CLOW AWWA Resilient Wedge Gate Valves Meet or Exceed the Requirements of AWWA Standard C509

Size Range	Water Working Pressure psi	Bubble Tight Test psi	Hydrostatic Shell Test psi
AWWA 2"–12"	250	250	500
ULFM 2½"–12"	200	200	400

Available in either non-rising stem, outside screw & yoke.

Available End Connections & Size Range		Figure No.
FLG End (NRS)	2"–12"	F-6102
M.J.	2"–12" (except 2½")	F-6100
FLG & M.J.	3"–12"	F-6106
Push-on for PVC (SDR)	2"–12"	F-6110
FLG End (OS & Y)	2"–12"	F-6136
M.J. for Tapping	3"–12"	F-6114
Tyton for D.I. & C900 PVC	4"–12"	F-6112
M.J. Cutting-in	4"–12"	F-6111
Tyton for D.I. X FLG	4"–12"	F-6113
Threaded	2"–3"	F-6103

Accessories (Illustrated in the Gate Valve Section)

Indicator Posts
"T" Handles
Stem Guides
Electric Motor Actuators
2" Sq. Operating Nuts
Handwheels
Extension Stems
Floor Boxes
Chain Wheels

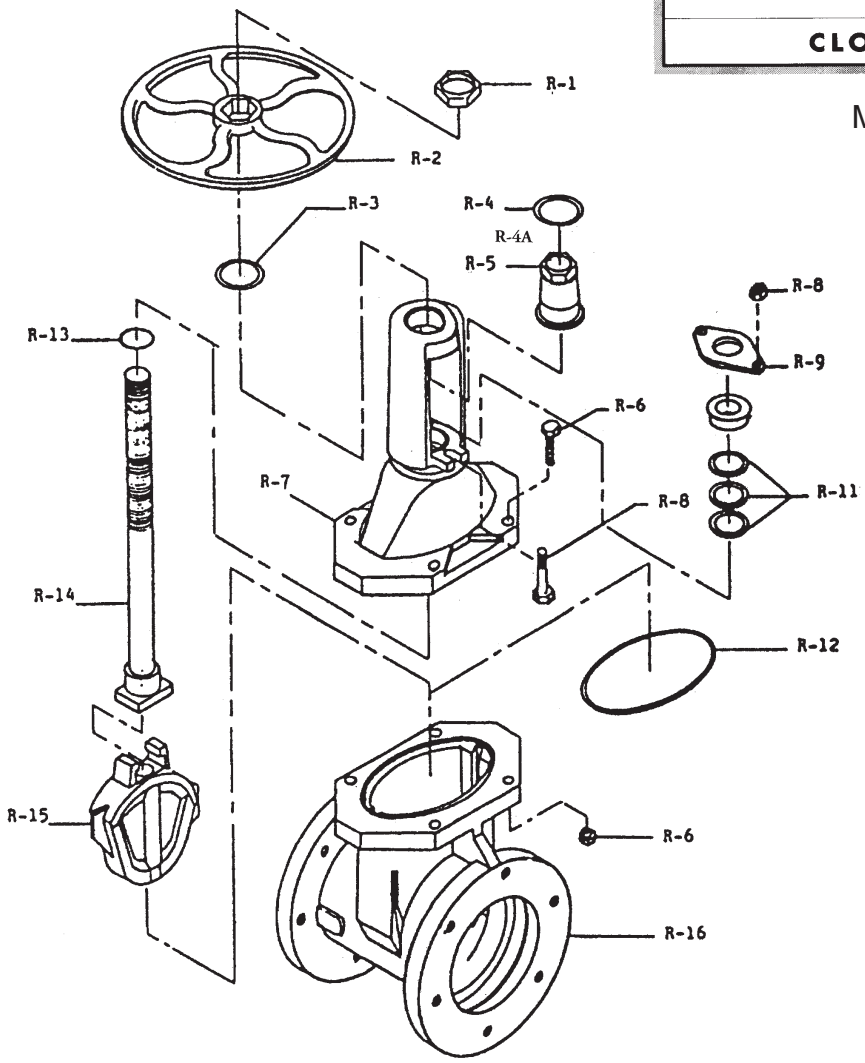
Floorstands (non-rising stem)

MODEL	2639	AWWA	C509	FULL BODY DUCTILE IRON
MODEL	2640	AWWA	C509	FULL BODY GRAY IRON

2½"-12" R/W GATE VALVE OS&Y ASSEMBLY-EXPLOSION

CLOW VALVE COMPANY

MODEL 2639 & 2640



ITEM NO.	QTY.	DESCRIPTION 2639	MATERIAL
R-1	1	HANDWHEEL HOLD DOWN NUT	Copper Alloy
R-2	1	HANDWHEEL	CAST IRON
R-3	1	UPPER THRUST WASHER (SIZES 3" THRU 12")	Copper Alloy
R-4	1	LOWER THRUST WASHER	
R-4A	1	LOWER THRUST WASHER	DELRIN
R-5	1	STEM TOP NUT	Copper Alloy
R-6	4	COVER BOLTS & NUTS (SIZES 2.5" THRU 6")	304 Stainless Steel
R-6	8	COVER BOLTS & NUTS (SIZES 8" THRU 12")	304 Stainless Steel
R-7	1	COVER	DUCTILE IRON
R-8	2	PACKING BOLTS	304 Stainless Steel
R-8	2	PACKING BOLT NUTS	Copper Alloy
R-9	1	GLAND FOLLOWER	CAST IRON
R-11	1	PACKING	SQ. BRAIDED POLYMER
R-12	1	COVER O-RING	RUBBER
R-13	1	STEM O-RING	RUBBER
R-14	1	STEM & STEM NUT	Copper Alloy
R-15	1	WEDGE	CAST IRON & RUBBER
R-16	1	BODY	DUCTILE IRON

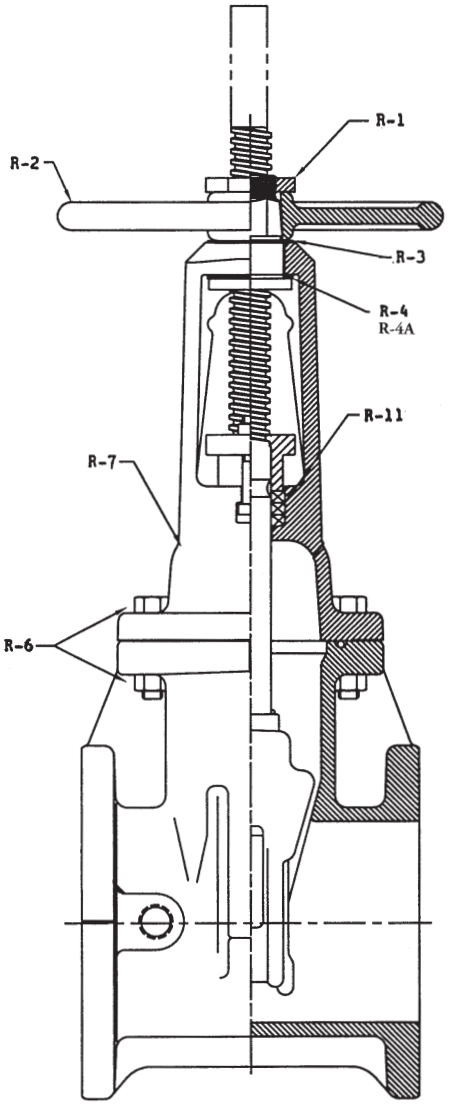
ITEM NO.	QTY.	DESCRIPTION 2640	MATERIAL
R-1	1	HANDWHEEL HOLD DOWN NUT	Copper Alloy
R-2	1	HANDWHEEL	CAST IRON
R-3	1	UPPER THRUST WASHER (SIZES 3" THRU 12")	Copper Alloy
R-4	1	LOWER THRUST WASHER	
R-4A	1	LOWER THRUST WASHER	DELRIN
R-5	1	STEM TOP NUT	Copper Alloy
R-6	4	COVER BOLTS & NUTS (SIZES 2.5" THRU 6")	304 Stainless Steel
R-6	8	COVER BOLTS & NUTS (SIZES 8" THRU 12")	304 Stainless Steel
R-7	1	COVER	CAST IRON
R-8	2	PACKING BOLTS	304 Stainless Steel
R-8	2	PACKING BOLT NUTS	Copper Alloy
R-9	1	GLAND FOLLOWER	CAST IRON
R-11	1	PACKING	SQ. BRAIDED POLYMER
R-12	1	COVER O-RING	RUBBER
R-13	1	STEM O-RING	RUBBER
R-14	1	STEM & STEM NUT	Copper Alloy
R-15	1	WEDGE	CAST IRON & RUBBER
R-16	1	BODY	CAST IRON

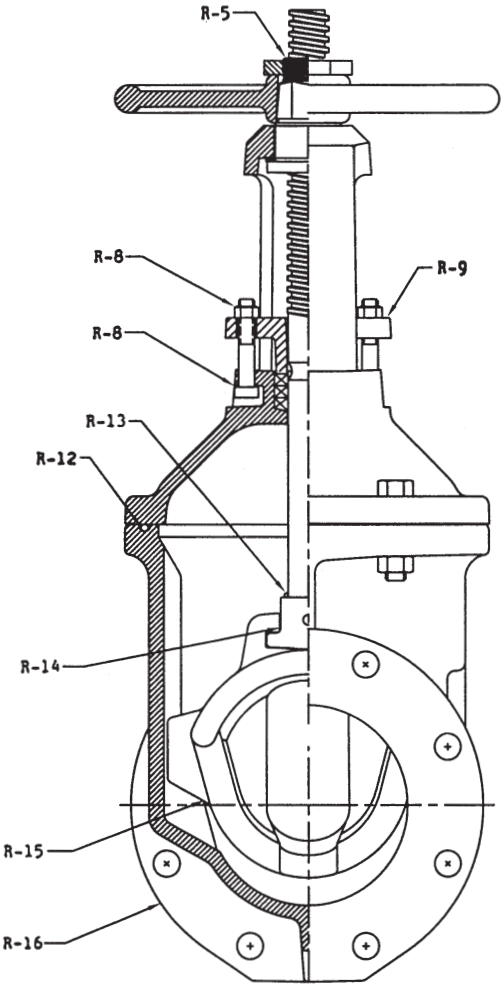
Complies with applicable requirements of AWWA C509

2"-12" R/W OS&Y VALVE MATERIAL LIST

CLOW VALVE COMPANY

MODEL 2639 & 2640





DET.	NAME OF PART	MATERIAL 2640	MATERIAL 2639
R-1	HANDWHEEL NUT	Copper Alloy	Copper Alloy
R-2	HANDWHEEL	CAST IRON	CAST IRON
R-3	UPPER THRUST WASHER	Copper Alloy	Copper Alloy
R-4	LOWER THRUST WASHER	Copper Alloy	Copper Alloy
R-4A	LOWER THRUST WASHER	DELRIN	DELRIN
R-5	TOP NUT	Copper Alloy	Copper Alloy
R-6	HEX, HEAD COVER BOLTS & NUTS	304 Stainless Steel	304 Stainless Steel
R-7	COVER	CAST IRON	DUCTILE IRON
R-8	PACKING BOLTS	304 Stainless Steel	304 Stainless Steel
R-8	PACKING BOLT NUTS	Copper Alloy	Copper Alloy
R-9	GLAND FLANGE	CAST IRON	CAST IRON
R-11	PACKING	SQ. BRAIDED NON-ASBESTOS	SQ. BRAIDED NON-ASBESTOS
R-12	COVER O-RING	RUBBER	RUBBER
R-13	STEM O-RING	RUBBER	RUBBER
R-14	STEM & STEM NUT	Copper Alloy	Copper Alloy
R-15	WEDGE	CAST IRON/RUBBER	CAST IRON/RUBBER
R-16	BODY (ALL TYPES)	CAST IRON	DUCTILE IRON

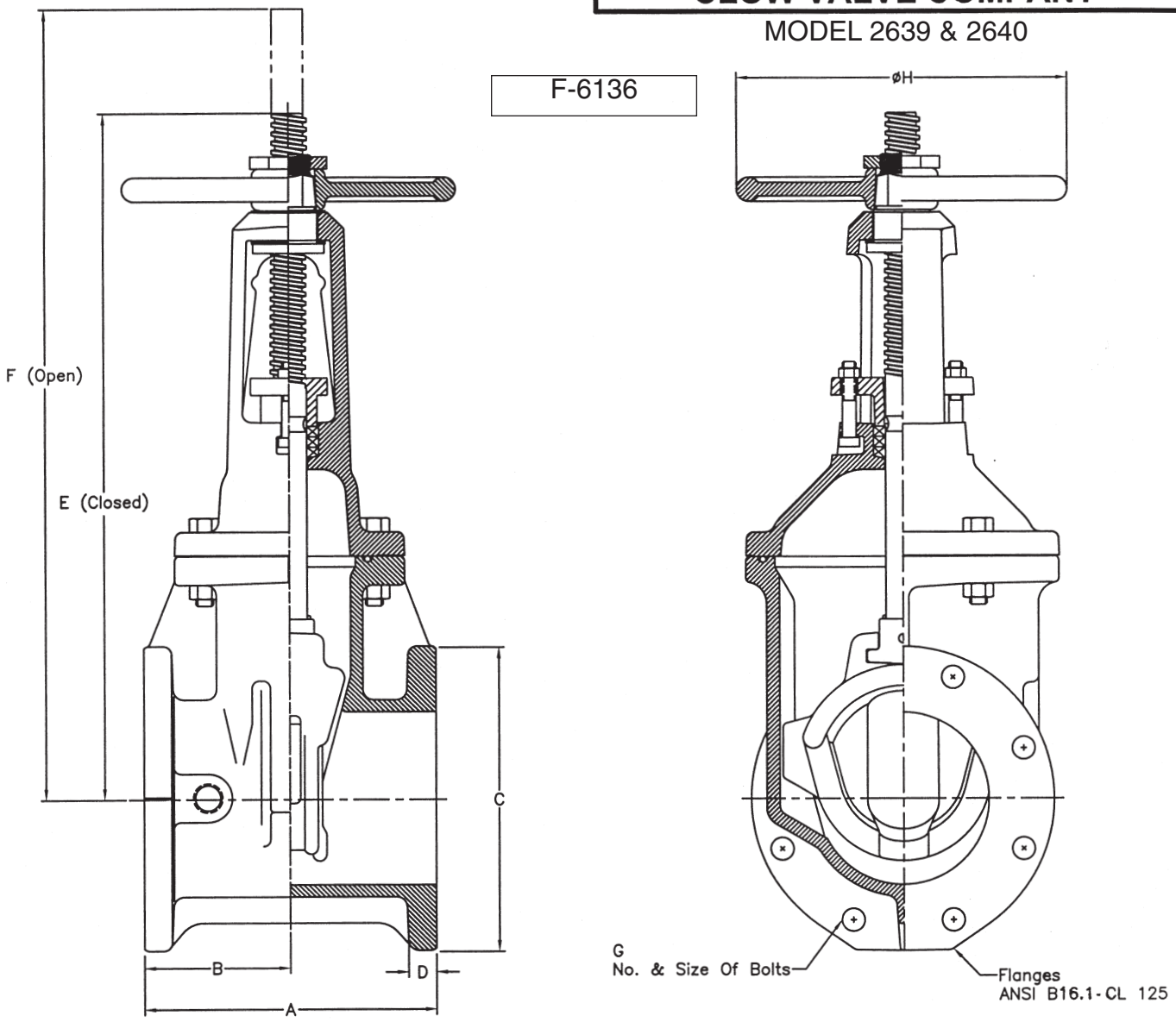
Complies with applicable requirements of AWWA C509

2"-12" R/W VALVE FLANGE ENDS OS&Y GENERAL DIMENSIONS

CLOW VALVE COMPANY

MODEL 2639 & 2640

F-6136

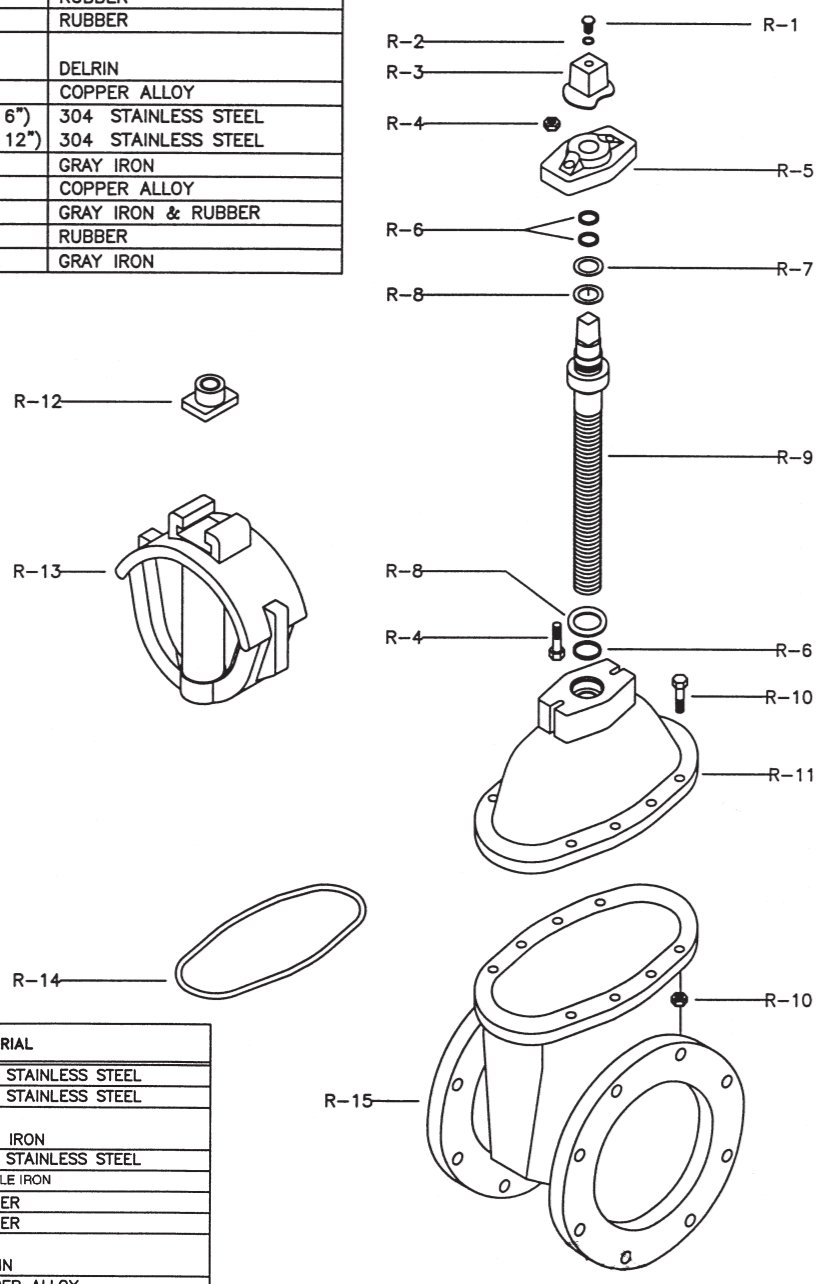


VALVE SIZE	A	B	C	D	E	F	G	H
2	7	3 1/2	6	5/8	12	10	4–5/8	7 1/4
2 1/2	7 1/2	3 3/4	7	11/16	13 7/8	16 3/8	4–5/8	7 1/4
3	8	4	7 1/2	3/4	15 5/8	18 7/8	4–5/8	10
4	9	4 1/2	9	15/16	18 1/4	22 3/4	8–5/8	10
6	10 1/2	5 1/4	11	1	23 3/4	30 1/8	8–3/4	12
8	11 1/2	5 3/4	13 1/2	1 1/8	29 1/4	37 3/4	8–3/4	14
10	13	6 1/2	16	1 3/16	35 3/8	45 3/4	12–7/8	18
12	14	7	19	1 1/4	40 5/8	53 1/8	12–7/8	18

Complies with applicable requirements of AWWA C509

2"-12" R/W VALVE
NRS ASSEMBLY - EXPLOSION
CLOW VALVE COMPANY
MODEL 2639 & 2640

ITEM NO.	QTY.	DESCRIPTION 2640	MATERIAL
R-1	1	HOLD DOWN BOLT	304 STAINLESS STEEL
R-2	1	HOLD DOWN BOLT WASHER	304 STAINLESS STEEL
R-3	1	SQ. OPERATING NUT OR HANDWHEEL (NOT SHOWN)	GRAY IRON
R-4	2	FOLLOWER PLATE BOLT& NUT	304 STAINLESS STEEL
R-5	1	FOLLOWER PLATE	GRAY IRON
R-6	3	STEM O-RING	RUBBER
R-7	1	FOLLOWER PLATE O-RING	RUBBER
R-8	1 2	THRUST WASHER (SIZES 2"-2.5") THRUST WASHER (SIZES 3-12")	DELRIN
R-9	1	STEM	COPPER ALLOY
R-10	4 8	COVER BOLTS&NUTS (SIZES 2" THRU 6") COVER BOLTS&NUTS (SIZES 8" THRU 12")	304 STAINLESS STEEL 304 STAINLESS STEEL
R-11	1	COVER	GRAY IRON
R-12	1	STEM NUT	COPPER ALLOY
R-13	1	WEDGE	GRAY IRON & RUBBER
R-14	1	COVER O-RING	RUBBER
R-15	1	BODY	GRAY IRON



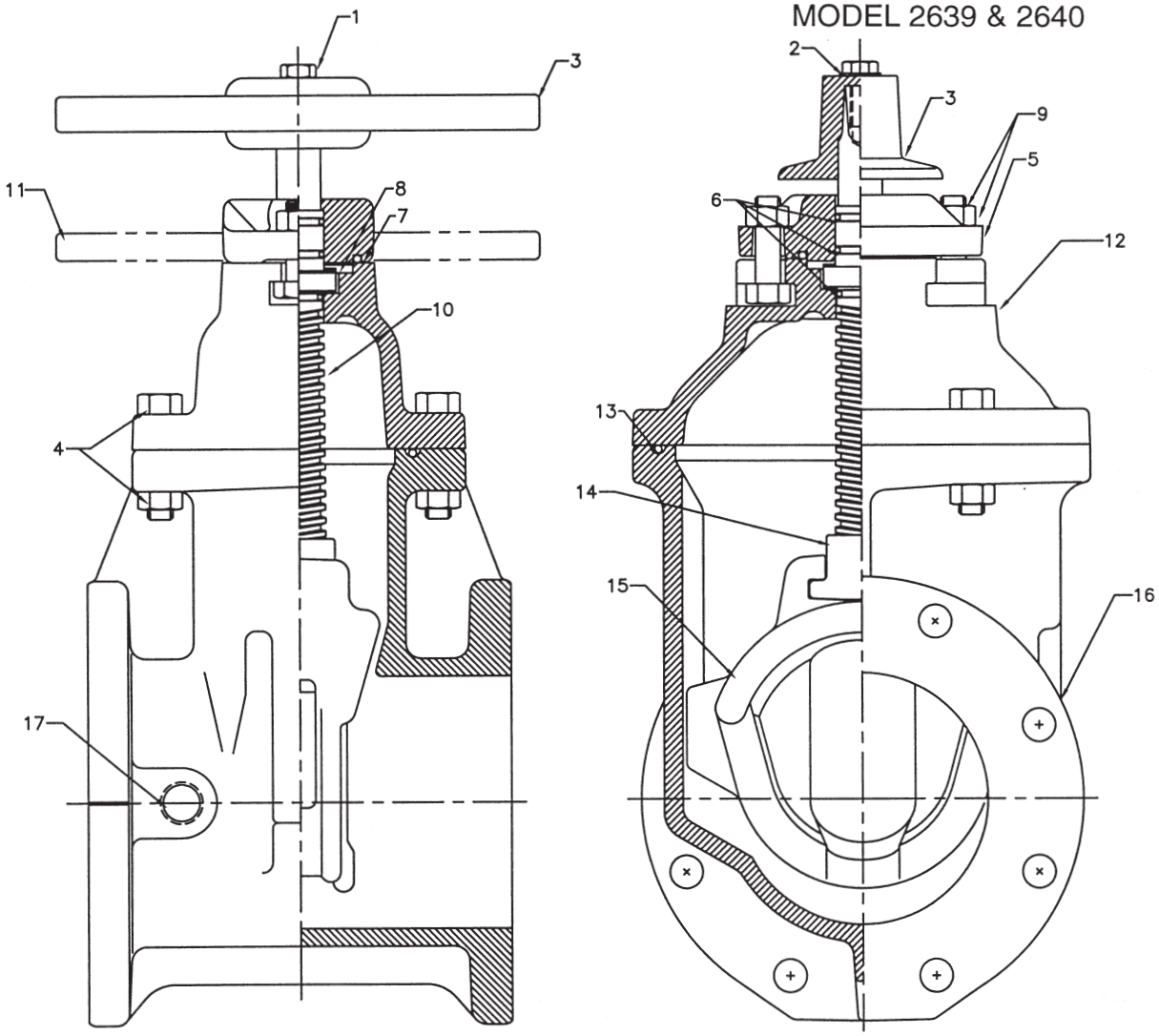
ITEM NO.	QTY.	DESCRIPTION 2639	MATERIAL
R-1	1	HOLD DOWN BOLT	304 STAINLESS STEEL
R-2	1	HOLD DOWN BOLT WASHER	304 STAINLESS STEEL
R-3	1	SQ. OPERATING NUT OR HANDWHEEL (NOT SHOWN)	GRAY IRON
R-4	2	FOLLOWER PLATE BOLT& NUT	304 STAINLESS STEEL
R-5	1	FOLLOWER PLATE	DUCTILE IRON
R-6	3	STEM O-RING	RUBBER
R-7	1	FOLLOWER PLATE O-RING	RUBBER
R-8	1 2	THRUST WASHER (SIZES 2"-2.5") THRUST WASHER (SIZES 3-12")	DELRIN
R-9	1	STEM	COPPER ALLOY
R-10	4 8	COVER BOLTS&NUTS (SIZES 2" THRU 6") COVER BOLTS&NUTS (SIZES 8" THRU 12")	304 STAINLESS STEEL 304 STAINLESS STEEL
R-11	1	COVER	DUCTILE IRON
R-12	1	STEM NUT	COPPER ALLOY
R-13	1	WEDGE	GRAY IRON & RUBBER
R-14	1	COVER O-RING	RUBBER
R-15	1	BODY	DUCTILE IRON

Complies with applicable requirements of AWWA C509

2"-12" R/W VALVE
N.R.S. ASSEMBLY MATERIAL LIST

CLOW VALVE COMPANY

MODEL 2639 & 2640



ITEM	DESCRIPTION	MATERIAL 2640	MATERIAL 2639
1	Hex Head Bolt	304 Stainless Steel	304 Stainless Steel
2	Flat Washer	304 Stainless Steel	304 Stainless Steel
3	Operating Nut or Handwheel	Gray Iron	Gray Iron
4	Hex Head Bolts & Nuts	304 Stainless Steel	304 Stainless Steel
5	Follower Plate	Gray Iron	Ductile Iron
6	Stem O-Ring	Rubber	Rubber
7	Follower Plate O-Ring/gasket	Rubber	Rubber
8	Thrust Washer Bearing	Delrin	Delrin
9	Hex Head Bolts & Nuts	304 Stainless Steel	304 Stainless Steel
10	Stem	Copper Alloy	Copper Alloy
11	Indicator Post Plate (Optional 3-12")	Gray Iron	Ductile Iron
12	Cover	Gray Iron	Ductile Iron
13	Cover O-Ring	Rubber	Rubber
14	Stem Nut	Copper Alloy	Copper Alloy
15	Wedge	Gray Iron & Rubber	Gray Iron & Rubber
16	Body - all types	Gray Iron	Ductile Iron
17	Pipe Plug (Optional Some Styles)	Stainless Steel	Stainless Steel

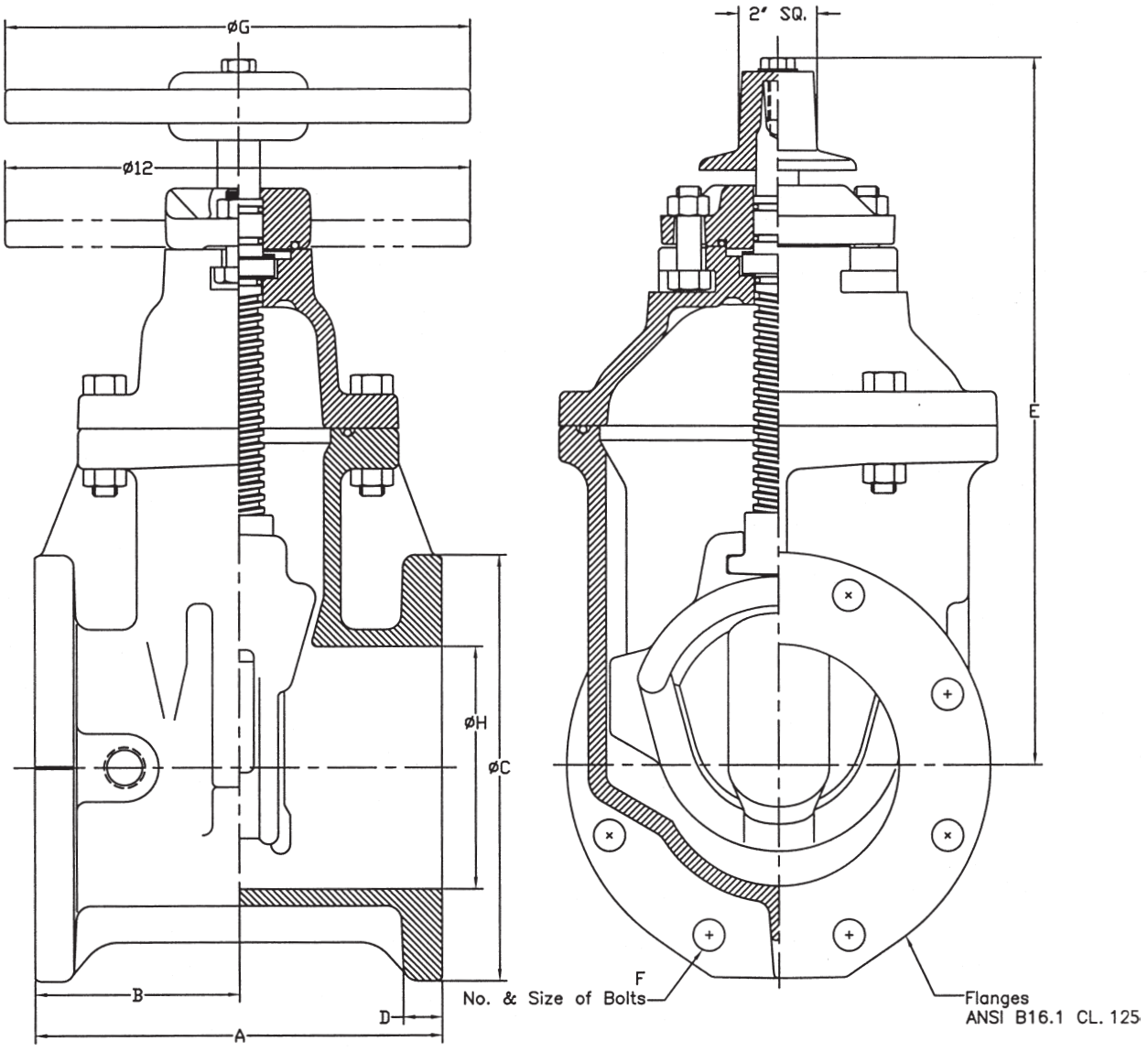
Complies with applicable requirements of AWWA C509

2"-12" R/W VALVE FLANGED ENDS GENERAL DIMENSION

CLOW VALVE COMPANY

MODEL 2639 & 2640

F-6102



VALVE SIZE	A	B	C	D	E	F	G	H
2	7	3½	6	⅝	10⅞	4-⅝	7¼	2
2½	7½	3¾	7	1 1/16	11⅜	4-⅝	7¼	2½
3	8	4	7½	¾	12⅜	4-⅝	10	3
4	9	4½	9	15/16	14¾	8-⅝	10	4¼
6	10½	5¼	11	1	19	8-¾	12	6¼
8	11½	5¾	13½	1⅛	22½	8-¾	14	8¼
10	13	6½	16	1 3/16	26½	12-⅞	18	10¼
12	14	7	19	1¼	30	12-⅞	18	12¼

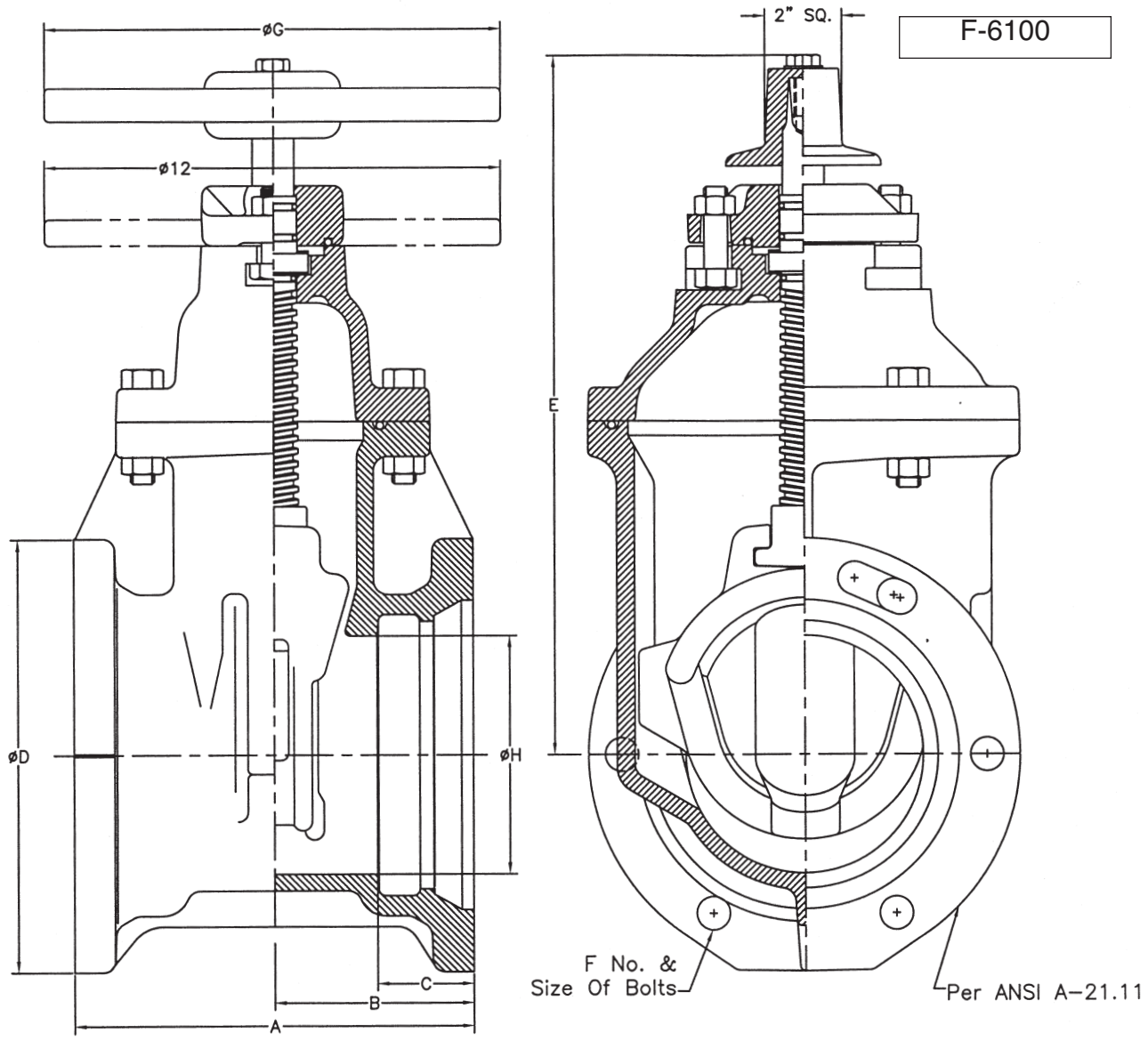
Complies with applicable requirements of AWWA C509

2"-12" R/W VALVE MECHANICAL JOINT ENDS GENERAL DIMENSIONS

CLOW VALVE COMPANY

MODEL 2639 & 2640

F-6100



VALVE SIZE	A	B	C	D	E	F	G	H
2	8 1/4	4 1/8	2 1/2	4 1/2	10 7/8	4-5/8	7 1/4	2
2 1/2	——	——	——	——	——	——	——	——
3	8 1/2	4 1/4	2 1/2	7 3/4	12 3/8	4-5/8	10	3
4	9 1/2	4 3/4	2 1/2	9 1/8	14 3/4	4-3/4	10	4 1/4
6	10 1/2	5 1/4	2 1/2	11 3/8	19	6-3/4	12	6 1/4
8	13 1/8	6 9/16	2 1/2	13 3/4	22 1/2	6-3/4	14	8 1/4
10	15 1/2	7 3/4	2 1/2	15 3/4	26 1/2	8-3/4	18	10 1/4
12	16	8	2 5/8	18	30	8-3/4	18	12 1/4

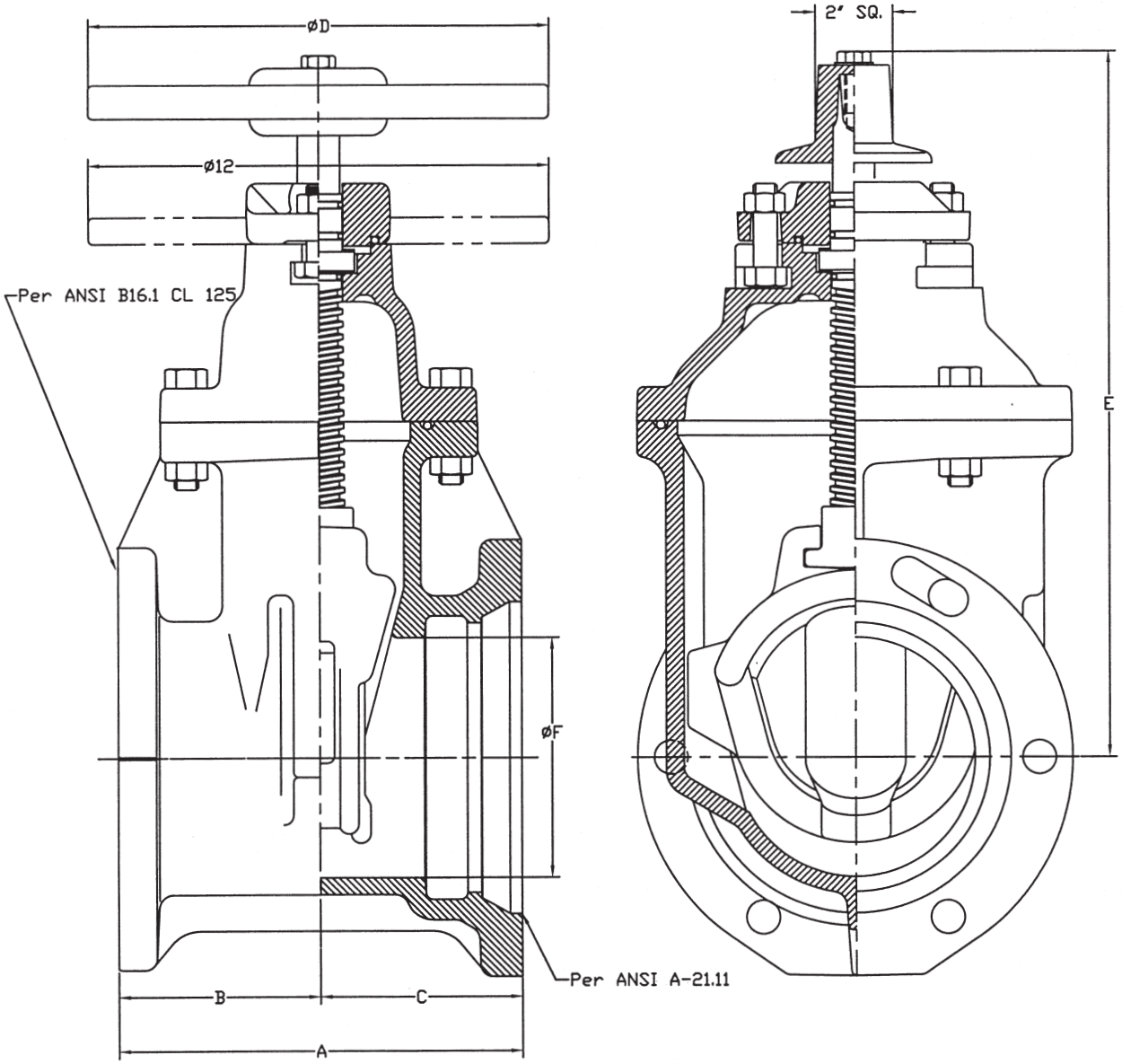
Complies with applicable requirements of AWWA C509

3"-12" R/W VALVE NRS FLANGED x MECHANICAL JOINT ENDS GENERAL DIMENSIONS

CLOW VALVE COMPANY

MODEL 2639 & 2640

F-6106



VALVE SIZE	A	B	C	D	E	F
3	8 1/4	4	4 1/4	10	12 3/8	3
4	9 1/4	4 1/2	4 3/4	10	14 3/4	4 1/4
6	10 1/2	5 1/4	5 1/4	12	19	6 1/4
8	12 5/16	5 3/4	6 9/16	14	22 1/2	8 1/4
10	14 1/4	6 1/2	7 3/4	18	26 1/2	10 1/4
12	15	7	8	18	30	12 1/4

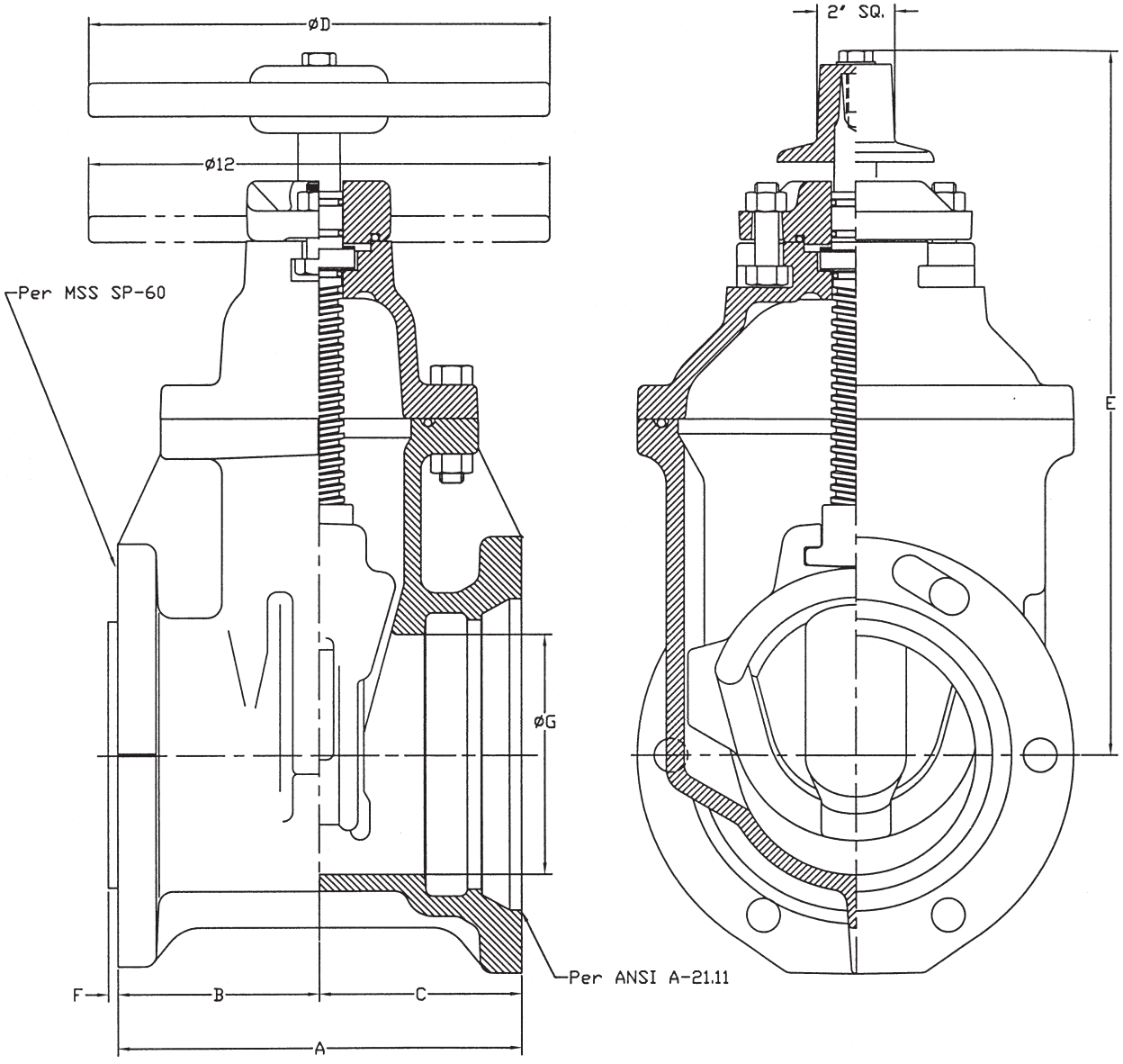
Complies with applicable requirements of AWWA C509

3"-12" R/W VALVE NRS TAP x MECHANICAL JOINT ENDS GENERAL DIMENSIONS

CLOW VALVE COMPANY

MODEL 2639 & 2640

F-6114



VALVE SIZE	A	B	C	D	E	F	G
3	8 1/4	4	4 1/4	10	12 3/8	3/16	3
4	9 1/4	4 1/2	4 3/4	10	14 3/4	3/16	4 1/4
6	10 1/2	5 1/4	5 1/4	12	19	1/4	6 1/4
8	13 1/4	5 3/4	7 1/2	14	22 1/2	1/4	8 1/4
10	14 1/4	6 1/2	7 3/4	18	26 1/2	1/4	10 1/4
12	15	7	8	18	30	1/4	12 1/4

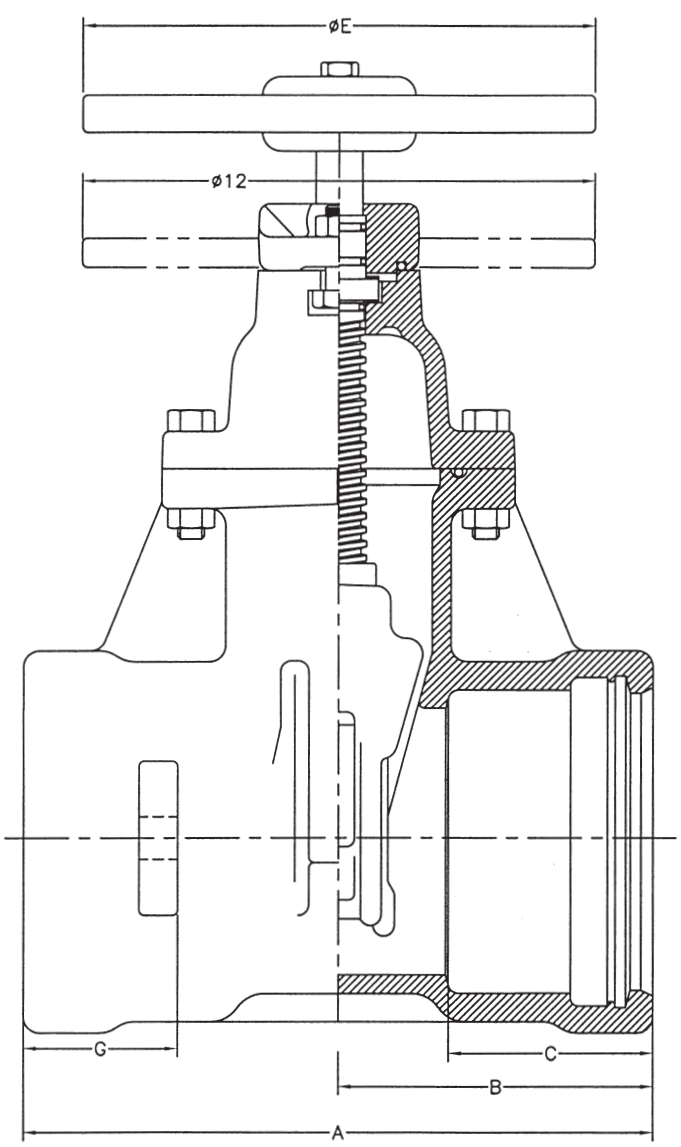
Complies with applicable requirements of AWWA C509

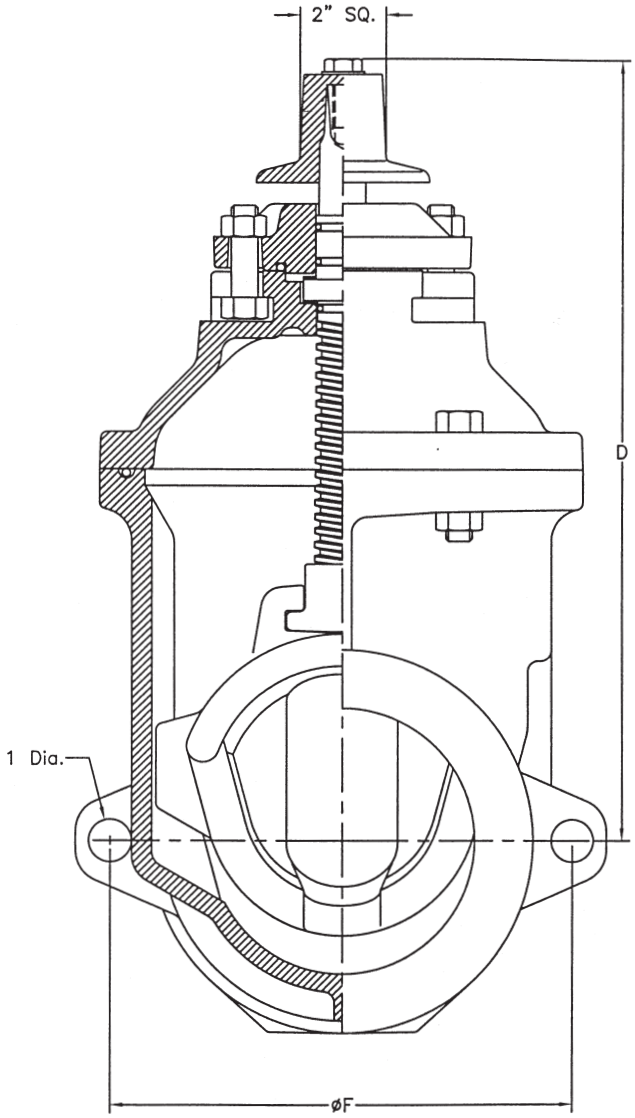
4"-12" R/W VALVE TYTON ENDS
NRS GENERAL DIMENSIONS

CLOW VALVE COMPANY

MODEL 2639 & 2640

F-6112





VALVE SIZE	A	B	C	D	E	F	G
4	13 1/4	6 5/8	4.34	14 3/4	10	83/16	3 3/4
6	14 3/4	7 3/8	4.75	19	12	10 7/8	3 3/4
8	17 1/8	8 9/16	5.70	22 1/2	14	12 7/8	4 1/2
10	19 3/8	9 11/16	6.19	26 1/2	18	15 15/16	5 1/8
12	20 7/8	10 7/16	6.19	30	18	18 7/16	5 3/8

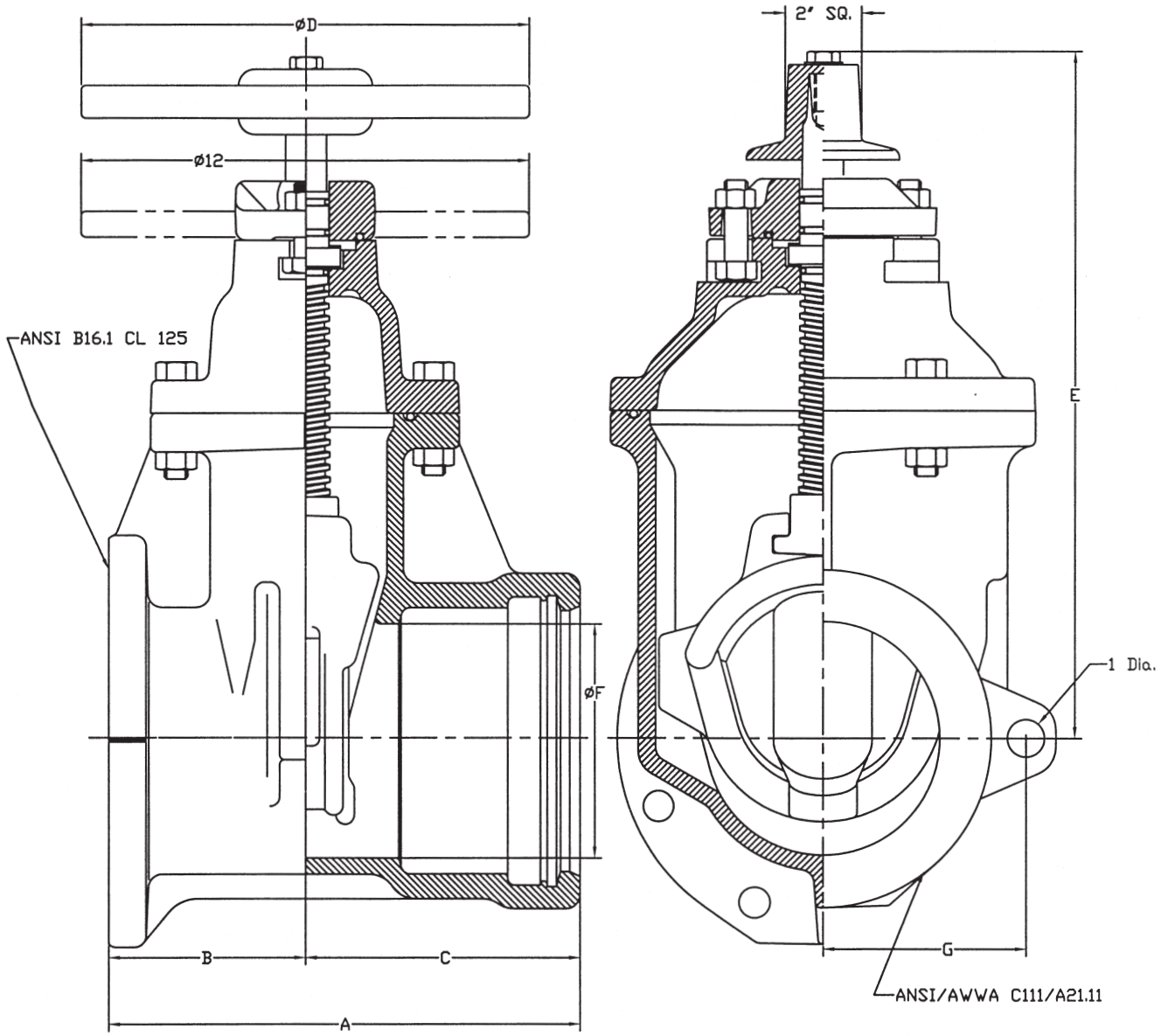
Complies with applicable requirements of AWWA C509

4"-12" R/W VALVE NRS FLANGE x TYTON ENDS GENERAL DIMENSIONS

CLOW VALVE COMPANY

MODEL 2639 & 2640

F-6113



VALVE SIZE	A	B	C	D	E	F	G
3	8 1/4	4	4 1/4	10	12 3/8	3	----
4	11 1/8	4 1/2	6 5/8	10	14 3/4	4 1/4	4 3/32
6	12 5/8	5 1/4	7 3/8	12	19	6 1/4	5 7/16
8	14 5/16	5 3/4	8 9/16	14	22 1/2	8 1/4	6 7/16
10	16 3/16	6 1/2	9 11/16	18	26 1/2	10 1/4	7 31/32
12	17 7/16	7	10 7/16	18	30	12 1/4	9 7/32

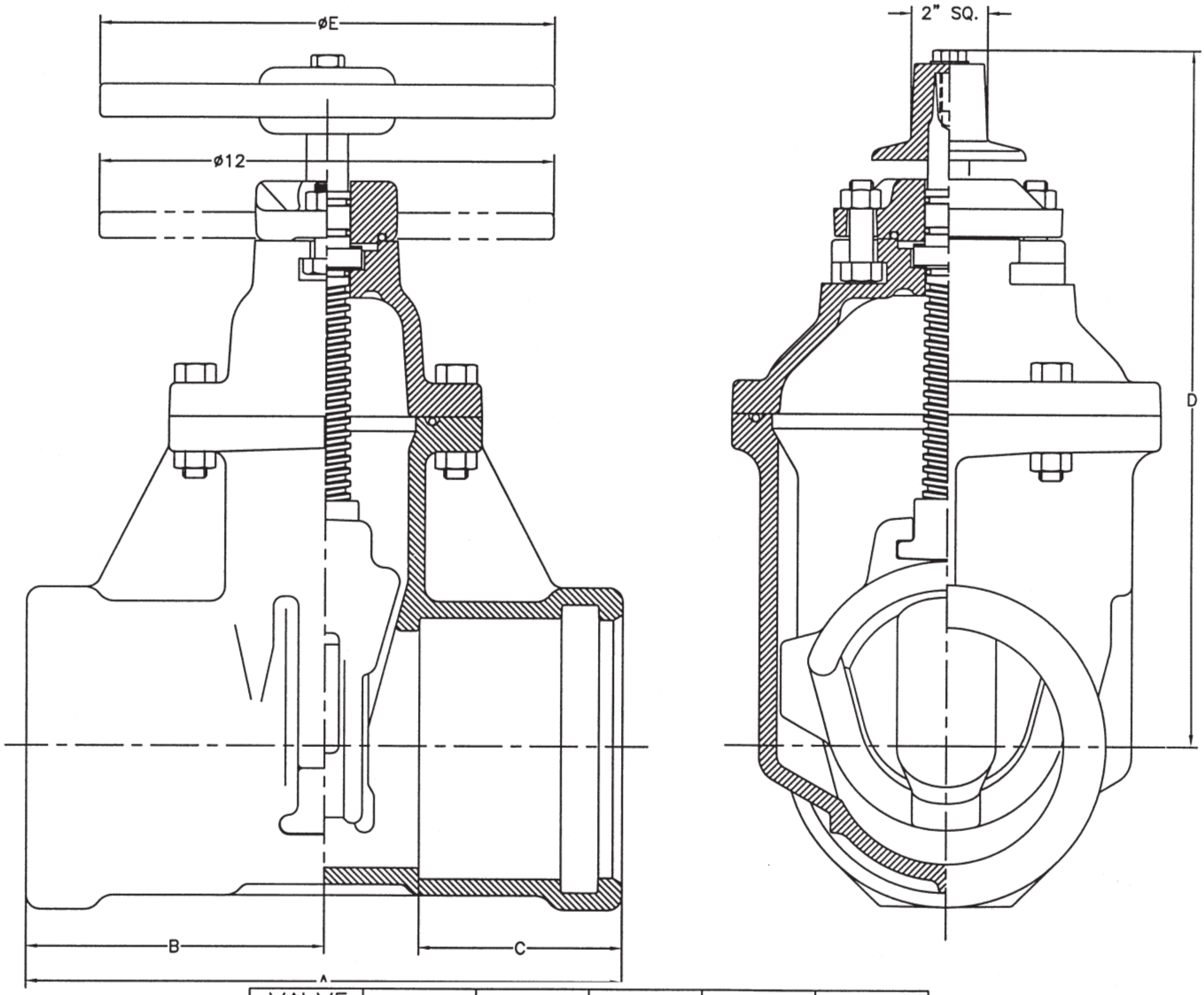
Complies with applicable
requirements of AWWA C509

2"-I2" R/W VALVE PVC ENDS
NRS GENERAL DIMENSIONS

CLOW VALVE COMPANY

MODEL 2639 & 2640

F-6110



VALVE SIZE	A	B	C	D	E
2	10	5	3 1/2	10 7/8	7 1/4
2 1/2	10 3/4	5 3/8	3 3/4	11 3/8	7 1/4
3	11 5/8	5 13/16	4 1/6	12 3/8	10
4	13 1/2	6 3/4	4 1/2	14 3/4	10
6	15 3/4	7 7/8	5 3/8	19	12
8	16 1/4	8 1/8	5 3/8	22 1/2	14
10	19 3/8	9 11/16	6 3/16	26 1/2	18
12	20 7/8	10 7/16	6 3/16	30	18

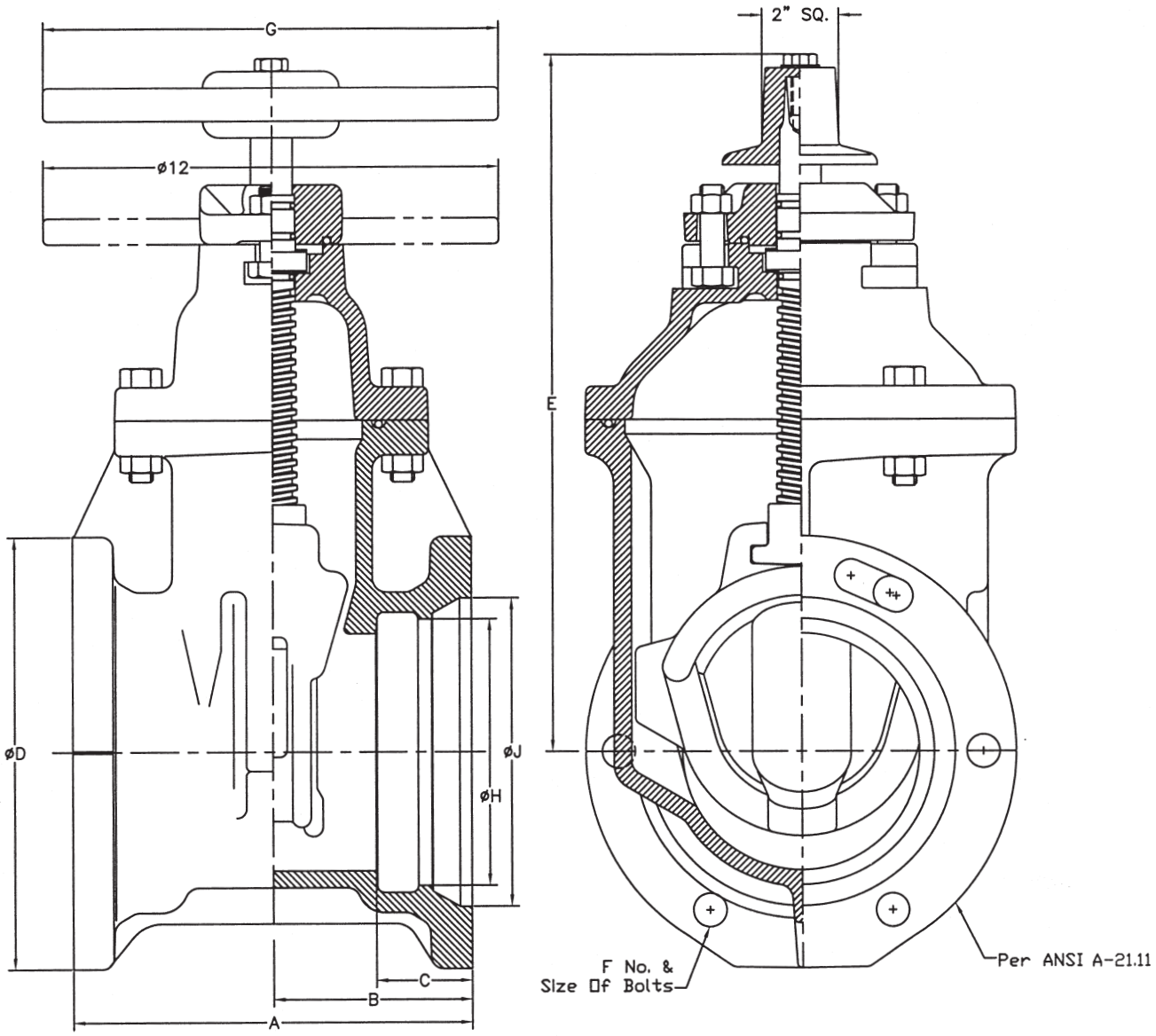
Complies with applicable requirements of AWWA C509

4"-12" R/W MECHANICAL CUTTING-IN JOINT (MCJ) ENDS
GENERAL DIMENSIONS

CLOW VALVE COMPANY

MODEL 2639 & 2640

F-6111



VALVE SIZE	A	B	C	D	E	F	G	H	J
4	9 1/2	4 3/4	2 1/2	9 1/8	14 3/4	4–3/4	10	5.10	6.20
6	10 1/2	5 1/4	2 1/2	11 1/8	19	6–3/4	12	7.20	8.30
8	13 1/8	6 9/16	2 1/2	13 3/4	22 1/2	6–3/4	14	9.40	10.50
10	15 1/2	7 3/4	2 1/2	15 3/4	26 1/2	8–3/4	18	11.50	12.62
12	16	8	2 5/8	18	30	8–3/4	18	13.60	14.72

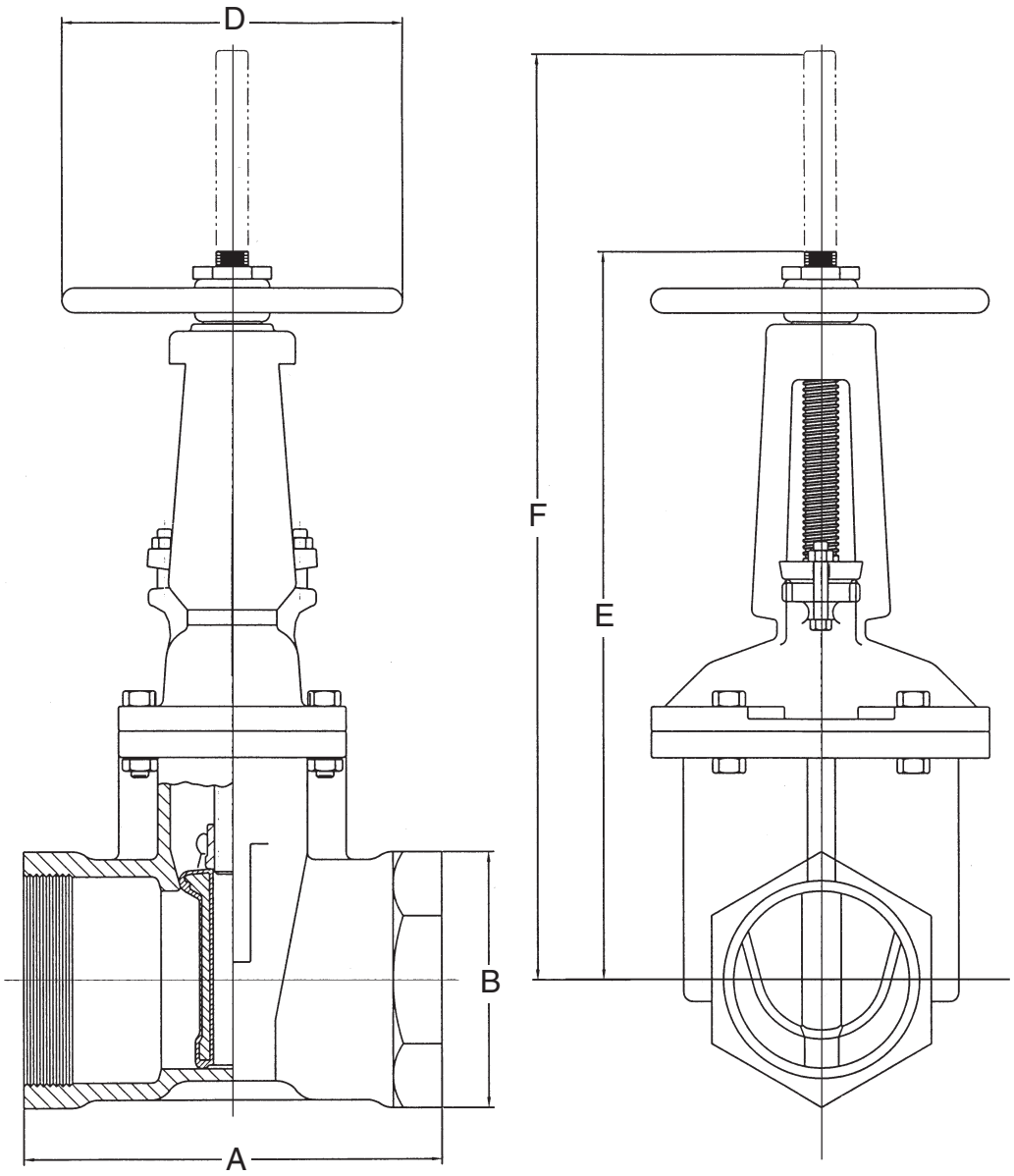
Complies with applicable requirements of AWWA C509

2½"– 3" R/W OS & Y VALVE

Threaded Ends General Dimension Layout

CLOW VALVE COMPANY

MODEL 2639 & 2640



VALVE SIZE	A	B	D	E	F
2	5 1/4	4 1/8	7 1/4	12	10
2 1/2	7	5 3/16	7 1/4	13 7/8	16 3/8
3	7 1/2	5 3/16	10	15 5/8	18 7/8

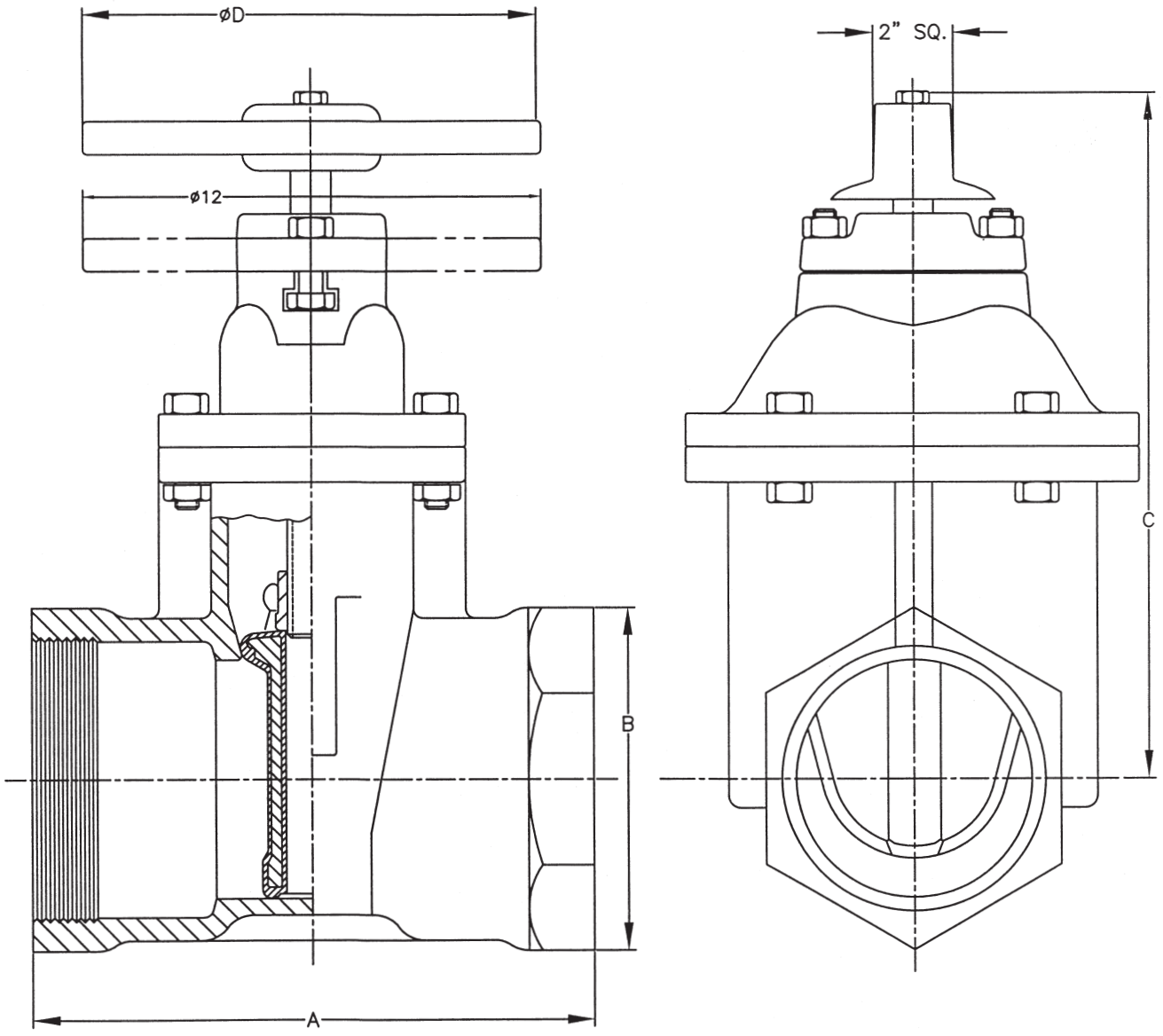
Complies with applicable requirements of AWWA C509

2"-3" R/W VALVE THREADED ENDS
NRS GENERAL DIMENSIONS

CLOW VALVE COMPANY

MODEL 2639 & 2640

F-6103



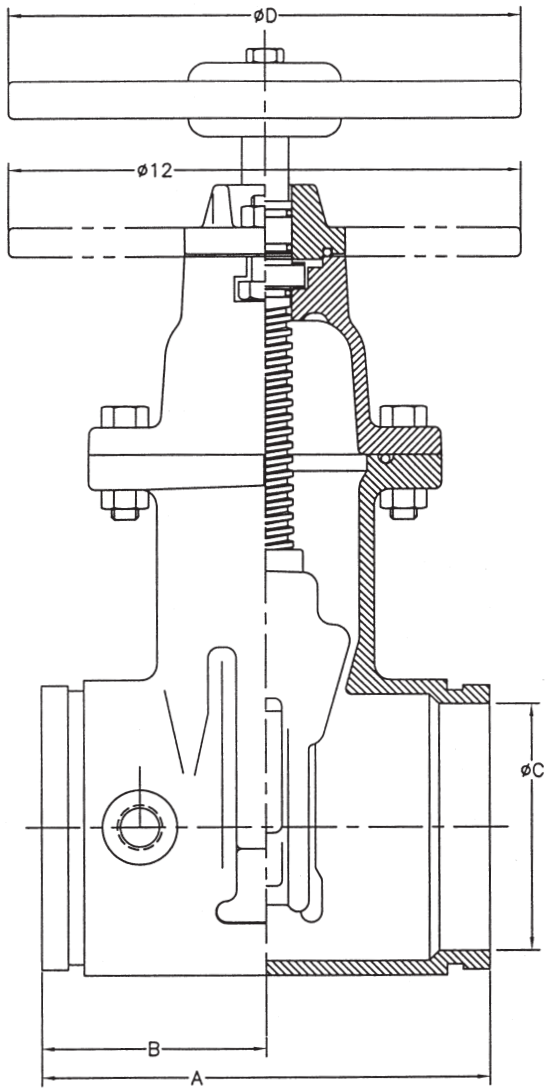
VALVE SIZE	A	B	C	D
2	5 1/4	4 1/8	10 7/8	7 1/4
2 1/2	7	5 3/16	11 3/8	7 1/4
3	7 1/8	5 5/8	12 3/8	10

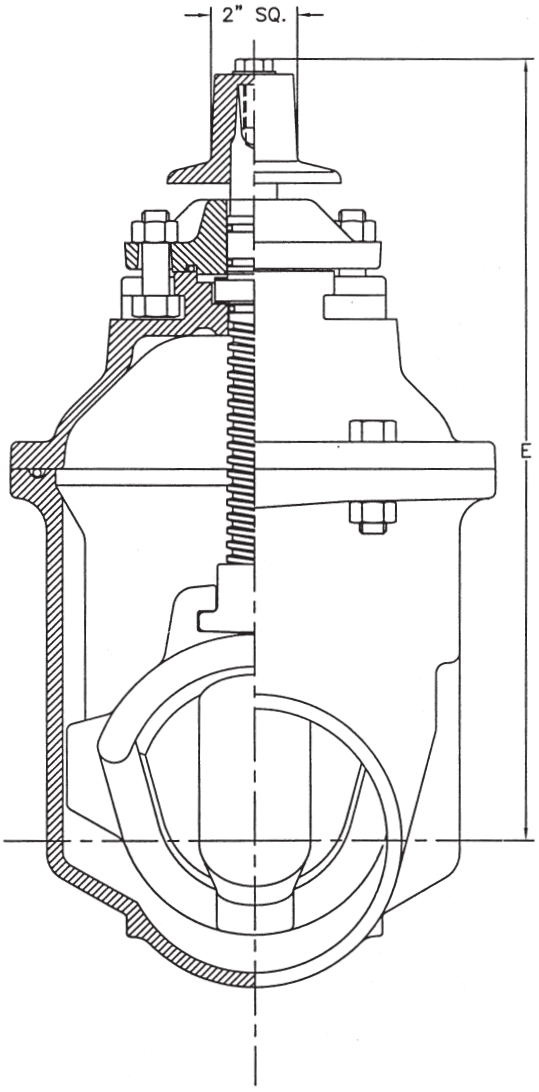
Complies with applicable
requirements of AWWA C509

2 1/2"-3" R/W VALVE GROOVE ENDS
NRS GENERAL DIMENSIONS

CLOW VALVE COMPANY

MODEL 2639





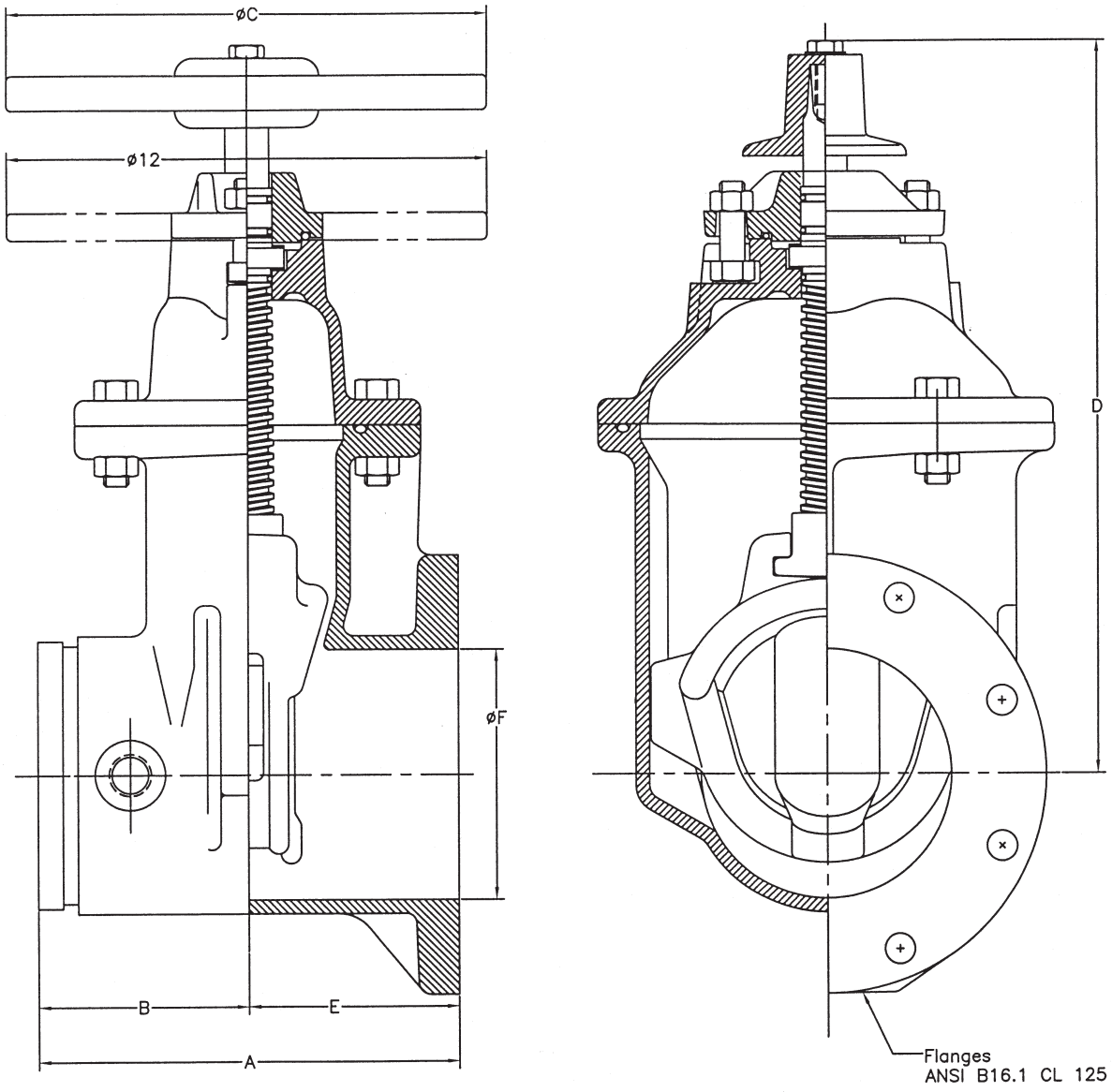
VALVE SIZE	A	B	C	D	E
2 1/2	7 1/2	3 3/4	1.97	7 1/4	10 7/8
3	8	4	2.63	10	12 3/8

Complies with applicable requirements of AWWA C509

2 1/2"-3" R/W VALVE GROOVE x FLANGE
NRS GENERAL DIMENSIONS

CLOW VALVE COMPANY

MODEL 2639



VALVE SIZE	A	B	C	D	E	F
2 1/2	7 1/2	3 3/4	7 1/4	10 7/8	3 3/4	2 1/2
3	8	4	10	12 3/8	4	3

CLOW VALVE COMPANY

CAST IRON Specification ASTM A126 Class B

Physical Properties	
Minimum tensile strength	31,000 psi
Minimum transverse strength	3,300 lbs
Minimum deflection (12" Centers)	.12 in
Chemical Analysis (percent)	
Phosphorus (maximum)	.75
Sulfur (maximum)	.15

Ductile Iron ASTM A536

Minimum tensile strength	65,000 psi
Minimum Yield strength	45,000 psi
(EPDM)	10-12 %

Seat Rubber (EPDM)

Hardness	80+/-2
100% Modulus (PSI)	600
Tensile (PSI)	1,450
Elongation (%)	150
Compression Set, ASTM D395 Method B	18% max

R/W VALVE
Material Specifications

CLOW VALVE COMPANY

STANDARD

Copper Alloy - ASTM B584 CDA836 (Stem Nut)

Physical Properties

Minimum tensile strength	30,000 PSI
Minimum yield strength	14,000 PSI
Minimum elongation (in 2 inches)	20%

Chemical Analysis

Copper	84.0 - 86.0
Lead	4.0 - 6.0
Tin	4.0 - 6.0
Nickel (maximum)	1.0
Zinc	4.0 - 6.0

Copper Alloy - ASTM B584 CDA867 (Stem)

Physical Properties

Minimum tensile strength	80,000 PSI
Minimum yield strength	32,000 PSI
Minimum elongation (in 2 inches)	15%

Chemical Analysis

Copper	57.0 * - 60.0
Lead (maximum)	.50 - 1.5
Aluminum	1.0 - 3.0
Iron	1.0 - 3.0
Nickel (maximum)	1.0
Zinc	30.0 - 38.0
Manganese	1.0 - 3.5
Tin (maximum)	.2

ALTERNATE

CAST BRONZE - NDZ-S CA. NO. 995 (Stem)

Physical Properties

Minimum tensile strength	70,000 PSI
Minimum yield strength	40,000 PSI
Minimum elongation (in 2 inches)	12%

Chemical Analysis

Copper	82.8
Lead (maximum)	.25
Aluminum (maximum)	2.0
Iron (maximum)	5.5
Nickel (maximum)	5.5
Zinc (maximum)	2.0
Silicon (maximum)	2.0

* "Minimum Copper content as specified by AWWA standards."

4"–12" R/W VALVE UL/FM
Performance Information

CLOW VALVE COMPANY

MODEL 2639 & 2640

1. Valve complies with AWWA specs where applicable.

2. Valve complies with Underwriters Laboratory standard UL 262.

3. Valve is rated at 200 psi working pressure.

4. Valve is bubble-tight at all pressures up to full rated pressure (200 psi).

5. Valve is capable of bubble-tight seal at twice the rate pressure (400 psi) for short periods of time.

6. 2" thru 6" valve sizes have been hydrostatically shell tested at five (5) times the rated pressure (1000 psi).

7. 8", 10" and 12" valve sizes have been hydrostatically shell tested at four (4) times the rated pressure (800 psi).

8. Valve has been subjected to torques 150 percent of the designated minimum required torques.

9. Valve has been cycle tested 5,000 times without loss of bubble-tight seal.

10. Rubber to iron bond on wedge is inspected for strength as per ASTM D 429 specification.

For complete data on the tests
Underwriters Laboratories performed
reference UL File EX2697
Project 87NK7353

R/W RESILIENT WEDGE GATE VALVE

Product Analysis

CLOW VALVE COMPANY

MODEL 2639 & 2640

Features	Benefits
Bubble Tight Closure at 250 psi (2"-12") (AWWA SERVICE)	• No leakage–no loss of water
Smooth, Unobstructed Waterway	• High flow characteristics • 100% smooth passage without turbulent flow • No sediment build-up • Will not impede travel of line cleaning tools
Only Three Internal Parts	• Virtually maintenance free
No Seat Rings	• Nothing to be damaged by scoring
Delrin* Anti-Friction Thrust Bearing	• Operating torque to close and open held to absolute minimum
Solid, Copper Alloy Stem Nut and High Strength Copper Alloy Stem	• No corrosion • Trouble-free service
Stem Nut is Self Centering	• Eliminates possible stress on stem and wedge
Two "O" Ring Seals Above Stem Thrust Collar	• Can be replaced with valve in service
High Strength Iron Wedge Fully Encapsulated with Rubber Permanently Bonded to Metal. Wedge Design Incorporates Two Seating Surfaces.	• Trouble-free service with minimum maintenance • No leaks–no wear

*DuPont Tradmark

CR (CORROSION RESISTANCE) COATING (INTERIOR & EXTERIOR)

CLOW VALVE COMPANY

Clow CR Coating is a high performance, one-part, heat-curable, thermoset coating which provides superior corrosion resistance protection for metal parts.

Clow CR Coating material is a stable, non-toxic resin consisting of 100% solids. It is impervious to and imparts no taste to potable water. Clow CR Coating is formulated from materials deemed acceptable in the Food and Drug Administrations Document Title 21 of the Federal Regulations on food additives, Section 175.300 entitled "Resinous and Polymeric Coatings".

Clow CR Coating is applied by a heat application, fusion—bonding process which secures the coating material to the metal valve components. This process provides a continuous coating 9 mils thick with excellent adhesion qualities.

The durable Clow CR Coating has a hard finish and exhibits excellent corrosion resistance in most aqueous solutions and good abrasion resistance. It will not sag or cold flow or become soft during long-term storage. In addition to excellent corrosion resistance to aqueous solutions, the coating has excellent stability and resistance to acidic soil conditions.

Clow CR Coating meets the requirements of the American Water Works Association Standard C-550 entitled "Protective Interior Coatings for Valves and Hydrants". This high performance coating has a ten year history of satisfactory service as a corrosion protection coating used in corrosive potable water applications and soil conditions.

CR (CORROSION RESISTANCE) COATING

CLOW VALVE COMPANY

CHEMICAL	EPOXY RATING 70°F	180°F
ACIDS:		
Acetic, 10%	F	N
Benzene Sulfonic, 10%	E	E
Benzoic	E	E
Boric	E	E
Chloracetic, 10%	E	E
Chromic, 5%	F	N
Citric, 10%	E	N
Fatty Acids	E	E
Fromic, 90%	E	F
Hydrobromic, 20%	G	G
Hydrochloric, 20%	E	G
Hydrocyanic	E	E
Hydrofluoric, 205	G	G
Hypochlorous, 5%	F	N
Lactic, 5%	F	N
Maleic, 25%	E	E
Nitric, 5%	E	G
Nitric, 30%	G	P
Oleic	E	E
Oxalic	E	E
Phosphoric	G	F
Picric	G	F
Steraric	E	E
Sulfuric, 50%	G	F
Tannic	E	E
Ketones	F	F
Ethers	F	F
Esters	F	F
Gasoline	E	E
Cargon Tetrachloride	E	E
Organics:		
Aniline	G	P

CHEMICAL	EPOXY RATING 70°F	180°F
ALKALIES:		
Ammonium Hydroxide	E	G
Calcium Hydroxide	E	E
Potassium Hydroxide	E	E
Sodium Hydroxide	E	E
ACID SALTS:		
Aluminum Sulfate	E	E
Ammonium Chloride*	E	E
Copper Chloride*	E	E
Iron Chloride*	E	E
Nickel Chloride*	E	E
Zinc Chloride*	E	E
ALKALINE SALTS:		
Barium Sulfide	E	E
Sodium Bicarbonate	E	E
Sodium Carbonate	E	E
Sodium Sulfide	E	E
Trisodium Phosphate	E	E
NEUTRAL SALTS:		
Calcium Chloride*	E	E
Magnesium Chloride*	E	E
Potassium Chloride*	E	E
Sodium Chloride*	E	E
SOLVENTS:		
Alcohols	E	E
Aliphatic Hydrocarbons	E	E
Aromatic Hydrocarbons	E	E
Benzene	E	E
Formaldehyde, 37%	E	G
Phenol, 5%	G	F
Mineral Oils	E	E
Vegetable Oils	E	E
Chlorobenzene		

KEY: E - no attack
G - appreciably no attack
F - some attack, but useable in some instances
P - attacked, not recommended for use
N - rapidly attacked
* - and nitrate and sulfate

2" THRU 12" R/W VALVE
Flow Coefficients

CLOW VALVE COMPANY

MODEL 2639 & 2640

VALVE SIZE	Cv (FULL OPEN)	K (FULL OPEN)
2	300	0.15
2½	500	0.130
3	800	0.115
4	1500	0.105
6	3600	0.090
8	6700	0.080
10	10,500	0.080
12	15,000	0.080

$$Cv = \sqrt{\frac{Q}{\Delta P}} \qquad K = f\,\frac{L}{D}$$

Values given are calculated, based on hydraulic lab tests on 6" R/W valve.

RESILIENT WEDGE GATE VALVES

Recommended Specifications

CLOW VALVE COMPANY

MODEL 2639 & 2640

Valves shall conform to the latest revision of AWWA Standard C-509 covering resilient wedge gate valves.

The valves shall be either, **non-rising stem or rising stem**, opening by turning stem **left or right** and provided with **2" square operating nut or handwheel** with the word **Open** and an **Arrow** cast in the metal to indicate direction to open.

The wedge shall be of cast iron completely encapsulated with rubber.

The sealing rubber shall be permanently bonded to the cast iron wedge to meet ASTM tests for rubber metal bond ASTM D429

Stems for NRS assemblies shall be cast copper alloy with integral collars in full compliance with AWWA. OS & Y stems shall be copper alloy. The NRS stem stuffing box shall be the o-ring seal type with two o-rings located above thrust collar and one o-ring below. The two o-rings above the thrust collar shall be replaceable with valve fully open and subjected to full rated working pressure.

There shall be two low torque thrust bearings located above and below the stem collar. The stem nut shall be independent of wedge and shall be made of solid copper alloy. There shall be a smooth unobstructed waterway free of all pockets, cavities and depressions in the seat area.

The body and bonnet shall be coated with fusion bonded epoxy both interior and exterior, complying with AWWA C550 and be NSF 61 certified. Each valve shall have maker's name, pressure rating and year in which manufactured cast on the body. Prior to shipment from factory, each valve shall be tested by hydrostatic pressure equal to requirement for both AWWA (twice the specified working pressure) and 400 PSI ULFM requirements.