptionally suited for the world's fluid control sector. We satisfy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

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

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

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

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



### WALWORTH VALUES

#### MISSION

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



#### VISION

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

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





## WALWORTH ENGINEERING CONTROL

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

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



## WALWORTH QUALITY SYSTEM

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

American American Metric	-
American functional de la industria Later 16 Fraccionalisational de la industria Later 16 Fraccionalisational de la industria Later 16 Fraccionalisational de la industria Later 16 Marcio Marcio American Potroleum Institute Marcio Company a la esta de Obas 40 Marcio a la esta de la Marcio esta de la esta de Obas 40 Marcio a la esta de la esta de la esta de la esta de la esta de de la esta de la esta de Obas 40 Marcio a la esta de la filma de la esta de la esta de la esta de de la esta de la filma de la filma de la filma de la esta de la filma de la esta de la de la de la esta de la d	
Praceionamiento industrial El Trabal Tapologia Marico	
American the Advance of Managers' are needed on the advance of Adv	
American Terminal the horse between themes and the bard (21 or a AH Bard Older of an anti- anti-anti-anti-anti-anti-anti-anti-anti-	
Amorican Petroleum Institute	-
Petroleum Institute Petroleum Institute Petroleum Institute Instit	
Petroleum Institute United States 10.001 De Asersa Formage Suther service Brights inner trai administra tujari 61 Disul 10 Disul Disultation United States and Discrete Tris Internation Research Print, Disultation United States and Discrete Tris Internation Research Print, Discrete Tris Internet States and Discrete Tris International Print, Discrete Tris Internet States and Discrete Tris Internet Print, Discrete Tris Internet States and Discrete Tris Internet States and Discrete Tris Notes and Discrete Tris Internet States and Discrete Tris Internet States and Discrete Tris Notes and Discrete Tris Internet States and Discrete Tris Internet States and Discrete Tris Notes and Discrete Tris Internet States and Discrete Tris Internet States and Discrete Tris Notes and Discrete Tris Internet States and Discrete Tris Internet States and Discrete Tris Notes and Discrete Tris Internet States and Discrete Tris Internet S	-
Generative and the local of Disease of the Annuales Revealed Formate     The support of the local or Disease of the Annuales Revealed Formate     The support of the local or Policy of the Annuales Revealed Formation     The support of the local or Policy of the Annuales Revealed Formation     The support of the local or Policy of the Annuales Revealed Formation     The support of the local or Policy of the Annuales Revealed Formation	
the scape of the liams results to be been points. Our value, Pag Value, Bal Value, Value, Pag Value, Bal Value, Valu	Alight
Values UNIT focusions: No Exclusions thereford as Applicates Amount of the Contract of the C	
Contract of the second	
Second Second	
North Contraction of the second	-
Effective Date: OCTOBER 13, 2011 (CLLL / Incl.,	4
Expiration Date: NOVEMBER 4, 2014	



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

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

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

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





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

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



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

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



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

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



#### Certificate ISO-9001 No. 0038

Issued by American Petroleum Institute since April 1999.

Certifica	le
	Quality-Assurance System
	acc. to Directive 97/23/EC
Certificate no.	01 302 USA/G-10 0013
Name and address of the menufacturer:	Walknorth – Inval Facility Industrial de Valvulas, S.A. de C.V. Avenida de la Industrial Lota 16 Procelonarsianto Industrial El Tribol C.P. 5400, Tepotrollar, Estato de Mexico
	Harsetti us portly that the above methodes manufacture operates a suffly system societing to the European Disoches ST22EE. The method to prevenue elegenerate theoreties and neurolational in accordance to the scope coveral by the European societies.
	C€ 0035
Tested acc. to Directive 01/25/EC	QS-System (Module 16) the QS-Strate F. C. C. Start D are performed by Malace 15
Audit report As:	USA/D-10 0013
Area of validity	Overge, Manufacturing and testing of industrial valves, see annex to certificate
Manufacturing plant	Walworth - Inval Facility Industrial de Valvalas, S.A. de C.V. Avansida de la Industrial Lote 19 Praccionamiento Industrial El Tribol C.P. 54400, Tepotordina, Elitado de Mexico
Valid unit	April 07, 2018
Cologne, April 30, 2013	Cut my subme and access
Nor Rosenand Cardination Body for Passant Daugeneri Thy Rosenand Industrie Banatas Break Robel Daug, N. H. 2011 Na Kasi Michael Ban, Tuda 198 Kasi	
wew.tux.com	A TÜVRheinland*

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



	CFE	12 31	
	CONSIGNATION PROVIDER		
	LAI	PEM.	
	ORIO DE PRUEBA	AS DE EQUIPOS Y MATERIALE	15
CONS	TANCIA DE CALI	FICACIÓN DE PROVEEDOR	
	and the second second	ENT.	
RATIN POLIAL	HELEFILL DE VELTALE	LAAMEN	
ALANCA & Britishin ROBIELED	Automotion de la maturalita des la Primasa destanativas do Tradesta Manteza Millionecco	enterio de selección temperativas	×
ADDICE LIN	Annotational in Antonio March 1998		-
ADANCE AN SUMMERING STORE	Annual of a relation line of Price, Interacting in Trades Annual Millionson Price, Interactional Control Price, Interactional Control Price, Interactional Control Price, Interaction, Interaction		
	Annual is a relative to a relative to the second se		
	Associate a substantial for taxan and an and taxan taxan and an and an and and taxan and an and and taxan and an and and taxan and taxan and taxan and taxan and taxan a		
	Another is a fractioner to be theme. Instanting of Trade and Market and Market and Market Party of the Control of the Control of the Control of the Control of the Control	ARTINO DE MILLO TRUCCIO, AN CARLON CARLON CONTRACTOR DE LA CONTRACTÓNICA EN LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA EN LA CONTRACTÓNICA DE LA CONTRACTÓNICA EN LA CONTRACTÓNICA DE LA CONTRACTÓNICA EN LA CONTRACTÓNICA DE LA CONTRACTÓNICA ENCLUERDA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA ENCLUENCIA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA ENCLUENCIA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA ENCLUENCIA DE LA CONTRACTÓNICIÓN DE LA CONTRACTÓNICA DE LA CONTRACTÍNICA DE LA CONTRACTÓNICA DE LA CONTRACTÍNICA DE LA CONTRACTÍNICIDA DE LA	
	Another is a fractioner to be theme. Instanting of Trade and Market and Market and Market Party of the Control of the Control of the Control of the Control of the Control	ARTINO DE MILLO TRUCCIO, AN CARLON CARLON CONTRACTOR DE LA CONTRACTÓNICA EN LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA EN LA CONTRACTÓNICA DE LA CONTRACTÓNICA EN LA CONTRACTÓNICA DE LA CONTRACTÓNICA EN LA CONTRACTÓNICA DE LA CONTRACTÓNICA ENCLUERDA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA ENCLUENCIA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA ENCLUENCIA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA ENCLUENCIA DE LA CONTRACTÓNICIÓN DE LA CONTRACTÓNICA DE LA CONTRACTÍNICA DE LA CONTRACTÓNICA DE LA CONTRACTÍNICA DE LA CONTRACTÍNICIDA DE LA	
	Another is a fractioner to be theme. Instanting of Trade and Market and Market and Market Party of the Control of the Control of the Control of the Control of the Control	ARTINO DE MILLO TRUCCIO, AN CARLON CARLON CONTRACTOR DE LA CONTRACTÓNICA EN LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA EN LA CONTRACTÓNICA DE LA CONTRACTÓNICA EN LA CONTRACTÓNICA DE LA CONTRACTÓNICA EN LA CONTRACTÓNICA DE LA CONTRACTÓNICA ENCLUERDA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA ENCLUENCIA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA ENCLUENCIA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA ENCLUENCIA DE LA CONTRACTÓNICIÓN DE LA CONTRACTÓNICA DE LA CONTRACTÍNICA DE LA CONTRACTÓNICA DE LA CONTRACTÍNICA DE LA CONTRACTÍNICIDA DE LA	
	Another is a fractioner to be theme. Instanting of Trade and Market and Market and Market Party of the Control of the Control of the Control of the Control of the Control	ARTINO DE MILLO TRUCCIO, AN CARLON CARLON CONTRACTOR DE LA CONTRACTÓNICA EN LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA ENCLUERACIÓN DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA ENCLUERACIÓN DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA ENCLUERACIÓN DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA ENCLUERACIÓN DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA DE LA CONTRACTÓNICA ENCLUERACIÓN DE LA CONTRACTÓNICA DE LA CONTRACTÍNICA DE LA CONTRACTÍNICIDA DE LA	

A PETROLEOS MEXICANOS
CRUPO TECNICO DE EVALUACIÓN DE PROVEEDORES E
REFECCION DE BRINES
A 40000 Kit of an incent
40-801 and
CONSTANCIA DE PROVEEDOR CONFIABLE
or second
INDUSTRIAL DE VALVULAR, E.A. DE C.V. (1013-438) AV. INDUSTRIAL LOTE 18
TRACE, WEUSTRAL EL TREBOL TEPOTZOTLAN, EDO. DE WEX, C.P. MIDD
TEL ANN ITEE
THE ADJENCE CON LA PUBLICANS & BUILDENDARY DE GERTION DE LA DILUNC PRETUNDIR POR PORTUGIESE MERICANOS Y DISCAMENTE BUILDENDARY CONFORME AL PROCEDUMENTO DEPENDENTE DI UNICA LA PRODUNCE
EDISTURIE AL PROCEDURINE DE LOS INCLUSIVES PROCECTOS
FARMCANTE DE VALVALAS DE ACENCIPANDES CORPLEXITA AN SE BLORD ADRE INVERA, RETENCION, CORPLEXITA, BOLA, MACINO AD, SE, MALVALAS DE ACENCI
FURIADO COMPLERITA DADEO DETENCIÓN AN REL MANDICAS ANAS COM
THE EDISTANCE OF EXTENDS IN IL ENTENDED OF GUE PETHOLEOR
WEDGARDE EPECTUARA AUSTONIAL DE BEDURARIN'S A SU DETENA DE ORTTON DE LA CAUDAL REBENARCOR EL DETECHO DE REUDAR SU UNIVEL DE
ALLERDO CON LOS REBULTADOS DUE DE CRETENSIAN Y NO EXIME AL PROVINCIÓR DE PRESENTAR SUS PRODUCTOS PARA VERPERIÓN DE LA DALERIE CLANDO AN
Hild Neurotte
NOW IN THREE AND AND THE
a 11
() In one correction
a serie allock
understatight & the delivery we will specie manual
MEDIENAL EXCLANS

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

#### Issued by the Equipment and Materials Testing Laboratory, CFE

Supplier Qualification Certificate NO. 279/13

(LAPEM in Spanish)



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

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



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



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

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



## **PRODUCT** CERTIFICATIONS



	PROJECT SUMMARY
Project Numbers	BROOM
Deputiement PT	The Walworth Company
Context	David Cortectors
late(a) of Test-	13999-122398
freduction Trenedi	One 6" Class 200 Gate Valve with Empsk 5los EAP 100.001 pseking
Parpens of Tests	The test was similaried to evaluate the early's room owing performance of ambient and at 2027 F as related to the 1990 Associations to the Chern Ark Stringterments. Leakage measurements were conducted in merediant with 40 CPR Part 62, Agenetic A. Method 21.
Sona Basilonts	Three theread cipilies from suchness to Mol day. Fover conducted thereadings (3000 speculiar cycles with the value percentration to 640 parage. The value was explored with a 64 BPM gover motor mognitize the the handbeel. One motions with a 64 BPM adjustment was required of exclessments: 3001 to maintain hadage lived) holes (100 PPDs).
	At cycle mancher 3500, the packing backage was 25–29 PP3/s with the storm static. The packing muts were tightened from 12/18 fb.8 back to 28 fb.9s and leakage decremand to about 1 PP3/s.
	Not the attached data shows for more information.
fart Witneren	Mathew 2. Wandwerks, P. L. President Vanascene Researce and Technickow
	Place of fut (202) Markels a Data bases of 10 Bas 100 Tamandi, Marco 2006-0700

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".





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



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

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

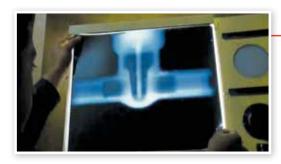
		And and a second se	/Rheinland* why Right.
			ГЕ
Conce	ming the Agreement	with the Technical Re	equinements in:
TA-Lu	ft 2002, VDI 24	40 Nov. 2000,	Sec. 3.3.1.3
Test report	200140	Detum	60 December, 2000
Client		dustrial de Valordan, S.	1 de C.V.
ment the lightness the following con requirements of	7) a system and internal flam on influein of 6 10 <sup>4</sup> mbar dilicen. The BFV Value o Silicen. The BFV Value o Silicen. 2.6.4 of The G	sec. Industrial El Trates partendias, Edo. De Bier ge connection fuencion a 75x x m) with a futiker o dP De connection fuence entran Chean Air Act, (TA 3, 1, 3 of VCI 2042 (Rev.)	inn, CP 54888 I successfully tester to test spactbornets under stat shaft unde Sullts the Loft. C. antenne
ment the lightness the following con- requirements of Vertication) in a	7 a system and internal fac to other of 6.10 <sup>4</sup> relar offices. The BPV Value o Section 5.2.6.4 of The G constance with Section 3	rpetentian, Edo. De Bler gel commercian fames base s V(s x in) with a halfwer is dft ber commercial marches orman Cheve Air Act, (TA 3 1.3 of VCI 2442 (Her.)	non, CP S4888 successfully testeri in test spectrometer under Cutt, c), and system 2000;
ment the lightness the following contraction of	7 a system and internal fac to other of 6.10 <sup>4</sup> relar offices. The BPV Value o Section 5.2.6.4 of The G constance with Section 3	rpetitionilian, Edio, De Bler get connection frame been style onto with a helican is del bar seasonical mechanism annuan Clean Air Act, (TA 3: 1:3 of VCR 2440 pters Walneseth, AP 4 intell, Clean 3	inn, CP 54888 I successfully tester to test spactbornets under stat shaft unde Sullts the Loft. C. antenne
meet the lightne ties following con requirements of Verifications in a Rand of Valve	7 a system and internal fla- so infinite of a 10° miles differen. The BPV Value o Section 1.2.0.4 of The G montaneous with Section 3	rpententian, Balo, De Men ge connection faint been r (2) a tot with a halan to die fain a statistical market onnan Clean Air Ad, (1) A 3 1 3 al VCB 2440 dien Waterenth AP 4 instit, Clean 5 WCB Body / CR 13	inn, CP Lease a poccessfully tested in suis aparthismithe under richt shaft suisk fullits the Loff, (Ladage 2000). IEDO Gate Valve SK, Pigere 12007
need the lightne the following con- requirements of Verblasting in a Rand of Valve Valve Type: Sealing Syste	7 a system and internal fla- so infinite of a 10° miles differen. The BPV Value o Section 1.2.0.4 of The G montaneous with Section 3	rgentamlian, Bako De Merc gel connection Asses base r 12 a rol with a belance of the a name of the context model and the context of the context filter. Wateworth AP 4 I mith, Classe I WCB Body / CR 13 Graph	non, CP Lease autocastuly tester to main spectrometer under scal staff, south fullits the Lots, C. autogen 1990. 19
need the lightne the following con- requirements of Verblasting in a Rand of Valve Valve Type: Sealing Syste	7 sentem and bears of the exciting of a 10 <sup>-4</sup> above dillow. The BPV value of dillow. The BPV value of dillow. The BPV value of discusses with Souther 2 me. Non-inval Processors:	rgentamlian, Bako De Merc gel connection Asses base r 12 a rol with a belance of the a name of the context model and the context of the context filter. Wateworth AP 4 I mith, Classe I WCB Body / CR 13 Graph	Inon, CP 54880 I spoceentby tested to sease spectroments under obst status, such Suffix Fre (JA), Challege 2000, 1810 Onder Valve 00, Pigere KENOP Base A. Chen, 197 Bast die Bestin
need the lightne tios following con- requirements of Vertikation; in a Vertikation; in a Valve Typic Sealing Syste Nominal Size.	7. system, and internet file in rithmic of a 10 <sup>4</sup> obser- dition. The BPV vision discuss file at at the G coordiance with flucture 3 m Monorcial Pressure: dis/Pressure:	reportantian, Buto, Die Men ger accessediar Ausst beer 49 Ext of white In Industry in 49 Ext accession I machine 40 Ext accession I machine 3.1.3 of VEI 2442 (Pher. 3.1.3 of VEI 2442 (Pher. 4 Intels, Classe I WEIB Body: CRI 13 Graph 4 Intels,	mm, CP 54880 + pocketAly tested to test spectrometry with table 24 and 24 and 260 Outle Value 200 Outle
need the lightness the following con- transferences of Verifications in a Kind of Valve. Valve Type: Sealing Syste Nominal Size. Inspection Me Switching Cyr.	7. system, and internet file in rithmic of a 10 <sup>4</sup> obser- dition. The BPV vision discuss file at at the G coordiance with flucture 3 m Monorcial Pressure: dis/Pressure:	reportantian, Balo, Do Mara gar acconnection Assoc bases drift part of white in a balance in drift part statement of motion and the statement of the statement of the statement of the statement of the statement of the statement with a statement of the statement With Body - 10 and 10 and 4 bases Statement / 81 Bares	Inn., CP Lease - successfully technic to - successfully technic to - successfully technic to - successfully technic - suc
need the lightness the following com- involvements of Verifications in a Kind of Valve. Valve Type: Seeiling Syste Nominal State. Inspection Me Switching Cyri	7 a system and fotom of the first optimizer of a first when becken first at a first of coordinates with flucture a me. Nonrinal Processors: dis/Processors: dis/Processors: dis/Processors: dis/Processors: proc. (dis/dis/dis/dis/dis/dis/ is/dis/dis/dis/dis/dis/dis/dis/dis/ is/dis/dis/dis/dis/dis/dis/dis/dis/dis/d	rportantian, Ede. De Mer upt connection fuels been reflex in it with a billion in energy Colean Air Arts, (TS- 3.1.3 of VCE 34442 (Her- 3.1.3 of VCE 34442 (Her- 4.1.3 of VCE 34442 (Her- 4.1.3 of VCE 34442 (Her- 4.1.3 of VCE 34442 (Her- 4.1.3 of VCE 34442 (Her- 1.1.3 of VCE 34442 (Her- 4.1.3 of VCE 34442 (Her- 1.1.3 of VCE 34442 (Her- 1.1.3 of VCE 34442 (Her- 1.3 of VCE 344444 (Her- 1.3 of VCE 344444 (Her- 1.3 of VCE 34444 (Her- 1.3	Inin, CP Sallio successful sealer in successful ready sealer and sealer and the Curl, Exalling and Solling and Salling Salling an

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



# **QUALITY CONTROL EQUIPMENT**

In order to assure that WALWORTH products comply with international quality standards, in-house equipment is kept for monitoring control. Some of this equipment includes:



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

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





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

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





**Test Loop.** A complete Laboratory Test loop exists for design validation of WALWORTH products. The test is performed at maximum design pressure, advances the valves from 3000 to 5000 cycles, and requires more than four months to complete.

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

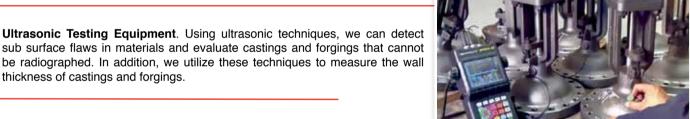


www.walworth.com

10

Hardness Test Equipments.- In both lab and shop tests, WALWORTH uses

hardness tester equipment, such as Rockwell B, C Brinell or Vickers, to ensure compliance with specifications.





thickness of castings and forgings.

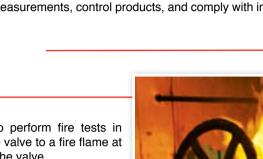
Low Fugitive Emissions Test. This test is performed when a Customer requires low fugitive emissions certification. Our Lab has its own LFE test equipment that is capable of measuring less than 20 ppm in both static and mechanical conditions at either ambient temperature or thermal cycle operations.

Tensile Test Equipment. We use this equipment to verify the mechanical properties of materials used for manufacturing. WALWORTH tests samples on a random basis even though we receive MTRs from our suppliers and foundries.

Fire Test Facilities. WALWORTH has the facilities to perform fire tests in accordance with 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.

Metrology Laboratory. WALWORTH developed a calibration and/or verification system in all of the equipment used in its facilities. This ensures our ability to trace measurements, control products, and comply with international standards.







# **WALWORTH IRON PLUG VALVES**

**WALWORTH** Cast Iron Lubricated Plug Valves are designed to meet the demand for an inexpensive product that incorporates the principal features of the Lubricated Plug Valves.

The Top Entry design is offered in three different patterns: Short, Regular and Venturi from 1/2" (12.7 mm) to 18" (450 mm) - Iron Body and Plug Classes 175, 200 & 500 CWP.

#### **DESIGN FEATURES**

- · Design in accordance with MSS SP-78.
- Mechanical Balance spring to avoid jamming of the plug.
- Lever or gear operated.
- · Bi-directional.
- Locking devices are available as an option
- Tamper proof bolting is available as an option
- Operating extensions and elevations.
- Additional Walseal sealants are available for different applications.

• Sealant Grooves. this system permits sealant injection while the valve is under full line pressure.

#### **PRODUCT RANGE**

PATTERN	SIZE	PRESSURE CLASS AS PER API	ENDS
Short	1/2" to 12"	200 CWP	Threaded or RF
Regular	1/2" to 12"	200 CWP	Threaded or RF
Venturi	14" to 18"	175 CWP	Threaded or RF
Venturi	6" to 8"	500 CWP	Threaded or RF





SHORT PATTERN Provides face to face dimensions that match gate valves.



**REGULAR PATTERN** Offers the largest port opening in a trapezoidal configuration – close to a full pipe size.



VENTURI PATTERN Has a smaller port than the other two patterns. Is lower in cost and flow contours maximize hydraulic efficiency.



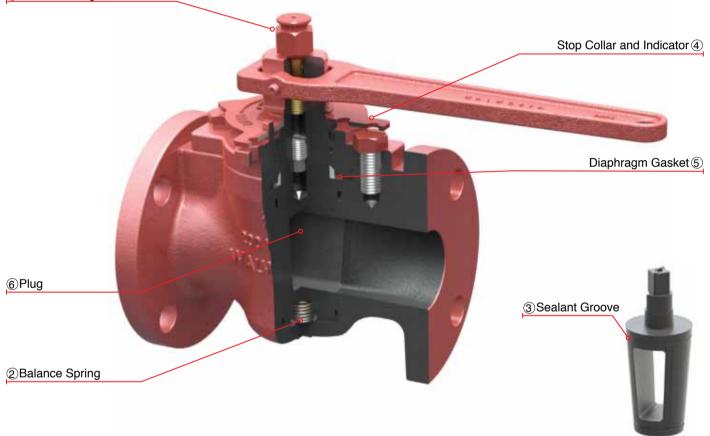
# IRON PLUG VALVE SHORT PATTERN CLASS 200 CWP Single Gland

#### **DESIGN FEATURES**

Short Pattern WALWORTH design offers big oppening port and end to end dimensions same as a Gate Valve.

As in other types of WALWORTH Lubricated Plug Valves, the surfaces of the Single Gland Lubricated Plug Valve are "Pressure Sealed". When the valve is in either the open or closed position, this seal is renewed by forcing lubricant under high pressure into a grooving system which completely encircles the ports.

(1)Sealant Fitting



#### **Design** Features

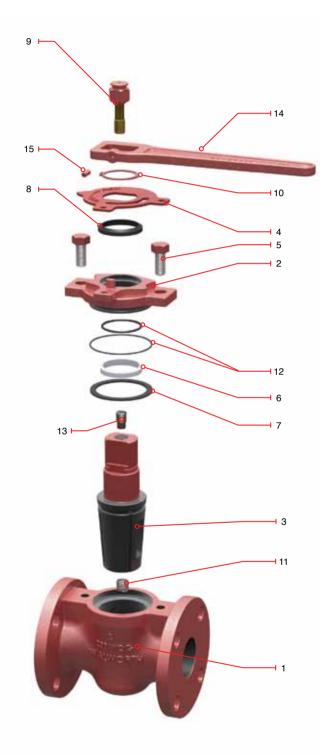
- (1) Sealant Fitting. Fast Sealant Injection that can be removed under pressure. The system includes Ball Check valves in order to prevent the back pressure and maintain the pressure in the sealant cavity.
- (2) **Balancing Spring.** the mechanical spring type grade SS-304 washer is under compression and holds the plug in an equalized pressure position, thus eliminating the possibility of plug taper lock.
- (3) Sealant Grooves. this system permits sealant injection while the valve is under full line pressure. WALWORTH recommends that the valves be lubricated with plug in the fully opened or fully closed position for optimum valve performance.
- (4) **Open/Closed Indicator.** quarter turn stop collar also functions as an indicator of the plug's position.
- (5) **Diaphragm Gasket.** ensures a complete sealing of the valve against leakage.
- (6) **Plug.** WALWORTH Plugs are designed with an specific coating material that reduces the coefficient of friction making the valve to operate with low torque.



## IRON PLUG VALVE SHORT PATTERN CLASS 200 CWP Single Gland (Lever Operated)

#### **Regular Bill of Materials**

No.	Description	Material
1	BODY	ASTM A-126 CLASS B
2	GLAND	ASTM A-126 CLASS B
3	PLUG	ASTM A-126 CLASS B
4	COLLAR RETAINER	CARBON STEEL
5	GLAND SCREW	ASTM A 307 Gr. B
6	PRESSURE RING	REINFORCE TEFLON
7	GASKET	STAINLESS STEEL + GRAPHITE
8	WEATHER SEAL	NITRILE BUTADIENE RUBBER
9	GREASE FITTING	COMMERCIAL STEEL
10	RING RETAINER	COMMERCIAL STEEL
11	BALANCE SPRING	STAINLESS STEEL
12	O-RING	NITRILE BUTADIENE RUBBER
13	SEALANT CHECK VALVE	COMMERCIAL STEEL
14	WRENCH	GRAY IRON
15	SET SCREW	ALLOY STEEL



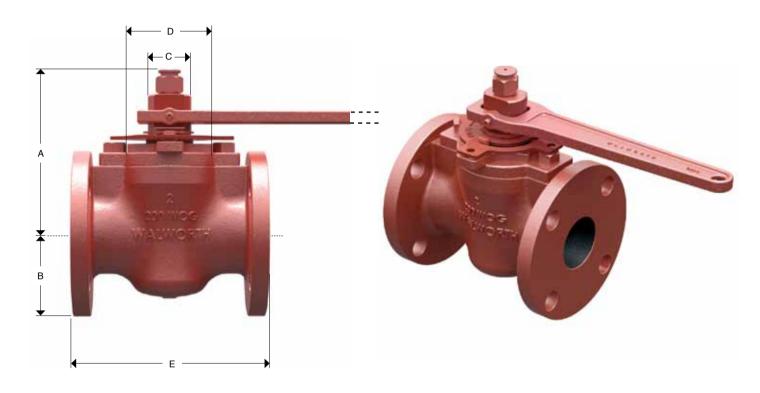


### IRON PLUG VALVE SHORT PATTERN CLASS 200 CWP Single Gland Type (Lever Operated)

#### **Design Features**

- Threaded ends in accordance with ASME B1.20.1
- Flat Face Flanged ends in accordance with ASME B16.1
- Design in accordance with MSS SP-78
- Test in accordance with API 598 & MSS SP 78

Figure no.	Operation	Type of ends
1796	Lever operated	THREADED
1797F	Lever operated	FLAT FACE FLANGED



#### **Dimensions and Weights**

Nom	vinal			Ge	neral D	imensio	ons			End	to End		ions		Approx.	Weiah	t	Ŧ
Si					_				_		E	-				-		WRENCH
			4	1	3	(	2	L	כ	FLAI	FACE	IH	RD	FLAI	FACE	IH	RD	Ë
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Kg	lb	Kg	lb	5
1/2	15	3.87	98	1.62	41	0.81	21	2.56	65	-	-	4.5	114	-	-	2.2	4.8	DB D-4
3/4	20	3.87	98	1.62	41	0.81	21	2.56	65	-	-	4.5	114	-	-	2.2	4.8	DB D-4
1	25	3.87	98	1.62	41	0.81	21	2.56	65	5.5	140	4.5	114	3.5	7.7	2.2	4.8	DB D-4
1 1/4	32	4.56	116	2	51	0.9	23	3.12	79	6.5	165	5	127	5.9	13.0	4.2	9.3	DB E-1
1 1/2	40	4.56	116	2	51	0.9	23	3.12	79	6.5	165	5	127	6.1	13.4	3.9	8.5	DB E-1
2	50	4.81	122	2.37	60	1.06	27	3.62	92	7	178	5.87	149	9.9	21.7	6.2	13.7	DB G-1
2 1/2	65	5.62	143	2.37	60	1.25	32	4.12	105	7.5	191	6.75	171	15.1	33.2	10.2	22.5	DB G-1
3	75	6.31	160	3.25	83	1.37	35	4.75	121	8	203	7.62	194	22.2	49.0	15.6	34.3	DB M-1
4	100	7.37	187	4.06	103	1.5	38	5.75	146	9	229	9	229	30.0	66.0	24.5	54.0	DB P-1
5	125	7.68	195	4.5	114	1.5	38	6.5	165	10	254	-	-	40.0	88.0	-	-	DB P-1.1

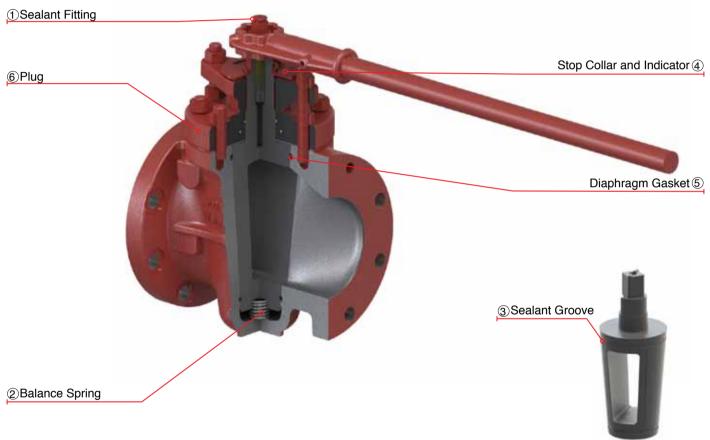


## IRON PLUG VALVE SHORT PATTERN CLASS 200 CWP Regular Gland Type

#### **DESIGN FEATURES**

WALWORTH Regular Gland type Lubricated Plug Valves are designed to control plug adjustment tightening the gland, requesting only a very low maintenance in the field.

These Valves are all provided with separate retainers (cover plate) and adjusting glands; generally sizes 3" and smaller have four-bolt square retainers, while 4 inches and large sizes have round retainers. They all incorporate the Pressure Sealed Lubrication features.



#### **Design Features**

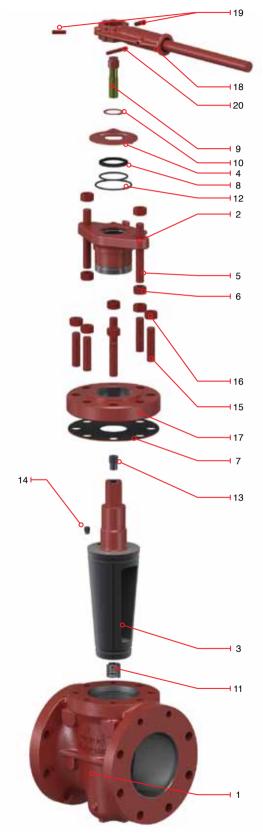
- (1) Sealant Fitting. Fast Sealant Injection that can be removed under pressure. The system includes Ball Check valves in order to prevent the back pressure and maintain the pressure in the sealant cavity.
- (2) **Balancing Spring.** the mechanical spring type grade SS-304 washer is under compression and holds the plug in an equalized pressure position, thus eliminating the possibility of plug taper lock.
- (3) Sealant Grooves. this system permits sealant injection while the valve is under full line pressure. WALWORTH recommends that the valves be lubricated with plug in the fully opened or fully closed position for optimum valve performance.
- (④ **Open/Closed Indicator.** quarter turn stop collar also functions as an indicator of the plug's position.
- (5) **Diaphragm Gasket.** ensures a complete sealing of the valve against leakage.
- (6) **Plug.** WALWORTH Plugs are designed with an specific coating material that reduces the coefficient of friction making the valve to operate with low torque.



## IRON PLUG VALVE SHORT PATTERN CLASS 200 CWP Regular Gland Type (Lever Operated)

#### **Regular Bill of Materials**

No.	Description	Material							
1	BODY	ASTM A-126 CLASS B							
2	GLAND	ASTM A-126 CLASS B							
3	PLUG	ASTM A-126 CLASS B							
4	COLLAR RETAINER	CARBON STEEL							
5	GLAND SCREW	ASTM A 307 Gr. B							
6	GLAND NUT	ASTM A 194 Gr. 2H							
7	GASKET	STAINLESS STEEL + GRAPHITE							
8	WEATHER SEAL	NITRILE BUTADIENE RUBBER							
9	GREASE FITTING	COMMERCIAL STEEL							
10	RING RETAINER	COMMERCIAL STEEL							
11	BALANCE SPRING	STAINLESS STEEL							
12	O-RING	NITRILE BUTADIENE RUBBER							
13	SEALANT CHECK VALVE	COMMERCIAL STEEL							
14	PLUG CHECK VALVE	COMMERCIAL STEEL							
15	COVER SCREW	ASTM A 307 GRADE B							
16	COVER NUT	ASTM A 194 Gr. 2H							
17	COVER	ASTM A-126 CLASE B							
18	WRENCH	GRAY IRON							
19	SET SCREW	ALLOY STEEL							
20	WRENCH PIN	ASTM A568							





### IRON PLUG VALVE SHORT PATTERN CLASS 200 CWP (ANSI 150) Regular Gland Type (Lever Operated)

#### **Design Features**

- Flat Face Flanged ends in accordance with ASME B16.1
- Design in accordance with MSS SP-78
- Test in accordance with API 598 & MSS SP 78

Figure no.	Operation	Type of ends				
1718F	Lever operated	THREADED				



#### **Dimensions and Weights**

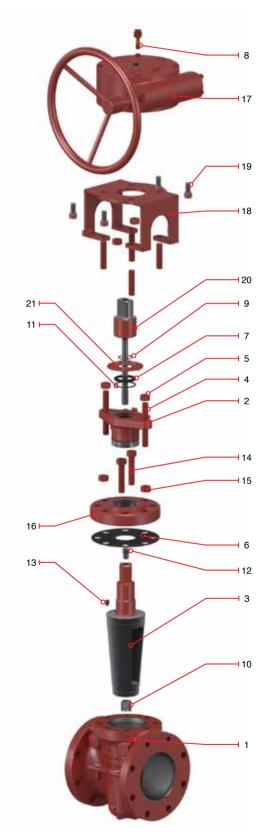
Non	ninal				o End Isions	Approx									
-	ze					E	E	FLAT FACE		Wrench					
		4	4	E	3	(	<b>)</b>	E	כ	FLAT	FACE	FLAI	FACE	No.	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Kg	lb		
6	150	11.75	298	6.12	155	1.5	38	8.37	213	10.5	267	69.9	154.0	P-1	
8	200	13.5	343	7.56	192	1.75	44	9.62	244	11.5	292	107.6	237.0	R-3	
10	250	14.5	368	9.12	232	2	51	10.87	276	13	330	151.6	334.0	T-3	
12	300	18.18	462	10.68	271	2.43	62	13.5	343	14	356	263.3	580.0	V-3	



# IRON PLUG VALVE SHORT PATTERN CLASS 200 CWP (Gear Operated)

#### **Regular Bill of Materials**

No.	Description	Material
1	BODY	ASTM A-126 CLASS B
2	GLAND	ASTM A-126 CLASS B
3	PLUG	ASTM A-126 CLASS B
4	GLAND SCREW	ASTM A 307 Gr. B
5	GLAND NUT	ASTM A 194 Gr. 2H
6	GASKET	STAINLESS STEEL + GRAPHITE
7	WEATHER SEAL	NITRILE BUTADIENE RUBBER
8	GREASE FITTING	COMMERCIAL STEEL
9	RING RETAINER	COMMERCIAL STEEL
10	BALANCE SPRING	STAINLESS STEEL
11	O-RING	NITRILE BUTADIENE RUBBER
12	SEALANT CHECK VALVE	COMMERCIAL STEEL
13	PLUG CHECK VALVE	COMMERCIAL STEEL
14	COVER SCREW	ASTM A 307 GRADE B
15	COVER NUT	ASTM A 194 Gr. 2H
16	COVER	ASTM A-126 CLASE B
17	GEAR OPERATOR	COMERCIAL STEEL
18	GEAR OPERATOR SUPPORT	CARBON STEEL
19	GEAR OPERATOR BOLTING	ASTM A 307 Gr. B
20	STEM EXTENSION	ASTM A 322 GRADE 4140
21	COLLAR RETAINER	CARBON STEEL



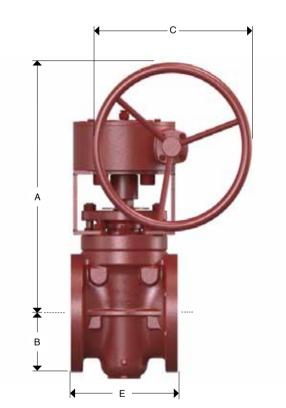


### **IRON PLUG VALVE SHORT PATTERN CLASS 200 CWP** (Gear Operated)

#### **Design Features**

- Flat Face Flanged ends in accordance with ASME B16.1
  Design in accordance with MSS SP-78
  Test in accordance with API 598 & MSS SP 78

Figure no.	Operation	Type of ends				
1727	Gear Operated	FLANGED FLAT FACE				





#### **Dimensions and Weights**

Nom	ninal			(			o End nsions	Approx Weight					
Si						E		FLAT FACE					
		A	4	E	3	С		D		FLAT FACE		FLAT FACE	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Kg	lb
6	150	18.68	474	6.12	155	23	584	18	457	10.5	267	99.9	220.0
8	200	18	457	7.56	192	23	584	21	533	11.5	292	131.7	290.0
10	250	20.06	510	9.12	232	23	584	27	685	13	330	204.3	450.0
12	300	22.68	576	10.68	271	23	584	31	787	14	356	263.3	580.0

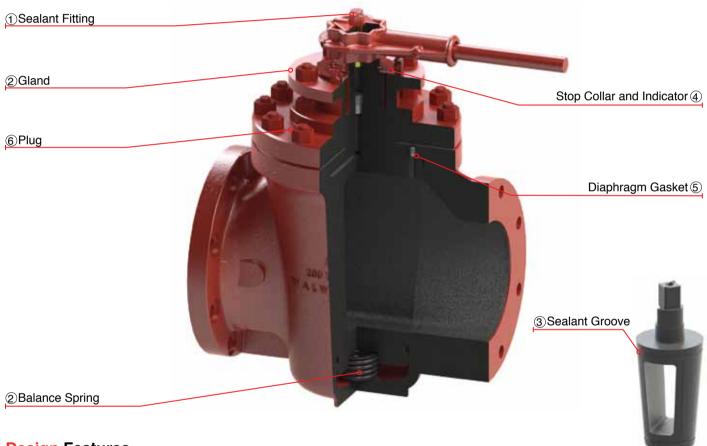


## IRON PLUG VALVE REGULAR PATTERN CLASS 200 CWP Regular Gland Type (Lever Operated)

#### **DESIGN FEATURES**

WALWORTH Regular Pattern Plug Valve provide largest port opening in a trapezoidal configuration with the close dimensions to a full pipe size.

These Valves are all provided with separate retainers (cover plate) and adjusting glands; generally sizes 3" and smaller have four-bolt square retainers, while 4 inches and large sizes have round retainers. They all incorporate the Pressure Sealed Lubrication features.



#### **Design** Features

- (1) Sealant Fitting. Fast Sealant Injection that can be removed under pressure. The system includes Ball Check valves in order to prevent the back pressure and maintain the pressure in the sealant cavity.
- (2) **Balancing Spring.** the mechanical spring type grade SS-304 washer is under compression and holds the plug in an equalized pressure position, thus eliminating the possibility of plug taper lock.
- (3) Sealant Grooves. this system permits sealant injection while the valve is under full line pressure. WALWORTH recommends that the valves be lubricated with plug in the fully opened or fully closed position for optimum valve performance.
- (4) **Open/Closed Indicator.** quarter turn stop collar also functions as an indicator of the plug's position.
- (5) **Diaphragm Gasket.** ensures a complete sealing of the valve against leakage.
- (6) **Plug.** WALWORTH Plugs are designed with an specific coating material that reduces the coefficient of friction making the valve to operate with low torque.



# IRON PLUG VALVE REGULAR PATTERN CLASS 200 CWP (Lever Operated)

#### **Regular Bill of Materials**

No.	Description	Material
1	BODY	ASTM A-126 CLASS B
2	GLAND	ASTM A-126 CLASS B
3	PLUG	ASTM A-126 CLASS B
4	COLLAR RETAINER	CARBON STEEL
5	GLAND SCREW	ASTM A 307 Gr. B
6	GLAND NUT	ASTM A 194 Gr. 2H
7	GASKET	STAINLESS STEEL + GRAPHITE
8	WRENCH PIN	ASTM A568
9	GREASE FITTING	COMMERCIAL STEEL
10	RING RETAINER	COMMERCIAL STEEL
11	BALANCE SPRING	STAINLESS STEEL
12	O-RING	NITRILE BUTADIENE RUBBER
13	SEALANT CHECK VALVE	COMMERCIAL STEEL
14	PLUG CHECK VALVE	COMMERCIAL STEEL
15	COVER SCREW	ASTM A 307 GRADE B
16	COVER NUT	ASTM A 194 Gr. 2H
17	COVER	ASTM A-126 CLASE B
18	WRENCH	GRAY IRON
19	SET SCREW	ALLOY STEEL



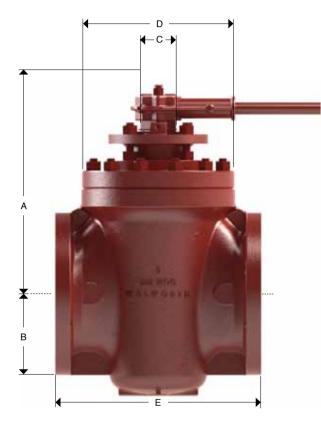


# IRON PLUG VALVE REGULAR PATTERN CLASS 200 CWP (Lever Operated)

#### **Design Features**

- Threaded ends in accordance with ASME B1.20.1
- Flat Face Flanged ends in accordance with ASME B16.1
- Design in accordance with MSS SP-78
- Test in accordance with API 598 & MSS SP 78

Figure no.	Operation	Type of ends
1700	Lever Operated	THREADED
1700 F	Lever Operated	FLANGED FLAT FACE





#### **Dimensions and Weights**

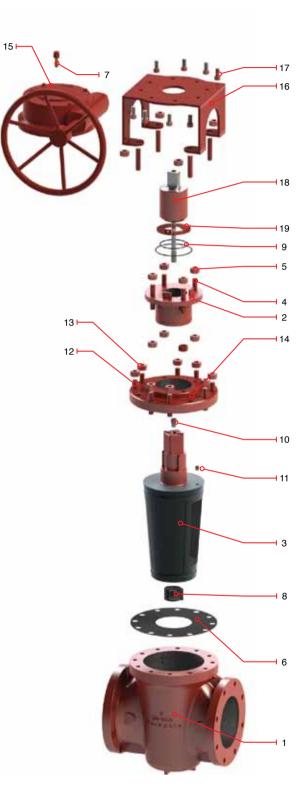
				0-		imensio				End	to End	Dimens	sions					
Non				Ge	neral D	imensio	ons				E	Ξ		-	FACE	THRD		o.
	20	4	۱	E	3	(	C	[	כ	FLAT	FACE	TH	RD	FLAT FACE		IARD		Wrench No.
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Kg	lb	Kg	lb	-
2	50	7.37	187	3.25	83	1.25	32	4.31	109	7.5	191	6.5	165	14.1	31.0	11.8	26.0	DB G-1
3	75	9	229	4.18	106	1.37	35	5.5	140	9	229	8.06	205	26.8	59.0	25.9	57.0	DB M-1
4	100	10.81	275	5.18	132	1.5	38	8.37	213	12	305	-	-	58.1	128.0	-	-	DB P-1
6	150	13.12	333	7.12	181	2	51	10.87	276	15.5	394	-	-	115.8	255.0	-	-	Т-З
8	200	16.5	419	8.43	214	2.43	62	13.5	343	18	457	-	-	207.5	457.0	-	-	V-3



# IRON PLUG VALVE REGULAR PATTERN CLASS 200 CWP (Gear Operated)

#### **Regular Bill of Materials**

1BODYASTM A-126 CLASS B2GLANDASTM A-126 CLASS B3PLUGASTM A-126 CLASS B4GLAND SCREWASTM A 307 Gr. B5GLAND NUTASTM A 194 Gr. 2H6GASKETSTAINLESS STEEL + GRAPHITE7GREASE FITTINGCOMMERCIAL STEEL
<ul> <li>3 PLUG ASTM A-126 CLASS B</li> <li>4 GLAND SCREW ASTM A 307 Gr. B</li> <li>5 GLAND NUT ASTM A 194 Gr. 2H</li> <li>6 GASKET STAINLESS STEEL + GRAPHITE</li> </ul>
4GLAND SCREWASTM A 307 Gr. B5GLAND NUTASTM A 194 Gr. 2H6GASKETSTAINLESS STEEL + GRAPHITE
5     GLAND NUT     ASTM A 194 Gr. 2H       6     GASKET     STAINLESS STEEL + GRAPHITE
6 GASKET STAINLESS STEEL + GRAPHITE
7 GREASETTTTING COMMENCIAE STELE
8 BALANCE SPRING STAINLESS STEEL
9 O-RING NITRILE BUTADIENE RUBBER
10 SEALANT CHECK VALVE COMMERCIAL STEEL
11 PLUG CHECK VALVE COMMERCIAL STEEL
12 COVER SCREW ASTM A 307 GRADE B
13 COVER NUT ASTM A 194 Gr. 2H
14 COVER ASTM A-126 CLASE B
15 GEAR OPERATOR COMERCIAL STEEL
16 GEAR OPERATOR SUPPORT CARBON STEEL
17 GEAR OPERATOR BOLTING ASTM A 307 Gr. B
18 STEM EXTENSION ASTM A 322 GRADE 4140
19 COLLAR RETAINER CARBON STEEL





## **IRON PLUG VALVE REGULAR PATTERN CLASS 200 CWP** (Gear Operated)

#### **Design Features**

- Flat Face Flanged ends in accordance with ASME B16.1
  Design in accordance with MSS SP-78
- Test in accordance with API 598 & MSS SP 78

Figure no.	Operation	Type of ends
1707 F	Gear Operated	Flanged Flat Face





#### **Dimensions and Weights**

Nom	ninal			,			o End Isions	Approx Weight					
Si	ze					E	E	FLAT FACE					
		A	۱.	I	В		С			D		FACE	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Kg	lb
6	150	18.68	474	6.81	173	23	584	20	508	15.5	394	149.8	330.0
8	200	21	533	8.43	214	23	584	22	559	18	457	245.2	540.0
10	250	23.56	598	10	254	23	584	26	660	21	533	419.5	924.0
12	300	27.87	708	11.5	292	23	584	31	787	24	610	594.7	1310.0

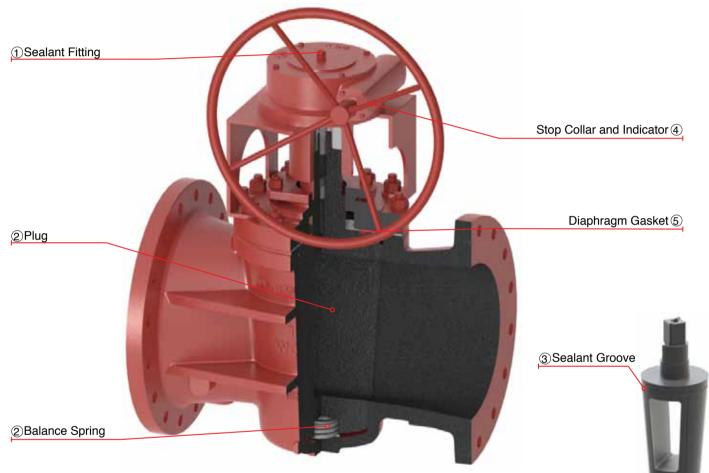


## IRON PLUG VALVE VENTURI PATTERN CLASS 175 CWP Regular Gland Type

#### **DESIGN FEATURES**

WALWORTH Regular Gland type Lubricated Venturi Plug Valves has a smaller port than the other two patterns. Is lower in cost, flow contours maximize hydraulic efficiency.

These Valves are all provided with separate retainers (cover plate) and adjusting glands; generally sizes 3" and smaller have four-bolt square retainers, while 4 inches and large sizes have round retainers. They all incorporate the Pressure Sealed Lubrication features.



#### **Design** Features

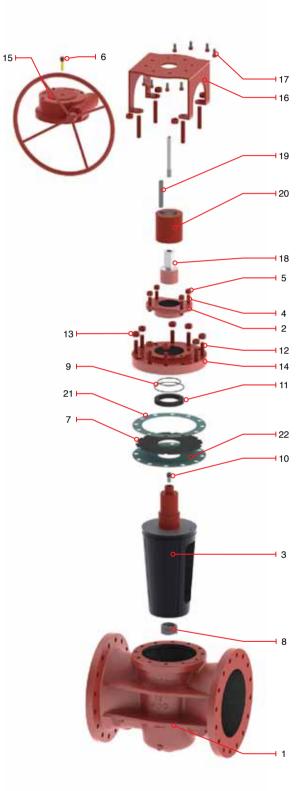
- (1) Sealant Fitting. Fast Sealant Injection that can be removed under pressure. The system includes Ball Check valves in order to prevent the back pressure and maintain the pressure in the sealant cavity.
- (2) **Balancing Spring.** the mechanical spring type grade SS-304 washer is under compression and holds the plug in an equalized pressure position, thus eliminating the possibility of plug taper lock.
- (3) Sealant Grooves. this system permits sealant injection while the valve is under full line pressure. WALWORTH recommends that the valves be lubricated with plug in the fully opened or fully closed position for optimum valve performance.
- (4) **Open/Closed Indicator.** quarter turn stop collar also functions as an indicator of the plug's position.
- (5) **Diaphragm Gasket.** ensures a complete sealing of the valve against leakage.
- (6) **Plug.** WALWORTH Plugs are designed with an specific coating material that reduces the coefficient of friction making the valve to operate with low torque.



# IRON PLUG VALVE VENTURI PATTERN CLASS 175 CWP (Gear Operated)

#### **Regular Bill of Materials**

No.	Description	Material
1	BODY	ASTM A-126 CLASS B
2	GLAND	ASTM A-126 CLASS B
3	PLUG	ASTM A-126 CLASS B
4	GLAND SCREW	ASTM A 307 Gr. B
5	GLAND NUT	ASTM A 194 Gr. 2H
6	GREASE FITTING	COMMERCIAL STEEL
7	DIAPHRAGM	ASTM A240 TIPO 304
8	BALANCE SPRING	STAINLESS STEEL
9	O-RING	NITRILE BUTADIENE RUBBER
10	SEALANT CHECK VALVE	COMMERCIAL STEEL
11	PACKING RETAINER	STEEL
12	COVER SCREW	ASTM A 307 GRADE B
13	COVER NUT	ASTM A 194 Gr. 2H
14	COVER	ASTM A-126 CLASE B
15	GEAR OPERATOR	COMERCIAL STEEL
16	GEAR OPERATOR SUPPORT	CARBON STEEL
17	GEAR OPERATOR BOLTING	ASTM A 307 Gr. B
18	STEM EXTENSION	ASTM A 322 GRADE 4140
19	KEY	ASTM A 108 GRADE 1020
20	BUSHING	ASTM A 322 GRADE 4140
21	COVER GASKET	BLUE GUARD
22	GASKET	BLUE GUARD

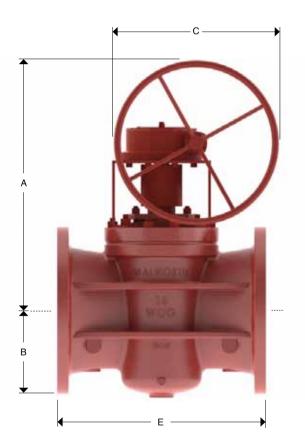




### IRON PLUG VALVE VENTURI PATTERN CLASS 175 CWP (Gear Operated)

- Design Features
- Flat Face Flanged ends in accordance with ASME B16.1
- Design in accordance with MSS SP-78
- Test in accordance with API 598 & MSS SP 78

Figure no.	Operation	Type of ends
1703	Gear Operated	FLANGED FLAT FACE





#### **Dimensions and Weights**

Nom	ninal				General D	imensions	3				o End Isions	Approx	Weight
SizeA			I	B C D				E FLAT FACE		FLAT FACE			
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Kg	lb
14	350	20.37	517	11.87	301	26	660	29	737	27	686	570.2	1256.0
16	400	21.62	549	13.37	340	26	660	32	812	30	762	660.6	1455.0
18	450	23.37	594	14.75	375	30	762	35	889	34	864	858.1	1890.0

D

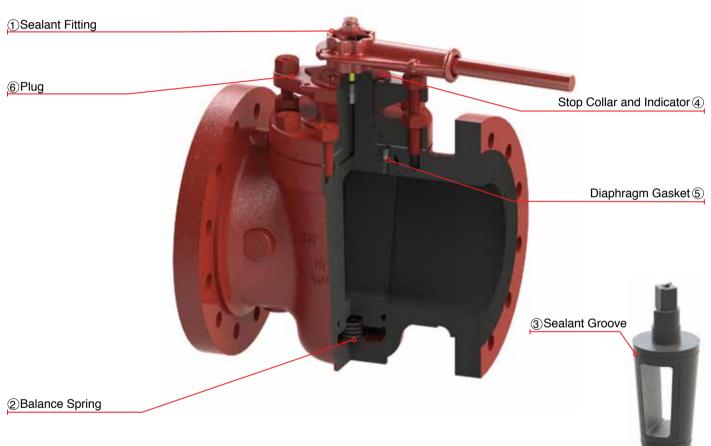


## IRON PLUG VALVE VENTURI PATTERN CLASS 500 CWP Regular Gland Type

#### **DESIGN FEATURES**

WALWORTH Regular Gland type Lubricated Plug Valves are designed to control plug adjustment tightening the gland, requesting only a very low maintenance in the field.

These Valves are all provided with separate retainers (cover plate) and adjusting glands; generally sizes 3" and smaller have four-bolt square retainers, while 4 inches and large sizes have round retainers. They all incorporate the Pressure Sealed Lubrication features.



#### **Design Features**

- (1) Sealant Fitting. Fast Sealant Injection that can be removed under pressure. The system includes Ball Check valves in order to prevent the back pressure and maintain the pressure in the sealant cavity.
- (2) **Balancing Spring.** the mechanical spring type grade SS-304 washer is under compression and holds the plug in an equalized pressure position, thus eliminating the possibility of plug taper lock.
- (3) Sealant Grooves. this system permits sealant injection while the valve is under full line pressure. WALWORTH recommends that the valves be lubricated with plug in the fully opened or fully closed position for optimum valve performance.
- (4) **Open/Closed Indicator.** quarter turn stop collar also functions as an indicator of the plug's position.
- (5) **Diaphragm Gasket.** ensures a complete sealing of the valve against leakage.
- (6) **Plug.** WALWORTH Plugs are designed with an specific coating material that reduces the coefficient of friction making the valve to operate with low torque.



# IRON PLUG VALVE VENTURI PATTERN CLASS 500 CWP (Lever Operated)

#### **Regular Bill of Materials**

1BODYASTM A-126 CLASS B2GLANDASTM A-126 CLASS B3PLUGASTM A-126 CLASS B	
3 PLUG ASTM A-126 CLASS B	
4 COLLAR RETAINER CARBON STEEL	
5 GLAND SCREW ASTM A 307 Gr. B	
6 GLAND NUT ASTM A 194 Gr. 2H	
7 GASKET STAINLESS STEEL + GRAPHITE	
8 WEATHER SEAL NITRILE BUTADIENE RUBBER	
9 GREASE FITTING COMMERCIAL STEEL	
10 RING RETAINER COMMERCIAL STEEL	
11 BALANCE SPRING STAINLESS STEEL	
12 O-RING NITRILE BUTADIENE RUBBER	
13 SEALANT CHECK VALVE COMMERCIAL STEEL	
14 PLUG CHECK VALVE COMMERCIAL STEEL	
15 COVER SCREW ASTM A 307 GRADE B	
16 COVER NUT ASTM A 194 Gr. 2H	
17 COVER ASTM A-126 CLASE B	
18 WRENCH GRAY IRON	
19 SET SCREW ALLOY STEEL	
20 WRENCH PIN ASTM A568	



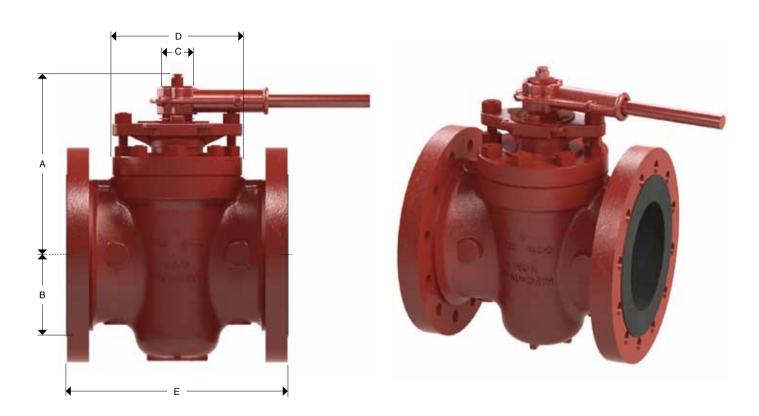


## **IRON PLUG VALVE VENTURI PATTERN CLASS 500 CWP** (Lever Operated)

#### **Design Features**

- Flat Face Flanged ends in accordance with ASME B16.1
  Design in accordance with MSS SP-78
- Test in accordance with API 598 & MSS SP 78

Figure no.	Operation	Type of ends
2721	Lever Operated	FLANGED FLAT FACE



#### **Dimensions and Weights**

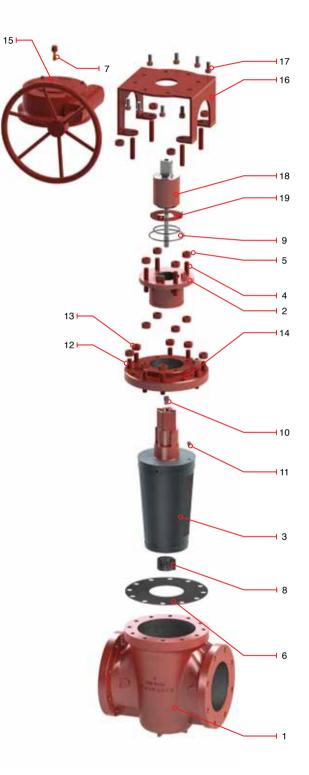
-	ninal ize		General Dimensions							End to Dimer			Weight	Wrench No.
			A B		3	C D			FLAT FACE		FLAT FACE		N N	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Kg	lb	
6	150	10.56	268	6.18	157	1.5	38	8.37	213	15.87	99.4	219.0	219.0	P-1
8	200	12.25	311	7.62	194	1.75	44	9.62	244	16.5	153.0	337.0	337.0	R-3



# IRON PLUG VALVE VENTURI PATTERN CLASS 500 CWP (Gear Operated)

#### **Regular Bill of Materials**

No.	Description	Material
1	BODY	ASTM A-126 CLASS B
2	GLAND	ASTM A-126 CLASS B
3	PLUG	ASTM A-126 CLASS B
4	GLAND SCREW	ASTM A 307 Gr. B
5	GLAND NUT	ASTM A 194 Gr. 2H
6	GASKET	STAINLESS STEEL + GRAPHITE
7	GREASE FITTING	COMMERCIAL STEEL
8	BALANCE SPRING	STAINLESS STEEL
9	O-RING	NITRILE BUTADIENE RUBBER
10	SEALANT CHECK VALVE	COMMERCIAL STEEL
11	PLUG CHECK VALVE	COMMERCIAL STEEL
12	COVER SCREW	ASTM A 307 GRADE B
13	COVER NUT	ASTM A 194 Gr. 2H
14	COVER	ASTM A-126 CLASE B
15	GEAR OPERATOR	COMERCIAL STEEL
16	GEAR OPERATOR SUPPORT	CARBON STEEL
17	GEAR OPERATOR BOLTING	ASTM A 307 Gr. B
18	STEM EXTENSION	ASTM A 322 GRADE 4140
19	COLLAR RETAINER	CARBON STEEL



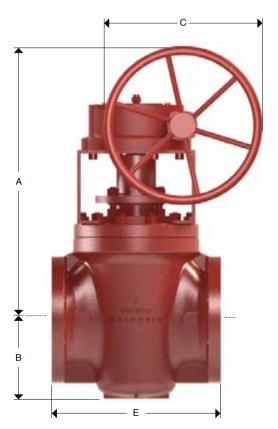


## **IRON PLUG VALVE VENTURI PATTERN CLASS 500 CWP** (Gear Operated)

#### **Design Features**

- Flat Face Flanged ends in accordance with ASME B16.1
  Design in accordance with MSS SP-78
- Test in accordance with API 598 & MSS SP 78

Figure no.	Operation	Type of ends
2723F	Gear Operated	FLANGED FLAT FACE





#### **Dimensions and Weights**

Nom	ninal	General Dimensions								General Dimensions				End to Dimer		Approx	Weight
Si	ze								E		FLAT FACE						
		Α		В		С		D		FLAT FACE							
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Kg	lb				
6	150	10.56	268	6.18	157	26	660	11	279	15.87	403	133.5	294.0				
8	200	12.25	311	7.62	194	26	660	13	330	16.5	419	190.7	420.0				



# TECHNICAL INFORMATION PLUG VALVES WRENCHES

#### TOP ENTRY IRON PLUG VALVES WRENCHES

WRENCH NUMBER	OPENING DIMENSION (B)	HANDLE LENGTH (A)	FOR USE WITH VALVES SIZE, CLASS OR FIGURE NUMBER
DB D – 4	13/16"	9"	1/2", 3/4" & 1" 1796 and 1" 1797F, 3/4" & 1 1/4" 1966 *
DB E – 1	29/32"	9"	1 1/4", 1 1/2" 1796 & 1797F
DB G – 1	1 1/16"	9"	2" 1796, 2" 1797F, 2" 1700, 2" 1700F, 2 1/2" 1796, 2 1/2" 1797F
DB M – 1	1 3/8"	15"	3" 1700, 1700F, 1796, & 1797F
DB P – 1	1 1/2"	17"	4" 1796 & 1797F, 4" 1700F
R – 3	1 3/4"	36"	8" 1718F & 2721F
T-3	2 1/16"	36"	6" 1700F, 10" 1718F
V – 3	2 7/16"	48"	12" 1718F
P-1	1 1/2"	17"	6" Fig. 1718 Fig. 2721
DB P – 1.1	1 1/2"	17"	5" Fig. 1797



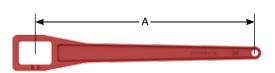


#### 2" SQUARE OPERATING NUTS USED IN TOP ENTRY IRON PLUG VALVES

OPERATING No.         VALVE SIZE         FOR USE WITH VALVES SIZE, CLASS OR FIGURE NUMBER           DB LN-1         1/2", 3/4", 1"         1/2", 3/4" & 1 "1796 and 1" 1797F, 3/4" & 1 1/4" 1966 *           DB LN-2         1 1/4", 1 1/2"         1 1/4", 1 1/2" 1796 & 1797F           DB LN-3         2", 2.5"         2" 1796, 2" 1797F, 2.5" 1796F & 1797F           DB LN-5         3"         3" 1700, 1700F, 1796, & 1797F           DB LN-6         4"         4" 1796 & 1797F, 4" 1700F           DB LN-6.1         5"         5" 1797F           LN-7         8"         8" 1718F, 2721F, 2723 & 1727           LN-6         6"         6" 1718F, 2721F, 2723 & 1727			
DB LN-1         1/2", 3/4", 1"         1" 1797F, 3/4" & 1 1/4" 1966 *           DB LN-2         1 1/4", 1 1/2"         1 1/4", 1 1/2" 1796 & 1797F           DB LN-3         2", 2.5"         2" 1796, 2" 1797F, 2.5" 1796F & 1797F           DB LN-5         3"         3" 1700, 1700F, 1796, & 1797F           DB LN-6         4"         4" 1796 & 1797F, 4" 1700F           DB LN-6.1         5"         5" 1797F           LN-7         8"         8" 1718F, 2721F, 2723 & 1727			
DB LN-3         2", 2.5"         2" 1796, 2" 1797F, 2.5" 1796F & 1797F           DB LN-5         3"         3" 1700, 1700F, 1796, & 1797F           DB LN-6         4"         4" 1796 & 1797F, 4" 1700F           DB LN-6.1         5"         5" 1797F           LN-7         8"         8" 1718F, 2721F, 2723 & 1727	DB LN-1	1/2", 3/4", 1"	
DB LN-3         2", 2.5"         2.5" 1796F & 1797F           DB LN-5         3"         3" 1700, 1700F, 1796, & 1797F           DB LN-6         4"         4" 1796 & 1797F, 4" 1700F           DB LN-6.1         5"         5" 1797F           LN-7         8"         8" 1718F, 2721F, 2723 & 1727	DB LN-2	1 1/4", 1 1/2"	1 1/4", 1 1/2" 1796 & 1797F
DB LN-6         4"         4" 1796 & 1797F, 4" 1700F           DB LN-6.1         5"         5" 1797F           LN-7         8"         8" 1718F, 2721F, 2723 & 1727	DB LN-3	2", 2.5"	
DB LN-6.1         5"         5" 1797F           LN-7         8"         8" 1718F, 2721F, 2723 & 1727	DB LN-5	3"	3" 1700, 1700F, 1796, & 1797F
LN-7 8" 8" 1718F, 2721F, 2723 & 1727	DB LN-6	4"	4" 1796 & 1797F, 4" 1700F
	DB LN-6.1	5"	5" 1797F
LN-6 6" 6" 1718F, 2721F, 2723 & 1727	LN-7	8"	8" 1718F, 2721F, 2723 & 1727
	LN-6	6"	6" 1718F, 2721F, 2723 & 1727

#### CORRESPONDING OPERATING NUT AND RECTANGLE OPENING SIZE

OPERATING NUT	OPENING DIMENSIONS (B)
ON.1 DB LN - 1	Ø 1.250" x .907"
ON.2 DB LN - 2	Ø 1.5" x 1.000"
ON.3 DB LN - 3	Ø 1.6" x 1.120"
ON.4 DB LN - 5	Ø 2.00" x 1.356"
ON.7 DB LN - 6	Ø 2.2" x 1.375"
ON.8 DB LN - 6.1	Ø 2.4" x 1.750"
ON.9 LN - 6	Ø 1.532" square
ON.10 LN - 7	Ø 1.760" square





# TECHNICAL INFORMATION WALSEAL PLUG VALVES SEALANT

# FUNCTION AND PROPERTIES OF WALSEAL SEALANTS

To assure thoroughly satisfactory service, WALWORTH Walseal Sealants should always be used with WALWORTH Plug Valves.

Function: The sealant minimizes friction during operation of the valve and protects seating surfaces from corrosion. Because the ports of valves are completely encircled with sealant grooves, leakage is prevented by the Walseal sealant.

Properties: Walseal sealants have the necessary properties to serve a variety of purposes.

- 1. Have lubricating value to allow the valve to turn easily.
- Have sufficient body to resist dilution by line fluids and still assure tight sealing.
- 3. Are chemically inert in the fluids for which they are specified and have the ability to adhere to the metal of the finished seating surfaces to protect from corrosion.
- 4. Remains in a plastic state over a wide range of temperature conditions to act as a hydraulic medium, and provide for lubrication and corrosion protection.
- 5. Contain a minimum of Ingredients that might solidify from temperature or chemical reactions and clog the groove system.

# SELECTION AND MAINTENANCE OF WALSEAL SEALANT

#### How to select a sealant:

1. Line Contents - Select a sealant recommended for the particular service requirements.

- 2. Color.- Where discoloration of the line contents must be guarded against, select a white sealant If available. In special cases consult a WALWORTH representative.
- 3. Contamination Sealant for use with foodstuffs or pharmaceuticals must be non-toxic, taste and color-free and chemically inert.
- 4. Temperature As a general rule, choose the sealant with the lowest maximum temperature rating. Such a sealant will usually have greater lubricating value at normal temperatures than one with a higher limit. This is important as it affects the ease of operation of the valve.
- 5. Compromise If a sealant is required for a mixed service condition, a good practical rule is to select the sealant recommended to the predominating part of the pipe-line contents.
- 6. Nitrating Acids It is dangerous to use certain sealants on nitrating acids. Please contact your WALWORTH representative for this application.

#### Proper sealant maintenance:

The amount of maintenance required depends upon the frequency of operation of the valve.

Regular maintenance: Preserves the seating surfaces and prevents leakage. Definite periodic service gives the best results. Any valve not regularly operated should be serviced at least every six months.

#### **Ordering Information:**

- 1. State whether jumbo, stick or bulk sealant is desired.
- 2. For bulk sealant give Walseal number and container size.

STICK	STICK SIZE	AVAILABLE IN WALSEAL NO.
B (24/box)	318' X 1 1/2' (Box approx. 1.2 lb.)	10, 20, 40 and 60
C (24/box)	7/16' X 2 1/8' (Box approx. 1.2 lb.)	10, 20, 40 and 60
D (24/box)	1/2' X 2 1/4' (Box approx. 1.2 lb.)	10, 20, 40 and 60
G (24/box)	518' X 3 1/2' (Box approx. 1.2 lb.)	10, 20, 40 and 60
CARTRIDGE - (Box of 4 - 1 lb. ea	All TYPES	
BULK		
J-Jumbo Jr. (6)	1 3/8' X 8 1/2' (Box approx. 3.2 lb.)	10, 20, 40 and 60
K-Jumbo (12)	1 1/2' X 10 1/2' (Box approx. 9.2 lb.)	10, 20,40 and 60
Gun Pack (Box-6 GP)		
10 pound (5 quart can)	AII TYPES	
40 pound (5 gallon can)	AILTTPES	
400 pound (55 gallon drum)		



# TECHNICAL INFORMATION WALSEAL PLUG VALVES SEALANT

#### WALSEAL #10

Temperature range from -20F to 500F Stick / -40F to 500F Bulk

#### Dark Gray

Service: General purpose sealant intended for use in natural gas and liquid petroleum services including crude distillates, combustible fuels such as gasoline, jet fuel. and heating oils. Used as assembly sealant in all WALWORTH plug valves unless otherwise specified.

Not intended for use in: Solvents (aromatic). strong acids and alkalies. and steam.

#### WALSEAL #20

Temperature range from OF to 650F Bulk / 30F to 690F Stick

Color red

Service: High temperature general purpose sealant for use in acids, alkalies, alcohols, amines, asphalt, aqueous solutions, fats, glycerine glycols, soap, steam, and water service having continuous exposure to temperatures above 400F.

Not intended for use in: Aromatic solvent light liquid hydrocarbons. nitrating acids.

#### WALSEAL #40

Temperature range from 1 OF to 350F Stick / -10F to 350F Bulk

Color light brown

Service: Specifically formulated for resistance to all octane gasolines, aviation and jet fuels, kerosene, fuel blending ingredients. and water. Approved for government use per MIL-G-6032.

Not intended for use in: Strong acids and alkalies.

#### WALSEAL #50

Temperature range from -50F to 300F

Color beige

Service: Low temperature general purpose sealant for use in services similar to Walseal #10. Recommended for continuous exposure to temperatures below 0°F.

Not intended for use in: Solvents (aromatic and chlorinated), strong acids and alkalies.

#### WALSEAL #60

Temperature range from 1 OF to 350F Stick / 0F to 300F Bulk Service: Suitable for water, acids, alkalies, alcohols, and amines. May be used in food or pharmaceutical applications if approved by user. Certified by the National Sanitary Foundation.

Not intended for use in: Hydrocarbon solvents.

Continued use of any sealant at either the low or high temperature limit is not recommended.

For more information concerning these sealants or recommendations for a particular service contact your WALWORTH representative.

### WALWORTH VALVE FLUSH

For hard-to-operate valves

-20°F to 400°F

(-28°C) (204°C) BLACK

VALVE FLUSH is not a sealant; however, it is compatible with any lubricant or sealant. It contains molybdenum disulfide for added lubricity. VALVE FLUSH may be applied with conventional lubricating equipment.

VALVE FLUSH will work through any fitting that is not completely plugged. In other words, if VALVE FLUSH cannot be injected past the fitting, it will not free the valve. If the fitting is plugged, then it is recommended that fitting be removed and replaced with the appropriate WALWORTH fitting.

WALWORTH "VALVE FLUSH" JUMBO, JR. BAG 6/BX WALWORTH "VALVE FLUSH" JUMBO, BAG 6/BX WALWORTH "VALVE FLUSH" 1 CARTRIDGE 12/CTN WALWORTH "VALVE FLUSH" 10LB. (5QT.) CAN. WALWORTH "VALVE FLUSH" 20 LB. (3GAL.) PAIL WALWORTH "VALVE FLUSH" 40 LB. (6GAL.) PAIL



# **TECHNICAL INFORMATION LUBRICANT** ACCESORIES

## 1002 WALSEAL HYDRAULIC DELTA STICK SEALANT GUN, FOR USE WITH "K" SIZED SEALANT.

#### **1699 HIGH PRESSURE LUBRICANT GUN**

#### 1699 G HIGH PRESSURE LUBRICANT GUN WITH GAUGE

Where a number of valves are installed under the same, or related, service conditions it is advantageous to lubricate them with a **WALWORTH High Pressure Lubricant Gun.** 

The WALWORTH High Pressure Lubricant Gun is the only portable gun that can handle lull-bodied valve lubricants in stick form.

The gun is self-priming and may be used in any position. The pump handle is detachable and has a hole drilled near one end.

By detaching the handle and placing the hole over the protruding button on the charging cap, the cap can readily be removed and replaced.

The handle is also used as a pusher for returning the piston to the bottom of the cylinder for the purpose of charging the gun.

To charge the gun the by-pass is opened and the piston pushed down as far as it will go. The by-pass valve is then closed and two sticks of WALWORTH Jumbo Size Lubricant inserted. Then the charging cap is replaced, using the pump handle and protruding button on the cap to tighten it, and the gun is ready for use. The lever handle is then pumped until sealant appears at the end of the hose.

During operation of the gun, should the pressure created lock the coupling to the button-head filling, the pressure can be relieved and the coupling disconnected by opening the bypass valve. Relief fittings are provided on the hose and within the gun to prevent valve damage should the lubricating system be clogged, or prevent damage to the gun itself in the event it is operated when empty.

#### **HIGH PRESSURE GAUGE**

For use with Sealant hand guns and pumps. An essential accessory to indicate when sufficient Sealant pressure has been developed.

Gauge needle pulsation goes up by steps until valve is completely filled with Sealant. When Sealant pressure reaches a certain point, the gauge needle begins to drop showing that the valve is lull. Gauge also indicates valve adjustment and other service required.





# TECHNICAL INFORMATION WALWORTH LUBRICANT FITTINGS

Most types of WALWORTH Lubricated Plug Valves are regularly provided with the WALWORTH Lubricant Fitting illustrated. It is a Giant Button-Head Fitting to which the lubricant gun may be coupled easily for a leakproof connection. These fittings may also be used as regular lubricant screws with standard size lubricant sticks. One size of Button-Head Fitting is used for all Compensator Plug Valves. The Button-Head figure number for other WALWORTH Plug Valves is the same as the "Sealant Stick Size" listed on the catalog page for each valve type and size.







WALWORTH BUTTON-HEAD LUBRICANT FITTINGS	LUBRICANT FITTING SIZE	WALWORTH LUBRICANT FITTING NUMBER
For Standard Compensators	1⁄4"	BH1
For NACE MR0-01-75 Compensators	1⁄4"	BH1-N
For valves with Sealant Stick Size: B	1⁄4"	BH2
C		BH3
D	1⁄2	BH4
G	3⁄4	BH5

DOUBLE BALL CHECK VALVE ASSEMBLIES				
No.	Valve Size			
В	½ to 2"			
С	2½ to 3"			
D	4 & 5"			
G	6" & up			



# **TECHNICAL INFORMATION PRESSURE** AND TEMPERATURE RAITINGS

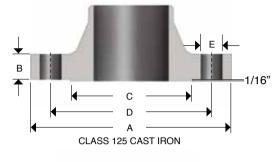
	CAST IRON PLUG VALVES ASTM A-126 CLASS B					
FLUID TEMPERATURE °F	175 CWP	200 CWP	500 CWP			
-20 to 150	175	200	500			
200	165	190	460			
225	155	180	440			
250	150	175	415			
275	-	170	395			
300	-	165	375			
325	-	155	355			
350	-	150	335			
375	-	145	315			
400	-	140	290			
425	-	130	270			
450	-	125	250			
TEST PRESSURES PSI, MIN.						
HYDROSTATIC SHELL TEST	350	400	1000			
SEAT (CLOSURE) TEST	275	300	750			

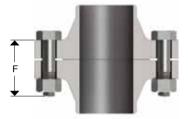
Maximum allowable working pressures, derived from API 599, API 6D, ANSI B16.34 and/or MSS SP-78 are shown. For intermediate temperatures, linear interpolation may be used. Ratings for threaded valves smaller than 1" and for 175 CWP valves are manufacturer's. Application of ratings is subject to the temperature limitations of the sealants used. Applicable Codes and Standards should be consulted for restriccions on pressure, temperature and usage of the valves. Further reference should be made to individual descripton pages for additional comments or restrictions.



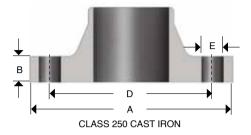
## **TECHNICAL INFORMATION FLANGE DIMENSIONS AND TEMPLATES**

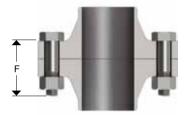
**CAST IRON FLANGE DIMENSIONS AND DRILLING TEMPLATES ANSI B 16.1** 





LENGHT OF MACHINE BOLT





LENGHT OF MACHINE BOLT

#### **CLASS 125**

NOMINAL	FLANGES		DRILLING		BOLTING		LENGHT OF
PIPE SIZE	FLANGE DIAMETER A	FLANGE THIKNESS MIN B	DIAMETER OF VOLT CIRCLE D	DIAMETER OF BOLT HOLES E	NUMBER OF BOLTS	DIAMETER OF BOLTS	MACHINE BOLTS F
1	4 1/4	7/16	3 1/8	5/8	4	1/2	1 3/4
1 1/4	4 5/8	1/2	3 1/2	5/8	4	1/2	2
1 1/2	5	9/16	3 7/8	5/8	4	1/2	2
2	6	5/8	4 3/4	3/4	4	5/8	2 1/4
2 1/2	7	3/4	5 1/2	3/4	4	5/8	2 1/2
3	7 1/2	15/16	6	3/4	4	5/8	2 1/2
4	9	15/16	7 1/2	3/4	8	5/8	3
5	10	15/16	8 1/2	7/8	8	3/4	3
6	11	1	9 1/2	7/8	8	3/4	3 1/4
8	13 1/2	1 1/8	11 3/4	7/8	8	3/4	3 1/2
10	16	1 3/16	14 3/4	1	12	7/8	3 3/4
12	19	1 1/4	17	1	12	7/8	3 3/4

Bolt lengths are for flanges of thickness shown herein. Bolt lengths should be checked for the thicker flanges shown in some individual valve description pages. When flanges integral with valves or fittings, the bolt holes, which are in multiples of four, are drilled to straddle the center lines unless otherwise ordered. Class 125 cast iron flanges have plain faces.

#### **CLASS 250**

NOMINAL	FLANGE THICKNESS			DRILLING		BOLTING		LENGHT OF
PIPE SIZE	FLANGE DIAMETER A	FLANGE THIKNESS MIN B	DIAMETER OF RAISED FACE C	DIAMETER OF VOLT CIRCLE D	DIAMETER OF BOLT HOLES E	NUMBER OF BOLTS	DIAMETER OF BOLTS	MACHINE BOLTS F
1	4 7/8	1 1/16	2 11/15	3 1/2	3/4	4	5/8	2 1/2
2	6 1/2	7/8	4 3/16	5	3/4	8	5/8	2 3/4
3	8 1/4	1 1/8	5 11/16	6 5/8	7/8	8	3/4	3 1/2
4	10	1 1/4	6 15/16	7 7/8	7/8	8	3	3 3/4

The 1/16-inch raised face on the Class 250 cast iron flanges is included in the dimension B for thickness of flange.

Bolt lengths are for flanges of thickness shown herein. Bolt lengths should be checked for the thicker flanges shown in some individual valve description pages.



# **DESIGN BASIS**

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

API Standards	American Petroleum Institue					
	• API-598	Valve inspection and testing.				
	• API-599	Metal Plug Valves - Flanged, Threaded and Welding.				
ANSI Standards	National Standards Institute					
	• B16.1	Cast Iron Pipe Flanged and Flanged Fittings				
	• B16.10	Length of ferrous flanged and welding end valves				
	• B1.20.1	Pipe Threads, General Purpose.				
	• B16.34	Valves -Flad, Threaded and Welding End.				
ASTM Standards	American Society for	or Testing and Materials				
	• ASTM A126	Gray Iron Castings For valves, flanges and pipe fittings.				
	• ASTM A193	Alloy-Steel and Stainless Steel Bolting Materials for High-Temperature Service				
	<ul> <li>ASTM A194</li> </ul>	Carbon and Alloy Steel nuts for bolts for High-Pressure and High-Temperature Service				
	• ASTM A216	Steel Castings, Carbon, suitable for Fusion Welding for High-Temperature Service				
	• ASTM A276	Stainles and Heat-Resisting Steel Bars and Shapes				
		•				
	• ASTM A307	Carbon Stell bolts and studs, 60,000 psi Tensile				
	<ul> <li>ASTM A320</li> </ul>	Alloys - Steel bolting materials for Low-Temperature Service.				
	• ASTM A352	Steel Castings, Ferritic and Martensitic, for Pressure-Containing Parts. Suitable for Low-Temperature Service.				
	<ul> <li>ASTM A487</li> </ul>	Steel Castings Suitable for Pressure Service				
	• ASTM A515	Pressure Vessel Plates, Carbon Steel, for intermediate and High-Temperature Service.				
MSS Standards	Manufacturers Standarization Society					
		Standard Finishes for Contact Faces of Pipe Flanges and Connecting-end Flanges of Valves and				
	<ul> <li>MSS SP-6</li> </ul>	Fittings.				
	<ul> <li>MSS SP-9</li> </ul>	Spot Facing Bronze, Iron and Steel Flanges				
	<ul> <li>MSS SP-25</li> </ul>	Standard Marking System for Valves, Fittings, Flanges and Unions.				
	<ul> <li>MSS SP-44</li> </ul>	Steel Pipe Line Flanges				
	<ul> <li>MSS SP-55</li> </ul>	Visual Method				
	<ul> <li>MSS SP-61</li> </ul>	Pressure Testing of Steel Valves				
	<ul> <li>MSS SP-78</li> </ul>	Cast Iron Plug Valves, Flanged and Threaded Ends				
NACE Standards	National Associatio	n of Corrosion Engineers				
		Standard material requirements sulfide stress cracking resistant metallic materials for oilfield equipment				
ASME Codes	American Society o	f Mechanical Engineers				
	<ul> <li>ANSI/ASME B31.</li> </ul>	1 Power Piping				
	ANSI/ASME B31.3	2 Fuel Gas Piping				
	ANSI/ASME B31.3	3 Process Piping				
	ANSI/ASME B31.4	4 Liquid Transportation Systems for Hydrocarbons				
	ANSI/ASME B31.3	8 Gas Transmission and Distribution Piping Systems				
	ANSI/ASME B31.					
Boiler and Presure	Vessel Code:					
		Material Specifications - Part A, B and C				
	Section II					
	Section V	Non-Destructive Examination.				
	Section VIII	Rules for construction of Pressure vessels, divisions 1 and 2				
	<ul> <li>Section IX</li> </ul>	Welding and Brazing Qualifications				



# **HOW TO ORDER**

SIZE (INCH)	DESCRIPTION BY FIGURE NUMBER	BASE MATERIAL	SUPPLEMENTARY REQUIREMENTS
1/2"	1796= SINGLE GLAND TYPE; CWP 200, SHORT PATTERN, WRENCH	CAST IRON ASTM A126 GRADE B	BS= Bare stem prepared for actuator.
3/4"	OPERATED, THREADED ENDS.		MOV= Motor operated valve.
1"	1797F= SINGLE GLAND TYPE; CWP 200, SHORT PATTERN, WRENCH		POV= Pneumatic operated valve.
1 1/4"	OPERATED, FLANGED RF ENDS.		LD= Locking device.
1 1/2"	1718F= REGULAR GLAND TYPE; CWP		SP= Special Paint.
2"	200, SHORT PATTERN, WRENCH OPERATED, FLANGED RF ENDS.		SPK= Special packing.
2 1/2"	1727F= REGULAR GLAND TYPE; CWP 200, SHORT PATTERN, WORM GEAR OPERATED, FLANGED RF ENDS.		XX= Additional requirements.
4"	1700= REGULAR GLAND TYPE; CWP		
5"	200, REGULAR PATTERN, WRENCH OPERATED, THREADED ENDS.		
6"	1700F= REGULAR GLAND TYPE; CWP		
8"	200, REGULAR PATTERN, WORM GEAR OPERATED, FLANGED RF ENDS.		
10"	1703F= REGULAR GLAND TYPE; CWP		
12"	175, VENTURI PATTERN, WORM GEAR OPERATED, FLANGED RF ENDS.		
14"	1707F= REGULAR GLAND TYPE; CWP	10"- 1796 - X	
16"	200, VENTURI PATTERN, WORM GEAR OPERATED, FLANGED RF ENDS.		SUPPLEMENTARY REQUIREMENTS.
18"	2721F= CWP 500, VENTURI PATTERN,		GLAND TYPE, PRESSURE CLASS,
	WRENCH OPERATED, FLANGED RF ENDS.		PATTERN STYLE, TYPE OF ENDS & PRESSURE CLASS.
	2723F= CWP 500, VENTURI PATTERN, WORM GEAR OPERATED, FLANGED RF ENDS.		SIZE OF THE VALVE IN INCHES



### **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) topped by the order which shall be lower than the price(s) specified in the order.

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

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

DIFFERED SHIPMENTS: If for any reason the customer desires to delay shipments more than 30 days after manufacturing is complete, or to place a on 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 bellow.

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

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

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

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

- 15% after drawing approval, but prior to the start of castings.

- 30% to 50% during casting cycle, depending on the state of completion.

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

-100% after final assembly and 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 1 1/2 % per month on such indebtedness.

DELIVERIES: Shipments and deliveries shall at all times be subject to the approval of Seller's Credit Department. If the Buyer shall fail to make any

payments according to the terms of the contract, Seller may, in addition to and not in limitation of its other rights and remedies, at its option, cancel all or any part of Buyer's incomplete contracts with Seller, or may defer shipments of deliveries under Buyer's contracts with Seller except upon receipt of satisfactory security or for cash shipment.

All 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 the 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 manufacturer and the estimated schedule of shipment will commence with the date of such receipt.

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

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

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

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

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

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

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

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







#### www.walworth.com

MÉXICO

Industrial de Válvulas, S.A. de C.V. Industria Lote 16 Sin Número, Fracc. Industrial El Trébol De Tepotzotlán, Tepotzotlán Estado de México C.P. 54610 Phone: (52 55) 5899 1700 Fax: (52 55) 5876 0156 I e-mail: info@walworth.com.mx

**USA/CAN AUTHORIZED DISTRIBUTOR** 

TWC The Valve Company 13641 Dublin Court, Stafford, Texas 77477 I Phone: (281) 566 1200 Fax: (281) 566 1299 I www.twcvalves.com I e-mail: info@twcousa.com



Scan me with your smartphone to get more info about WALWORTH valves



**IRON PLUG VALVES | 2016 EDITION | VERSION 1**